THE STATUS OF EFFORTS TO IDENTIFY PERSIAN GULF WAR SYNDROME

HEARINGS

BEFORE THE

SUBCOMMITTEE ON HUMAN RESOURCES AND INTERGOVERNMENTAL RELATIONS

OF THE

COMMITTEE ON GOVERNMENT REFORM AND OVERSIGHT HOUSE OF REPRESENTATIVES

ONE HUNDRED FOURTH CONGRESS

SECOND SESSION

MARCH 11, 28; JUNE 25; AND SEPTEMBER 19, 1996

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U.S. GOVERNMENT PRINTING OFFICE

36–680 CC WASHINGTON : 1997

For sale by the U.S. Government Printing Office
Superintendent of Documents, Congressional Sales Office, Washington, DC 20402
ISBN 0-16-054041-0

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THE STATUS OF EFFORTS TO IDENTIFY PERSIAN GULF WAR SYNDROME, PART I

MONDAY, MARCH 11, 1996

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON HUMAN RESOURCES AND
INTERGOVERNMENTAL RELATIONS,
COMMITTEE ON GOVERNMENT REFORM AND OVERSIGHT,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:40 a.m., in room 2247, Rayburn House Office Building, Hon. Christopher Shays (chairman of the subcommittee) presiding.

Present: Representatives Shays and Davis.

Also present: Representative Upton.

Staff present: Lawrence J. Halloran, staff director and counsel; Kate Hickey and Robert Newman, professional staff members; Thomas M. Costa, clerk; and Cherri Branson and Cheryl Phelps, minority professional staff.

Mr. SHAYS. I'd like to call this hearing to order and note the presence of a quorum and thank everyone for coming and participating and particularly Mr. Davis for being here to ensure that we do have a quorum in the beginning moments. He will have to get on his way.

The problems of Persian Gulf war veterans challenge the Federal Government's capacity to care. Faced with an alarming variety of symptoms and possible pathologies, the Department of Veterans Affairs and others have, since 1991, undertaken an impressive number of studies to explore the illnesses suffered by Gulf war veterans.

But, so far, studies lead only to more studies; and clinical data yields more hypotheses than conclusions. These oversight hearings will examine how ongoing efforts to diagnose, treat and compensate Gulf war veterans can be more sharply focused and more imbued with the same sense of urgency with which we committed our troops to that war. Without that focus, without that urgency, we risk literally studying the problem to death.

As a Nation, our obligation is to reach reasonable conclusions about causal relationships between veterans' illnesses and their service in the Persian Gulf in time to be of help to the living.

There is valid cause for concern that after 4 years of veterans' complaints and VA study, the research plan is still not coherent, treatment protocols are still inconsistent and disability determinations remain stalled.

Last month, the President's Advisory Committee on Gulf war Veterans' Illnesses concluded that "inadequate response to specific

peer review, disregard for the importance of allocating scarce research dollars to the best-designed studies and inattention to the need to communicate effectively with veteran participants are undermining the effectiveness of the Government's research efforts." We have asked witnesses from the Presidential Advisory Committee as well as the Institute of Medicine to expand on their conclusions and recommendations regarding a research agenda that will produce urgently needed answers in the shortest possible time.

We will also hear from Gulf war veterans and veterans' service organizations to learn how the VA is responding to their needs. Veterans are frustrated. Veterans and their families are anxious. They don't want to wait to know the cause of their symptoms or the prospects for treatment.

But answers come slowly, and veterans are understandably suspicious that the Government may not want to find answers that refute military dogma or result in billions of dollars in health care and compensation costs.

Our oversight mission is to stand watch over the process to make sure nothing compromises our moral obligations to those who served. Not potential cost. Not missing medical records. Not bureaucratic inertia. Not the lack of a single theory of causation for diffuse symptoms. Nothing can be allowed—we will do our best to make sure that nothing compromises our moral abrogation to those who served.

When we send a truck or tank into battle and it comes back broken, we fix it. When we put men and women into hostile physical and military environment and they come back sick, we should do everything in our power to heal the wounds caused by the war.

I welcome all our witnesses today and look forward to hearing their testimony.

At this time, I'd like to call on Mr. Davis.

Mr. DAVIS. I will, so we can move on with the hearing, ask unanimous consent to insert my statement in the record.

We also have the statement of our colleague, Jim Walsh from New York, and ask unanimous consent that his statement be put in the record today.

We have Bill Gleason, one of his constituents, who will be before us today.

[The prepared statement of Hon. James T. Walsh follows:]

PREPARED STATEMENT OF HON. JAMES T. WALSH, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

I thank my colleague, Chairman Christopher Shays of Connecticut, for allowing my statement to be entered into the record, and for hearing my constituent, Bill Gleason, who was a Master Gunnery Sergeant serving with Bravo Company, 8th Tank Bn., U.S. Marine Corps in Operation Desert Storm. Mr. Gleason brings compelling testimony before this hearing. He is unique because his unit served their last three months amongst the oil fires of Kuwait and he has managed to stay in personal contact with ninety eight percent of the tankers he served with.

I don't believe there is any combat unit around today who can say that many members have stayed in contact. This has been entirely through the efforts of Bill Gleason. He has taken the time to survey the members of Bravo Company as to what their ailments are and what symptoms they have been experiencing since their return from Operation Desert Storm. Many say these ailments are connected to their exposure to chemical elements and environmental pollution during the war. I don't know what the extent of the connection is, but personally I think there's something there. Mr. Gleason has done an extraordinary amount of research and

I thought it was important that he testify. It is on this basis that I respectfully requested that he be allowed to appear before this hearing and present his findings which have come to be known to the public as Gulf War Syndrome. Because of what Desert Storm veterans did for our nation, we owe them a responsibility that goes with the commitment to veterans that our nation has always honored.

I am gratified that this committee will take a serious look at the symptoms of our Desert Storm veterans. I believe their claims should be examined and if their ailments are a result of their combat service the Department of Veterans Affairs should find service connection for these veterans. Even if such a connection can not be conclusively proven, then I believe our country should err on the side of the veterans if necessary.

I ask that this committee look closely at extending the two year limit on when the Department of Veterans Affairs says a Desert Storm veteran must file a claim. 38 CFR 3.317(a)1(i) says a veteran must file his or her claim with two years of leaving the combat theater of operations. Many veterans have experienced ailments beyond this time period and have had their claims rejected on this basis alone. Due to the prolonged exposure to chemical pollution from oil fires I think there could be a possibility that symptoms could take longer than two years to manifest themselves.

I know this committee will examine all aspects of Gulf War Syndrome thoroughly. We owe this to the men and women who served our nation in combat. Veterans, as far as I'm concerned, are the heroes of our country, and all the more so if they were injured in combat. This is a commitment to help, not only from me or from this Committee, but from all Americans collectively.

Mr. SHAYS. I will ask unanimous consent that all members of the subcommittee be permitted—and any other Member—to place an opening statement in the record and that the record remain open for 3 days for that purpose. Without objection, so ordered.

[The prepared statement of Hon. Edolphus Towns follows:]

PREPARED STATEMENT OF HON. EDOLPHUS TOWNS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

I commend the Subcommittee Chair, Rep. Chris Shays for holding today's hearing on the Persian Gulf syndrome.

Unlike the Vietnam Veterans who suffered illnesses as a result of Agent Orange and were denied any redress, treatment or compensation for almost a decade, the concerns of Persian Gulf War veterans were believed and heeded in rather short order.

Congress has taken many steps to assist the Persian Gulf War veterans; the House Veterans Affairs Committee has held ten hearings on Persian Gulf illness and the Senate Veterans Affairs Committee has five hearings on the issue of Persian Gulf Illness.

In the 102nd Congress, DoD and VA were directed to establish the Persian Gulf Registries. In the 103rd Congress, the VA was authorized to provide health care on a priority basis for Persian Gulf Veterans and to award compensation for undiagnosed illnesses resulting from or connected to service in the Gulf.

Additionally, the VA in conjunction with DoD, the Department of Health and Human Services and the Environmental Protection Agency have conducted and continue to conduct epidemiological and other studies to determine the cause, possible treatment or cure for the wide range of symptoms afflicting this group of troops and to determine whether this cluster of symptoms constitutes one disease which can be called a "syndrome".

I can understand that vets are concerned about the VA claims process. To date approximately 76,000 veterans' claims have been processed by the VA for service connected disability and compensation as a result of their Persian Gulf experience. Of that number, approximately 22,300 have been approved for service connected disability and compensation. Needless to say, veterans have raised concerns about the speed and efficiency of the claims process. Moreover, they have questioned the low rate of approval for claims filed by Persian Gulf vets. I can sympathize with this concern.

One would be hard-pressed to deny the existence of illness among the returning Persian Gulf War veterans. Those illnesses of the Persian Gulf Veterans should be examined and treated. Current research should be continued to determine the existence of a specific illness or "syndrome". Compensation should be provided to those individuals whose Persian Gulf service has rendered them disabled or suffering from

chronic illnesses. Research on the causes and potential treatments for those illnesses is on-going.

While it is understandable that affected veterans believe the speed of research is too slow, it should be noted that to expose these vets to treatments or medications which are untried or scientifically unproven could run the risk of exacerbating their current health problems. While certain untried treatment modalities may be beneficial for some veterans, without appropriate trials there is no guarantee that those positive results would be generalizable to the entire class of patients who suffer from the same class of symptoms. Therefore, while speed is preferred it should be remembered that test-tubes do not bow to Congressional pressure.

Mr. SHAYS. I also ask unanimous consent that our witnesses be permitted to include their statements in the record. Without objection, so ordered.

Mr. DAVIS. I yield back.

Mr. SHAYS. Mr. Upton, would you like to make a comment?

Mr. UPTON. I would.

I appreciate the opportunity to be here. Mr. Chairman, I appreciate your fine leadership as the chairman of this subcommittee and your interest in the issue of illnesses which are affecting veterans from the Persian Gulf war. I am pleased to join you today to introduce, in fact, a constituent of mine from Michigan, Brian Martin, who is a veteran of 1991 Gulf war.

Shortly after he arrived back home, following the end of the war, a number of different illnesses began to afflict Brian and his family. The symptoms included fatigue, skin rashes and headaches. These conditions were similar to those affecting other Americans who also fought in the Persian Gulf war.

Shortly thereafter, Brian contacted my office for help in finding copies of his military record to get medical treatment; and since that time I have followed Brian's case with great interest because I believe we must leave no stone unturned in finding what is causing so many of our Gulf war veterans to become ill.

Brian is not only a veteran of the Gulf war but also a veteran of testifying before congressional committees about his condition, having done so in 1994 before both the House and the Senate. In fact, he is one of only three Americans from the Gulf war drawing 100 percent disability for Gulf war syndrome.

Today's hearing should help clarify what has happened in recent years since Congress, the VA and the Pentagon began investigating this. We should assure that our veterans are assured the quality of medical care that they deserve.

I join you, Mr. Chairman, and other members of the subcommittee in welcoming Brian Martin here today, and I look forward to his testimony.

Mr. SHAYS. At this time, it is our practice to swear in all our witnesses, whether they are the Secretary of the Department or whoever testifies. So if all of you would stand, please, and raise your right hand.

[Witnesses sworn.]

Mr. SHAYS. For the record, those testifying today have all answered in the affirmative.

STATEMENTS OF BRIAN MARTIN, PERSIAN GULF WAR VETERAN; BILL GLEASON, PERSIAN GULF WAR VETERAN; RANDY WHEELER, PERSIAN GULF WAR VETERAN; AND KIMO HOLLINGSWORTH, PERSIAN GULF WAR VETERAN

Mr. SHAYS. We will start with Brian Martin, who is a Persian Gulf war veteran. In fact, all of our witnesses are on this first panel. Mr. Martin.

Mr. MARTIN. Thank you, distinguished committee members, for inviting me to testify before you today.

I would like to thank Congressman Upton for introducing me to you. His support has been unparalleled and greatly appreciated.

My name is Brian Martin, and I am a 33-year-old veteran of the Persian Gulf war. I was deployed to Saudi Arabia, October 8, 1990, and returned to the United States 5 years ago today. I am rated at 100 percent plus special monthly compensation for service-connected disabilities due to my service in the Gulf war. I am one of three, like Congressman Upton said, in the country with this rating.

Mr. SHAYS. Excuse me, Brian. Make sure you put the mic close to you. The mic that magnifies is the silver mic. Thank you.

Mr. MARTIN. During the war my breathing became difficult. My vision was blurred and jittery. My heart would pound, and my chest was painful. I became so sick to my stomach that I would have episodes of vomiting and severe diarrhea. My head throbbed, and headaches were getting unbearable.

I returned home with these symptoms and many more. My headaches became so painful that I would have to grab my head for relief. My feet were purple and swollen. My knuckles swelled like golf balls. I couldn't walk or hold on to anything. I had lost over 32 pounds. My whole body was changing.

On the advice of our family doctor, I made an appointment with the VA in Battle Creek, MI. Three and a half months later I was given an appointment. The doctor took my temperature, blood pressure and a prostate check. That was it. Every time I'd have an appointment they would do the same x rays and the same blood work, and they'd ask the same questions over and over again. I never got to see the same doctor twice.

The answers to these problems was a fresh prescription of Motrin after every appointment. This was until I took a reporter into one of my appointments with me. This also took pressure from Congressman Upton's office to get the crew inside. The director had denied the press access. Every doctor in that hospital started calling me Mr. Martin and asked how I was feeling, and this time they even took my shirt off to look at my rashes. That's when I realized what it would take to beat the VA.

On November 16, 1993, I testified in the House and the Senate. During the Senate hearings, Dr. Frances Murphy approached Senator Riegle's staff researcher Jim Tuite to offer me a referral to the Persian Gulf referral center in Washington. I was admitted in 1993—in December 1993 as Dr. Murphy's patient. She was always there to make sure that I knew what I was being tested for and why. I was very comfortable with her and felt fortunate to have her as a doctor.

I was discharged from the referral center 2 weeks later with a diagnosis of Reiters Syndrome, chronic fatigue syndrome, colitis, multiple chemical sensitivity and gastritis. I have autoimmune disorders, brain scarring, inflammatory bowel disease, organic scarring and multitudes of other problems. In October 1995, I was diagnosed with abnormal semen.

My discharge summary states that limitations for work are no prolonged sitting or standing. My employability is severely limited by fatigue and joint pain. My pain is still excruciating and unchanged. As I sit before you today, I have chest pains, headaches and painful legs and feet. If a doctor with the VA tested me right now, everything would be found within normal limits of abnormality. But I question what is the normal limits of abnormality for an illness the VA knows little about.

With these limitations and diagnoses and no guarantee that I will have my health back, the VA refuses to give me a permanent rating on my decision. My decision rating also states that I am totally incapacitated. When a veteran has an illness the VA knows will not improve, a permanent rating is usually given. Autoimmune diseases like mine are not curable. These illnesses will continue throughout my life. My county service officer and the American Legion have submitted information for my permanency, but we have not heard back yet.

After being diagnosed by Dr. Murphy, I was awarded compensation. It was the consensus of everyone that I was compensated for squeaky wheel syndrome. There is no doubt in my mind that my personal relationship with Senator Riegle and Congressman Upton moved my paperwork like lightning.

My medical problems are existing and well documented, but the rest came quick. I am not here today as a trophy case for the VA. I am here because of problems that I have with the VA. I would also like to state that without permanent on my rating decision, my family does not receive any Chapter 35 benefits.

It would take too long for me to describe the existing problems that I have with the VA, but for the record I ask that you see Attachment C. I would like to say, though, that it has been physically harder and more draining mentally fighting the VA than it was the Iraqis in the Middle East.

I am a lucky veteran. I have the support of my community, local press and strong congressional backing. Plus, I have a good working relationship with Dr. Murphy. If there is an ongoing problem that I know about, I call her, bring the attention—to her attention, and she takes care of it.

Fortunately and unfortunately, that's what it takes. It's the only real way that I can get the proper attention to the veterans that they need. The laws are not followed by the local VA's. I don't care how many textbook testimonies the VA gives about what is working, they are out of touch with what is going on in the local VA's across this country.

I was told self-assessment questionnaires are mailed to local VA's so they can rate their performances and duties. But I ask, what doctor is going to fill this out with "I told another veteran today that he is not sick and it's all in his head?"

The VA has spread themselves far and wide on research. Unfortunately, not as deep. This was the dirtiest war ever fought. The VA knows this. The veterans know this. There shouldn't be a need for recommendations when the obvious is upon us.

How much is spent trying to prove we're not sick, instead of why we are sick? How much is spent downplaying our concerns, than treating them? If more money is given, what's to prove they won't use it on bogus research like they have in the past?

For an example, I know hundreds of Persian Gulf veterans and wives. Not one of them that we know of was picked to be studied in the national health survey of Persian Gulf veterans and their family members. Top VA officials know of cases like my wife's and other wives who are worried about their health and have been for more than 3 years, but yet they're not considered candidates. Why pick names on a random basis when they know of certain cases already?

The VA offers nothing but false hope through some of their programs, like the Veterans Benefits Improvement Act. The law states that a veteran interested in having his family members examined but not treated should contact their local VA if that veteran is on the registry. My wife called Battle Creek about this exam. She was told there's nothing the VA can do for you or your son.

I would like to see that more outreach programs for veterans are established. By time the registry was well-known, 2 years had already expired, leaving most veterans lost in timeframes. One question the veterans have is how to make the transition from the DOD registry to the VA registry. There is absolutely no information anywhere on that.

I would like to see a committee of top VA officials actually visit local VA hospitals, maybe a regional conference held quarterly in 171 VA hospitals with the top VA officials.

One area needing improvement is negative remarks made by VA doctors. Dr. Edward Young himself, chief of staff at the Houston, TX, VA and head of the Houston Referral Center for Gulf war veterans said, "Some of the veterans are making health complaints to get governmental compensation." He also said, "Especially if that pot at the end of the rainbow is compensation." What kind of mentality is that for us to deal with? I don't know. It just cracks me up.

Dr. Young is still employed by this VA. What about the two lawyers that were found guilty destroying veterans' files? I don't want to see the VA replaced or done away with. The VA is the only medical benefit the veteran has. What I would like to see done away with is incompetence and denial.

I would like to see veterans' claims processed right. The burden of proof is on the VA, not the veteran. I don't know one veteran that wants to live intentionally years or more broke, unemployed or homeless. I don't know one veteran that fought in the sands of Iraq for a pot of compensation. The only pot at the end of most veterans' rainbows are filled with denial, anger and frustration.

I would like to see more efforts focused on veterans and their families. Governmental entities have breached their contracts with the veterans, not just for our war but veterans throughout history.

George Bush signed into law Executive Order 12751 on February 14, 1991. If there is no belief that any illnesses could come from the Middle East, why was this law signed as we were returning home?

He also stated, "We have shaken the Vietnam syndrome." Well, guess again, America. History has repeated itself. With the VA, it is over and over and over again.

There should be defined answers to these problems with the VA and local VA's. There should be outside investigations into allegation of claim, medical record and case mishandling. No more hotlines, taped phone messages or rehearsed statements. All we ask for is honesty, openmindedness and better health care.

Thank you.

Mr. SHAYS. Thank you, Mr. Martin.

[Note.—The attachments referred to can be found in subcommittee files.]

[The prepared statement of Mr. Martin follows:]

TESTIMONY TO THE

SUBCOMMITTEE ON HUMAN RESOURCES AND INTERGOVERNMENTAL RELATIONS

TESTIMONY PRESENTED BY:
BRIAN T. MARTIN
PERSIAN GULF VETERAN / PRESIDENT
INTERNATIONAL ADVOCACY FOR GULF WAR SYNDROME

APPRECIATION:

Thank you Distinguished members of this committee for inviting me to testify before you today. I would also like to thank Congressman Fred Upton for introducing me to you. His support is unparalleled and greatly appreciated. If the committee members wouldn't mind, I would like to dedicate my testimony today to Sgt. Paul Lawrence Burt, my best friend who died during the cease-fire five years ago on March 8th, 1991.

INTRODUCTION:

My name is Brian T. Martin, I am a 33 year old veteran of the Persian Gulf War. I served with the 37th Engineer Battalion, 20th Engineer Brigade, 18th Airborne Corps. Ft. Bragg, NC. I deployed to Saudi Arabia, October 8th, 1990 and returned to the United States five years ago today. In August 1994, I was rated at 100 + special monthly compensation for service connected disabilities due to my service in the Gulf War by the Department of Veterans Affairs. I am one of three Gulf veterans' in the country with such a rating.

WHEN SYMPTOMS BEGAN:

During the Air War, after I began taking Pyridostigmine Bromide, my breathing became difficult. My vision was blurred and jittery, my heart would pound and my chest was painful. I became sick to my stomach and would have episodes of frequent diarrhea. My head throbbed and headaches were almost unbearable. I thought my head would explode at times from the pain. I came home with these symptoms and many more. Womack Community Hospital on Ft. Bragg diagnosed me with a "stomach viral infection", and sent me on my way. On December 31st, 1991, I was honorable discharged where I returned to Michigan with my eight month old daughter and my expecting wife.
My headaches turned for the worse and became so painful that I would have to grab my head or hold my arm over the area that hurt. My feet began to swell almost twice their size, they turned purple and red and were extremely painful to the touch. My knuckles in my right hand swelled to golf ball size. I could no longer walk from room to room and could no longer hold on to anything including my newborn son. I lost 32 Lbs. within a two week period because I was either vomiting or I would be in the bathroom 10 to 15 times a day with severe diarrhea. My whole body had changed in a matter of a few months. I was scared and confused. I asked myself "How could a US. Army paratrooper, who was in great shape just a few months ago be feeling like this?" On the advise of our family doctor I made an appointment with the local VAMC in Battle Creek, Michigan. Ladies and Gentleman, let me tell you that was an experience and still is to this day. My appointment came three-and-a-half months after the initial phone call was made. The first doctor to see me was named "Dr. Hussien". She giggled at me when she heard my answers to her questions of why I thought I was sick from my duties in the Gulf. She took my temperature, blood pressure and did a prostate check. That was it. I was sent home. One month later I was given another appointment. This time I was told I would be put in a registry for information on symptoms. The person that was in charge of this registry took me into a small room, asked me my name and social security number which he wrote in a little green notebook. That was the registry then. When I convinced Dr. Hussien that I did indeed have real medical problems, I was told that I had gout,

rheumatoid arthritis, and fibrositis, but yet all my tests results were negative for all of those diagnosis. Every time I would have an appointment, (which was about two a week) I would drive two hours to get there and all the VA would do is the same x-rays and blood work, the same questions were asked over and over, I never got to see the same doctor twice , so I was continuously telling my story of pain.
I was given a fresh batch of Motrin 800 mg. after every appointment. That was until I took a reporter and camera crew into one of my appointments. That took the pressure of Congressman Upton to even get the camera crew inside the hospital. The Director of that VA was going to deny them access. Every doctor in that hospital was calling me Mr. Martin, and asked how I was feeling, this time they even took my shirt off to look at my rashes and bumps. In front of the camera, the reporter was told that I was the "sickest Persian Gulf veteran to be seen there to date". But I was told I had arthritis and stress. When the reporter found out that they had not thought of toxicology tests or biopsies of my lumps, or anything else pertaining to my actual complaints, she and the director of the hospital had a nice little shouting match outside my door.
That was when I realized the power of the press. Congressman Upton was helping me obtain my military records and other matters with Social Security, when I did an interview with the Detroit Times newspaper. Senator Riegle read that article and called me. From that point on I began doing National media in television, magazines and newspapers. I testified in the House and Senate on November 16th, 1993. That's when I caught the attention of Dr. Frances Murphy. It was during the Senate hearings that Dr. Murphy approached Senator Riegle and Jim Tuite to offer me a referral to the Persian Gulf Referral Center here in Washington. Finally after 24 or more months I felt like I was going to be taken serious and really looked at.

REFERRAL CENTER:

Within three weeks I had a scheduled appointment to be admitted into the Referral Center. I was admitted in December 1993, as a patient of Dr. Murphy. I went through the most extensive testing I had ever experienced. Certain days I would have six or more tests lined up. Dr. Murphy always made sure I knew what I was going to be tested for and why. She would frequently visit me and discuss my fears of being ill and my problems with the VAMC in Battle Creek. I was very comfortable with her and felt fortunate to have had her as my doctor. I had a television reporter and camera crew from WWMT Ch.3, visit me from Kalamazoo, Michigan. They were treated with more respect than in Battle Creek. I had testing at George Washington Ambulatory Center. I was examined by Dr. Sokas. I was also tested at Georgetown University. I thought this is great! All these special tests that their doing, they are surely going to find something now. When I was discharged from the referral center two weeks later. Dr. Murphy was afforded the chance to witness the problems I was having with Battle Creek, when it came time to fly me home. They wanted to argue with my wife about sending me to Kalamazoo, Michigan over an hour away, or to South Bend, Indiana's airport 10 minutes away. They wanted Kalamazoo and said that's where I was flying to, then I would have to hand deliver my records to them, two hours away. Dr. Murphy got on the phone with Battle Creek as did my wife with Congressman's Fred Upton's office and Senator Riegle's. I ended up flying into South Bend. After the two weeks of grilling tests I was diagnosed with; (attachment A.)
REITER'S SYNDROME (which I receive 100% for), CHRONIC FATIGUE SYNDROME (50%), COLITIS (10%) PROBABLE MULTIPLE CHEMICAL SENSITIVITY (0), GASTRITIS (0) I have 10% for TINNITUS and 10% for BACK CONDITIONS from a prior rating. I have brain scarring, colon and stomach scarring, and a multitude of other problems. In October 1995, I was diagnosed with abnormal semen. The VA wants to redo that test though because it was abnormal. I'm sure that had the results come back normal another test would not have been considered. Organic Scarring, brain damage and most of my other problems are not compensatable. My discharge summary states that my limitations for work are "no heavy lifting" and "no prolonged sitting or standing". My employability is "severely limited by fatigue and joint pain", which ends up being ZERO, ZILCH, NOTTA! Today my pain is still excruciating and unchanged. As I sit before you today, I have chest pains, a headache and painful legs and feet. If a doctor from the VA tested me right now, I'm sure everything would be found to be within normal limits of abnormality, but I question what is normal limits for abnormalities for a illness the VA knows little about? I have no treatment plans and have no medications. I return to Battle Creek for nothing more than the

same pulmonary function tests, x-rays and blood samples. With these limitations and diagnosises with no treatment plan or guarantee that I will have my health back, the VA refuses to give me a permanent rating. My decision rating (attachment B.) states that I am "totally incapacitated" but still not permanent. When a veteran has an illness that the VA knows will not improve, a permanent rating is given, actually the law states: "THAT PERMANENT TOTAL DISABILITY SHALL BE TAKEN TO EXIST WHEN THE IMPAIRMENT IS REASONABLY CERTAIN TO CONTINUE THROUGHOUT THE LIFE OF THE DISABLED PERSON" (Title 38, CFR, subsection 4.15) Reiter's Syndrome is NOT curable. Chronic Fatigue Syndrome is NOT curable. Organic scarring is NOT curable. They can be treatable systomatically, but no cure. These illnesses should be considered to continue throughout my life. Unfortunately not in my case for some reason. My service officer has tried to prove my permanency, but to no avail. I have been told that I need a VA doctor to write up a Letter stating that I will not be cured or my illnesses will not get better on their own. I can not get a doctor in the VA to write that letter. I no longer fear the ability to pay my bills at the present moment, that is until September 25th, 1997, when the VA in Battle Creek will have a chance to strip me of all benefits by reevaluating me. I fear that all the bad press and congressional hammering I have done to Battle Creek, they will take their revenge by changing my diagnosis, maybe to the most famous diagnosis of all "somitization disorder". I hope that if that happens I would be able to contact this committee for a review of my case. Since I can not gainfully work to support my family, I need to protect my wife and children's financial future in case of the worse.

COMPENSATION DECISION:

Seven months after I was diagnosed by Dr. Murphy, I was awarded my compensation with back pay to the month after I was discharged from the Army. It was the consensus of everyone that helped my case, that I was compensated for "Squeaky Wheel Syndrome" more than anything. It seemed like all the congressional backing, appearing in the national news and receiving attention by testifying at the N.I.H. and congress, my case was expedited. There's no doubt in my mind that my personal relationship with Senator Riegle at the time, moved my paperwork like lighting. My medical problems are existing and is well documented, that's why I was awarded what I was, but the rest came quicker due to the fact. I am not here today highlighted as a trophy case or window dressing for the VA, I am here today because of the problems I have had with the VA which is still happening to this day. I would also like to state that without permanent on my rating decision, my wife and children do not receive Chapter 35 benefits allowing them education benefits and medical benefits with CHAMPUS or CHAMPVA. Even though I am paid a substantial monthly amount now, after paying the medical bills of my son and wife (whom the VA knows are ill) my monthly pay is drastically reduced.

EXISTING PROBLEMS:

In January 1995, I was rushed to the emergency room with breathing problems and severe abdomen pain. My wife contacted Dr. Murphy, asking for her advise on what to do. Dr. Murphy told the doctor to release me to VA care in Battle Creek, then she would call ahead to the admission director to have me admitted for the five day week and what tests should be ran. She called Battle Creek four times that morning before I arrived to make sure everything was organized for my arrival. When I got there, with my father and wife, no one knew me, why I was there, or would even locate my files. I explained that Dr. Murphy had called ahead to have me admitted, only to the response of "who's Dr. Murphy?". I demanded to see Gary Orr, Director of Medical Services, and my attending doctor, Dr. Ketan Shah, I was told, Gary Orr was busy (I later found out he wasn't there) Dr. Shah had also left due to an emergency. I refused to leave until someone looked at me. The problem was that no one could find my records. I finally convinced them that I was suppose to be admitted, so the doctor took me into a day room, slammed the door in my wife's face and proceeded to ask me about my symptoms. I asked him to open up my records to see what I was suffering from, but he refused. I told him of my diagnosis only to be questioned about "who diagnosed me with Reiter's Syndrome?" and "what makes you think you have it?". Three-and-a-half hours later, my records were found in Mr. Orr's office. Why? I have no idea? Seven hours later they gave me pajamas, but no pillow because they were out of them. I saw the doctor

for about 20 minutes, where I spent most of that time listening to the difference of 400 inches of rainfall in his native land versus 40 inches in Saudi Arabia. My father was asked more medical questions than I was. Two more hours later I was told " Your not sick, you don't need to be laying around stagnant with all the really sick people" He gave me some medicine, (which Dr. Murphy later said, would not be the medicine of her choice). I filed an official complaint on the doctor and the VAMC in Battle Creek with the Central Office of the VA. (attachment C) Nothing much came out of that complaint. I have included that whole complaint ordeal into my testimony.
When I received my copy of that days consult sheet, I was outraged. It stated that I "claimed to be doing much better compared to my emergency room visit and if he could not undergo the above mentioned tests immediately with a day, there was no point of him to stay in the hospital" "which he requested discharge immediately following my examination." This is a untrue and wrong statement. I have since demanded that they amend my records and rewrite the truth. What they offered me for an corrected consult sheet was just as far from the truth as the first statement was. (attachment C.) In five years I have watched seven Persian Gulf Coordinators be replaced for poor performance in that position. I have had to fight and scratch my way to respect. I am probably the largest pain in the butt for the VAMC in Michigan. I pull no punches reminding them the law that allows Persian Gulf veterans free top priority medical care. I am drop dead honest with them and expect the same. Many times they give a veteran an appointment two or three months away. If that veteran calls me to tell me this, I call Dr. Shah, bringing this to his attention, which he usually will move up to within two or three weeks. There are VAMC's in Michigan that still charge Gulf veterans for their services, Dr. B. Milner, from the VAMC in Allen Park, Michigan offered during Senator Riegle's hearings in Detroit, Michigan (June 6, 1994) to come to my home to test my mother and wife for transmission from me. I immediately told this to Dr. Murphy, she instructed me NOT to let that happen and to contact her if he tries. I could tell you about incidents such as one examination where I almost fell over in front of the doctor, then he turned to my wife and exclaimed "there's nothing wrong with his feet or balance". I've had the director of the Persian Gulf Family Support Program in Battle Creek say on live television, that "Brian does not have any medical proof of his claims to service connection", I have been ridiculed, laughed at, talked about in a negative manner, told I was "opening a can of worms, I didn't want to", and I've been called "Hollywood" by some of the staff in Battle Creek.
I supplied the VAMC with copies of video conferences that VA's headquarters would produce used to educate the doctors on a local level about new programs and issues for Persian Gulf veterans. I've had to call them to remind them of times that video conferences would be aired, it has been harder fighting the VA then it was fighting Iraqi's in the Middle East. I have attempted for three years to organize a meeting of all VAMC directors in Michigan along with all doctors involved with Gulf veterans, to meet with us veterans and press to air everyone's concerns. I have not been granted that request. I ladies and gentleman could go on and on about many more incidents but I'm only allowed five minute and your only having three hearings on this issue. Mine is just one of hundreds of horror stories you could hear from the gulf veterans I know personally. I wish I could tell all their stories trying to bring relief to them.

WHAT HAS WORKED IN THE VA:

Like I said earlier, I am truly a lucky veteran. I have the support of my community, local press, and the businesses in my home town are more than generous, having benefits in my and my wife's behalf. I have strong congressional backing and a good working relationship with Dr. Murphy. She is 100% for helping me work every case I have ever brought to her attention. You see, if there's a ongoing problem that I know about, I call Dr. Murphy, bring the incident to her attention, then she takes care of it. One example is, I got a phone call from Vic Silvester, President of Operation Desert Shield / Desert Storm Association in Odessa, Texas explaining that a veteran he knew was not allowed to be seen at the Big Springs, VAMC, because his discharge from active duty was messed up. I immediately called Dr. Murphy, she called Big Springs, he was then admitted. She personally made the transition for him from the DoD registry to the VA registry. Two weeks later, I received another call from Mr. Silvester telling me that this veteran was admitted into the psyche ward and had no tests run on him for his complaints. I called Dr. Murphy, she called Big Springs again, within three hours he was taken out of the psyche ward, had his thyroid drained, given new medication and received follow-up appointments. Several times I

have called Dr. Murphy to help veterans get the proper attention they've needed to get a referral to the Washington Referral Center. She again is 100% for the calls I've made to her for these veterans. I have even made an agreement with Dr. Murphy that if the VA in Battle Creek would show some professionalism, I would leave them alone in the press. They have not kept their end of the deal forcing me to go back to the press with these problems. Dr. Murphy has been a wonderful resource for me in my fight for Gulf War veterans health issues, but unfortunately this is what it's taken. Not every veteran of the war can call Dr. Murphy to get this kind of help. I am thankful for all she has done. I hope this testimony today has not strained that working relationship. We have needed Dr. Murphy as a resource. It is the only REAL way we can get the proper attention Gulf War veterans are needing. The laws that the President signed into effect are not being followed by the local VA's. Central Headquarters for the VA is like the four star General of the Army. He gives the orders, but by time that order gets to the private it is changed and not followed. All the while the General is being told that it's working. This is a perfect example of the VA system. I don't care how many text book testimonies that the VA can give about what is working their out of touch with what is really going on in local VAMC's across this country. I have been told that self assessment questionnaires are mailed to the local VAMC's so they can rate their performances and duties. I ask you what doctor is going to fill this out with "I've done a rotten job at looking into this veterans problems",
or "I told another veteran today that it's all in his head". I don't think so. No one will blow the whistle on themselves or fellow doctors.

RECOMMENDATIONS:

The VA has spread themselves far and wide in research, unfortunately, not as deep. It was Sec. Jesse Brown, That said "this was the dirtiest war ever Fought"? If the VA knows this, the veterans knows this, and the rest of the world knows this. What is the problem? There should not be a need for recommendations when the obvious is upon us. One simple question is, How can 697,000 mostly healthy, well trained fighting men and women be healthy enough to fight a war, but after returning home, most can't fight a cold? What is so hard about that question? If the problems with the VA begins with money, than maybe they should be given more. I ask for what though? How much has been spent on trying to prove we're not sick instead of why we are sick? How much money has been spent on downplaying our concerns than treating them? If that money is given, what's to prove they won't use it on bogus research like in the past? For an example- I know of hundreds if not into the thousands of Persian Gulf veterans, not one of them that I know was picked to be studied in the new "National Health Survey of Persian Gulf Veterans and their Family Members". Not one wife that my wife or I know of has been chosen to be studied for health concerns. I don't understand this, Top VA officials like Dr. Murphy and Dr. Mather's know personally of cases such as my wife and a few others that have complained about health problems for three or more years, but yet their not even considered candidates for that research. Why have a computer spit out names on a random basis, when they know of certain cases already? It's obvious that the names the computer picks are of veterans and wives that no one has heard of or know of, telling me something's wrong with this picture. Out of 30,000 veterans and family members, I find it hard to believe that I have not heard of one of these people picked. The Veterans Affairs have offered false hope through some of their programs. Such is the case with the "Veterans' Benefits Improvement Act of 1994" (Public Law 103-446) The law states that a "veteran interested in having his family members examined (but not treated) should contact their local VAMC if that veteran is on the registry". My wife called Battle Creek for questions about this exam, only to be told by Gary Orr "It's to bad your not even considered" "there's nothing the VA can do for you or your son". Why would there be a law that tells veterans to do this? I would also like to see more outreach programs for the veterans, programs should not be buried to save money. Did you know that by time the registry was well known about, two years had already expired? Leaving most veterans lost in time frames. Within that two years many veterans were fearful about coming forward with their problems. One big questions veterans have is "How to make the transition form the DoD registry to the VA registry?" There's no information anywhere on that for veterans. I would like to see a committee of top VA officials actually appear in the local VAMC's as a surprise inspection. Maybe a regional conference could be held quarterly in all 171 VA hospitals, with top VA officials there to hear our complaints and promise a commitment to better care.

Since no positive results are being made, then negative remarks should be left alone by certain VA doctors. Dr. Edward Young, chief of staff of the Houston, Texas VAMC and head of the Houston Referral Center for Gulf veterans, said himself, after expressing skepticism about some of the illnesses "some of the veterans were making health complaints to get governmental compensation" He was also quoted saying "You know we may have hurt you while on active duty, we solicited it. If that isn't one way to create a disease, I don't know what is, especially if the pot at the end of the rainbow is compensation. We're living in very difficult economic times right now, and people are desperate." What kind of mentality is that for us to deal with? We can really be confident of top priority health care with statements like that! These comments provoked his suspension and lead into an investigation. Unfortunately Dr. Young is still employed by the VA. Maybe changes have to start with personalities and attitudes. Maybe it's that simple. What about the incident with the two lawyers found guilty of destroying veterans files?

I don't want to see the VA replaced or done away with. The VA is the only medical benefit that the veteran has. What I would like to see done away with is incompetence, close mindedness, and denial within the VA system. It amazes me how a civilian doctor can look at a Persian Gulf veteran and diagnose them with certain illnesses, the same veterans can have the same tests done at the VA, to receive a different set of diagnosis, if they receive one at all. Those diagnosis's always seem to downplay the civilian doctor's work ups. I would like to see that the veterans compensation is done right, judicated the way the laws say- remember the burden of proof is on the VA. In most cases that is not the way it is. If it's a pot of compensation the veteran is looking for, true medical documentation should provide the answers if they are deserving or not, not the personal opinion of some of the VA doctors.

I personally don't know of ONE veteran that wants to go through two or three years or more broke, unemployed, or homeless like the other 233,334 veterans, (VA's P.A.O. Jan.1992) I don't know of ONE veteran that thought that fighting in the sands of Iraq was for a pot of compensation, the only pot at the end of most veterans rainbows are denial, ridicule and frustration. I would like to see some real efforts put on the veterans and their family members. There is nothing that the government should not be willing to yield to her veterans. This has been basically a breech of contract to the veterans of the United States of America. Not just for this war, but to the veteran's throughout history. When George Bush was President, he signed into law February 14th, 1991, Executive Order #12751 (attachment D.) "That the Sec. of the Veterans Affairs may pursuant to this order, enter into contracts with private facilities for the provisions of hospital care and medical services for veterans to the fullest extent authorized by section 8111A(b)(1)-(2) of title 38". If there is no possibility that any illnesses came from the Gulf War, why was this law signed as early as 1991 as we were returning home? He also stated "We have shaken the Vietnam Syndrome" Well, guess again America, history does repeat itself- with the VA it's over and over and over again. Bottom Line is, that if a veteran has a problem with their local VAMC, there should be clearly defined phone numbers for help and answers to these veterans concerns. I and the veterans she has helped have no problems or complaints about Dr. Murphy. I have no complaints with Dr. Ketan Shah from Battle Creek. When a problem is brought to their attention, they act quickly and decisively. If that's all it will take, then let the VA alert the veteran on how to contact central headquarters or designate one person for relief of ongoing problems.

I would like to end my testimony with an old cliché. If you appreciate your freedoms as an American, thank a veteran.

Thank you for your time.

Brian T. Martin

Mr. SHAYS. We will now go to Bill Gleason, also a Persian Gulf war veteran.

Mr. GLEASON. Well, let me explain something to you, first of all. I am not a real good spokesman. All I did was to go and do a study. I'd like to——

Mr. SHAYS. Mr. Gleason, could I ask you to put your mic closer to you? I know you have your papers there, but we want to pickup your voice.

Mr. GLEASON. OK. I'd like to thank Congressman Shays for inviting me down to this committee. I'd like to thank the members, and I'd like to tell you a little story. I have nothing written down.

I'm a master gunnery sergeant. I've got 26 years in the military. I went through Vietnam 1965–66. I'm 53 years old.

One thing they teach you in the Marine Corps is to take care of your own; and when I was retired back 2 years ago, I started getting these calls; and I got calls from people that were sick, very sick. When this happened, I investigated it myself. I got well over 1,000——

Mr. SHAYS. Just to clarify, you got calls from veterans who served? In the Persian Gulf?

Mr. GLEASON. Veterans themselves. Their mothers, their——

Mr. SHAYS. These are people you served with?

Mr. GLEASON. Right. And what happened after that is I started a survey, and I worked with a doctor, and we came up with a survey to ask people different questions and make sure the questions were all the same for all the people.

When we got involved in this, we began to realize that the health problems were quite severe. I have Jeff Rawls that is actually dying of shrinkage of the brain. I have got people that have got parasites still 5 years later in their systems that they are trying to trace and destroy. I've got cancers.

What is unique with my group, ladies and gentlemen, is that we have a group that went over there that was 76 Marines. We've got 75 of those Marines in our survey right now, and I don't think that too many groups can talk about that.

I've got the detailed problems that they are in. I've got that there is 9 people out of that 76 people that I've dealt with that don't have any symptoms at all.

What we have done is worked with the VA hospital in Syracuse. Mr. Orfalano has indicated to me that he will support us any way that he can. That system has done a 180 degree turn as of June 1994. We are working closely with them. We are getting support from them.

Mr. SHAYS. When you say 180 degree turn—turn from where to where? I want you to be little more specific.

Mr. GLEASON. A turn from when we first went down there they would give us a 3 by 5 card with four questions on it, and we would answer those questions. It wasn't a physical. But then they kind of confused us by saying this is your registry. You're now on the registry. In fact, we didn't take any physicals at all.

Mr. SHAYS. I want to clarify this. They changed in attitude from being unsympathetic to sympathetic?

Mr. GLEASON. Right. In Syracuse, they did. They went from that 3 by 5 card that was a four-question type of thing to now a protocol

clinical physical, and we go down there now and we get a complete physical. They've told us now that we don't have to pay for some of the physicals that we have been getting.

Before that, Buckbee in my unit definitely paid $2,000 for a stomach operation that he had for growths removed from his stomach. To this day, he's paid all but $100, and he got back a tax return type of thing where they've taken that $100 out of his tax returns, which is not really that acceptable with us.

But I'd like to mention some of the sicknesses here: shortness of breath, diarrhea, blurred vision, fatigue, skin rash, muscle joint pain, loss of memory, forgetfulness, bleeding, respiratory problems, sleep disturbances. There are—30 to 40 percent of our unit has these problems.

The severity of the problems is not like Vietnam when we come back from Vietnam where you had a gut-shot wound or you are missing an arm or a leg. These are problems—it is almost like a flu symptom, but they continue to go day in and day out for 4 or 5 years. And that—you know, it is just not right that things like that happen.

The thing that came out of this book here that the Government put out that really got me concerned when I first started going—getting involved in this was the reservists, and I was a reservist. In Vietnam, I was 4 years in with the Marines, and I was a reservist when we went over to Desert Storm. I'd like to read this here:

"Reservists tended to be older and possibly less physically resilient compared to the active duty troops, and reserve personnel may have suffered increased stress because they had to leave their jobs and experience greater disruption of their personal lives."

When I read something like that—knowing that I had been in charge of a group of men in Vietnam, I knew what they were capable of doing; and I knew what reservists were capable of doing. That just got me going—involved in this thing, and I have been on it for 2½ years now.

The thing I have come here to talk to you about is that we've got an ideal situation here that we really need to look at. We've got a group of Marines that went over, fought, came back that are being sick. They are not regulars. They are reservists, and they are sick, and they need to be taken care of.

Thank you.

Mr. SHAYS. Thank you, Mr. Gleason.

[The prepared statement of Mr. Gleason follows:]

PREPARED STATEMENT OF BILL GLEASON, PERSIAN GULF WAR VETERAN

Introduction: Following the return of Marines, of Bravo Company, from the complex environment in the Persian Gulf region during Operation Desert Shield and Desert Storm and the operational conditions of a military deployment, a variety of health effects have been reported throughout the coalition forces.

Many Marines from Bravo Company were exposed to potentially adverse substances and experiences presented in wartime environment. Fumes and smoke during military operations, oil well fires, diesel exhaust, toxic paints, pesticides, sand, depleted uranium, infectious agents, multiple immunizations during a short period of time. Some troops are convinced they were exposed to chemical and/or biological weapons.

Substantial transient gastrointestinal and respiratory symptoms were seen during the troops build up and immediately after the short conflict.

Since then there have been increasing reports of illnesses from the Marines of Bravo Company that were participants in these operations. Many now attribute their health problems to these experiences.

Many cases include a combination of non-specific symptoms of fatigue, skin rashes, muscle and joint pain, headaches, loss of memory, shortness of breath, diarrhea, and sleep disturbances, and respiratory symptoms, which may or may not fit readily into the common diagnosis.

Some veterans have reported illnesses in spouses as well as birth defects in children conceived after the conflict. They are concerned about the spread of disease as a general public health issue.

PRELIMINARY FINDINGS OF ILLNESSES ATTRIBUTABLE TO SERVICE IN THE PERSIAN GULF WAR 1990–1991

Mission: To make contact with the 76 members of Bravo Company who were deployed to the Persian Gulf Region for Operations Desert Storm and Desert Shield. (Only Bravo Company Marines were interviewed for this survey.)

Purpose: To determine whether there group of Marines ("B" Co.) have more health related problems than would be expected. To determine any unusual patterns of health problems. To determine the role presently played by the Veterans Administration, and the optimal role that should be played by the V.A. as a "protocol" for interested Persian Gulf War vets, that are concerned with symptoms they have experienced since their return home in May of 1991. To insure that both the government and the people of the United States are aware that these symptoms, illnesses, and conditions are present, and that large masses of troops, to include the Bravo Company have attempted to seek assistance from this local V.A. and have either been turned away completely, or have generally not been satisfied with how they have been received regarding persistent health issues.

This information has been requested by:

1. MgySgt William B. Gleason—tank leader (ret.)
   a. CW03 Roy Johnson (ret.)
   b. CW03 Lee Reney (ret.)
   c. SSgt. David A. Buckbee (ret.)
   d. Cpl. James M. Renna (ret.)
   e. Mary Ann Gleason-Kuznia (civilian)

Results: Shown in the attached bar graphs. This data is preliminary, some of the records being collected and reviewed are still incomplete.

Roster of 76 Marines/contacted—73 Marines—97% JJ Grant, D Reynolds, G McLain

Shortness of breath—26 Marines = 36%
Dizziness—18 Marines = 25%
Constipation—7 Marines = 10%
Diarrhea—24 Marines = 33%
Blurred vision—22 Marines = 30%
Tremors—5 Marines = .07%
Slurred speech—11 Marines = 15%
Fatigue—40 Marines = 55%
Skin rash—33 Marines = 45%
Muscle joint pain—42 Marines = 57%
Loss of memory—32 Marines = 44%
Forgetfulness—32 Marines = 44%
Bleeding—29 Marines = 40%
Heart problems—4 Marines = .05%
Respiratory problems—23 Marines = 32%
Motor problems—5 Marines = .07%
Sleep disturbances—41 Marines = 56%
Coughing—20 Marines = 27%
Choking/sneezing—17 Marines = 23%
Numbness/extremities—7 Marines = 10%
Headaches—19 Marines = 26%
Bumps/growths—2 Marines = .03%
Stomach surgeries—7 Marines = 10%
Nothing wrong since war—9 Marines = 12%
V.A. registry signed up—31 = 42%
Not signed up—42 = 58%
Nerve pills taken:
All of them—32 Marines = 45%
3–4 days—8 Marines = 11%

2 days—16 Marines = 22%
1 day—3 Marines = 05%
None taken—14 Marines = 19%
32 Marines took all of the pills, sick or not. 41 Marines quit taking the pills because they were making them sick—bleeding from mouth and nose, headaches, dizziness, high fever, and lightheadedness.

Mr. SHAYS. Next is Randy Wheeler, also a Persian Gulf war veteran. Mr. Wheeler you are going to need to bring that mic nice and close to you.

Mr. WHEELER. Hello, my name is Randy Wheeler; and first I would like to thank you for letting me give this testimony.

I served in the Gulf war with the U.S. Marine Corps from August 1990 to March 1991. I have achy joints, chest pains, shortness of breath, headaches, severe blepharitis in both eyes, rashes and diarrhea since I have returned. My son is 2 years old and experiences skin rashes all over his body. My wife also has rashes and other problems that we are not sure of.

The best way for me to explain how I feel is to give you an example of a typical day for myself. I wake up in the morning, and my hands are inflamed, and they hurt so bad I cannot make a fist. I have to give myself at least an hour—I am sorry—I wake up in the morning. My hands are inflamed. I cannot make a fist. I have such a hard time walking on my feet that I have to get in the shower and allow myself at least an hour before I leave my home. I go to work in the afternoon, and within a couple of hours I begin to limp. My hands become inflamed and sore again. I have chest and stomach pains and also have five to six bowel movements a day.

If you would please take a look at Enclosure 1 that I have put in with my testimony. I wanted Mike Lann to show someone that the Marine Corps had detected chemicals during the ground war.

Though Mr. Lann was in the Army and I was in the Marine Corps, I do not recall how we met. I spoke with him and invited him to my home. There we spoke of many instances that we believed that we were exposed to chemical agents. This document is enclosed in my investigation and shows how I presented a problem that I could not resolve without Lt. General Christmas' guidance.

Lt. General Christmas then assigned a JAG officer to gather information, and the subject of the investigation was to inquire into the circumstances surrounding possible exposure of Sgt. Randy G. Wheeler to chemical agents during Operation Desert Storm. The General concluded that because of the complexity and the ongoing testing by DOD, I should finish testing and get further guidance from the VA.

In March 1994, still on active duty, I left Camp Pendleton, CA, and returned home to Cape Coral, FL. I began to travel back and forth to McDill Air Force Base in Tampa to see doctors for my ailments. After spending a lot of my own money and making phone calls to California and Washington, DC, I found out about the CCEP and what it might be able to do for my wife, my son and myself. So, my family and I traveled to McDill Air Force Base and completed phase I.

While there, someone mentioned why had I not been to VA. Someone else told me while I was on active duty I could not go to VA. In November 1994, and phase I completed, I was told not to expect phase II for a few months, so I moved my family and myself

to Birmingham, AL, because of the reputation I was hearing about private doctors and also the VA there.

In January 1995, my command had authorized advance travel pay for my family and had set up phase II at Eisenhower Army Medical Center in Ft. Gordon, GA. See Enclosure 2—excuse me, I am sorry about that. This copy I faxed to Senator Shelby will explain my visit to Ft. Gordon, GA. This is just one of the two faxes. I found the other fax a couple of nights ago after I had finished the testimony.

In June 1995, I had to go to the emergency room for a partial dislocation of my right shoulder. Again during this month I returned to the emergency room for burning redness and pain in both of my eyes. After these two occasions I started seeing private physicians, because I was losing hope with the military and still not being able to go to the VA. My ophthalmologist, Dr. Parker, has diagnosed me with chronic blepharitis in both of my eyes; and I also have a cataract in my left eye. The doctor at Eisenhower told me that my eyes were fine.

I also have seen—I have also seen a private rheumatologist for my joints, because I have been waiting for over 3 months to be seen by the VA in this clinic.

If I may note, I've seen a rheumatologist just this past Friday at the VA. Dr. Kennedy, my private rheumatologist, has seen me for my condition and believes I may have Reiters Syndrome. I do have a positive ANA for lupus, but she is not comfortable with giving me this diagnosis.

On July 7, 1995, I was released from active duty and was given a 30-percent disability and put on TDRL. I now could pursue the Persian Gulf War Clinic at the VA there in Birmingham, hoping that this program would be a cure for my problems. But this clinic was no different from the CCEP at Ft. Gordon. Everything was notated, but all I was getting was, "Let's do a breathing test if you have a chest problem," or "Let's check your lymph nodes and do some blood tests if you have a cold." The VA is not doing any specific kinds of testing. You have to ask for tests and wait for months to see specific doctors, only to be left in the dark about your health problems.

In July 1995, I began a job at the Post Office. See Enclosure 3, please. I have missed many days of work; and I have sent this letter to Montgomery, AL, to be included in my claim. If my condition worsens, I will eventually have to stop working. How long would it take to be compensated then?

The DOD needs to take the blame for our exposures and allow the VA to properly diagnose and compensate me in a timely manner. What I have tried to present to you today is that the VA and the DOD has not helped my family nor I in any way. I continue to followup with the VA, and I have completed the CCEP but still haven't been tested for anything that might have caused my health problems or I have not been properly diagnosed.

I want to give special thanks to my wife, Lt. General Christmas and the private doctors of Birmingham, AL. These are the only people that helped me in any way.

Mr. SHAYS. Thank you Mr. Wheeler.

[The attachments to Mr. Wheeler's prepared statement follow:]

Enclosure 1 Page 1 of 2

ON Sunday the 7TH of November 93 Mike Lann came by my house and we talked about our experiences in Kuwait. He gave me some information and I gave him a copy of my 2 letters for my rebuttal. He was going to a congressional hearing on Monday the 8TH. He did present these letters and everyone became concerned about this.

Yesterday I returned from SanDiego and there were messages on my answering machine - Mike Lann, Donna Fox, and William Kisiner. I returned the calls and waited for them to call me. Mike Lann called first. He said that these letters were the hottest things in Washington DC. He also said to be careful who I talked to and said if I had any questions to call him. Then at about 1400 William Kisiner called from ABC News. He was asking questions about the war and I told him only what was in my letters and clarrified them. He also asked about a "Operation Dessert Sword." I told him it was only heresay to me from news on people being baried

Then at about 1700 a Representative for Cong. Kennedy (Ala) Donna Fox Called and again I clarrified my letters. She wanted pictures from the Fox vehicle and I told here pictures are classified but anyone can take a tour of the vehicle. She wanted a copy of my Rebuttal package because the doctor accually said I was exposed to at Least 2 chemical agents. I faxed that copy this morning on my credit card. Donna Fox also said that someone from the DDD might be in touch asking Questions about my letters, because of another Congressional hearing on Tuesday 16th of Nov.

[signature]
SGT USMC

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Enclosure 2

TO: Senator Richard Shelby
FROM: Randy Glenn Wheeler USMC
** INQUIARY TO Terry Lynch

Sir I am writing you in hope you can help my family and myself. On 30 January I reported to Eisenhower Army Medical Center and interviewed with a Colonel Plowman about all of my symptoms from the Gulf War, and he was in charge of getting me treated for the week's stay there. I was admitted to the hospital and sent to the lab for a work-up. Hours later I had a P.P.D. test, C-Spine, and other X-RAY'S done. Later that day officer Harris came to my room and asked questions about my lungs.

Day 2: Officer Harris and another doctor returned and said I would get a Methacoline test, (Lung) stating these tests are not always accurate. The other doctor stated he would put me on a treadmill and monitor my endurance threshold.

Day 3: I reported to Allergy clinic and my (PPD) tuberculosis test was positive. a colonel came in to the office and stated that my wife and son will need testing. They never tested them. I could not understand why I was there for a week and they could not test them. Later that afternoon I went to opthalmology and a doctor checked my eyes. He stated to me that I have scare's in my eye's. He did some other testing then I reported back to Col. Plowman. While I was with the Col, I asked some questions about my eye exam.

He said that nothing was noted about scarring. I returned and asked Doctor Coleman why this was not noted. He said that he never stated this. I know for a fact he said that I had scarring.

On Thursday Maj. Cooper and Lt. Willis returned from Washington DC and I told them my concerns about previous days here. i.e. they only did a methacoline test and no treadmill, not anotating that I had scars in my eyes, not being sent to Dermatology for consistant skin and red eye problems. no internal medicine doctor for digestive problems and problems with going to the bathroom etc.... I told Maj Cooper the different tests that could be performed to see if I were exposed to any agents and the comments from him were just statistics on other people with related problems. I thought my family and I were brought here to be tested.

The afternoon of Thursday I saw a neorologist for some tests. I brought into conversation the tests mentioned to Maj Cooper (DNA + EEG) and the doctor stated that Mustard exposure altures DNA. and he was not positive on EEG readings for Nerve Agent.

On Friday I saw an Allergist and his beliefs are that, my condition Allergic Rhionitis, can cause an Airway Disease.

The testing performed at this Medical Center is no different than any other doctor appointment I have ever had.

They gave my wife a refill on a prescription she was prescribed by an outside doctor. No test were performed on her. and they never even looked at my son. He has skin rashes to this day. Today I still have skin rashes, mild lung problems and my eyes are very red.

Enclosed are some photo copies from an investigation I will only show to you personally. These copies hold true writing's from confirming reports of chemical detection and people being burned from chemicals.

I need your help and so does my family for further testing.

Home phone (205) 444-0854
Work (205) 980-1077
Address 1314 Rime Village
Birmingham, AL. 35216.

Please help.
RANDY G. Wheeler
SGT. USMC

Enclosure 3

U. S. Postal Service ROUTING SLIP	Dept., Office or Room No.	
To: 1 Disability Rating Veterans Affairs Office		☐ Approval ☐ Signature ☐ Comment ☐ See Me ☐ As Requested ☐ Information ☐ Read and Return ☐ Read and File ☐ Necessary Action ☐ Investigate ☐ Recommendation ☐ Prepare Reply ☐
Attn: 2 Charles M. McLoud	DAV Rep	
3		
4		
5		

From:
Shelia Williams Tour 3 Supervisor, 2048
United States Postal Service B'ham Plant

Extension

Room No.

Date 2-26-96

Remarks:

Dear Mr. McLoud:

I am writing to you in regards to one of my employees, Randy Wheeler (595-16-2599). Since Randy has been with us at the B'ham Plant he has been a chronic complainer of many different ailments. Some of which include: breathing problems, joint pains, chest pains, stomach pains and fevers. During one pay period, he was taken off work by his doctor for seven days due to joint pains and three days for stomach pains.

On several occassions, Randy has had to leave work and go to the emergency room. He constantly has to go back and forth to different clinics for medical test.

If you have any questions, you may contact me at 521-0260. I will be happy to assist you in any way I can.

Sincerely,

Shelia F. Williams

Shelia F. Williams

...sive Telephone Line Noise - Disconnect... Transmitter Has Occurred
...3497 ...-08-95 11:03AM P004 #23

Mr. SHAYS. We now with go to Kimo Hollingsworth. Mr. Hollingsworth is also a Persian Gulf war veteran. Would you lower that mic a little bit?

Mr. HOLLINGSWORTH. Mr. Chairman, I have submitted written testimony to the subcommittee, and I ask that it be made part of the written record.

Mr. SHAYS. It will be submitted.

Mr. HOLLINGSWORTH. Mr. Chairman and members of the subcommittee, I would like to thank you for holding this hearing regarding illnesses and diseases reported by veterans who served in the Persian Gulf war. I am honored and grateful to present my personal views regarding this issue.

I realize that today's hearing will focus on VA. However, I would like to recommend that Congress address the inadequacy of the U.S. military's chemical and biological warfare agent detection and protection capabilities. This national security issue is extremely important to veteran's health issues, especially since the Department of Defense has been reluctant to address the gaping hole in the Nation's chemical and biological warfare defensive capabilities.

Mr. Chairman, I deployed to the Persian Gulf as part of Operation Desert Shield and Desert Storm. During the war, I served an artillery platoon commander and participated in the liberation of Kuwait.

In September 1991, I redeployed to the Persian Gulf via ship as part of the Central Command Landing Force where we conducted numerous amphibious exercises. Upon my return to the United States I felt physically fit, with the exception of postnasal drip and coughing of dark green chunks of sputum, which I dismissed as bad sinuses.

In late November 1992, I came down with what I thought was a severe case of the flu. In January 1993, the symptoms persisted; and in February and March, my condition worsened.

In April, I contacted the VA's Persian Gulf registry and scheduled an exam. The VA doctor informed me that the sputum and pain in my center chest were normal in some people and that I was, overall, in excellent physical condition. I was then directed to a social worker who discussed the issue of posttraumatic stress disorder.

Like other veterans, my concern about future health problems led me to also file a claim with the VA for disability compensation. In February 1994, VA denied my claim because I was provided with several diagnoses; and these conditions were not present in my active duty medical records.

In regards to claims, it is my own personal opinion that VA doctors are providing veterans with diagnoses on the compensation and pension exams so Public Law 103–466 will not apply. Like myself, veterans want their health restored, not disability compensation.

Mr. Chairman, when veterans first began to complain of health problems, VA and DOD refused to acknowledge that those problems existed until organizations like the American Legion and sick veterans raised these concerns with the Congress. Although Congress has mandated VA to address health problems of sick veterans, medical care and access to that care remains inadequate. Vet-

erans continue to be treated symptomatically; and when physicians are unable to determine the causes of symptoms, the immediate presumption is that the veterans' illnesses are stress related or imaginary.

In May 1994, after yielding to immense congressional pressure, DOD reluctantly initiated steps to examine sick Persian Gulf veterans and provide health care. Like the VA, DOD physicians continue to treat sick Persian Gulf veterans symptomatically. Unlike the VA, military physicians have predetermined that veterans' illnesses are psychosomatic, regardless of medical conditions which prove otherwise.

Sadly, some veterans have died because of these alleged psychosomatic conditions. Personally, I do not have a problem with a stress diagnosis. However, for claims purposes, VA doctors in the field generally do not provide veterans with a clinical diagnosis of stress; and, in most cases, veterans who have been diagnosed and treated for stress are not better but worse.

Equally disturbing is the fact that VA and DOD administrators in Washington promote a blanket diagnosis of stress-related illnesses. Ironically, these administrators are not practicing physicians but rather professional bureaucrats. Many veterans get the impression that the professional bureaucrats in VA and DOD exist simply to limit the Government's financial liability.

It is also disturbing that when veterans seek treatment from outside sources sensible medical diagnoses are found, a treatment is provided, and although veterans are not cured there is a positive response to these treatments.

It has been 5 years since the Persian Gulf war, and Government researchers are no closer to finding medical solutions to veterans' health problems than when these problems first appeared. Many believe that the cause of these illnesses has not been determined because VA and DOD would rather endlessly research these problems.

In regards to specific causes, serious research and treatment for low-level chemical warfare exposure has not been initiated because DOD maintains that such exposures didn't occur. The inadequacy of the military's detection and protection equipment, coupled with the recent findings provided by the United Nations inspection teams surrounding Iraq's chemical and biological capabilities, should make research and treatment for these types of exposures a national priority. This is especially true since United States forces are currently deployed to Bosnia with the exact same equipment used in the Persian Gulf, and where large stockpiles of chemical weapons exist.

VA and DOD should also reconsider research and initiate treatment for veterans exposed to smoke from the oil well fires. Smoke from the oil well fires surrounded the theater of operations for days, weeks and months. Veterans were surrounded by and inhaled oil well smoke daily with no protective equipment.

I am concerned because the Federal Government is fighting to regulate cigarettes, which is known to cause numerous types of illnesses. Personally, I breathed smoke from Kuwaiti sweet crude and accompanying oil field chemicals for 5 months straight.

Mr. Chairman, research on the parasite Leishmaniasis should also be reconsidered. Presently, there is no gold standard test for the parasite; and persons who test positive for the disease can test negative on numerous future tests. I am concerned for the general public because the parasite can survive blood bank storage, and current medical tests cannot determine if persons definitively have the disease or do not have the disease. If there is no gold standard test for the disease, how can VA and DOD be sure that veterans do not have the parasite?

Mr. Chairman, in closing, I would like to say that if the Government cannot make sick Persian Gulf veterans well, then veterans need to be informed of this fact. Personally, I believe that many veterans are suffering from low-level chemical warfare agent exposures. I also believe that there may be no easy medical solutions except healthy living and time.

As an American who volunteered to serve my country, I can accept bad medical news. What I cannot except and will not tolerate are professional bureaucrats that first deny a problem exists, then minimize problems once they surface and, last, make the problems seem more complex so endless studies can be conducted. The Federal Government, especially the Department of Defense, must learn that young men and women of this country are valuable resources. Mr. Chairman, I am a combat veteran, not an expendable item.

This concludes my testimony.

[The prepared statement of Mr. Hollingsworth follows:]

PREPARED STATEMENT OF KIMO S. HOLLINGSWORTH, PERSIAN GULF WAR VETERAN

Mr. Chairman and members of the subcommittee, I would like to thank you for holding this hearing regarding illnesses and diseases reported by veterans who served in the Persian Gulf War. I am honored and grateful to express my personal views concerning this important, complex and emotional veterans' health and national security issue.

I realize that today's hearing will focus on the current status of medical research on veterans' illnesses, and the Department of Veterans' Affairs (VA) efforts to respond to veterans' health complaints. However; before I begin my actual statement, I would like to recommend that Congress address the inadequacy of the United States military's chemical and biological warfare agent detection and protection capabilities. This national security issue is extremely important to veterans' health issues, especially since the Department of Defense has been reluctant to address the "gaping hole" in the nation's chemical and biological warfare defensive capabilities.

Mr. Chairman, on January 1, 1991, I was deployed to the Persian Gulf as part of Operation Desert Shield/Storm. During the war, I served as an artillery platoon commander for an H Battery, 3D Battalion, 10TH Marines, 2ND Marine Division. In that capacity, I participated in the liberation of Kuwait and was responsible for seventy-two Marines, four M198–155mm howitzers, numerous vehicles, crew-served weapons systems and communications assets. Prior to and during the deployment to the Persian Gulf, I was in excellent physical condition.

In mid May 1991, I returned to the United States and was assigned as the Executive Officer for another firing battery. In June, the unit prepared for a six month deployment back to the Persian Gulf with Battalion Landing Team 1/8, 22ND Marine Expeditionary Unit (22 MEU). In September, 22 MEU returned to the Persian Gulf via ship to become the Central Command Landing Force. Once again, I was in excellent physical condition. Upon my return to the United States, I prepared for my release from active service which occurred in May 1992. During this time period I felt physically fit, with the exception of post nasal drip and the coughing up of dark sputum which I dismissed as bad sinus problems.

In July 1992, I accepted a position with a major Wall Street brokerage firm as a Financial Consultant. In late November 1992, I came down with what I thought was, a severe case of the flu. Two weeks later, my health became progressively worse. Major symptoms consisted of:

—severe constant headaches

—severe muscle and joint pain
—severe chronic fatigue
—sharp pain in my center chest
—increased coughing of dark green sputum which was now in hardened chunks
—severe increase in urination (I would wake 3-4 times a night to urinate)
—periodic blurred vision
—memory loss
—low grade fever

By the beginning of January 1993, the symptoms persisted and in February and March my condition worsened. In April 1993, I contacted the Persian Gulf registry. I was told of the registry through a contact at The American Legion. I also learned of Doctor Edward Hyman who was treating sick Persian Gulf veterans in New Orleans. Despite my symptoms, the VA hospital in Washington, DC performed a complete physical and concluded that I was in excellent health. The VA doctor informed me that the dark green chunks of sputum and pain in the center chest were normal in some people. I was then directed to a social worker who discussed the issue of Post Traumatic Stress Disorder. The VA also provided me a brochure outlining psychological counseling services available to Persian Gulf veterans.

After my encounter with the VA, I decided to pursue the medical treatment prescribed by Doctor Hyman in New Orleans. Doctor Hyman informed me that he had refined an old medical technique to stain urine and evaluate the sample under a microscope. According to Doctor Hyman, my urine sample contained abnormal amounts of Streptococci bacteria. In mid May of 1993, I received treatment from Doctor Hyman, which consisted of massive doses of antibiotics, and immediately my health improved. As a result of Doctor Hyman's treatment, I have regained about eighty to ninety percent of my health.

Like other veterans, my concern about future health problems related to this issue led me to also file a claim with VA for disability compensation. In the fall of 1994, I received a VA compensation and disability exam at the VA hospital in Martinsburg, West Virginia. Upon conclusion of the exam, the following diagnoses were noted:

—mild Prostatitis
—irritable bowel syndrome
—possible restrictive pulmonary disease
—mild right hemisphere dysfunction which fits within the DSM III–R framework termed organic brain syndrome
—anxiety disorder

In February 1994, the VA Regional office in Philadelphia, Pennsylvania denied my claim. VA administered my claim in accordance with Public Law 103–466, which authorizes the Secretary of Veterans Affairs to award disability and compensation for Persian Gulf veterans with unknown illnesses. According to the denial notice, my claim was rejected with regards to the new law because I was provided with several diagnoses, and these conditions were not present in my active duty medical records. In regards to claims, it is my personal opinion that VA doctors are providing veterans with diagnosis on compensation and pension exams so the new law will not apply. Currently, I participate in the United States Marine Corps Reserves. For me the issue of disability compensation is irrelevant. Any disability payment I receive, would be offset in my reserve pay. Like myself, Persian Gulf veterans just want to be sure that injuries which resulted from service in the Persian Gulf will be given appropriate medical care. Simply put, veterans want their health restored, not disability compensation.

In regards to the overall issue of Persian Gulf illnesses, I would like to share several observations with the subcommittee. When veterans first began to complain of health problems, VA and DoD refused to acknowledge that these problems existed. When organizations like The American Legion and sick veterans raised these concerns with congressional members, Congress took action. As a result, VA initiated the Persian Gulf Registry and requested legislation which would authorize the treatment of sick Persian Gulf veterans in VA facilities. However, DoD consistently and repeatedly refused to acknowledge the health problems of veterans and active duty service personnel.

Although Congress has mandated VA to address the health problems of sick Persian Gulf veterans, medical care and access to that care remains inadequate. Veterans continue to be treated symptomatically, and when physicians are unable to determine the cause of the symptoms, the immediate presumption is that the veterans illnesses are stress related or imaginary. In May 1994, after yielding to immense congressional pressure, DoD reluctantly initiated steps to examine sick Persian Gulf veterans and provide health care. Like the VA, DoD physicians continue to treat sick Persian Gulf veterans symptomatically. Unlike the VA, military physicians

have predetermined that veterans' illnesses are psychosomatic, regardless of medical conditions which prove otherwise. Sadly, some veterans have died as a result of these alleged psychosomatic conditions.

Personally, I do not have a problem with a stress diagnosis. However, for claims purposes, doctors in the field generally do not provide veterans with a clinical diagnosis of stress, and in most cases, veterans who have been diagnosed and treated for stress related problems are not better, but worse. I am not a medical doctor but I would think that if veterans have stress related problems and they are treated for these problems, they would get better and not worse.

Equally disturbing is the fact that VA and DoD administrators in Washington, DC also promote a blanket diagnosis of stress related illnesses. Ironically, the administrators which subscribe to the stress related diagnosis are not practicing physicians, but rather professional bureaucrats. Many veterans get the impression that the professional bureaucrats in VA and DoD exist simply to limit the governments financial liability.

It is also disturbing that when veterans seek treatment from outside sources, sensible medical diagnosis are found, a treatment is provided, and although veterans are not cured, there is a positive response to these treatments. It has been five years since the Persian Gulf War and government researchers are no closer to finding medical solutions to veterans' health problems than when these problems first appeared. Many believe that the causes for veterans' illnesses have not been determined because VA and DoD would rather endlessly research the problem. The fact is, there is an abundance of medical research available which supports many of the suspected causes. Like veterans exposed to mustard gas, ionizing radiation and Agent Orange, many Persian Gulf veterans believe VA and DoD will still be researching this issue fifteen years from now with no concrete medical solutions.

In regards to specific causes, serious research and treatment for low level chemical warfare agent exposure has not been initiated, because DoD maintains that such exposures did not occur. I am concerned because the chemical warfare agent detection equipment used in the Persian Gulf was inadequate to detect unhealthy low levels of these types of agents. The inadequacy of the military's detection and protective equipment, coupled with the recent findings by the United Nations inspections teams surrounding Iraq's chemical and biological capabilities should make research and treatment for these types of exposures a national priority. Especially since U.S. forces are currently deployed to Bosnia, where large stockpiles of chemical weapons exists.

VA and DoD should also reconsider research and initiate treatment for veterans exposed to smoke from the oil well fires. Smoke from the oil well fires surrounded the theatre of operations for days, weeks and months. Veterans were surrounded by and inhaled oil well smoke daily, with no protective equipment. I am concerned because the federal government is fighting to regulate cigarettes, which is known to cause numerous types of illnesses. Personally, I breathed smoke from "Kuwaiti sweet crude" and accompanying oil field chemicals for 5 months straight. Knowing the types of illnesses caused by cigarette smoke, I am scared to think about the types of illnesses caused by the residue and smoke of crude oil.

Research on the parasite Leishmanisis should also be reconsidered. Presently, there is no gold standard test for the parasite and persons who test positive for the disease can test negative on numerous future tests. I am concerned for the general public, because the parasite can survive blood bank storage, and current medical tests cannot determine if persons definitively have the disease or do not have the disease. If there is no gold standard test for the disease, how can VA and DoD be sure that veterans do not have the parasite.

Mr. Chairman, in closing I would like to say that if the government cannot make sick Persian Gulf veterans well, then veterans need to be informed of this fact. Personally, I believe that many veterans are suffering from low level chemical warfare agent exposures. I also believe that there may be no easy medical solutions except healthy living and time. As an American who volunteered to serve my country, I can accept bad medical news. What I cannot accept and will not tolerate are professional bureaucrats that first deny a problem exists, then minimize problems once they surface, and lastly make the problems seem more complex so endless studies can be conducted. The federal government, especially the Department of Defense, must learn that young men and women of this country are a valuable resource. I am a combat veteran, not an expendable item. Mr. Chairman, this concludes my testimony.

Mr. SHAYS. I thank all of our witnesses today, and I am going to ask a few questions, and then I yield to my colleague, Mr. Upton from Michigan.

First, were all of you given very comprehensive medical evaluations before you went to the Persian Gulf? I'd like to ask each of you.

Mr. GLEASON. As a reservist, I think that we were given extensive——

Mr. SHAYS. I want to know what you were given. Were you given an extensive medical evaluation before you went to the Persian Gulf?

Mr. GLEASON. Yes, we were.

Mr. SHAYS. Mr. Martin.

Mr. MARTIN. No, sir, I was not. We were told, you are going to the Middle East. That was basically it. I was active duty. I was a U.S. paratrooper out of Ft. Bragg.

Mr. SHAYS. Mr. Wheeler.

Mr. WHEELER. I had a basic physical because I just attended—at the time, I was in NCO school in Twentynine Palms, CA, in the Marine Corps; and I just had a basic physical exam to start school.

Mr. SHAYS. Mr. Hollingsworth.

Mr. HOLLINGSWORTH. Mr. Chairman, I was given a standard Marine Corps predeployment physical.

Mr. SHAYS. I would like to ask each of you, when you got back from the Persian Gulf were you given a serious medical evaluation then?

Mr. GLEASON. No, we weren't. We went to Camp Lejeune; and we were given some blood tests, gave stool samples; and that was it.

Mr. SHAYS. Mr. Martin.

Mr. MARTIN. No, sir, I wasn't. When I came home, I was terribly sick. I was vomiting fluorescent-looking juice. I was having terrible problems, and I constantly was being rushed to the hospital and——

Mr. SHAYS. But you were not given any——

Mr. MARTIN. I was not—all they did was tell me I had a stomach viral infection and sent me on my way.

Mr. SHAYS. Mr. Wheeler.

Mr. WHEELER. No, sir.

Mr. HOLLINGSWORTH. Immediately following my deployments, I was not given a physical. However, shortly thereafter I did separate from the active service, and that is required.

Mr. SHAYS. When you separated, but not when you came back?

Mr. HOLLINGSWORTH. Yes, sir. That is correct.

Mr. SHAYS. All of you are no longer in the service, is that correct?

Mr. HOLLINGSWORTH. Sir, I currently participate in the U.S. Marine Corps Reserves.

Mr. SHAYS. So you are a reservist.

First off, this committee has oversight of the Department of Veterans Administration for programs—waste, fraud and abuse, how they conduct themselves, what they do. Our job is to do the oversight, and that is what we are doing.

I want to just reaffirm what I said in my opening statement. This is not a 1-day hearing. We are allowing you to open up this hearing. We are going to get into this extensively, and we're going to focus on the concept of focus. We want to be certain that the Department is truly focusing on the complaints that our veterans are making.

We then also want to move them to a sense of urgency. We want to resolve this very quickly—as quickly as we can.

Now none of you had to testify, and we appreciate your coming to testify. First, Mr. Gleason, I need to be clear on this. You talked about your unit. You didn't really focus in on yourself in your statement. Are you coming before this committee as someone who believes that have you contacted illnesses and are not getting a response?

Mr. GLEASON. That's true. I don't like to talk about my illnesses. I went down twice at Carrier Corporation where they have had to take me—rush me to the hospital.

Mr. SHAYS. The bottom line is, all four of you are here for your own personal experience; and then you have kept in touch with others—you more than some other individuals.

Mr. GLEASON. That is correct.

Mr. SHAYS. And I want to just affirm this, if it is true; and if it is not, I want you to say it isn't. What I get a sense from—and direct statements from a few of you—is that when you have gone to complain, basically they have told you, in a sense, that it is stress related or that it is in your mind and not really happening? Is this accurate?

Mr. GLEASON. It's accurate, but it's changed on our behalf because we have showed that we are dealing with a company of 76 Marines. We have held a conference at a hotel in Syracuse——

Mr. SHAYS. The first contact—but you are now saying for you, Mr. Gleason, it has changed.

Mr. Martin.

Mr. MARTIN. Sir, actually the reason I came here to testify is the VA has handed me everything I've demanded on a silver platter. But it's taken Congressman Upton, Senator Riegle, national press, the Phil Donahue Show, these kinds of thing I have been on to get everything that I could get.

I have been afforded the chances to be seen at Georgetown University, George Washington Ambulatory Care. They paid for me to go to civilian doctors. They will not wrinkle me at all. But, unfortunately, people like these veterans or the veterans that are behind me, they are not given that; and this is what is wrong.

Mr. SHAYS. I hear why you are here.

Mr. Wheeler.

Mr. WHEELER. Could you redirect the question again?

Mr. SHAYS. The question basically is that—the sense that this committee is getting, that I am getting, is that your initial contact with DOD and the Department of Veterans Affairs was that this was something more in your mind than in your body?

Mr. WHEELER. Yes, sir. They just were not doing studies. Just no studies.

Mr. SHAYS. Mr. Hollingsworth.

Mr. HOLLINGSWORTH. Mr. Chairman they did not inform me directly that I have stress-related illnesses. However, it sure was insinuated.

Mr. SHAYS. I need to be clear as well in terms of the Department of Defense versus the Department of Veterans Affairs. Is your contact—I want each of you to tell me where you have had your most

contact, with the Defense Department hospitals or the Department of Veterans Affairs hospitals and doctors and so on?

Mr. GLEASON. The VA, sir.

Mr. MARTIN. The VA.

Mr. WHEELER. Both, sir.

Mr. HOLLINGSWORTH. Both, sir.

Mr. SHAYS. Thank you.

Mr. Upton.

Mr. UPTON. Thank you, Mr. Chairman, and I again appreciate the opportunity not only to offer up a witness from my district who's been very involved in this, but also to sit in on the panel to listen to all the folks who are testifying.

I guess I would like to ask Brian Martin, my witness, as I have spent many hours with him, and my staff as well, in the course of the last couple of years; and we have met, obviously, a number of times, both here and back in Michigan. One of the things that didn't come out in your oral testimony, part of it is in your written statement that is quite lengthy—and I appreciate the time that you have spent on it—is sort of along the lines that Mr. Wheeler was talking about and that is that it impacts also your family—your wife who sits beside you this morning as well as your kids.

And what I would like you to explain before the chairman is some of the symptoms that have impacted your family and the response that you have had from veterans and also your work in essence trying to set up some type of informal adjunct registry or contact—network maybe would be a better word to describe it—of the folks around the country that have also experienced the same type of things that you and Mr. Wheeler had experienced and the advance back from the VA.

Mr. MARTIN. That's a lot.

Basically, right after—right after I came home, my wife became pregnant—this is after I came home from the Gulf war—and immediately she started having health problems. She was bedridden through the whole pregnancy. I mean, just everything was wrong.

And then, when our child was born, there was complications. He almost died at birth. He still suffers from respiratory illnesses and rashes that he has.

She has lumps in her breast. She has the female infections that all females that are married to Persian Gulf veterans are getting. So many problems, and they parallel what is going on with me.

Actually, what I said, through your help and through Senator Riegle's and national press, she was also awarded 1 year's free medical care at Walter Reed through the Secretary of Army; and that was as big a joke as what I have dealt with with the VA, very disappointing. When a veteran has nowhere else to turn, and they think that the VA and the Department of Defense—the only people that you think you can trust, when they turn their back on you and they lie to you and they make you think that you are stupid or crazy or nothing is wrong with you, this is terrible.

What I've actually done in the past 5 years is just basically talked to any veteran that will call me or I will call him and I have asked questions. I have questionnaires myself.

And one thing that I've done, I haven't even shown you yet, I just finished it, is I have a med-analysis of all the surveys that's been

done on Persian Gulf syndrome from the CCEP to the National Gulf War Resource Center here in Washington. What I've done is I've combined all those surveys by comparable questions and the figures and put it together, and it's unbelievable how the CCEP and the Department of Defense and the VA and all of that is so much different than what is really happening in the world.

You know, it's hard for me to continue on what to say, because—I mean, I was a paratrooper for the United States. I had 7 years karate. I joined the military at 26. I was in top physical condition. Six months later, my whole body just fell apart. I am still falling apart. Now they think I have lupus and early symptom stages of Alzheimer's, and I am only 33 years old.

My conditions are not going to get better. They only seem to be getting worse. My wife is getting worse. My son is the only one who seems to be getting better out of the three of us, and my 5-year-old daughter is the only healthy one that lives in our family.

And when we are hearing that this is stress related or—I mean, I have been told that it's stress. I have been told that the reason I am sick is because I opened up a can of worms that I didn't want to in the VA.

This is totally ludicrous and crazy, and I don't know where else to turn from here than to do something like this and say this has got to change. Congress or somebody has to wake up the VA and say enough is enough. We do not believe anymore. These people are sick, and we believe them, and we are going to help them.

Mr. UPTON. Do you feel that the VA has taken, made an adequate effort to contact family members of those with the syndrome such as Mr. Wheeler described?

Mr. MARTIN. No, sir, not at all. Like I said in my testimony about the—there is a Veterans Improvement Act that the VA has. As a matter of fact, it is right—the National Health Survey of Persian Gulf Veterans and Family Members. The law states actually that—I had it quoted—anyway, the law basically states that if you are on the registry, and you think that you have an ill family member, you can contact the VA. They will test your family member, not treat; it says that very clearly. They will bring your family member out to the VA, they will test them, not treat them, and put that information in the registry along with your information.

What it does not state is that they are randomly picking those names. They picked like 30,000 names. They put names in a computer and the computer spits out the names, and that is what I don't understand. Dr. Frances Murphy, Dr. Susan Mathers and everybody else that we have talked to in the VA knows that my wife is sick, wives like Kelly Albuck. There are so many wives across this country that the VA knows are sick and yet they do nothing about that. They say, we don't even consider them for candidates because this computer spits out names on a random basis.

But out of all the veterans that we know, I do not know one person or one wife that has been picked to be put on that survey. I do not know one wife that the VA has tested. The only reason my wife received testing was because the Secretary of the Army did it because of Senator Riegle's pressure because of the press pressure and because I bugged the hell out of General Blanck.

Mr. UPTON. I appreciate you coming to Washington. I appreciate very much the outlook of this subcommittee, and I would hope that in the weeks and months ahead we can get the VA to address those legitimate questions that you raised. Thank you, Mr. Chairman.

Mr. SHAYS. Mr. Gleason, I am going to talk a little about your survey, but I want to have all witnesses respond to this question. Were you well before you went to the Persian Gulf, and did you come back not well or eventually not well? Mr. Gleason.

Mr. GLEASON. I was well when I went over there and when I came back I have got some sicknesses that need to be taken care of.

Mr. SHAYS. Do you feel that these are sicknesses that will ultimately be healed, or do you feel that you are going to be carrying these sicknesses around for a while? What is your own attitude about it?

Mr. GLEASON. Hopefully, my attitude is that they find some solution within the next couple of years and that can be taken care of. My concern is my men that were 20, 21 years old that went over there. They are 25, 26, 27 years old now——

Mr. SHAYS. I just want to know your situation. Mr. Martin, you basically testified that you were well when you went in and not well when you came back.

Mr. MARTIN. Yes, sir.

Mr. SHAYS. And that it has affected your family as well. Mr. Wheeler.

Mr. WHEELER. I was in very good condition before I left, running, lifting weights since high school, very good condition. When I came back I had some skin problems and mild aching and pains, but figured it was from trying to get back in shape again from sitting over there.

Mr. HOLLINGSWORTH. I was in excellent condition before I was deployed and when I returned my health deteriorated rapidly.

Mr. SHAYS. There are three or four basic theories or more that are going to probably come along, but one is long-term exposure to the burning oil wells.

Mr. Gleason, were you exposed to the burning oil wells?

Mr. GLEASON. Yes, and the whole unit was and extended because we stayed in the blackened forest while everybody was pulling back and out of our battalion. We stayed there an extra 2½ months.

Mr. MARTIN. No, sir, I was not exposed to it.

Mr. WHEELER. Yes, sir.

Mr. HOLLINGSWORTH. Yes, sir.

Mr. SHAYS. The second one is exposure to chemical or biological weapons.

Mr. Gleason, your sense?

Mr. GLEASON. My sense on that is what Senator Riegle said, that they got proof that they blew up the plants and the ammo dumps and went into a plume and then dropped radiation and stuff on us.

Mr. MARTIN. Yes, sir. I know for a fact I was exposed to minute amounts of chemicals.

Mr. WHEELER. Yes, sir, low levels of nerve agent at the first breach site for Task Force Ripper, again MOP level 4 for over 20 to 30 minutes at the El Jabor Airfield, that was sulphuric mustard,

and full readings for over 3 minutes at the southwest side of the international airport.

Mr. HOLLINGSWORTH. I can't definitively say, yes, but there is no doubt in my mind I was exposed.

Mr. SHAYS. Were any of the four of you in a situation where you had to use masks, where you were told you needed to use masks?

Mr. GLEASON. Yes.

Mr. SHAYS. I want each of you to answer.

Mr. Gleason.

Mr. GLEASON. Yes, there was. Going through Red Lane 1 there were chemical mines that we went to MOP 4 then. We were MOP 3 going in with the tanks. And then with that alert we went to MOP 4.

Mr. SHAYS. One of the disadvantages of coming before a Member who is not on the Armed Services Committee is that you might have to define terms.

Mr. GLEASON. MOP 3 is all chemical suiting but the gas mask. MOP 4 is the gas mask, and that is the highest stage.

Mr. SHAYS. So you went to the highest stage, you had the clothes, but you had to put on the mask?

Mr. GLEASON. Yes. It later came out in the Reigle report that Ripper Lane and Red Lane 1 was chemical attack.

Mr. MARTIN. Yes, sir. I would have to be in MOP 4, 4 to 5 times a day for 40 days. Our alarms would go off that many times.

Mr. SHAYS. And you would put on the mask.

Mr. MARTIN. The mask, the uniform, the boots and the gloves.

Mr. SHAYS. So if the mask were not working that would raise some real doubts in your mind?

Mr. MARTIN. Actually, I took an Iraqi gas mask because I didn't have confidence in my mask, but I knew theirs would work.

Mr. SHAYS. In a private conversation, I would like to talk to you more about that, Mr. Wheeler?

Mr. WHEELER. Yes, sir. Five different occasions we went to MOP level 3 and 4. I would like to emphasize that level 3 is with the gas mask without gloves. MOP level 4 is with gloves and hood.

Mr. HOLLINGSWORTH. Sir, because I was in the artillery, which is a high priority target, we were in MOP level 3 during the duration.

Mr. SHAYS. So you were wearing the uniform——

Mr. HOLLINGSWORTH. With the exception of the mask, yes, sir. We did go to MOP level 4 with the mask as well.

Mr. SHAYS. The last question on this issue is how many of you were potentially exposed to depleted uranium? That would be difficult to determine.

Mr. GLEASON. With the tankers, that is not too hard to ask. We had 30 rounds of those black tips they call them, which was uranium rounds, and we carried them from January to April. We shot a few tanks up. We went into those tanks. At one point it was even told that we could take a tank back to Syracuse, believe it or not as a war trophy. I went into dozens of tanks trying to get parts in these tanks to make a war trophy.

Mr. SHAYS. Enemy tanks?

Mr. GLEASON. Enemy tanks that we shot up.

Mr. MARTIN. No, sir. I have no idea if I was exposed to depleted uranium.

Mr. WHEELER. I have no idea, but I did check tanks and a ZSU23–4 after it had been hit with artillery.

Mr. HOLLINGSWORTH. Like Mr. Wheeler, I have no idea. However, I did investigate several tanks.

Mr. SHAYS. When you say you did, you went inside them?

Mr. HOLLINGSWORTH. Yes, sir.

Mr. SHAYS. I would imagine if I have a serious illness and nobody seems to be finding the reason why and the solutions for how you could be cured that you begin to do your own research. Is that accurate on the part of all of you?

Mr. WHEELER. Yes, sir.

Mr. SHAYS. Mr. Gleason, what was the most surprising thing about your survey of 75 to 76 members?

Mr. GLEASON. That there were only nine that didn't have symptoms. We went by the symptoms that the VA told us; that if you had 5 or more of these 25 symptoms and had it for 6 months or longer, you were declared as a Desert Storm Syndrome.

Mr. SHAYS. So when you had symptoms, you made it fairly clear to them what you wanted. If 20 percent responded a particular way, say, for fatigue, they would have had to say that this happened not once or twice; that there was a duration before you accepted that as truth?

Mr. GLEASON. Right; 6 months.

Mr. SHAYS. You wanted some history, whether shortness of breath, constipation, diarrhea, blurred vision, tremors, you wanted to see 6 months of that before they could answer in the affirmative?

Mr. GLEASON. Yes, sir.

Mr. SHAYS. We have other panels and you have kicked off this hearing. There is lots more we could ask. Is there any question you wish I had asked you?

Mr. MARTIN. Sir, I would like to say that when my wife was in Walter Reed only two people there knew that she was not in the war. That was General Blanck and one of his aides. When she left after the month of June; she was there the whole month of June, when she was discharged she was diagnosed with somatization disorder, which is a very common diagnose that the VA and the DOD gives veterans.

She also had diagnosis of PTSD. My wife was not in the war, was never in the service. This is how ridiculous this program is. They thought she was there. They give her the diagnosis. That tells you how deep their medical evaluations went.

Mr. SHAYS. You do trigger two more questions. I would like to know whether you have had trouble having your records transferred from DOD to the VA? Have any of you had a problem? If you do not answer in the affirmative, then I will assume that none of you have had a problem.

Mr. GLEASON. We had got problems with reservists. When we got back, like Jeff Rawls became sick right away. To this day, nobody knows where his health records are. When we continue to ask where these records are, they don't know where they are at. They have been destroyed, a lot of excuses that are not acceptable.

Mr. SHAYS. Mr. Martin, everything else started to go well for you in terms of response. Did you have problems——

Mr. MARTIN. Sir, the DOD still says I was never in the Army. There is no 201 file on me. There are certified copies that keep appearing in Dr. Murphy's office, but nobody seems to know where they come from. To this day, though, the Army says I was never in the Army.

Mr. SHAYS. You are under oath and it sounds great, but could you be a little more specific?

Mr. MARTIN. I have no 201 file in St. Louis on me.

Mr. SHAYS. That is quite significant Mr. Wheeler.

Mr. WHEELER. I gave a personal copy to the Veterans Affairs Office of my medical record.

Mr. SHAYS. So you had your entire record that you gave them instead of DOD——

Mr. WHEELER. I do not know if they gave it to them or not because I had a photocopy of everything I had before I left my command.

Mr. HOLLINGSWORTH. Because I left active duty and shortly thereafter joined the Reserves, there were no problems locating my records.

Mr. SHAYS. Basically, you could register with DOD or the VA. I want to know if anyone from the Department of Veterans Affairs said you served in the Persian Gulf; we want to know your condition, without you proactively making that effort.

Mr. GLEASON. It never has happened to any of my 76 Marines.

Mr. SHAYS. My simple mind just wants to know why we haven't done an all-out effort to contact every veteran and to have them have a physical. Have you had responses as to why that hasn't happened?

Mr. GLEASON. No, sir. That is why I took it upon myself in the last 2½ years and a lot of money to do this for my 76 Marines that were under my command. I can tell you one thing; that my battalion commander and my battalion XO have not helped on this, and they are still in the Active Reserves.

Mr. SHAYS. Do you think that is probably the reason?

Mr. GLEASON. I know it is the reason. They have a mission to do, they are there to do it, and they are not going to fool around with sick Marines that are out.

Mr. SHAYS. They don't want to fool around with sick Marines, or is it a concern that they are in a vulnerable situation in still being under the DOD?

Mr. GLEASON. I think that would be the reason.

Mr. SHAYS. Mr. Martin, you got to them so quickly they weren't going to seek you out?

Mr. MARTIN. Yes, sir. That was pretty much it.

Mr. WHEELER. I started the beginning of last year with the VA. It has been real slow with me and I have done a lot on my own as well.

Mr. HOLLINGSWORTH. Essentially I have initiated all the action on my own.

Mr. SHAYS. It seems to me that when both DOD and VA develop a registry that they will need more information than just knowing who is in the service and who is not.

I hope they determine you are in the service some time.

Mr. MARTIN. Sir, can I make one more comment?

Mr. SHAYS. Sure.

Mr. MARTIN. There was a case in Texas, Philip Widell, a Persian Gulf veteran, he got out of active duty, his discharge was completely messed up. It was unclear exactly how or what status of discharge he had. He went to the Big Springs VA in Texas. They refused him treatment. I got called on this.

I called Dr. Murphy, she called Big Springs and said admit him. I will personally walk to central transitions and make the transition from DOD registry to VA registry for him.

Two weeks later I got another phone call. He was put in a psych ward, not tested for any of his complaints. He had a thyroid that was filling with fluid. I brought this to Dr. Murphy's attention again. She called down there. Within 3½ hours he was on the registry, had more appointments, had his thyroid drained and was weaned off the DOD medicine and started a new regime of medicine.

This is what I was saying that it takes. Not every veteran can call Dr. Murphy and say this is what I know is going on. And I don't understand why it has to take that. Why do I have to call Dr. Murphy and say this veteran needs a transition from DOD to the VA registry? It should not exist that way.

Mr. SHAYS. I never went to Vietnam, I was in the Peace Corps instead of Vietnam. I always said that if I ever voted to send men and women into combat, what I would have to know is if it was in our national interest. I would have to know what our mission was, how we achieve our mission and most importantly, that we would use all the force available to achieve as quick and as positive a result as possible.

We wouldn't hold back any power. This vote was made very real to me because I was voting on it in general, but real faces. A young man in my district who was a reservist, he wanted to go. His mom and dad didn't want him to go and pleaded with me that he not go. So there was a debate between a parent and a son on this issue.

What we all as Americans did, though, is we rejoiced that so few lost their lives and so many of you came back unharmed, we felt. This young man went to see a doctor on his own and the doctor asked him how many years he had smoked, and he said, I have never smoked. He said, you have the condition of someone who has smoked for 10 years. This is just someone—that was someone who I put a real face to when I voted to send him to the Persian Gulf.

There are a lot of Members of this Congress who are going to make sure we get to the bottom of this. I thank all of you.

Mr. GLEASON. If I may, you mentioned is there something you haven't brought up. There is a couple of things, nerve pills being one, the other thing, massive inoculations in a short period of time. I would like to take the nerve pills first.

The nerve pills that I was supposed to give my platoon sergeants to give out actually got my people sick, so sick that over half of them took the one pill the first day and never took them again. They bled through the mouth, the nose, they had diarrhea, they had dizziness, high fevers and light-headedness and going into the

war figured it would be easier to fight a war without those conditions than to take those pills. I think that needs to be looked at.

Another thing is the massive inoculations, one that was not okayed by the Food and Drug Administration, it was masked from what I heard under another name, we were supposed to at that time be told about this and a signed document that we were supposed to sign. That was never done. I am just wondering why.

Mr. SHAYS. I am happy you raised this. I said there were four areas that I wanted to ask. I asked about the oil wells and chemical and biological weapons and then jumped to uranium. I wanted to ask what I think is the one that has been viewed as a significant potential factor, vaccines and the antinerve drug. So you have answered it.

Mr. Martin, were you required to take all the vaccines in a very short period of time?

Mr. MARTIN. Yes, sir, and the pills also.

Mr. SHAYS. Mr. Wheeler.

Mr. WHEELER. Yes, sir.

Mr. HOLLINGSWORTH. Sir, I received standard predeployment shots as well as prigdistigmine bromine tablets.

Mr. SHAYS. Were they all done at once?

Mr. HOLLINGSWORTH. Predeployment shots consist of normal things. I did not get the anthrax or the botulism.

Mr. MARTIN. Sir, they set up tables in the gym at Ft. Bragg. They would file us through the middle of the tables and shot us as we were walking through in each arm, and then they would take you behind a curtain and that is where you would get them in your buttocks or your hip.

Mr. SHAYS. This committee has investigated the harmless drugs that when combined can result in not being harmless at all. Two harmless chemicals can make a very harmful drug. That reaction is something that I know the Department is looking at. The three of you have testified that you had the works and you had some; is that correct?

Thank you all very much. We appreciate your taking the time to be here.

Mr. SHAYS. I am going to ask our next panel to come up and be sworn in. That is Dr. John Bailar, chairman, Committee to Review the Health Consequences of Service During the Persian Gulf War, Institute of Medicine, accompanied by David Rall, foreign secretary. Next is Dr. Robyn Nishimi, executive director, President's Advisory Committee on Personal Gulf Illness; and Charles Sheehan-Miles, executive director, National Persian War Resource Center.

[Witnesses sworn.]

Mr. SHAYS. For the record, all five witnesses have responded in the affirmative and it is wonderful to have you here. It is wonderful having you all here and I thank you for taking the time to be here.

STATEMENTS OF JOHN BAILAR, M.D., CHAIRMAN, COMMITTEE TO REVIEW THE HEALTH CONSEQUENCES OF SERVICE DURING THE PERSIAN GULF WAR, INSTITUTE OF MEDICINE, ACCOMPANIED BY DAVID RALL, M.D., FOREIGN SECRETARY; ROBYN Y. NISHIMI, EXECUTIVE DIRECTOR, PRESIDENT'S ADVISORY COMMITTEE ON PERSIAN GULF VETERANS' ILLNESSES, ACCOMPANIED BY MAJ. THOMAS P. CROSS; AND CHARLES SHEEHAN-MILES, EXECUTIVE DIRECTOR, NATIONAL PERSIAN GULF WAR RESOURCE CENTER

Dr. BAILAR. I appreciate the chance to tell you some of the things that we have been looking at.

I am here today as chair of the Committee to Review the Health Consequences of Service During the Persian Gulf War, of the Institute of Medicine. The committee has 18 members, all eminent in their fields, with special strengths in a wide variety of disciplines needed to understand and resolve the issues before us. However, I am testifying here in my private capacity and my testimony has not been reviewed or approved by other committee members.

I have supplied a written statement and I will be giving some sections of that because the rest will be on the record. Another member of our committee, Dr. David Rall, is here with me in his dual role as a committee member and as foreign secretary for the Institute of Medicine.

I am also very pleased to acknowledge the great help in preparation of my testimony that was provided by Dr. Diane Mundt, who is the staff officer for the committee.

The committee was appointed in December 1993 in response to actions taken by the Department of Veterans Affairs and the DOD under Public Law 102–585. That law specified that the charge to the committee should be to assess the effectiveness of actions taken by the Secretary of Veterans Affairs and the Secretary of Defense in certain actions related to the Gulf war.

Specifically, we are to comment on three things: actions to collect and maintain information that is potentially useful for assessing the health consequences of military service in the Persian Gulf theater, means to improve the collection and maintenance of such information, and whether there is sound scientific basis for an epidemiologic study or studies of the health consequences of such service.

The charge to the committee was broadened and clarified in correspondence from Sen. Jay Rockefeller and Rep. Sonny Montgomery in 1994. Our final report is due in September of this year.

Shortly after the committee began its deliberations it became clear that events were moving rapidly and that some of our findings and recommendations should not be delayed until our final report. We therefore issued a first report in January 1995. My written and oral testimony here are focused on this first report and on certain actions of VA and DOD since that time.

While the committee has continued to work vigorously on matters within its charge, we have not yet developed our second set of findings and recommendations and no statement from the committee later than the report of 1995 has been endorsed.

Our first report included 14 findings and 27 distinct recommendations. Most of the recommendations were directed to the

Department of Veterans Affairs, the Department of Defense, or both. The report was well received by those agencies. I am pleased to tell you that most of our recommendations have been adopted and that these two agencies had even identified some of the needs themselves and taken action before they knew what our recommendations would be.

The charge to our committee did not include followup of these or other matters. However, in my personal view, the response to a few recommendations has not been sufficient. There are other areas, too, where our concerns seemed appropriate at the time we were completing this report 18 months ago, but where the rapid progress of understanding has shifted the focus of interest. I will summarize my present view of responses to most of our recommendations.

Four of our recommendations refer to the VA Persian Gulf war health registry. We were concerned that the registry not become diffuse, but maintain its focus; that it not be promoted or described as a research tool; that the VA encourage all concerned and eligible veterans to be registered; that a standardized protocol be used; and that the timeliness of the data be improved. Responses to our recommendations about these matters have been favorable.

While all Persian Gulf Veterans are eligible, many have not yet volunteered to be registered, and I believe that publicity from the VA could be expanded and improved with a view toward reducing the number who have not been registered.

We recommended that the Secretaries of DOD and VA develop a consolidated health record for each present active duty and former service member, and that all health data entries be recorded in this single record. Because there are differences among the services and the VA could not readily accommodate three record systems of its own, this recommendation also implies that the services and the VA together adopt a single medical record system. I understand that the services are making progress among themselves in relation to their development of a single computer record format.

This is one of our critically important recommendations, but as far as I know neither the VA nor DOD has taken any step that might lead to a consolidated DOD–VA health record. I continue to believe that such a record would be of great value to the men and women of this country who enter military service and then become eligible for care from the VA. It would be valuable to each of these agencies and indeed to the public at large by improving the continuity of medical care, avoiding duplication of medical interventions, and improving our understanding and management of health conditions that may affect military people and veterans, many of which also affect the general population.

I might say in passing that the DOD and VA records would be an invaluable resource for investigating problems of very broad concern to the whole population; not solely to service persons and veterans.

Three of our recommendations dealt with the Persian Gulf Veterans Coordinating Board, which is chaired by the Secretaries of VA, DOD and HHS. We recommended that this board actively coordinate research studies, that it have additional staff to deal with emerging data, that it make periodic reports, and that each new

initiative be evaluated in the context of what it might contribute to overall understanding.

Our committee is in close touch with the Research Working Group of the coordinating board, and as a result our committee will have more complete and current views on what those agencies are doing in support of Gulf war veterans.

Our committee recommended that the VA undertake a long-term mortality study to permit the study of deaths from chronic diseases, and I understand that the VA does plan periodic updates of the mortality studies that have already been started. I believe those should continue throughout the life span of all those veterans. That is a long time into the future.

Our committee made four specific recommendations regarding the study of pregnancies during and after service in the Gulf Theater and the outcomes of those pregnancies. The DOD has been largely responsive to these recommendations and has made efforts to design research studies to address a range of concerns. The VA also has been responsive and is including relevant items in both its registry examinations and its national health survey.

Overall, the VA, DOD and other agencies have largely acted in accord with our recommendations. Recall that these were issued in January, a little over a year ago. And I am personally pleased with the progress that has been made to date. I have commented on some failures to follow our recommendations, but I remain hopeful that these recommendations will not be lost. It is possible, of course, that our committee was misinformed about or misunderstood some matters, in which case a rebuttal would be welcome. But I am not aware of any rebuttal of the recommendations not yet followed.

Our committee may decide to review responses to our first report for inclusion in our second and final report due in September of this year. We will, of course, review the transcript of this and other scheduled hearings of this subcommittee as one important source that may show additional favorable responses.

I am grateful for this opportunity to tell you some of my views about the first set of recommendations of our committee and about the responses of VA and DOD as I understand them to those recommendations. I would be glad to answer questions.

[The prepared statement of Dr. Bailar follows:]

PREPARED STATEMENT OF JOHN BAILAR, M.D., CHAIRMAN, COMMITTEE TO REVIEW THE HEALTH CONSEQUENCES OF SERVICE DURING THE PERSIAN GULF WAR, INSTITUTE OF MEDICINE

My name is John Bailar. I am a physician (M.D., Yale, 1955) and a statistician (Ph.D., The American University, 1973). I retired from the Commissioned Corps of the U.S. Public Health Service after some 22 years at the National Cancer Institute (NIH) and two years as Director of the VA's national research program (1970–72). Since then I have spent ten years on the faculty of Harvard University (as Visiting Professor and Lecturer in Biostatistics) and seven years in the Department of Epidemiology and Biostatistics at McGill University (where I was Chair for the last 2½ years). On 1 November 1995 I moved to the University of Chicago, where I am Chair of the Department of Health Studies. I am a member of the Institute of Medicine, and during 1990–1995 I was a Fellow of the MacArthur Foundation. I have served on more than 15 committees at the National Academy of Sciences and its related organizations, sometimes as Chair, and I have published about 250 scientific articles of various types. My work is focused mainly on epidemiology and biostatis-

tics, with special interests in identifying and understanding chemical and other hazards to human health.

I am here today as Chair of the Committee to Review the Health Consequences of Service During the Persian Gulf War, Institute of Medicine. The Committee has 18 members, all eminent in their fields, with special strength in a wide variety of disciplines needed to understand and resolve the issues before us. However, I am testifying here in my private capacity, and my testimony has not been reviewed or approved by other Committee members. Another member of our Committee, Dr. David Rall, is here with me in his dual role as committee member and as Foreign Secretary of the Institute of Medicine. I am also very pleased to acknowledge the great help in preparation of my testimony that was provided by Dr. Diane Mundt, who is the Staff Officer for the Committee.

The Committee was appointed in December 1993 in response to actions taken by the Department of Veterans Affairs (VA) and Department of Defense (DoD) under Public Law 102–585. That act specified that the charge to the Committee should be to assess the effectiveness of actions taken by the Secretary of Veterans Affairs and the Secretary of Defense in certain actions related to the Gulf War. Specifically, we are to comment on actions to collect and maintain information that is potentially useful for assessing the health consequences of military service in the Persian Gulf theater, make recommendations on means to improve the collection and maintenance of such information, and make recommendations on whether there is sound scientific basis for an epidemiological study or studies of the health consequences of such service. The charge to the Committee was broadened and clarified in correspondence from Senator Jay Rockefeller and Representative Sonny Montgomery in early 1994. Our final report is due in September, 1996.

Shortly after the Committee began its deliberations, it became clear that events were moving rapidly, and that some of our findings and recommendations should not be delayed until our final report. We therefore issued a first report, titled, "Initial Findings and Recommendations for Immediate Action," in January, 1995. My written and oral testimony here are focused on this first report, and on certain actions of VA and DoD since that time. While the Committee has continued to work vigorously on matters within its charge, we have not yet developed our second set of findings and recommendations, and no statement later than the report of early 1995 has been endorsed by the Committee.

Our first report included 14 findings and 27 distinct recommendations. Most of the recommendations were directed to the Department of Veterans Affairs, the Department of Defense, or both. The report was well-received by those agencies. I am pleased to tell you that most of our recommendations have been adopted, and that these two agencies had even identified some of the needs themselves and taken action before they knew what our recommendations would be. The charge to our committee did not include follow-up of these or other matters. However, in my personal view, the response to a few recommendations has not been sufficient. There are other areas, too, where our concerns seemed appropriate at the time we were completing this report, 18 months ago, but where the rapid progress of understanding has shifted the focus of interest. I will summarize my present view of responses to most of our recommendations.

Four of our recommendations referred to the VA Persian Gulf Health Registry. We were concerned that the Registry not become diffuse, but maintain its focus; that it not be promoted or described as a research tool; that the VA encourage all concerned and eligible Veterans to be registered; that a standardized protocol be used; and that the timeliness of the data be improved. Responses to our recommendations about these matters have been favorable. While all Persian Gulf veterans are eligible, many have not yet volunteered to be registered, and I believe that publicity from the VA could be expanded and improved with a view toward reducing this number.

The Department of Defense Registry of Troop Locations, then under active development, seemed to us to be an important tool in understanding where the troops had been located in the Gulf Theater, and hence in understanding what environmental exposures they might have undergone. I understand that this Registry of Troop Locations has progressed quite nicely, and that it should be completed by the end of April.

We recommended that the Secretaries of DoD and VA develop a consolidated health record for each present active duty and former service member, and that all health data entries be recorded in this single record. Because there are differences among the services, and the VA could not readily accommodate three record systems of its own, this recommendation also implies that the services adopt a single record system. I understand that the services are making progress on this, in relation to their development of a single computer record format. This is one of our critically

important recommendations, but as far as I know, neither the VA or DoD has taken any step that might lead to a consolidated DoD–VA health record. I continue to believe that such a record would be of great value to the men and women of this country who enter military service and then become eligible for care from the VA, to each of these agencies, and to the public at large, by improving the continuity of medical care, avoiding duplication of medical interventions, and improving our understanding and management of health conditions that may affect military people and veterans (many of which also affect the general population).

Three of our recommendations dealt with the Persian Gulf Veterans Coordinating Board, which is chaired by the Secretaries of VA, DoD, and HHS. We recommended that this Board actively coordinate research studies, that it have additional staff to deal with emerging data, that it make periodic reports, and that each new initiative be evaluated in the context of what it might contribute to overall understanding. Our committee is in close touch with the Research Working Group of the Coordinating Board, and as a result we will have a more complete and current view of what those agencies are doing in support of Gulf War veterans.

Many of our recommendations dealt with specific research needs. We asked that the VA and DoD determine the specific research questions that need to be answered, and that epidemiologic studies of the health consequences of service during the Persian Gulf War be designed with appropriate input from experts in epidemiologic research methods and data analysis, along with the input of experts in the subject matter areas to be investigated. The Coordinating Board has begun to respond to this recommendation as shown in their report titled: "A Working Plan for Research on Persian Gulf Veterans' Illnesses."

Our Committee made a major recommendation that the two Departments collaborate to conduct a population-based survey of persons who served in the Persian Gulf, including comparisons with service personnel who served elsewhere. We recommended that the study be designed to allow for adequate comparisons of health patterns by sex, service branch, and rank, with oversampling among certain groups of persons to allow for more detailed analyses. The VA has undertaken a study that will answer many of the critical questions, but this study may not be large enough to study other important matters, and the scope of the data will be limited because the survey is being conducted by mail rather than by personal interview and examination. The DoD has provided the VA with the names of veterans who served in the Persian Gulf and elsewhere (to provide control observations), and has had some input to the research questions.

We made two recommendations regarding research study of smoke and unburned contaminants from the oil well fires and other sources, including diesel heaters in tents. While smoke and related contaminants are not as high on the list of concerns as they were just after the war, I believe that the DoD has responded in full and that the appropriate research studies are either underway or completed. We have been promised copies of the final reports.

Our Committee recommended that the VA undertake a long-term mortality study to permit the study of deaths from chronic diseases, and I understand that the VA does plan periodic updates of the mortality studies that have already been started.

Our Committee made four specific recommendations regarding the study of pregnancies during and after service in the Gulf theater, and the outcomes of those pregnancies. The DoD has been largely responsive to these recommendations, and has made efforts to design research studies to address a range of concerns. The VA has also been responsive, and is including relevant items both in its registry examinations and its national health survey.

Our Committee recommended studies to resolve uncertainties about the effects of vaccines and the chemicals PB, DEET, and Permethrin because of concerns that they might have chronic effects on the neurological system and other organs. I understand that the DoD has been responsive, that effects are being made to find and collect the lists of persons who received the botulinum vaccine, and that other relevant research is in progress.

Finally, the Committee made five recommendations regarding research on leishmanial infections. Research in this area has continued, but present information suggests that it is unlikely that leishmaniasis has been a major problem, and interest has waned somewhat. Thus, I am personally satisfied that the current level of research activity is appropriate, based on present understanding. If new findings emerge, it may be that a change in activity will be warranted.

Overall, the VA, DoD, and other agencies have largely acted in accord with our recommendations, and I am personally pleased with the progress that has been made to date. I have commented on some failures to follow our recommendations, but I remain hopeful that those recommendations will not be lost. It is possible, of course, that our Committee was misinformed about or misunderstood some matters,

in which case a rebuttal would be welcome, but I am not aware of any rebuttal of the recommendations not yet followed. Our Committee may decide to review responses to our first report, for inclusion in our second and final report, due in September of this year. We will, of course, review the transcript of this and other scheduled hearings of this subcommittee as one important source that may show additional favorable responses.

I am grateful for this opportunity to tell you some of my views about the first set of recommendations of the Committee to Review the Health Consequences of Service during the Persian Gulf War, and about the responses of VA and DoD, as I understand them, to those recommendations. I would be glad to answer questions.

Mr. SHAYS. Thank you. I appreciate your comments about paying attention to what this committee is doing. Thank you.

Dr. Nishimi, welcome, and it is nice to have your testimony.

Ms. NISHIMI. Good afternoon, Mr. Chairman. I am Robyn Nishimi, executive director of the Presidential Advisory Committee on Gulf War Veterans' Illnesses. With me is Maj. Thomas P. Cross, a distinguished and decorated Gulf war veteran, a member of the U.S. Marine Corps Reserve, a member of our advisory committee and a resident of Connecticut. He will review the major findings and recommendations from the advisory committee's interim report and then both of us will be available to answer any questions you may have.

Mr. SHAYS. Mr. Cross, you were sworn in. It is nice to have you here. I am sorry I didn't welcome you when you came.

Major CROSS. Good afternoon, Chairman Shays. On behalf of Dr. Joyce Lashof, chair of the advisory committee and my fellow committee members, it is a pleasure to testify before your subcommittee on our interim report, which we delivered to President Clinton last month.

My oral testimony will briefly review the history of our work to date and then highlight a few of the report's recommendations. The written testimony fully details for the record all of our findings and recommendations through February 15, 1996.

President Clinton established the Presidential Advisory Committee on Gulf War Veterans' Illnesses on May 26, 1995. His charge to us enables the Nation, for the first time ever, to give the critical issue of Gulf war veterans' illnesses the kind of comprehensive and independent review it deserves.

Our charter requires us to review Government activities relating to Gulf war veterans' illnesses, including research, coordinating efforts, medical treatment, outreach, reviews by other governmental and nongovernmental bodies, risk factors, and chemical and biological weapons.

Our interim report addresses these issues in part in four chapters, outreach, medical and clinical issues, research and chemical and biological weapons. For each of these areas we present the findings of our investigations to date. We also make recommendations we believe can improve the Government's initiatives for Gulf war veterans.

I would like to highlight three of the recommendations that include the Department of Veterans Affairs, since you will hear from them at later hearings.

First, in the area of outreach, the advisory committee notes that VA and the DOD have used a number of progressive techniques to educate veterans and other citizens concerned about Gulf war veterans' illnesses. Neither Department, however, has adopted per-

formance measures sophisticated enough to evaluate the success of these programs.

Our investigation revealed some relatively simple ways for the Departments to improve the clarity of their message and to receive feedback from veterans on their efforts. For example, the advisory committee recommends that the VA make its public service announcements about the toll-free helpline more explicit. The PSA's should include brief explanations of the purpose and referral process for the VA's Persian Gulf War Health Registry.

Second, in the area of medical and clinical issues, the majority of findings and recommendations were directed to DOD or the Food and Drug Administration. We do recommend, however, that for the critical issue of medical recordkeeping, DOD and the VA should adopt standardized recordkeeping to ensure continuity.

Third, in the area of research, the advisory committee found most of the major epidemiologic studies sponsored by the DOD, VA and the Department of Health and Human Services are well designed and appropriate to determine if Gulf war veterans have mortality, symptoms, or diseases that might be attributable to their service.

We recommend improvements to all agencies, however, in scientific peer review, use of public advisory committees and research coordination so that the Government's funding of Gulf war veterans health research can be optimized.

In conclusion, over the next 10 months the advisory committee will continue to address each of the elements of its charge. The interim report represents our work and recommendations to date, but is by no means complete. Many questions that the President asked us to investigate will be addressed in our final report, due by December 31, 1996. Four issues include certain aspects related to possible low-level exposure to CBW agents, health risk and toxicology research, health effects including reproductive effects, and medical treatment of and access to health care for Gulf war veterans.

Mr. Chairman, securing a healthy future for Gulf war veterans is of paramount importance to President Clinton. As a Gulf war veteran myself and a member of the Presidential Advisory Committee on Gulf War Veterans' Illnesses, we promise our full dedication and commitment to fulfilling the President's charge.

[The prepared statements of Ms. Nishimi and Major Cross follow:]

PREPARED STATEMENT OF ROBYN Y. NISHIMI, EXECUTIVE DIRECTOR, PRESIDENT'S ADVISORY COMMITTEE ON PERSIAN GULF VETERANS' ILLNESSES

Good morning Mr. Chairman and members of the Subcommittee. I am Robyn Nishimi, Executive Director of the Presidential Advisory Committee on Gulf War Veterans' Illnesses. With me is Major Thomas P. Cross, a distinguished and decorated Gulf War veteran, member of the U.S. Marine Corps Reserve, member of the Advisory Committee, and a resident of Connecticut. During Operations Desert Shield/Desert Storm, Major Cross was an Assistant Operations Officer for the 6th Marine Regiment in the theater of operations, where he participated in the initial attack across the Kuwaiti border in February 1991. He is the recipient of the Navy Commendation Medal with Combat 'V', as well as the Combat Action Ribbon and the Kuwait Liberation Medal. Major Cross will review the major findings and recommendations from the Advisory Committee's interim report, and then we will be available to answer any questions.

PREPARED STATEMENT OF MAJ. THOMAS P. CROSS

Good morning Chairman Shays and members of the Subcommittee. On behalf of Dr. Joyce Lashof, Chair of the Advisory Committee, and my fellow Advisory Committee members (attachment A), it is a pleasure to testify before your Subcommittee on the critical issues surrounding Gulf War veterans' illnesses.

Benjamin Franklin once said, "There never was a good war or a bad peace." As a major in the Marine Corps, I wholeheartedly agree with Mr. Franklin's profound statement. In 1991 and 1992, approximately 697,000 men and women of the U.S. military, Reserves, and National Guard answered the call to serve in the Gulf War. Today, however, the hard won victory has brought no peace for some service members. Five years after Operation Desert Shield/Desert Storm, they and their families report chronic illnesses with a variety of symptoms—including fatigue, joint pain, headache, rash/dermatitis, and memory loss—that they link to their military service.

Since the end of the Gulf War, the Administration and Congress have undertaken several initiatives to address the health of U.S. troops who served in the Kuwaiti Theater of Operations. On May 26, 1995, President Clinton took the additional step of issuing Executive Order 12961 to establish the Presidential Advisory Committee on Gulf War Veterans' Illnesses (attachment B) to ensure, for the first time, an independent, open, and comprehensive examination of health concerns related to Gulf War service. We are a 12-member panel of citizens—veterans, scientists, health care professionals, and policy experts—who are fully committed to reviewing whether the Government's response to Gulf War veterans is compassionate and fair.

Our Advisory Committee is the first group broadly charged to analyze and review—in an unbiased, interdisciplinary, cross-agency fashion—the full array of topics associated with Gulf War veterans' illnesses. We are concerned that some veterans suffer from real, debilitating illnesses linked to service in Southwest Asia, and our charter (attachment C) requires us to review government activities relating to Gulf War veterans' illnesses, including:

- research,
- coordinating efforts,
- medical treatment,
- outreach,
- reviews by other governmental and nongovernmental bodies,
- risk factors, and
- chemical and biological weapons.

The Advisory Committee issues its findings and recommendations to the President through the Secretaries of Defense, Health and Human Services, and Veterans Affairs. Our final report will be delivered no later than December 31, 1996. Our interim report was delivered on February 15, 1996.

For the interim report, the Advisory Committee adopted the strategy of investigating and analyzing those key questions raised by the charter that we believed could be answered in the near-term. Toward this end, we received testimony from the public and government officials and reviewed scores of reports related to Gulf War veterans' illnesses. Our interim report revealed the Advisory Committee's evaluations to date, and we make findings and recommendations in each of the major areas of our mandate. Our work, however, is by no means complete. Many important questions remain for us to address and, hopefully, help to resolve.

My testimony summarizes the major findings and details our recommendations to date on the government's efforts in outreach; medical and clinical issues; research, and chemical and biological weapons.[1] The Advisory Committee's findings from the interim report are detailed in attachment D.

RECOMMENDATIONS ON OUTREACH

The Advisory Committee found the Department of Defense (DOD) and the Department of Veterans Affairs (VA) have used a number of progressive techniques—from establishing telephone hotlines for the health care programs that serve veterans to posting declassified documents on the Internet—to educate veterans and other citizens concerned about Gulf War veterans' illnesses. Neither department, however, has adopted performance measures sophisticated enough to evaluate the success of these programs. Our investigation revealed some relatively simple ways for the de-

[1] For the interim report, the Advisory Committee organized the seven elements of the charter into four broad chapters: outreach, medical and clinical issues, research, and chemical and biological warfare. The mandate to review the government's coordinating efforts and to assess the implementation of recommendations from past reports was addressed within the context of the subject matter of the chapters, as applicable.

partments to receive feedback on the utility of various outreach programs and a critical need to present information to veterans more clearly. The interim report makes seven recommendations that we believe can improve DOD's and VA's outreach to Gulf War veterans:

• Operators at the DOD Medical Registry Hotline, DOD Incident Reporting Line, and VA Helpline should be instructed to ask "How did you find out about this number?" as a method of qualitatively measuring the success of the different methods for publicizing the numbers.

• In the next Comprehensive Clinical Evaluation Program end-of-evaluation questionnaire, which participants answer when the initial evaluation is completed, DOD should include a question about satisfaction with the referral provided by the Persian Gulf Medical Registry Hotline.

• DOD and VA should utilize more refined performance measures to determine how well outreach services are reaching concerned parties. Caller volume data are not adequate.

• To assist the general public in interpreting the declassified intelligence documents on GulfLINK [a DOD site on the World Wide Web], DOD should prepare a user's guide. This guide should explain in general terms the various sources of intelligence information, how they may differ in quality and reliability, and how intelligence analysts compile and evaluate reports from a variety of sources in the field to obtain corroboration before preparing a final assessment. This guide should be featured prominently on the GulfLINK home page.

• In its outreach campaign, VA should forego use of the term "priority care." VA should state clearly that Gulf War veterans are entitled to receive the Persian Gulf Health Registry examination free of charge, including any diagnostic testing found to be medically necessary and counseling regarding findings.

• VA should make its broadcast public service announcements (PSAs) about the toll-free Helpline more explicit. The PSAs should include brief explanations of the purpose of the Helpline and the referral process for the Persian Gulf Health Registry.

• Future conflicts are likely to generate controversial and unexplained health concerns, and DOD and VA should anticipate the need and plan for outreach services and implement them expeditiously.

RECOMMENDATIONS ON MEDICAL AND CLINICAL ISSUES

For the interim report, the Advisory Committee focused on medical treatment issues that surfaced during the deployment and demobilization of troops. We found DOD's policies and procedures were nct adequate in all cases to prevent service members with preexisting conditions from being deployed or to identify health problems extant at the time of demobilization; these conditions could have contributed to some current health concerns.

The Advisory Committee believes DOD and the Food and Drug Administration (FDA) deliberated carefully before enabling, through rulemaking, DOD to require troops to take pyridostigmine bromide (PB) and botulinum toxoid (BT) vaccine as antidotes to possible chemical and biological warfare (CBW) agents without FDA approval of the products for that purpose. Yet we find FDA has failed, in the five years since the Gulf War, to devise better long-term methods governing military use of drugs and vaccines for CBW defense. We also find DOD's inability to produce the records of who received PB or BT vaccine indicative of much need for wholesale improvement in the government's performance on medical recordkeeping during military engagements: The issue of accurate medical and vaccination records is central to the concerns of many ill veterans, and the absence of records has been suggested by some as evidence that the government is engaging in a cover-up of its own predeployment practices. The Advisory Committee oilers six recommendations related to predeployment, demobilization, medical recordkeeping, and the use of investigational drugs and vaccines:

• DOD should regularly review and update the policies and procedures that govern the pre-, during, and postdeployment medical assessment of the Ready Reserve to ensure they are current and adequate.

• DOD should establish a quality assurance program to ensure compliance with pre-, during, and postdeployment medical assessment policies.

• Prior to any deployment, DOD should undertake a thorough health assessment of a large sample of troops to enable better postdeployment medical epidemiology. Medical surveillance should be standardized for a core set of tests across all services, including timely postdeployment followup.

• Given that FDA's interim rule [permitting waiver of informed consent for use of unapproved products in a military exigency] is still in effect, DOD should develop

enhanced orientation and training procedures to alert service personnel they may be required to take drugs or vaccines not fully approved by FDA if a conflict presents a serious threat of chemical and biological warfare.

• If FDA decides to reissue the interim final rule as final, it should first issue a Notice of Proposed Rule Making. Among the areas that specifically should be revisited are: adequacy of disclosure to service personnel; adequacy of recordkeeping; long term followup of individuals who receive investigational products; review by an institutional review board outside of DOD; and additional procedures to enhance understanding, oversight, and accountability. The Advisory Committee, at this time, withholds judgment on the adequacy of the current interim final rule.

• DOD should assign a high priority to dealing with the problem of lost or missing medical records. A computerized central database is important. Specialized databases must be compatible with the central database. Attention should be directed toward developing a mechanism for computerizing medical data (including classified information, if and when it is needed) in the field. DOD and VA should adopt standardized recordkeeping to ensure continuity.

RECOMMENDATIONS ON RESEARCH

The Advisory Committee found most of the major epidemiologic studies sponsored by DOD, VA, and the Department of Health and Human Services (DHHS) are well designed and appropriate to determine if Gulf War veterans have mortality, symptoms, or diseases that might be attributable to service in the Gulf War. However, we believe inadequate response to scientific peer review, disregard for the importance of allocating scarce research dollars to the best designed studies, and inattention to the need to communicate effectively with veteran participants are undermining the effectiveness of the government's research efforts. The lack of data about exposure to various risk factors (e.g., oil fire smoke or infectious diseases) also hampers research. Though DOD is attempting to recreate certain exposure scenarios with the Persian Gulf Registry of Unit Locations, we recommend heightened efforts to collect exposure data in future conflicts. With respect to the Advisory Committee's review of the government's major epidemiologic studies and DOD's Persian Gulf Registry of Unit Locations, the interim report details six recommendations:

• All epidemiologic studies aimed at Gulf War veterans' health issues should incorporate external scientific review and ongoing interaction with appropriate outside experts throughout the study process, from study design through analysis of results.

• The Persian Gulf Veterans Coordinating Board should play an active role in allocating the limited resources available for research on Gulf War veterans' illnesses. The Research Working Group of the Coordinating Board should monitor the findings and recommendations of scientific peer review committees. If scientific reviews draw into question the usefulness of particular studies to the overall research strategy, the Research Working Group should, via the Coordinating Board, recommend appropriate actions to the Secretaries of the three departments involved.

• DOD, DHHS, and VA should recommend their principal investigators use public advisory committees in designing and executing epidemiologic studies of Gulf War veterans' illnesses.

• For those questions that are common to different [epidemiologic] surveys, coordination between principal investigators and survey design experts should take place to arrive at common wording. The Persian Gulf Veterans Coordinating Board's Research Working Group should take responsibility for this coordination.

• The Persian Gulf Registry of Unit Locations should be made available to qualified government and private researchers as quickly as possible, within the constraints of confidentiality.

• DOD should make reasonable and practical efforts to collect and record better troop exposure data during future conflicts and to make those data available as quickly as possible to health care researchers.

RECOMMENDATIONS ON CHEMICAL AND BIOLOGICAL WEAPONS

The work of the United Nations Special Commission on Iraq (UNSCOM) provides a more definitive picture of Iraq's advanced CBW capabilities than was available at the time of the Gulf War and underscores the considerable uncertainty regarding Iraq's intentions to use CBW agents against American and coalition troops. The Advisory Committee believes the decisions of DOD and the Central Intelligence Agency (CIA) to reopen their investigations of CBW in the Gulf War are positive steps and urges DOD and CIA to draw fully on their resources to answer some of the war's most controversial questions; we will monitor their progress carefully. In addition, we find improved technology to detect the presence of CBW agents would improve the health care surveillance of troops involved in future conflicts. In the interim re-

port, the Advisory Committee makes three recommendations related to issues surrounding chemical and biological warfare:

• CIA and DOD should coordinate their analyses to ensure a comprehensive review of the complete record of the Gulf War. Each agency should make full and prompt disclosure of all findings.

• DOD should devote more attention to monitoring low-level (subacute) exposures to chemical warfare agents. One possible basis for such a system is the automated air-sampling system developed by the U.S. Army Edgewood Research, Development and Engineering Center for UNSCOM, which is using it to monitor emissions from Iraqi chemical plants. Another approach might be to modify the detection system the U.S. Army uses to monitor for leaks at chemical weapons storage depots.

• DOD should continue to invest in the development of a biological point detector/alarm system that can detect and identify biological warfare agent aerosols rapidly enough to enable troops to take protective measures before being exposed.

CONCLUSION

Over the next 10 months, the Advisory Committee will continue to address each of the elements of its charge. Throughout the remainder of our work, we will monitor the government's responsiveness to the recommendations of this and previous advisory bodies. We also will scrutinize how effectively government programs are coordinated among the departments and agencies with an interest in the health and well being of Gulf War veterans.

As I noted in the opening of my testimony, the interim report represents our recommendations to date, but does not encompass the full range of issues in our mandate. Many questions the President asked us to investigate—e.g., certain aspects related to possible low-level exposure to CBW agents; health risks and toxicologic research; health effects, including reproductive effects, of exposure to various risk factors in the Kuwaiti Theater of Operations; and medical treatment of and access to health care for Gulf War veterans—require a longer analytic and deliberative period so that the finest possible inquiry can be brought to bear on these pressing issues. All of these aspects will be examined in our final report, due at the end of this year.

In conclusion Mr. Chairman and members of the Subcommittee, securing a healthy future for Gulf War veterans is of paramount importance to President Clinton. As a Gulf War veteran myself, and as a member of the Presidential Advisory Committee on Gulf War Veterans, I promise our full dedication and commitment to the President's charge.

ATTACHMENT A

PRESIDENTIAL ADVISORY COMMITTEE ON GULF WAR VETERANS' ILLNESSES

Joyce C. Lashof, M.D., Committee Chair
Former Dean and Professor Emerita
School of Public Health
University of California, Berkeley
Berkeley, CA

John Baldeschwieler, Ph.D.
Professor of Chemistry
California Institute of Technology
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Trustee Professor of Bioethics
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Admiral Donald Custis, M.D. (Ret.)
Senior Medical Advisor
Health Policy Department
Paralyzed Veterans of America
Washington, DC

Major Thomas P. Cross [1]
Sales Engineer
Bell Industries
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[1] Appointed December 1, 1995

David M. Hamburg, M.D.
President
Carnegie Corporation of New York
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James A. Johnson
Chairman and Chief Executive Officer
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Occupational Health Consultant
Health and Safety Department
United Auto Workers
Detroit, MI

General Frederick M. Franks, Jr. (Ret.)[2]
Alexandria, VA

ATTACHMENT B

THE WHITE HOUSE

Office of the Press Secretary

For Immediate Release May 26, 1995

EXECUTIVE ORDER

PRESIDENTIAL ADVISORY COMMITTEE ON GULF WAR VETERANS' ILLNESSES

By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered as follows:

Section 1. Establishment. (a) There is hereby established the Presidential Advisory Committee on Gulf War Veterans' Illnesses (the "Committee"). The Committee shall be composed of not more than 12 members to be appointed by the President. The members of the Committee shall have expertise relevant to the functions of the Committee and shall not be full-time officials or employees of the executive branch of the Federal Government. The Committee shall be subject to the Federal Advisory Committee Act, as amended, 5 U.S.C. App. 2.

(b) The President shall designate a Chairperson from among the members of the Committee.

Sec. 2. Functions. (a) The Committee shall report to the President through the Secretary of Defense, the Secretary of Veterans Affairs, and the Secretary of Health and Human Services.

(b) The Committee shall provide advice and recommendations based on its review of the following matters:

(1) *Research:* epidemiological, clinical, and other research concerning Gulf War veterans' illnesses.

[2] Resigned October 27, 1995

(2) *Coordinating Efforts:* the activities of the Persian Gulf Veterans Coordinating Board, including the Research Coordinating Council, the Clinical Working Group, and the Disability and Compensation Working Group.

(3) *Medical Treatment:* medical examinations and treatment in connection with Gulf War veterans' illnesses, including the Comprehensive Clinical Evaluation Program and the Persian Gulf Registry Medical Examination Program.

(4) *Outreach:* government-sponsored outreach efforts such as hotlines and newsletters related to Gulf War veterans' illnesses.

(5) *External Reviews:* the steps taken to implement recommendations in external reviews by the Institute of Medicine's Committee to Review the Health Consequences of Service During the Persian Gulf War, the Defense Science Board Task Force on Persian Gulf War Health Effects, the National Institutes of Health Technology Assessment Workshop on the Persian Gulf Experience and Health, the Persian Gulf Expert Scientific Committee, and other bodies.

(6) *Risk Factors:* the possible risks associated with service in the Persian Gulf Conflict in general and, specifically, with prophylactic drugs and vaccines, infectious diseases, environmental chemicals, radiation and toxic substances, smoke from oil well fires, depleted uranium, physical and psychological stress, and other factors applicable to the Persian Gulf Conflict.

(7) *Chemical and Biological Weapons:* information related to reports of the possible detection of chemical or biological weapons during the Persian Gulf Conflict.

(c) It shall not be a function of the Committee to conduct scientific research. The Committee shall review information and provide advice and recommendations on the activities undertaken related to the matters described in (b) above.

(d) It shall not be a function of the Committee to provide advice or recommendations on any legal liability of the Federal Government for any claims or potential claims against the Federal Government.

(e) As used herein, "Gulf War Veterans' Illnesses" means the symptoms and illnesses reported by United States uniformed services personnel who served in the Persian Gulf Conflict.

(f) The Committee shall submit an interim report within 6 months of the first meeting of the Committee and a final report by December 31, 1996, unless otherwise provided by the President.

Sec. 3. Administration. (a) The heads of executive departments and agencies shall, to the extent permitted by law, provide the Committee with such information as it may require for purposes of carrying out its functions.

(b) Members of the Committee shall be compensated in accordance with Federal law. Committee members may be allowed travel expenses, including per diem in lieu of subsistence, to the extent permitted by law for persons serving intermittently in the Government service (5 U.S.C. 5701–5707).

(c) To the extent permitted by law, and subject to the availability of appropriations, the Department of Defense shall provide the Committee with such funds as may be necessary for the performance of its functions.

Sec. 4. General Provisions. (a) Notwithstanding the provisions of any other Executive order, the functions of the President under the Federal Advisory Committee Act that are applicable to the Committee, except that of reporting annually to the Congress, shall be performed by the Secretary of Defense, in accordance with the guidelines and procedures established by the Administrator of General Services.

(b) The Committee shall terminate 30 days after submitting its final report.

(c) This order is intended only to improve the internal management of the executive branch and it is not intended to create any right, benefit or trust responsibility, substantive or procedural, enforceable at law or equity by a party against the United States, its agencies, its officers, or any person.

WILLIAM J. CLINTON,
The White House.
May 26, 1995.

ATTACHMENT C

CHARTER OF THE PRESIDENTIAL ADVISORY COMMITTEE ON GULF WAR VETERANS' ILLNESSES

A. *COMMITTEE'S OFFICIAL DESIGNATION:* Presidential Advisory Committee on Gulf War Veterans' Illnesses ("Committee").

B. *AUTHORITY:* Executive Order No. 12961.

C. *OBJECTIVES, SCOPE OF ACTIVITIES, AND DESCRIPTION OF DUTIES FOR WHICH THE COMMITTEE IS RESPONSIBLE:* The duties of the Committee are solely advisory. The Committee shall provide to the President, through the Sec-

retary of Defense, the Secretary of Health and Human Services, and the Secretary of Veterans Affairs, advice and recommendations based on its review of the following matters:

1. *Research:* epidemiological, clinical, and other research concerning the Gulf War veterans' illnesses.

2. *Coordinating efforts:* the activities of the Persian Gulf Veterans Coordinating Board, including the Research Coordinating Council, the Clinical Working Group, and the Disability and Compensation Working Group.

3. *Medical treatment:* medical examinations and treatment in connection with Gulf War veterans' illnesses, including the Comprehensive Clinical Evaluation Program and the Persian Gulf Registry Medical Examination Program.

4. *Outreach:* government-sponsored outreach efforts such as hotlines and newsletters relating to Gulf War veterans' illnesses.

5. *External reviews:* the steps taken to implement recommendations in external reviews by the Institute of Medicine's Committee to Review the Health Consequences Service During the Persian Gulf War, the Defense Science Board Task Force on Persian Gulf Health Effects, the National Institutes of Health Technology Assessment Workshop on the Persian Gulf Experience and Health, the Persian Gulf Expert Scientific Committee, and other bodies.

6. *Risk factors:* the possible risks associated with service in the Persian Gulf Conflict in general and, specifically, with prophylactic drugs and vaccines, infectious diseases, environmental chemicals, radiation and toxic substances, smoke from oil well fires, depleted uranium, physical and psychological stress, and other factors applicable to the Persian Gulf Conflict.

7. *Chemical and biological weapons:* information related to reports of the possible detection of chemical or biological weapons during the Persian Gulf Conflict.

It shall not be a function of the Committee to conduct independent scientific research. The Committee shall review information and provide advice and recommendations on the activities undertaken related to the matters described above. It shall not be a function of the Committee to provide advice or recommendations on any legal liability of the Federal Government for any claims or potential claims against the Federal Government. As used herein, "Gulf War Veterans' Illnesses" means the symptoms and illnesses reported by United States uniformed services personnel who served in the Persian Gulf Conflict.

D. *OFFICIAL TO WHOM THE COMMITTEE REPORTS:* The Committee shall report to the President through the Secretary of Defense, Secretary of Health and Human Services, and Secretary of Veterans Affairs. The Committee shall submit an interim report within six months of the first meeting of the Committee and a final report by December 31, 1996, unless otherwise provided by the President.

E. *DURATION AND TERMINATION DATE:* The Committee shall terminate thirty days after submitting its final report.

F. *AGENCY RESPONSIBLE FOR PROVIDING NECESSARY SUPPORT:* Financial and administrative support shall be provided by the Department of Defense.

G. *MEMBERSHIP:* The President shall appoint up to a maximum of twelve (12) members. Committee members shall have expertise relevant to the functions of the Committee and shall not be full-time officals or employees of the executive branch of the Federal Government. Committee members shall be compensated in accordance with federal law. Committee members may be allowed travel expenses, including per diem in lieu of subsistence, to the extent permitted by law for persons serving intermittently in the government service (5 U.S.C. 5701–5707).

H. *ESTIMATED ANNUAL OPERATING COSTS AND STAFF SUPPORT YEARS:* It is estimated that the total annual costs of operations will not exceed $3.5 million. Full time equivalent staff support years are expected to be approximately 30 years of effort.

I. *NUMBER OF MEETINGS:* The Committee shall meet as it deems necessary to complete its functions.

J. *SUBCOMMITTEE(S):* To facilitate functioning of the Committee, subcommitee(s) may be formed. The objectives of the subcommitee(s) are to provide advice and recommendations to the Committee with respect to matters related to the duties of the Committee. Subcommittees shall meet as the Committee deems appropriate.

K. *CHAIRPERSON:* The President shall designate a Chairperson from among the members of the Committee.

L. *DATE CHARTER FILED:* 03 July 1996.

ATTACHMENT D

FINDINGS OF THE PRESIDENTIAL ADVISORY COMMITTEE ON GULF WAR VETERANS' ILLNESSES: INTERIM REPORT

OUTREACH

• DOD's Persian Gulf Medical Registry Hotline and VA's Persian Gulf Helpline effectively educate callers about the availability of the CCEP and the Persian Gulf Health Registry, respectively. Both telephone systems adequately refer callers to points of contact at medical treatment facilities.

• DOD's GulfLINK offers a user friendly, accessible resource that deposits information pertinent to Gulf War veterans' illness in a central location.

• Since GulfLINK contains contradictory intelligence reports, the net effect of posting these declassified documents on GulfLINK could be to confuse rather than enlighten the interested public. Without a better system for organizing and presenting information, persons using the resource could gain false impressions or misunderstand documents.

• Although mailings such as the memorandum from Secretary Perry and Chairman Shalikashvili can be expensive, they are a reasonable method of getting information to the concerned population.

• VA's On-line service and World Wide Web home page provide computer users with a widely accessible Gulf War veterans' illness education and referral resource.

• VA's print PSA gives readers useful information on Gulf War veterans' illnesses. VA's broadcast PSAs, which publicize the Helpline number but do not mention illness or potential illness as a reason to call, need improvement.

• VA's use of the term "priority care" in reference Gulf War veterans' eligibility for health care creates false expectations among a significant portion of its clientele.

• Public and congressional concern for the health of Gulf War veterans has been evident since the world witnessed the 1991 oil well fires on television. DOD did not set up hotlines or sites at medical treatment facilities to provide information and medical referral services to Gulf War veterans until 1994, a significant delay in response time.

VA's Helpline started late in comparison with its other efforts to address the issue of Gulf War veterans' illnesses. It was established two years after the initiation of the Persian Gulf Health Registry and one year following the passing of Public Law 103–210, which initiated "priority care" services. VA had conducted some outreach in tandem with the establishment of the Health Registry, but its Persian Gulf Review newsletter was sent only to those already participating in the Health Registry.

MEDICAL AND CLINICAL ISSUES

• No uniformity existed among the services in their predeployment or demobilization policies and procedures at the time of Operation Desert Shield/Desert Storm.

• There is little evidence that quality control procedures were employed to ensure that existing policies were actually carried out during deployment or demobilization.

• DOD's policies and procedures were not adequate in all cases to prevent members with preexisting conditions from deploying or to identify health problems extant at the time of demobilization, and these conditions could have contributed to some current health concerns.

• FDA and DOD undertook an urgent and orderly course of action under the circumstances to devise a means to address the real threat of chemical and biological warfare in the Gulf War.

• FDA has not been proactive in addressing public comments on the interim final rule or in devising better long-term methods for governing military use of drugs, vaccines, devices, and antibiotics intended for chemical and biological warfare defense.

• When a waiver of informed consent is granted, the government has a strong obligation to conduct long-term followup of military personnel who receive investigational products.

• DOD did not keep adequate records on who received anthrax and BT vaccines and PB in the Gulf War theater. There is little possibility now of developing reliable data about which or how many persons received those products.

• DOD and VA admit to problems with missing or lost medical records, but neither system appears to place a priority on correcting these problems.

• DOD's rationale for the requirement that records of vaccinations be kept secret was not well understood. This requirement confused and complicated recordkeeping procedures and hindered systematic followup of health issues.

• The issue of accurate medical and vaccination records is central to the concerns of many ill veterans, and the absence of records has been suggested by some as evidence that the government is engaging in a cover-up of its own predeployment practices.

RESEARCH

• Despite the unique features of the Gulf War, it should be possible using epidemiologic approaches to determine whether Gulf War veterans have more or less mortality, symptoms, or diseases than an appropriately chosen comparison population.
• Most of the studies examined by the Committee appear to be well-designed and appropriate to answer questions about mortality, symptoms, or diseases.
• Some studies currently underway or planned at best will add little information to other better designed studies and could provide misleading information, leading to false conclusions.
• External scientific review of the major epidemiologic studies has ranged from nonexistent, to one-time review of protocols, to standing scientific advisory panels which have an ongoing role in the design and execution of the studies. Ongoing external review has proved beneficial to several of the studies.
• Public advisory committees might improve communications with the veterans asked to participate in epidemiologic studies.
• A single coordinating body with an overarching perspective is needed to monitor whether priorities are being established, whether outstanding research questions are being adequately addressed, whether individual studies will contribute to the overall effort, and the extent to which the studies are responsive to recommendations from external reviewers.
• Sharing a subset of basic questions on demographics, symptoms, and exposures across large surveys of Gulf War veterans and controls could provide information useful for comparisons across the studies and better understanding of differences in the study populations.
• There is little exposure data available for Gulf War veterans about many key risk factors. As a consequence, it will be more difficult to link adverse health outcomes detected by epidemiologic studies to some specific exposures or risk factors.
• The Persian Gulf Registry of Unit Locations data from DOD will be important for investigating questions about Gulf War veterans' health issues, but it will not be a substitute for missing exposure data for many risk factors.

CHEMICAL AND BIOLOGICAL WEAPONS

• Although much was known at the time of the Gulf War, UNSCOM's work provides a more definitive picture of Iraq's CBW capability and doctrine, revealing advanced capabilities and underscoring the considerable uncertainty regarding Iraq's intentions to use CBW agents against American and coalition troops.
• The U.S. government's decision to reexamine the records of the Gulf War for evidence of exposure to CBW agents is prudent in light of the health concerns of veterans and the findings from UNSCOM's investigations. The Committee intends to monitor the investigations of PGIT and CIA.
• DOD is taking reasonable steps to improve battlefield CW agent detection capability by developing equipment that will detect mustard agent and that will not sound false alarms in response to common battlefield interferents.
• The inability to provide real-time detection of BW agents constitutes a serious deficiency in the U.S. chemical and biological defense posture.
• The ability to monitor low-levels of CW agents would improve the health care surveillance of U.S. troops.

Mr. SHAYS. Thank you, Major Cross. We will now go to Charles Sheehan-Miles.

Mr. SHEEHAN-MILES. Mr. Chairman, on behalf of the board of directors of the National Gulf War Resource Center, I would like to thank you for the opportunity to provide testimony for this hearing. We are the only nationally based coalition organization founded with the specific purpose of addressing these illnesses, and we appreciate your requesting our views on this very important issue.

The Resource Center was founded in June 1995 to provide information and resources to a variety of grassroots organizations and service agencies which were assisting veterans of the Gulf war. Our

members are a wide cross-section of the Gulf war veterans' community, ranging from small self-help, support groups to large, multistate organizations, both in the United States and in the United Kingdom. Our mandate lies strictly in the area of Gulf war veterans' illnesses, providing information, resources and educational materials to the public in an effort to assist and advocate for veterans.

The subcommittee requested that we provide comments regarding the response of the VA to the health problems caused by the Persian Gulf war. We are happy to provide these comments and include several recommendations we believe may help improve the situation.

One of the things I want to stress before I go into these is the difference that we have seen all along between the official stance and the actual law and what the center of VA is trying to do as opposed to what is actually happening in the field. We know that there has been a lot of efforts put forward, but a lot of what we are concerned about is the actual implementation in the VA hospitals around the country.

The Resource Center believes that the response of VA, though improving, has serious shortcomings. These shortcomings are based on several systemic problems within the VA. I will go over each individually. They are: VA medical administrative personnel are untrained to deal with the unique problems presented by Persian Gulf war veterans; two, a lack of understanding both by veterans and VA personnel of VA regulations; three, lack of compliance with the letter and intent of laws passed by Congress and signed by the President; four, misdirected and some potentially dangerous research; and finally, a system which has been extremely slow to respond to this issue.

We believe that a breakdown in communication throughout the VA system denied medical treatment to Gulf war veterans since many medical professionals and staff are unaware of treatment programs that exist elsewhere within the VA system. This extends to research since providers are unaware of data resulting from that research.

The VA has failed to conduct training programs which would inform their medical and administrative personnel of the specific health problems associated with the Persian Gulf war. A number of potential exposures have been reported and studies have been conducted, but VA medical personnel do not know about these exposures or their possible effects on short- or long-term health.

Some of these exposures, which have already been discussed, include depleted uranium, chemical or biological weapons, toxic oil smoke, inoculations, and endemic diseases.

Unfortunately, VA has, to a large extent, relied on the DOD's denial that many of these exposures took place or that they were serious. Some of these exposures have very specific medical side effects which can be easily and cheaply tested. The medical personnel within the VA medical system are not adequately trained to deal with them. As a result, VA doctors are following standard medical diagnostic protocols which are designed to detect illnesses likely to be contracted in civilian life rather than in an extremely toxic wartime environment.

Private and some Government research has shown that medically significant effects are shown when veterans are tested for the right illnesses. We are seeing some progress in this research. Despite this, the VA continues to leave its medical personnel to fend for themselves when dealing with these hard to understand illnesses.

Seeing no progress, veterans and their families become discouraged and stop going to the VA for help at all. This training right now, which is currently a teleconferencing system, is not adequate because it does not reach even a small minority of the staff within the hospitals.

The second issue I want to address is that VA regulations are difficult to understand not only for the veterans but also for the VA personnel whose charter it is to serve them. This shortcoming is adequately demonstrated by the recent recommendation of the Presidential Advisory Committee on Gulf War Veterans' Illnesses. They stated, based on testimony from the VA, that the VA should stop using the term "priority care." The VA testified before the committee that they did not provide priority care, they just called it that. But in fact that is what the law requires.

The Resource Center and its associated organizations have also dealt with hundreds of cases of veterans turned away for treatment, improper billing of veterans, and in some cases inability to get scheduled for any appointment at all. Despite the letter and intent of the law mandating priority care for Persian Gulf war veterans, many veterans who were denied service-connected disability are regularly turned away for treatment if they don't meet the means test.

VA has failed to comply with the letter or the intent of the law in other specific areas. The primary example lies in the area of compensation. To date, concrete diagnoses have been elusive for many Gulf war veterans, and this is an issue which has been raised in Congress before.

Acting with compassion and understanding, Congress passed a bill in 1994 designed to help many of these veterans who were disabled and unable to work but had no clear diagnosis. The intent was clear. That was to help the veterans who were sick even though they couldn't fit on a standard diagnostic sheet.

Yet in the end, less than 5 percent of the applicants have been approved for service-connected disability under this new regulation. Veterans are being denied compensation for various reasons, many of them because they are unable to establish that they were ill prior to this 2-year presumptive period.

Given that the vast majority of Gulf war veterans had never heard of the Persian Gulf Registry prior to the cutoff date and that waiting periods for appointments are often 6 months or more, some veterans have been unfairly penalized simply because they could not afford to have a private physician substantiate their illness.

Further, standard procedure for appointments at the VA is for the doctor to place a diagnosis in the records, even if a clear diagnosis has not been reached. These diagnoses, no matter how inappropriate, are frequently used as means to deny a veteran eligibility under this new regulation.

The Resource Center believes that VA's research efforts have been inadequate and misdirected and in some cases are potentially dangerous. The VA Gulf Registry is not updated when a veteran is diagnosed or when he or she presents new symptoms. The recently published mortality rate followup study only included a tightly defined period of time during and since the war, and no VA research today has studied outcomes with specific treatment protocols.

Like DOD, much of VA's research and public relations efforts have been concentrated on proving or disproving whether or not there is a single cause for Gulf war veterans' illnesses. The Resource Center believes that this concentration is misplaced and misleading to the public when VA press advisories consistently state that there is no single cause, as if implying that there is no cause.

In fact, Gulf war veterans were exposed to a variety of toxic chemicals and endemic diseases while serving in the region and more than likely suffer from a variety of closely related illnesses as a result. Further concentration on a single cause will only further delay getting help for Gulf war veterans who need this help now.

VA has consistently refused to conduct widespread testing for depleted uranium contamination, despite surveys which show that as many as 82 percent of veterans may have entered contaminated enemy vehicles.

At the same time, VA continues a long-term study of 22 veterans with depleted uranium shrapnel that is still in their bodies, even though an Army report concluded that acute or chronic toxicity is a potentially clinically significant health effect from embedded DU fragments and that the potential exists for both stochastic and deterministic radiation effects from the long-term exposure to embedded DU fragments. We will be submitting a copy of this report after this testimony.

Maj. Gen. Ronald Blanck, Commander of the Walter Reed Army Hospital, wrote in January 1994, "Clearly, chemical warfare agents were detected and confirmed at very low levels and could have contributed to these illnesses." VA has failed to evaluate veterans for possible exposure to these low-level agents.

Finally, both the VA and the overall Government response has been too slow. Only now, 5 years after the end of the war, is VA beginning its first epidemiological study of Gulf war veterans despite the calls for such research several years ago. Only a few hundred veterans have been compensated for Gulf war-related illnesses, though tens of thousands have applied.

The Resource Center and its associated organizations have noted that many of the symptoms presented by veterans are progressively getting worse, leaving a dark future ahead for many veterans if help is not received now.

Our single biggest concern with the response from VA is the apparent lack of urgency. As more and more Gulf war veterans die, the claims process becomes more convoluted, committees debate policy, and very little is being done at ground level to help those who are suffering as a result of their service to their country.

The Resource Center has very specific recommendations which we believe will help alleviate some of the problems we have mentioned. They are:

No. 1: VA should begin an immediate program of seminars for its medical and administrative personnel to familiarize them with Gulf war veterans' potential exposures and resultant health problems of those exposures.

No. 2: VA should review and clarify its eligibility requirements for Gulf war veterans and make those requirements clear both to veterans and to VA personnel.

No. 3: An outside review agency, such as the General Accounting Office, should review VA's claims adjudication process for undiagnosed illnesses. Further, the arbitrary 2-year limit which was set by regulation rather than in the law should be removed immediately.

No. 4: VA should commence testing for depleted uranium contamination assessing chemical weapons and other exposures and include these items in further studies.

Further, VA should remove DU fragments from those veterans who still have them in their bodies unless such a removal presents a clear medical risk. The followup study on those particular veterans with the DU fragments should follow them for the rest of their life rather than ending after 5 years, as is currently planned. An independent institutional review board should review the ethical implications of that particular study.

The VA should take advantage of the private research being done on Gulf war veterans' illnesses to speed its response to this problem. Such private research may create a dramatic impact on the progress toward finding real treatments for the illnesses suffered by Gulf war veterans.

Finally, because the DOD is either unable or unwilling to release records of which soldiers took experimental drugs in the Gulf or were exposed to high levels of chemical or uranium contamination, VA should make the presumption that any veteran that served in the Persian Gulf war was in fact exposed and should be treated accordingly.

The Resource Center notes that the VA has improved its response considerably over the 5-year period since the end of the war, and we wish to encourage this improvement. However, further improvement may not be possible unless we address these very real problems.

In the last year, the number of Gulf war veterans reporting illnesses has doubled. At the same time, growing numbers of veterans are becoming disillusioned with the VA and turning to private sources for medical care, if there is any available to them. The problem is growing worse, and it is time to deal with it now.

This concludes my testimony.

[The prepared statement of Mr. Sheehan-Miles follows:]

PREPARED STATEMENT OF CHARLES SHEEHAN-MILES, EXECUTIVE DIRECTOR, NATIONAL PERSIAN GULF WAR RESOURCE CENTER

On behalf of the Board of Directors of the National Gulf War Resource Center, Inc. (NGWRC), I would like to thank the Chairman and the Subcommittee for the opportunity to provide comments for the record to the Subcommittee on Human Resources and Intergovernmental Relations regarding the Department of Veterans' Af-

fairs response to the health effects of the Persian Gulf War. As the only national based coalition organization founded with the specific purpose of addressing these illnesses, we appreciate your requesting our views on this very important issue.

NGWRC was founded in June 1995 to provide information and resources to a variety of grassroots organizations and service agencies which were assisting veterans of the Gulf War. Our members are a wide cross-section of the Gulf War veterans' community, ranging from small self-help support groups to large, multi-state organizations, both in the United Kingdom and the United States. Our mandate lies strictly in the area of Gulf War veterans' illnesses, providing information, resources and educational materials to the public in an effort to assist and advocate for veterans.

The Subcommittee requested that we provide comments regarding the response of the Department of Veterans' Affairs to the health problems caused by the Persian Gulf War. We are happy to provide those comments, and include several recommendations we believe may help improve the situation.

NGWRC believes that the response of VA, though improving, has serious shortcomings. These shortcomings are based in several systemic problems within the VA system. These are: a) VA medical and administrative personnel are untrained to deal with the unique problems presented by Persian Gulf War veterans; b) a lack of understanding, both by veterans and VA personnel, of VA regulations; c) Lack of compliance with the letter and intent of laws passed by Congress and signed by the President; d) misdirected and some potentially dangerous research; and finally e) a system which has been extremely slow to respond to the issue. A complete breakdown in communication throughout the VA system denied medical treatment to Gulf War veterans since many medical professionals and staff are unaware of treatment programs elsewhere in the VA system. This extends to the area of research since providers are unaware of data resulting from that research.

The Department of Veterans Affairs has failed to conduct training programs which would inform their medical and administrative personnel of the specific health problems associated with the Persian Gulf War. Though a number of potential exposures have been reported and studies conducted, VA medical personnel do not know about these exposures and their possible effects on short or long term health. Some of these exposures include depleted uranium, chemical and/or biological weapons, toxic oil smoke, inoculations and endemic diseases. Unfortunately, VA has to a large extent relied on the Defense Department's denial that most of the exposures ever took place. Some of these exposures have very specific side effects and are easily and cheaply tested, but the medical personnel within the VA system are not adequately trained to deal with them. As a result, VA doctors are following standard medical diagnostic protocols which are designed to detect illnesses likely to be contracted in civilian life, rather than in an extremely toxic wartime environment. Private and some government research has shown that medically significant effects are shown when veterans are tested for the right illnesses. Despite this, the VA continues to leave its medical personnel to fend for themselves when dealing with these hard to understand illnesses. Seeing no progress, veterans and their families become discouraged and stop going to the VA at all. The current teleconferencing system is not adequate because it does not reach even a small minority of the staff in most VA hospitals.

VA regulations are difficult to understand, both for veterans and for the VA personnel whose charter it is to serve them. This shortcoming is adequately demonstrated by the recent recommendation of the Presidential Advisory Committee on Gulf War Veterans' Illnesses, which stated (based on VA testimony) that VA should stop using the term "priority care" if that is not what they really mean. Ironically, priority care is the term mandated by the law. Unfortunately, the meaning of the term "priority care" is unclear and VA has stated in testimony before the Presidential Advisory Committee that they do not provide priority care at all—rather, VA allows Persian Gulf War veterans to receive evaluation and treatment related to the Persian Gulf Registry without undergoing a means test. NGWRC and its associated organizations have dealt with hundreds of cases of veterans turned away for treatment, improper billing of veterans, and in some cases inability to get scheduled for any appointment at all. Despite the letter and intent of the law mandating priority care for Persian Gulf War veterans, those veterans denied service-connected disability are regularly turned away for treatment unless they meet a means test for income.

VA has failed to comply with the letter or the intent of the law in some specific areas. The primary example lies in the area of compensation: to date, concrete diagnoses have been elusive for many Gulf War veterans, an issue which was raised in Congress in 1993 and in 1994. Acting with compassion and understanding, Congress passed a bill in 1994 designed to help veterans who were disabled and unable to work yet had no clear diagnosis from the VA. The intent of Congress and the Presi-

dent was to provide assistance to veterans, but that is not what is happening. Less than five percent of the applicants have been approved for service-connected disability under the new regulation. Veterans are being denied compensation for various reasons, many because they are unable to establish that they were ill prior to the two-year presumptive period. Given that the vast majority of Gulf War veterans had never heard of the Persian Gulf Registry prior to the cut off date, and waiting periods for appointments are often six months or more, some veterans have been unfairly penalized simply because they could not afford to have a private physician document their illnesses.[1] Further, standard procedure for appointments is for the doctor to place a diagnosis on a coding sheet—even if a clear diagnosis has not been reached. These diagnoses, no matter how inappropriate, are frequently judged to make a veteran ineligible under the undiagnosed illnesses regulation.

NGWRC believes that VA's research efforts have been inadequate and misdirected and in some cases are potentially dangerous. The VA Gulf Registry is not updated when a veteran is diagnosed or when he or she presents new symptoms. The recently published Mortality Rate Follow-Up Study only included a tightly defined period of time during and since the war, and no VA research to date has studied outcomes of specific treatment protocols. Like DoD, much of VA's research and public relations efforts have been concentrated on proving or disproving whether or not there is a single cause for Gulf War veterans' illnesses. NGWRC believes that this concentration is misplaced and misleading to the public when VA press advisories consistently state that there "is no single cause," as if implying there is no cause. In fact, Gulf War veterans were exposed to a variety of toxic chemicals and endemic diseases while serving in the region and more than likely suffer from a variety of closely related illnesses as a result. Further concentration on a single cause will only further delay getting help for Gulf War veterans who need this help today. VA has consistently refused to conduct widespread testing for depleted uranium contamination, despite surveys which show that as many as 82% of veterans may have entered contaminated enemy vehicles.[2] At the same time, VA continues a long term study of 22 veterans with depleted uranium shrapnel in their bodies, though an Army report concluded that "acute or chronic kidney toxicity is a potentially clinically significant health effect from embedded DU fragments" and that "the potential exists for both stochastic and deterministic radiation effects from the long term exposure to embedded DU fragments."[3] Though Major General Ronald Blanck, MD, Commander of the Walter Reed Army Medical Center wrote on January 18, 1994 that "clearly, chemical warfare agents were detected and confirmed at very low levels . . . [and] could have contributed to the illnesses . . ."[4] VA has failed to evaluate veterans for possible exposure to these low level agents.

Finally, both the VA and overall government response has simply been too slow. Only now, over five years after the end of the war, is VA starting its first epidemiological study of Gulf War veterans, despite the calls for such research several years ago. Only a few hundred veterans have been compensated for Gulf War related illnesses, though tens of thousands have applied. NGWRC and its associated organizations have noted that many of the symptoms presented by veterans are progressively getting worse, leaving a dark future ahead for many veterans if help is not received now. Our single biggest concern with the response from VA is the apparent lack of urgency—as more and more Gulf War veterans die, the claims process becomes more convoluted, committees debate policy and very little is being done at ground level to help those who are suffering as a result of their service to their country.

NGWRC has very specific recommendations which we believe will help alleviate some of the problems we have discussed. They are:

a) VA should begin an immediate program of seminars for its medical and administrative personnel to familiarize them with Gulf War veterans' potential exposures and resultant health problems of those exposures. In many areas, such programs could be conducted in cooperation with local universities, hospitals and veterans' organizations. While such programs would necessarily be infrequent (NGWRC recommends quarterly) to minimize cost, it would have a dramatic impact on treatment given to Gulf War veterans.

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[1] Unusually, the deadline under this rule, for most Desert Storm veterans, falls well before the legislation was passed and the rule promulgated.

[2] Operation Desert Shield/Desert Storm Association Survey, 1991–95. A copy of the survey results is being submitted under separate cover.

[3] Assessment of the Risks from Imbedded Depleted Uranium Fragments, prepared by Eric G. Daxon, LTC, MS, USA, AFRRI and Jeffrey Musk, CPT, OD, USA, AFRRI. United States Army, 25 March 1992. A copy of the report is submitted under separate cover.

[4] Trip report to coalition countries, MG Ronald Blanck, January 18, 1994. A copy will be submitted under separate cover.

b) VA should review and clarify its eligibility requirements for Gulf War veterans and make those requirements clear to both the veterans and VA personnel.

c) An outside review agency such as the General Accounting Office should review VA's claims adjudication process for undiagnosed illnesses. Further, the arbitrary two year limit should be removed immediately.

d) VA should commence testing for depleted uranium (DU) contamination, assessing chemical weapons and other exposures, and include these items in further studies. Further, VA should remove DU fragments from those veterans who still have them in their bodies, unless such a removal presents a clear medical risk. The follow-up study on these particular veterans should follow them for their lifetime, rather than ending after five years as currently planned.[5] An independent Institutional Review Board should review the ethical implications of the study.

e) VA should take advantage of the private research being on Gulf War veterans' illnesses to speed its response to the problem. Such private research may create a dramatic impact on the progress toward finding real treatments for the illnesses suffered by Gulf War veterans.

f) Because DoD is either unable or unwilling to release records of which soldiers took experimental drugs in the Gulf or were exposed to high levels of chemical or uranium contamination, VA should presume that any veteran who served in the Gulf War was in fact exposed and should be treated accordingly.[6]

NGWRC notes that VA has improved its response considerably over the five year period since the end of the war, and we wish to encourage this improvement. However, further improvement may not be possible until we address these very real problems. In the last year, the number of Gulf War veterans reporting illnesses has doubled. At the same time, growing numbers of veterans are becoming disillusioned with the VA and turning to private sources for medical care, if any is available. The problem is growing worse. It is time to deal with it now.

Mr. SHAYS. Thank you.

Dr. Rall, did you want to comment? I know you are accompanying Dr. Bailar.

Dr. RALL. Yes, Mr. Chairman.

The Institute of Medicine and VA and DOD have worked together many times looking at problems of the veterans. I have a very brief statement and some executive summaries of recent reports, and if I may submit those for the record.

[The prepared statement of Mr. Rall follows:]

PREPARED STATEMENT OF DAVID RALL, M.D., FOREIGN SECRETARY, INSTITUTE OF MEDICINE

The Institute of Medicine of the National Academy of Science has worked with the Department of Veterans Affairs for many years on problems of the health of veterans.

A study showing that many World War Two Veterans had been exposed to significant levels of Mustard Gas during a series of secret experiments testing protective clothing was released in 1993 by the Institute of Medicine (IoM).

The IoM, also in 1993, reported on the association between Agent Orange exposure in Viet Nam and the subsequent development of certain diseases and suggested ways to estimate better the exposure to Dioxin (the toxic component of Agent Orange). A follow up report will be released later this week.

Last year the Department of Defense asked the IoM to evaluate the DoD Comprehensive Clinical Evaluation Program for active duty personnel who had been in the Persian Gulf War. In a report released in January, 1996, the committee found that this was a comprehensive and compassionate effort to address the concerns and clinical needs of such personnel, but was not designed to answer critical epidemiological questions.

Currently, the IoM is studying the potential for toxic interactions of drugs, vaccines and other chemical to which deployed military forces may have been exposed.

[5] NGWRC estimates that these veterans will likely only begin to see health effects between 5–20 years after the initial exposure—ending the study after five years will distort the results severely.

[6] DoD has testified to the Presidential Advisory Committee on Gulf War Veterans' Illnesses that they did not maintain any record system of which soldiers were given pyridostigmine bromide, anthrax and botulism vaccines, and to date DoD still has not published its registry of unit locations.

Other studies include the health effects of exposure to nuclear weapons tests, the occurrence of multiple sclerosis and other motor neuron diseases in veterans, the health effects of microwave exposure in veterans and other projects.

HEALTH CONSEQUENCES OF SERVICE DURING THE PERSIAN GULF WAR: INITIAL FINDINGS AND RECOMMENDATIONS FOR IMMEDIATE ACTION

FINDINGS AND RECOMMENDATIONS

In this report, the IOM Committee has attempted to highlight issues we believe would benefit from immediate action. In reviewing the large volume of documents and the progress of research currently underway, we have identified areas that need prompt attention. As the scope and extent of health problems of Persian Gulf veterans have appeared to expand, the social response also has grown. The committee believes that this has resulted in a fragmented attempt to solve these problems. Thus we believe that sustained, coordinated and serious efforts must be made in the near term to focus both the medical, social, and research response of the Government and of individuals and researchers. Hence, the findings and recommendations that follow are offered with the intent to focus and sharpen the debate, and to improve the quality of the data, and thereby, scientific inference. Finally, we hope to impact in a positive way the health in persons who served in the Persian Gulf War, as well as in those who may follow in other military encounters.

Recommendations for immediate action follow based on the findings presented here and the background information presented in the next chapter. The recommendations are to be viewed as independent, and are not presented in any priority order within categories. The recommendations are divided into three categories: data and databases, coordination/process, and considerations of study design needs.

DATA AND DATABASES

FINDING 1

The VA Persian Gulf Health Registry is not a population database and is not administered uniformly, therefore, it cannot serve the purposes of research into the etiology or treatment of possible health problems. The Committee recognizes that certain tabulated descriptions of affected persons may legitimately be carried out for reasons other than the generation of scientific data. Specifically, there may be medical reasons for collecting information about patients with certain kinds of problems, especially diagnostic problems, particularly in medical settings where the information may be subjected to more intense scrutiny. An example is the establishment of the VA referral centers for Gulf War veterans. Since a limited number of veterans have been referred to these centers, and because the sample is self-selected, the Committee concludes that it is unlikely that productive scientific research (especially of an epidemiological nature) can ever be based on the data generated by the referral centers or the health registry as currently organized.

RECOMMENDATIONS

- The VA Persian Gulf Health Registry should be limited and specific to gathering information to determine the types of conditions reported. The role of this registry should be clearly defined as a means for identifying and reporting illnesses among Gulf War veterans with concerns about their health. There should be efforts to implement quality control and standardization of data collected by the registry from other VA facilities. The VA registry data should not be promoted or described as a means to determine prevalence estimates or identify the etiology of a disease, but should be reviewed promptly for enrollment trends and potential sentinel events.
- The VA should improve publicity regarding the existence of the Persian Gulf Health Registry, and encourage all concerned PGW veterans to be registered.
- Where possible the referral centers standardized protocol should be used in each VA facility.
- The timeliness of data received from the VA Medical Centers (VAMC) to be entered into the PG Health Registry database needs to be improved.

FINDING 2

No single comprehensive data system exists that enables researchers to track the health of Persian Gulf War veterans both while on active duty and after separation. As a result, it is not possible to conduct research and determine the morbidity and mortality experience of this population. Although both the VA and the DoD have

medical records systems in place, they are inadequate and unlinked. This lack of a single data system is a hindrance to research concerning delayed health effects, both for Persian Gulf veterans and for those serving in future encounters.

RECOMMENDATION

• The Vice President of the United States should chair a committee composed of representatives from HHS, DoD and VA to devise a plan to link data systems on health outcomes with the development of standardized health forms, the ability to access information rapidly, and an organized system of records for rapid entry into the data system.

FINDING 3

The characteristics of the population at risk are critical to any definitive studies of Gulf War health effects. The DoD has taken the proper steps to enumerate and describe this population that will be part of the planned, but yet incomplete, Army Geographical Information System model.

RECOMMENDATIONS

• The DOD registry needs to be completed as quickly and accurately as possible.
• The Secretaries of DOD and VA should develop a single service-connected health record, for each present active duty and former service member. All health data entries should be recorded in this single record for the individual.

COORDINATION/PROCESS

FINDING 4

The committee has noted with interest and some concern the wide variety of disciplines and expertise among persons who have considered possible causes of a mystery illness. It has appeared to the committee that some of these persons and organizations are simply not qualified to draw reasoned scientific conclusions, or to implement those conclusions by means of specific medical intervention. There may be substantial risk from inappropriate interventions because of adverse reactions to drugs, development of resistant strains of microorganisms, or especially the diversion of attention away from more orthodox diagnoses and treatments that hold some promise of relief from symptoms of a "mystery illness."

RECOMMENDATION

• Decisions to provide funding, to refer patients, or to change usual operating procedures for providing financial support should be based on more solid scientific basis than has sometimes been evident in prior resource allocation. Funding should be subject to external peer review and approval.

FINDING 5

There are dozens of studies of PGW health effects underway now, and many others are being initiated. Several efforts appear to be redundant, yet there are clearly gaps where research efforts are necessary. In its final report, the IOM Committee will recommend some additional specific research projects.

Presently, the total number of undiagnosed conditions is unknown because the data either are insufficiently understood or available. Data that are available are fragmented, managed by different methods in different agencies, and based on a wide variety of unconnected rationales, from both military and civilian institutions. Many research efforts should, but do not, rely on a common set of data resources. Because so many unanswered questions remain concerning multi-system etiologies that have been proposed to explain undiagnosed signs and symptoms, all future as well as current evaluations must ensure that findings can be reconciled across studies.

RECOMMENDATIONS

• The Persian Gulf Veterans Coordinating Board (chaired by the Secretaries of VA, DOD, HHS) should actively coordinate all studies developed from any new initiatives that receive federal funding, to prevent unnecessary duplication and to assure that high priority recommended studies be conducted. These studies should undergo appropriate external peer review before, during, and after data collection and analysis.

• More staff should be assigned by the Persian Gulf Veterans Coordinating Board in order to monitor, collect, assemble, and make accessible when appropriate all relevant requested emerging data from studies now underway, and make periodic reports to the appropriate federal oversight authority.

• Each new initiative should be evaluated in the context of what it can contribute. That is, each new study should add something of value to the information already being obtained or accumulated.

CONSIDERATIONS OF STUDY DESIGN NEEDS

FINDING 6

To date, most studies of PGW veterans have been piecemeal—one military unit here, one collection of volunteers with some problem there, etc. But, some of these studies have several fundamental problems. They are necessarily incomplete, they usually lack proper controls, they are hard to generalize, they are subject to grave statistical problems because of post-hoc hypotheses and multiple comparisons, and where an effect truly exists they tend to have low statistical power to detect a difference. Thus, bits and pieces are not likely to answer any critical questions. The committee recognizes that an initial effort to survey a sample of veterans is underway, but more is needed.

Overall, there has been a broad and serious lack of adequate attention to the design of individual studies, and even more seriously, the scope and organization of an appropriate collection of studies, each focused on the resolution of a specific question. The committee regards this as a grave, though understandable failure. Experts in research design can and should work shoulder to shoulder with experts in the subject matter of each individual study: this is particularly true for work in epidemiology. A broader view of the whole collection of studies, including input from experts in subject matter and in research methods, persons knowledgeable about data sources and medical care systems, and those with general appreciation of public concerns and public policy has been conspicuously lacking. We believe that good studies could be done, but that they will require substantial input from experts in epidemiological methods.

RECOMMENDATIONS

• The VA and DoD should determine the specific research questions that need to be answered. Epidemiologic studies should be designed with the objective of answering these questions given the input of experts in epidemiologic research methods and data analysis, along with the input of experts in the subject matter areas to be investigated.

• To obtain data on symptom prevalence, health status, and diagnosed disease, the Secretaries of DoD and VA should collaborate to conduct a population-based survey of persons who served in the PG, and of PG-era service personnel. The study should be designed to allow for adequate comparisons of outcome by sex, service branch, and rank, with oversampling among certain subgroups to allow for analysis. The IOM committee is willing to comment on and assist in the study design. An evaluation of the feasibility and need for a longitudinal study should take place coincident with this national survey.

FINDING 7

Initial characterizations of smoke and unburned contaminants from the oil well fires and other sources are not adequate, nor have the data available been reduced to a format usable for drawing conclusions or conducting health studies. Considerable data exist from a wide number of sources, but they have not been compiled or analyzed in any organized or efficient way. For example, lead levels that would cause acute toxicity have been reported; however, questions about the validity of these reports have not been adequately addressed.

RECOMMENDATIONS

• DoD should assemble and organize these data from all sources for evaluation by the IOM committee.

• DoD should conduct a study that simulates exposure in tents heated by diesel fuel, with composition similar to that used in the PG. Fuels and conditions should simulate as closely as possible the conditions that existed in the PG. Exposure to lead and its possible effects should be explored further. The committee reviewed work done indicating that some personnel in the Gulf had lead levels consistent with acute intoxication. Thus in investigating lead exposure, special attention should be given to any history of abnormal pain or mental disorders.

FINDING 8

As acknowledged by the investigator, the VA study of mortality for the PG veteran population is of insufficient duration to observe a higher rate of death than would be expected from chronic disease outcomes.

RECOMMENDATION

• The VA should plan and provide support for its mortality study to continue in the future in order to permit the detection and investigation of long-term mortality from chronic disease.

FINDING 9

Although infertility, unrecognized and recognized pregnancy loss, premature delivery, fetal growth retardation, birth defects, and abnormal development are all components of reproductive health, studies and surveillance efforts to date have focused primarily on birth defects, fetal and neonatal deaths, and low birth weight. Adverse reproductive effects can be mediated through males as well as females, so it is important to study exposures of both parents. Information on infertility and miscarriage has not been included in the VA Health Registry efforts. Moreover, data on outcomes are available only from a single cluster study in Mississippi and the Army Surgeon General's preliminary data evaluation. DoD launched recently a study of reproductive health, and the VA and DoD clinical evaluation protocols provide some surveillance of infertility, miscarriage, birth defects, and infant deaths.

The design of scientific studies to address reproductive risk associated with environmental exposures is complex. A variety of endpoints may occur throughout the continuum beginning with fertility, through intra-uterine, peripartum, and neonatal development, and continuing with effects manifested only later in childhood. Additionally, sophisticated expertise is required to document environmental exposures as the etiology for adverse pregnancy experience. There are research groups in some academic and federal settings that could, if deemed appropriate, conduct such complex research.

RECOMMENDATIONS

• VA and DoD should include reproductive outcomes among the array of health endpoints in surveillance programs based on medical records and individual questionnaires. Medical records, such as those to be included in the Seabees reproductive study and the DoD reproductive health study, would be suitable to ascertain stillbirth, low birth weight, preterm delivery, and major birth defects. Questionnaires such as those administered for the VA health registry exam could, in addition, address questions of infertility and clinically recognized miscarriage.

• The Persian Gulf Veterans Coordinating Board should consider specific exposures that are most likely to adversely affect reproductive health of women, men or both, distinguishing between agents that would affect reproductive health only if exposure occurred at or around the time of critical periods during pregnancy versus those that might have effects that would persist after the cessation of exposure. As specific hypotheses linking exposure and reproductive outcomes are identified, studies that are suitable to providing more conclusive results for those associations should be designed.

• The Persian Gulf Veterans Coordinating Board should remain alert but skeptical about cluster studies such as those underway in Mississippi. Studies of this kind may be valuable in suggesting etiologic hypotheses; however, they have little promise for resolving questions about links between experiences in the Persian Gulf and reproductive health. Population-based studies of reproductive health outcomes are essential to resolve questions of effects of Persian Gulf War service.

FINDING 10

Women who did not realize that they were pregnant at the time were deployed to the Gulf; others became pregnant during their service in the Gulf. These groups of women may have been exposed to substances potentially hazardous to themselves and to their unborn babies. A study would permit comparisons of birth outcomes and potential adverse health effects on women exposed at different times in their pregnancies.

RECOMMENDATION

• The Persian Gulf Veterans Coordinating Board should conduct a study to compare women deployed to the PG who were or who became pregnant at any time dur-

ing the Persian Gulf War with an appropriate group of other women who were pregnant, but did not serve in the PGW, to evaluate potential adverse health outcomes to the mother or child. This study should only be done if a sufficient number of women can be identified. Efforts should be made to gather exposure information relevant to service at potentially high-risk times during gestation.

FINDING 11

The committee has become aware that rosters exist that contain the names of persons vaccinated with anthrax and botulinum toxoid.

RECOMMENDATION

• DoD should maintain its lists of those receiving anthrax and botulinum vaccines for the purpose of conducting follow-up studies on these cohorts.

FINDING 12

Troops were given packets of pyridostigmine bromide (PB) pills to be taken as a prophylactic to the threat of nerve agent exposure, at the direction of their commanding officer. PB by itself, in recommended doses, is a safe drug. Additionally, DEET (N,N-diethyl-m-toluamide) and permethrin were used by the troops to prevent insect bites. There is some information about the possible long-term toxicity to humans of DEET absorbed through the skin; however there appears to be little or no information about dermal absorption of permethrin from residues left on clothing, bedding or elsewhere. Although permethrin is generally not applied to skin, animal studies have shown that permethrin is transferred from cloth to skin, and subsequently absorbed (NRC, 1994). There is little information about how PB, DEET and permethrin might interact; interactions among these compounds are possible and are inadequately studied.

RECOMMENDATION

• Studies are needed to resolve uncertainties about whether PB, DEET, and permethrin have additive or synergistic effects. Unsubstantiated suggestions that they may have chronic neurotoxic effects need to be tested in carefully controlled studies in appropriate animal models. Appropriate laboratory animal studies of interactions between DEET, PB, and permethrin should be conducted.

FINDING 13

Reported symptoms suggestive of visceral leishmanial infections include fever, chronic fatigue, malaise, cough, intermittent diarrhea, abdominal pain, weight loss, anemia, lymphadenopathy, and splenomegaly. The committee has considered two aspects of exposure to *L. tropica* and resulting infection with leishmania: the occurrence of either cutaneous or visceral leishmaniasis; and the possibility that some component of the poorly defined illness referred to as "Gulf War Syndrome" may result from leishmania infection.

Leishmaniasis (*L. tropica*) in PGW veterans has been evaluated in some very limited clinical studies, but not in epidemiological studies. The clinical studies suggest that the complex of symptoms in the PGW veterans diagnosed with leishmaniasis differs from what has been described in the literature for other forms of leishmaniasis. A major limitation to further investigation and diagnosis of leishmaniasis is the lack of an informative serologic test or other easy to use screening tests.

RECOMMENDATIONS

• The DoD Joint Technology Coordination Group II has research responsibilities for infectious diseases of military importance and should give high priority to the development of a screening approach to be used under field conditions expected in deployment, and a useful diagnostic test for *L. tropica*. The board also should review the status of leishmania research, with a view toward either drafting a request for proposals for test development, or the structured coordination of existing activities.

• All physicians should be notified to look for symptoms that are consistent with both leishmania infection and those reported as "GWS." Clear instructions for follow-up actions should be widely communicated through the physician community. Veterans of Desert Storm should be notified that if they have symptoms that may suggest viscerotropic leishmaniasis they should bring this possibility to the attention of the staff at any facility where they obtain any health care, whether it is in the VA system or not. The latter may be particularly important due to the potential for long-term survival of leishmania in the host.

• When it becomes feasible, VA, DoD, or both should conduct an epidemiologic and seroepidemiologic study of leishmaniasis in PGW veterans presenting symptoms or conditions and appropriate controls. Special attention should center on a possible relation between leishmaniasis and the "Gulf War syndrome."

FINDING 14

The ecology and epidemiology of *L. tropica* are insufficiently studied. Many important questions remain unanswered concerning host species, vectors, and means of transmission to military personnel. The possible role of dogs as reservoirs of disease and the existence of vectors other than sandflies are questions that have been raised.

RECOMMENDATIONS

• DoD should closely monitor all information regarding ecological and clinical studies of *L. tropica* being conducted in the U.S. and abroad.
• International and U.S. researchers should be queried concerning any advances in diagnostic techniques for identifying *L. tropica*.

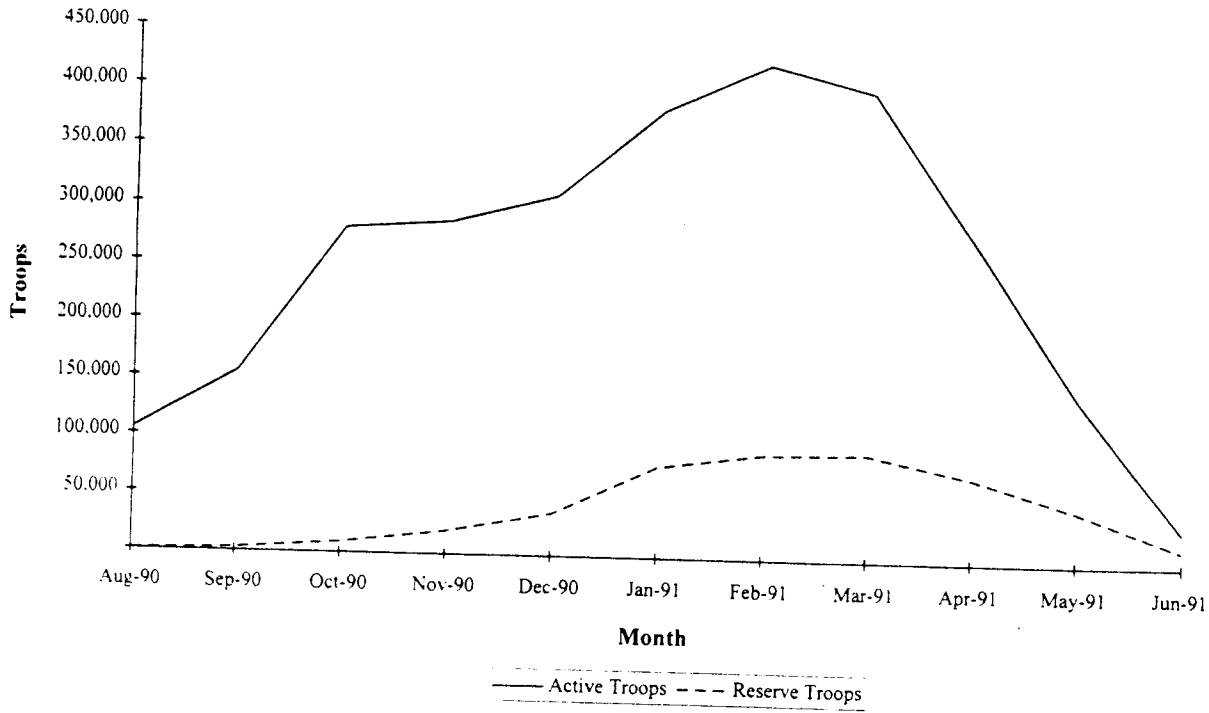

Figure 1. Number of U.S. troops in the Persian Gulf Theater of operations by month. SOURCE: Information provided by the Defense Manpower Data Center.

EVALUATION OF THE U.S. DEPARTMENT OF DEFENSE PERSIAN GULF COMPREHENSIVE CLINICAL EVALUATION PROGRAM

EXECUTIVE SUMMARY

In July 1994, the U.S. Department of Defense (DoD) asked the Institute of Medicine (IOM) to establish a committee to evaluate its Comprehensive Clinical Evaluation Program (CCEP). Since their return from service in the Persian Gulf region during Operations Desert Shield and Desert Storm, some active-duty military personnel and veterans have reported a variety of health problems that they perceived to be associated with their service in that region. The DoD instituted the CCEP in June 1994 to evaluate and treat the health problems of these active-duty personnel. The DoD then asked the IOM committee to evaluate the protocol for the clinical evaluations and to comment on the interpretation of the CCEP results that have been obtained so far. In addition, the committee was asked to make recommendations relevant to the conduct of the clinical evaluations in the future and to the broader program of the DoD Persian Gulf health studies, if appropriate. The purpose of this report on the CCEP is to provide a comprehensive evaluation of the major issues that the committee has identified since its first meeting in October 1994.

The CCEP is a compassionate and comprehensive effort to address the clinical needs of thousands of active-duty personnel who served in the Persian Gulf War. The CCEP clinical protocol is a thorough, systematic approach to the diagnosis of a wide spectrum of diseases. A specific medical diagnosis or diagnoses can be reached for most patients by using the CCEP protocol. The DoD has made conscientious efforts to build consistency and quality assurance into this program at the many medical treatment facilities and regional medical centers across the country. This nationwide effort was implemented relatively quickly. The committee commends the DoD for its efforts to provide high-quality medical care in the CCEP and the success it has achieved to date in developing the infrastructure necessary to efficiently contact, schedule, refer, and track thousands of patients through the system.

Of the first 10,020 CCEP patients, 37% were diagnosed with a psychiatric condition, most commonly depression or posttraumatic stress disorder. Many of the psychiatric diseases found in the CCEP population have both physical and psychological symptoms and manifestations. The IOM committee encourages the DoD to emphasize in its future reports that psychosocial stressors can produce physical and psychological effects that are as real and potentially devastating as physical, chemical, or biological stressors. The committee also encourages the DoD to emphasize that effective treatments exist for many of these psychiatric disorders.

There is currently no clinical evidence in the CCEP for a previously unknown, serious illness among Persian Gulf veterans. If there were a new or unique illness or syndrome among Persian Gulf veterans that could cause serious impairment in a high proportion of veterans at risk, it would probably be detectable in the population of 10,020 CCEP patients. On the other hand, if an unknown illness were mild or only affected a small proportion of veterans at risk, it might not be detectable in a case series, no matter how large. The DoD and the U.S. Department of Veterans Affairs (DVA) are sponsoring several large research studies that may provide more definitive answers as to whether there is a new, unique Persian Gulf syndrome.

The CCEP was not, however, designed to answer epidemiological questions. Instead, it was designed as a medical evaluation and treatment program. In a recent report on 10,020 patients, the DoD compares the symptoms and diagnoses in the CCEP with the symptoms and diagnoses in several community-based and clinically based populations. The committee concludes that interpretations based on comparisons with other populations should be made with great caution and only with the explicit recognition of the limitations of the CCEP as a self-selected case series. The CCEP results do have considerable clinical utility, and they could be used to address many important questions from a descriptive perspective.

The results of the CCEP can and should be used for several purposes including (1) educating Persian Gulf veterans and the physicians caring for them, (2) improving the medical protocol itself, and (3) evaluating patient outcomes. The medical findings of the CCEP should be distributed promptly to all CCEP primary care physicians. The medical findings of the CCEP would also be of considerable value and interest to physicians in the DVA system and in the community.

The DoD should consider developing a comprehensive document for use in the CCEP that describes the potential physical, chemical, biological, and psychological stressors that were present in the Persian Gulf theater. If the CCEP physicians could obtain a clearer picture of the possible range of exposures, they might be able to counsel their patients more effectively.

Walter Reed Army Medical Center staff have developed the Specialized Care Center (SCC) for the evaluation, treatment, and rehabilitation of a small, select group of seriously impaired patients who have been referred from regional medical centers. The committee's review should be considered preliminary because the program is still early in its development. The committee believes that the DoD has taken a serious approach to the treatment and rehabilitation of these impaired patients who have treatable, chronic diseases. If the SCC program is successful in improving the health and functional status of its patients, perhaps the elements that are most effective in enabling the patients to cope with their symptoms could be identified. It might then be possible to disseminate some of these elements to the DoD medical treatment facilities, which are close to where the CCEP patients live and work.

Mr. SHAYS. Sure. We heard from a number of veterans earlier, and I assume that all of you were in the room. Is that correct? Did you hear the testimony of the first panel? I will start with you, Dr. Rall, or Dr. Bailar. What is your general reaction to that testimony?

When anyone passes you the mic, it is that they don't want to answer and it is on your shoulders.

Dr. BAILAR. Thank you Dr. Rall.

It is a difficult and touchy issue. I would like to separate the question of caution from need for medical care. I am personally convinced that many veterans do need medical care, whether or not we understand why they need that.

Beyond that, I can say only that our committee is still in the phase of fairly intensive gathering of information. We have not yet come to the point of reaching findings or making recommendations beyond what were in our first report, and I believe the other committee members have been trying very hard to keep completely open minds and not form opinions too soon.

Mr. SHEEHAN-MILES. The testimony of the first panel was fairly representative of what I work with every day. Our member organizations are spread out around the country and in England.

Mr. SHAYS. Your organization, for the record, are you nonprofit? profit?

Mr. SHEEHAN-MILES. We are a nonprofit organization. What we do primarily is provide information, educational resources, whatever we can to grassroots organizations.

Mr. SHAYS. Who established this organization?

Mr. SHEEHAN-MILES. A group of Gulf war veterans. We are primarily service grassroots organizations around the country.

Mr. SHAYS. It was a group of Gulf war veterans who felt that nobody was listening and they were concerned and wanted to establish this organization; is that correct?

Mr. SHEEHAN-MILES. Yes, sir.

Major CROSS. Chairman Shays, I have been to a couple—we hold meetings on the Presidential Advisory Committee nationwide, and I have been to a few of them myself. The testimony at those meetings, as with the testimony this morning, is quite compelling, and we will continue to hold meetings.

As a matter of fact, the next meeting of the committee is the end of this month in Boston, and we will hear more testimony from veterans nationwide. The veterans are sick, and they just want to be heard.

Mr. SHAYS. Dr. Nishimi.

Ms. NISHIMI. I will let Major Cross' statement stand.

Mr. SHAYS. I will just proceed with the three of you in the middle, and if either one of you want to jump in. It is touchy because why, Dr. Bailar?

Dr. BAILAR. Because the medical issues are difficult to resolve, there is a great deal at stake, and many people are quite deeply and genuinely concerned about the illnesses and about the responses to the illnesses.

Mr. SHAYS. I want to make sure it is not touchy because it is a political problem.

Dr. BAILAR. I do not have a sense, sir, that this is a political problem. No, not at all.

Mr. SHAYS. What would be, Dr. Bailar and Major Cross, your reaction to what Mr. Sheehan-Miles, his testimony, which differs from your testimony? Where would you take issue with Mr. Sheehan-Miles?

Major CROSS. I am not so sure that we necessarily take issue with what he is saying. I think we are all addressing issues that the bottom line is, there are no real answers to date, and there are still more questions than answers.

I think everybody in their own way is trying to work feverishly to get answers to satisfy the requirements of the veterans if they are sick. Why am I sick, and what can be done to keep me healthy?

Mr. SHAYS. I think he is saying more than that.

Dr. Bailar.

Dr. BAILAR. My testimony is distinctly more upbeat, and it may be, though I can't confirm this, because I am focusing on what has happened in the last 18 months on the research side. Our committee was not charged with looking at the medical care that was delivered, and I don't know what we might have found if we had been so charged.

Mr. SHAYS. Why should I be impressed with the Registry?

Dr. BAILAR. You mean the VA Registry. I think it is a way to get information on the record about very large numbers of veterans who have or may develop symptoms, and it may be an aid to the future diagnosis and medical care that they need. As I said, though, it is not a research tool. It was not developed to be a base for research or investigating the causes and specific outcomes of these illnesses.

Mr. SHAYS. Major Cross, why should I be impressed with the Registry? What is so impressive about it?

Major CROSS. I am not so sure you should be impressed, nor am I. However, speaking on behalf of the committee, that is an area that we have yet to look into but are definitely going to look into.

Let me say this, Chairman Shays, not to cut you off. In the meetings that I have gone to and even talking with some of the veteran service organizations, veteran registration has touched just a fraction of the veterans out there that are eligible.

Why the hesitation of the veterans not to participate in the registry? I am not sure, being a veteran myself. I signed up for the Registry. It has been a positive experience for me. But long term to help the veterans, I think everyone owes it to themselves to get themselves into the system.

Mr. SHAYS. Mr. Sheehan-Miles, why would I be impressed or unimpressed with the Registry?

Mr. SHEEHAN-MILES. I think the VA Registry can be a valuable tool in that it will give us the first indications of what large number of symptoms that we are seeing. That is where we first started to understand that there were patterns of illnesses, whereas one veteran in North Dakota might suddenly read in the paper that 6,000 other veterans around the country have the same symptoms he has, and that raises the question suddenly whether something similar happened to them.

Mr. SHAYS. One of the things I don't want to do is, I don't want to be a committee chairman who basically, from the sideline, lobs a lot of bombs and sees faults and then tries to pick it apart, because everyone is well meaning on this. But from the outside looking in, I am not impressed much at all because policy, theoretically looks to me like it could do something, but it doesn't strike me that there is any energy involved in it.

It strikes me that every veteran who went to the Persian Gulf should be personally contacted, they should be encouraged to participate and they should be asked some pertinent questions.

Is this happening Dr. Bailar?

Dr. BAILAR. I think it is not happening in an effective way. I can't tell you whether there have been at least minor efforts to contact every veteran, but I am not aware of any major effort, any consolidated, concerted, long-term effort on the part of any Government agency to contact every veteran and encourage them; that is, every Gulf war veteran; encourage them to get into the Registry.

Mr. SHAYS. Major Cross, why hasn't your advisory committee weighed in more on this issue? Is it just limited resources? Because it seems like a no-brainer to me.

Major CROSS. I understand what you are saying. We only began to meet in August.

Mr. SHAYS. August of this last year?

Major CROSS. Yes, sir. There is nothing in the interim report, but that is a concern of ours. We do make mention of the fact. We also have some recommendations to better that message coming from the VA.

There is still a lot more work needs to be done on this issue. We are just not there yet.

Mr. SHEEHAN-MILES. Mr. Chairman, I think part of the concern here—and this is an issue that we have tried to raise before—VA's outreach programs aren't that bad. Even myself personally, shortly after I was discharged from the Army, I received a pamphlet in the mail describing benefits available to Persian Gulf war veterans.

However, when a veteran or his family, for instance, goes to try and get help and they can't get help at the local VA hospital, then the outreach efforts have failed, because they went in and were unable to get help.

Our real argument is with the actual implementation of medical care by the doctors at the VA hospitals around the country, and most of these doctors are perfectly good doctors but are not familiar with the kinds of illnesses you are going to see from the kind of exposure we had.

Mr. SHAYS. I happen to believe that the worst thing that can happen is someone so convinced that they are sick and so unhappy that people don't see that—that they are focusing on how much, on

how sick they feel that from the standpoint of a positive reinforcement of trying to lick that sickness, it makes it even more difficult.

I wish every veteran could be convinced that DOD and the Department of Veterans Affairs were convinced that they had a very serious problem. The acceptance that you have a serious problem would lead to how we make you well; instead of someone having to go out of their way to convince others of the illness part of it.

It seems to me that we should be accepting a lot of their reality and then seeing how we can help them.

What I find particularly troubling is a number of these veterans think they will get worse rather than better. That is not a healthy attitude, but I understand why.

I am troubled, Mr. Cross. I realize that you all started in August, but I am troubled by the fact that there are too many questions that remain. Mr. Sheehan-Miles had a number of very severe criticisms of what is happening. It wasn't just focus and urgency; it was a lot more than that. There were some very practical concerns. You all don't take issue with his comments. I am gathering because I asked the question.

Dr. NISHIMI. In fairness to Major Cross, I wouldn't characterize that the advisory committee takes issue with Mr. Sheehan-Miles's testimony or does not. Mr. Sheehan-Miles's testimony, a great deal of it, focused on clinical care issues and access to services and treatment, and those are two of the highest priority issues for the committee between now and the end of its final report.

It's such a complex matter, however, that we felt that in the short time available between the committee's first deliverable and interim report, it deserved greater scrutiny and more justice than that time. It is not that the committee would take issue with Mr. Sheehan-Miles's recommendation.

Mr. SHAYS. Mr. Sheehan-Miles, how do you respond to that?

Mr. SHEEHAN-MILES. We have certainly seen that. We have worked with the Presidential committee and watched them as they went through their hearings, reviewing very specific issues. I think my real concern is that after several years have gone by, and the Institute of Medicine and the Presidential advisory committee and all the different committees that reviewed this——

Mr. SHAYS. Your problem is that they started in August, that it has taken to August before this whole activity started. Blame the Congress and blame the White House, both, in that sense? Is that your point?

Mr. SHEEHAN-MILES. Essentially, yes, sir.

Mr. SHAYS. I interrupted you, but I just want to make sure that I am putting Congress in this as well.

Any other comment you want to make, any of you? Any question you would have liked me to have asked?

Major CROSS. Chairman Shays, let me put in my 2 cents worth. Being a Gulf war veteran, I guess I fall into the category of not suffering from any illnesses as a result of that war.

And I also want to say that I think my experience with the VA is actually a positive experience. And I want—you know, we have been on a little negative—and I am not saying that they are completely without fault, but I think in some cases they are trying to do their best in reaching veterans.

I had a representative from the Boston VA Hospital actually give a briefing to Gulf war veterans in my reserve unit about 6 months after I returned. My reserve unit at the time was in Massachusetts. So, I voiced a concern with this woman, she traveled on a Sunday afternoon to give this brief, which I thought was applaudable. And I voiced my concern, because I wasn't from the Massachusetts area; I was from Connecticut.

And she gave me the name of an individual in Connecticut, and I was actually one of maybe the few that were contacted by the Connecticut VA out of Newington, and they called and we set up an appointment and I went in for the appointment and had a full, 100 percent physical. And I don't think I got special treatment, but I guess what I sense is, the system worked well for me, but I am hearing it doesn't necessarily work well for others.

Mr. SHAYS. Yes, sir? Just a little louder, please.

Mr. SHEEHAN-MILES. Mr. Chairman, one of the things I would like to point out here—and this is an issue that I would fully concur with Major Cross on—in my own case, I have gone to the VA hospital over a perfectly normal medical problem and got fairly quick and good response.

It is the undiagnosed illnesses where we are seeing the problem. It is the illnesses that are slightly unusual where the doctors and the staff are not necessarily that familiar with them and, consequently, they will run through the same kinds of batteries of tests over and over again, and the results don't meet what you would expect to normally see. There is not really that much of an argument that for a simple—for instance, if you went in with a broken leg that any VA physician could fix that broken leg with a minimum of difficulties.

Mr. SHAYS. When we do investigative work like that, we find that it's not one person's fault. We find, collectively you meet the enemy and it is us, it is all of us. One side could do a little bit more and the other could do a little bit more, and if we collectively did that, we would have a winning team.

My problem is that I believe—as I have seen this and why we wanted to enter this is that we are failing our veterans, and I think we are well-intended and the Department of Veterans Affairs isn't before us today. We wanted to just lay out some of the challenges. This is not an indictment of them. It's not an indictment of anyone yet, but it is an indictment that there is a failure.

Dr. Bailar, you said you wanted to separate the cause and the need for medical care. I think there is a validity in that in the sense that, let's make sure they are getting the care they deserve and then at the same time look for the cause.

I need to end my question by asking each of you—and we have to be candid with each other. The issue is, first, is your government, is Congress, is the White House, is the Department of Veterans Affairs doing all that it can to properly treat veterans, one; and is it doing all that it can to search for the illness?

And I am willing to separate those two and I will start with you.

Dr. BAILAR. As I said, we have not looked at the program of medical care. I believe that the VA and the DOD are both undertaking appropriate kinds of research programs. And if these are faithfully

carried out, I think they will give us answers to the most pressing questions.

Mr. SHAYS. Well, we need those answers soon.

Dr. BAILAR. Yes.

Mr. SHAYS. Mr. Sheehan-Miles.

Mr. SHEEHAN-MILES. I think my answer to both questions, both on the research and the medical care issue, is that, no, they are not doing enough.

Mr. SHAYS. No, we're not, OK.

Major Cross.

Major CROSS. I would have to agree with Mr. Sheehan-Miles; they are not doing enough. The search, however, for a cause and effect is ongoing. There just needs to be better coordination. I would agree with what Mr. Sheehan-Miles said earlier. It's almost a chance encounter.

If you go to a lot of VA facilities with a broken leg, you can fix that; that is well detailed and medical analysis of what is wrong. But somebody with unexplained illnesses talking to a doctor that may not be familiar with the Gulf war veteran syndrome, there is a definite disconnect there, and the treatment would probably be wrong for the patient.

Mr. SHAYS. Thank you all very much. I appreciate you being here. It may be that we'll invite you back in one of our later hearings. Thank you so much for coming.

We will conclude with our third panel. Our third panel is comprised of five individuals, Matthew Puglisi, assistant director of National Veterans Affairs, The American Legion; testimony from Lennox Gilmer, associate legislative director, Disabled American Veterans; Kelli Willard-West, director of Government Relations, Vietnam Veterans of America; Dennis Cullinan, deputy director of National Legislative Service, Veterans of Foreign Wars; and Scott Vanderheyden, Gulf war coordinator, Vietnam Veterans Agent Orange Victims, Inc.

[Witnesses sworn.]

Mr. SHAYS. For the record, all five of our witnesses have answered in the affirmative. Thank you very much. Please be seated.

STATEMENTS OF MATTHEW L. PUGLISI, ASSISTANT DIRECTOR OF NATIONAL VETERANS AFFAIRS, THE AMERICAN LEGION; LENNOX E. GILMER, ASSOCIATE NATIONAL LEGISLATIVE DIRECTOR, DISABLED AMERICAN VETERANS; KELLI WILLARD-WEST, DIRECTOR OF GOVERNMENT RELATIONS, VIETNAM VETERANS OF AMERICA; DENNIS CULLINAN, DEPUTY DIRECTOR OF NATIONAL LEGISLATIVE SERVICE, VETERANS OF FOREIGN WARS; AND SCOTT VANDERHEYDEN, GULF WAR COORDINATOR, VIETNAM VETERANS AGENT ORANGE VICTIMS, INC.

Mr. SHAYS. I think what we'll do is just go right down the list here. And let me say that you honor our committee by your presence.

I appreciate your being here, and I make an assumption that you all have been here for a bit, so you can feel comfortable also responding to what you have heard earlier. That is important for the public record, to have that response, and we don't view it as going

after someone else. We simply view it as a way to help us see where the disagreement is and where the solutions are.

So we will start with you, Mr. Puglisi.

Mr. PUGLISI. Thank you, Mr. Chairman, for inviting The American Legion to testify today about the Department of Veterans Affairs' efforts on behalf of Gulf war veterans. I would like to focus my comments on the VA's efforts to compensate these veterans for the illnesses they have, not only for the sake of time, but also because it hasn't been focused on, up until now, today too much.

And I would also like to talk briefly about some of the things that The American Legion has been doing on behalf of Gulf war veterans.

Five years ago the United States and coalition smashed the Iraqi Army during Operation Desert Storm, and the cost of blood, though dear, was much less than any could have dreamed. The long-term costs of the brief war, however, continue to confront us at home.

Besides the veterans who suffered wounds, injuries and disease, directly and indirectly related to combat and overseas deployment, thousands are suffering from a chronic illness or illnesses known as Gulf war syndrome. The Veterans Benefits Improvement Act of 1994 enabled VA to pay disability compensation to Gulf war veterans who suffered from undiagnosed symptoms. The purpose of this law was to help Gulf war veterans with a service-connected disability, Gulf war syndrome, until their symptoms were treated because of medical breakthroughs.

The American Legion has learned that VA is not compensating the vast majority of these veterans who have applied for compensation. The American Legion has reviewed a representative sample of undiagnosed illness claims with American Legion power of attorney and we have found that only 4 percent were granted, 73 percent were denied, and 23 percent were partially denied. The partial denials mean that some of their symptoms or complaints filed for were denied, some were granted.

What we found in that 23 percent, the vast majority of grants were for things that aren't related to undiagnosed symptoms or Gulf war syndrome—residuals from a broken leg or arthritis or other things that are fairly common within the medical community. These numbers show that thousands of veterans who are sick from their wartime service in the Persian Gulf are being denied benefits. The intent of the law is clearly not being met.

The American Legion's review also found that there is no uniformity among the four area processing offices that adjudicate these claims and little training has occurred to prepare their employees to process these claims. We therefore recommend that VA immediately coordinate its processing of Persian Gulf undiagnosed illness claims to create a more uniform and professional system.

Another finding was that 19 percent of the denial letters sent to veterans were inadequate when judged according to VA's own regulations and Court of Veterans Appeals decisions. That signifies that on top of denying the vast majority of these claims, the VA is not properly informing one out of five veterans whose claims were denied why they were denied. We therefore recommend VA conduct an intensive outreach and followup effort with Gulf war veterans whose undiagnosed illness claims have been denied.

The American Legion has undertaken a focused effort to fill the health care and disability compensation gap created by the Federal Government's inconsistent response to Gulf war veterans. Our family support network has given over $500,000 to Gulf war veterans in financial need since Operation Desert Storm. We are conducting a systematic review of all the ongoing scientific studies examining Gulf war syndrome to ensure that they meet the highest scientific standards. To date, we have found some gaps in the research studies, including birth outcomes, and also comparison and inappropriate control groups and some of the epidemiology studies.

The American Legion is uncovering and examining evidence of troops's exposure to chemical and biological warfare agents during Operation Desert Storm through the use of the Freedom of Information Act and other means. To date, we have found the Department of Defense's assertion that such exposures did not occur to be preposterous and counterproductive to the objective scientific study of Gulf war syndrome.

We have undertaken a number of outreach efforts to include a toll-free number, a site on the World Wide Web, radio public service announcements and numerous American Legion magazine articles that discuss Gulf war syndrome and the illnesses of Gulf war veterans.

Behind each statistic stands a veteran and behind each veteran stands a family. Thousands of veterans returned from the Gulf war suffering from an illness or illnesses caused by one, some, or all of the environmental hazards they were exposed to 5 years ago.

There is no known treatment. The cold numbers that I just related to the committee equate to thousands of veterans denied help from the Government. The cold numbers equate to thousands of family members who suffered through financial hardships because the veteran cannot perform well on their jobs or perhaps they have lost their job because of illness.

In conclusion, thousands of Gulf war veterans who suffer from a severe service-connected disability known as Gulf war syndrome are not receiving health care or compensation from the VA. In order to alleviate this problem, the VA must aggressively move to change the regulations and practices that have allowed this to occur so America's newest generation of war veterans and their families are given the treatment that they deserve.

Thank you, Mr. Chairman for inviting The American Legion to share its findings and recommendations today. The committee has done the Gulf war veterans a great service by conducting these hearings, and we are confident that the hearings will result in positive changes in how the VA approaches the illnesses that afflict Gulf war veterans.

Mr. SHAYS. Thank you for your kind words. That is certainly our goal.

[The prepared statement of Mr. Puglisi follows:]

PREPARED STATEMENT OF MATTHEW L. PUGLISI, ASSISTANT DIRECTOR OF NATIONAL VETERANS AFFAIRS, THE AMERICAN LEGION

Five years ago, U.S. and Coalition Forces crushed the Iraqi Army during Operation Desert Storm costing much less in blood than many had dreamed. The long term costs of the brief war, however, continue to confront us at home. Besides the veterans who suffered wounds, injuries and diseases directly and indirectly related

to combat and overseas deployment, thousands are suffering from a chronic ailment or ailments, the media has called "Gulf War Syndrome."

In 1991, many returning veterans reported symptoms of fatigue, skin rash, memory loss, joint pain, and other symptoms that health care officials could not easily diagnose. Gulf War Syndrome (GWS) is a complex of ill defined and often poorly characterized symptoms. It may not be one distinct illness, but several. The ongoing and future scientific studies should help determine a better case definition. Today, The American Legion will focus on the GWS, the Department of Veterans Affairs' responsiveness and The American Legion's efforts on behalf of Gulf War veterans.

UNDIAGNOSED ILLNESS DISABILITY COMPENSATION

In November 1994, the President signed Public Law 103–446, the "Veterans' Benefits Improvements Act of 1994." This was a bold, unprecedented approach to the payment of compensation for service-connected disability. For the first time, Persian Gulf veterans whom VA told "we don't know what is wrong with you" could receive compensation for undiagnosable conditions that directly impacted on their ability to work. In response to the legislation, VA issued regulations prescribing how this type of claim would be adjudicated. What was hailed as groundbreaking legislation and what seemed as a "liberal" claims process, has generally not met the needs of most ill Gulf War veterans. The intent of P.L. 103–446, that Gulf War veterans who are ill would be compensated until GWS was defined and a treatment developed, is not currently being achieved.

The American Legion is currently completing Phase I of a review of a representative sample of its undiagnosed illness compensation claims adjudicated by VA in which The American Legion holds the power of attorney. To date, The American Legion has completed its review in three of the four Persian Gulf Area Processing Offices (APO). The size of the cohort examined, 115, will be large enough to provide findings that are significant for the universe of undiagnosed illness claims.

The most significant findings of this review are that 4% of the claims were granted, 73% were denied, and 23% were partially granted (see attached chart). Furthermore, 19% of the denial letters sent to the veterans were inadequate according to VA's own regulations and Court of Veterans Appeals (COVA) decisions.

The majority of the reasons for denial given by VA was the symptoms did not become manifest to a compensable degree of 10% within the required two years of the veteran leaving the Persian Gulf Theater. As a matter of law, VA determined such claims were not "well grounded" or "possibly plausible." Under these circumstances, VA still has a duty, as spelled out by the Court of Veterans Appeals (COVA), to inform the veteran what evidence would make the claim "possibly plausible." Our preliminary findings do not show that VA consistently met its mandate "to inform," which may have contributed to the low allowance rate for these claims.

Phase II of The American Legion's review will begin soon after the data from Phase I is collected, analyzed and disseminated to American Legion Service Officers in the field. Phase II will follow-up with the individual veterans who have filed these claims, and determine what their experience was like with the VA system. The findings from Phase II will be used to help VA fix a benefits program that is not meeting the intent of the law.

The APOs were advertised by the VA as places where adjudicators would receive special training to handle Persian Gulf War undiagnosed illness claims. In reality, the specialized training has been only minimal and the four APOs each process these claims in a different and inconsistent manner. We have found this has had an adverse impact on the allowance rate and the quality of the processing of these claims.

PERSIAN GULF WAR HEALTH REGISTRY

The Persian Gulf War Veterans Health Registry was created in 1992 in response to the oil well fires ignited by Iraqi forces before the start of the ground war, and the fears that veterans' present and future health would be affected by inhalation of the oil smoke The original goals of VA's Registry were to provide a "baseline" physical for ill veterans, identify veterans who were ill and document the most common symptoms and complaints.

The VA's registry does not give the full picture concerning the prevalence of GWS among veterans who seek registry exams because of its reporting procedures. Although not designed to be an epidemiological study, the Registry collects important data for VA and other researchers.

At one point, VA's data forms allowed veterans to list only the "top" six symptoms. If a veteran had more than six symptoms (which most did), they had to prioritize them as the most painful or persistent. Therefore, many of the symptoms

were ignored as minor in nature. If a veteran listed aching joints, memory loss, fatigue, diarrhea, chest pains and bleeding gums, a skin rash would not be addressed.

A major problem with the Registry and the claims adjudication process is that medical doctors in the Western World are trained to diagnose diseases. VA doctors' "natural instinct" is to assign a diagnosis or diagnoses to the symptoms that Gulf War veterans experience. These diagnoses go to the VA Central Office in the form of internationally recognized diagnostic codes (ICD–9 Codes). VA has concluded from this data that 1) most of the veterans on the registry receive diagnoses and 2) the VA cannot see anything new or mysterious in the data it has collected, and Gulf War veterans are suffering from the same types of medical problems as are found in the general population.

What VA has been missing is the importance of reported symptoms, particularly if the veteran's symptoms were initially diagnosed as a psychological illness. Major Depression and Somatoform Disorder have overlapping symptoms with GWS, as does Chronic Fatigue Syndrome, Fibromyalgia, and Multiple Chemical Sensitivity. Yet one patient can receive different diagnoses with the same symptoms from different doctors because the diagnoses depend on the training and sensitivity of the examining doctor This is true in VA and any other health care system. Getting a second opinion from a medical doctor is a natural habit of Americans. Once a VA medical doctor makes a diagnosis, however, the VA then concludes that the veteran is not suffering from GWS. Therefore, the inclination to diagnose may mask data in determining the real prevalence of GWS among veterans who have received Registry exams. This is a function of GWS not being well defined and being novel.

When one examines the Registry data by reported symptoms, however, particularly the five most common complaints (fatigue; skin rash; headache; muscle, joint pain and memory loss) one begins to see a different picture. On average, VA assigned diagnoses to 86% of the symptoms reported on Registry examinations (as of July of 1995). That leaves 14% of the reported symptoms as undiagnosed. That is significant not only in and of itself, but also when one asks a legitimate question: how many of those symptoms are really misdiagnosed? This is not to suggest that the VA is staffed by incompetent doctors, but it recognizes that Western medicine is geared towards diagnosing illness. With so many ailments similar to GWS, one must analyze the frequency of complaints to understand prevalence of illness. VA originally described GWS as primarily recognizable psychological diseases when it first examined Gulf War veterans.

The true extent of GWS can only be determined by ongoing epidemiology studies. In the meantime, in order to determine its prevalence in Gulf War veterans in the VA Registry, one must examine the reported symptoms, not just the diagnoses.

One of the key questions that arises from evaluating the Registry data is: what is happening to those veterans that complain of the most common symptoms? What is the outcome of their visit to the VA? Are they getting better, or are they slipping through the cracks? The VA is conducting a study out of its East Orange, New Jersey Medical Center to determine this, and The American Legion is designing its own study to examine this question as well. Our hypothesis is that these veterans who complain of the symptoms are not receiving the proper follow-up and treatment they deserve. These studies should prove or disprove this hypothesis.

THE AMERICAN LEGION'S SERVICE TO GULF WAR VETERANS

Temporary Financial Assistance (TFA)

An integral part of our Family Support Network, TFA has provided over $500,000 in grants to Gulf War veterans and their families in need. The grants are typically used to provide a temporary financial boost during a crisis, or to help families who have a sick Gulf War veteran in the household. Veterans who have received TFA are actively followed-up by The American Legion in order to ensure that they have overcome their hardships. If they have not, The American Legion is prepared to help them once again.

Undiagnosed Illness Claims Study

Phase I, initial data collection is almost completed. The data collected will be used to educate American Legion service officers in order to enhance their service to Gulf War veterans. Phase II will follow-up with veterans who have filed these claims with Amencan Legion Power of Attorney and its findings will help determine what changes the VA must initiate to get compensation to sick Gulf War Veterans.

STUDIES, RESEARCH AND ADVISORY PANELS

University of Connecticut Health Center

Dr. Michael Hodgston M.D., M.P.H., Associate Professor of Medicine is providing The American Legion with medical advice concerning GWS. He is reviewing over 40 public and private studies currently being conducted. He is also designing a study specifically for The American Legion to examine outcomes of the Registry exams for veterans who complain of fatigue, joint and muscle pain, headaches, and memory loss. The hypothesis is that because the VA is dependent on diagnoses in tracking Gulf War veterans, it is not properly following symptomatic Gulf War veterans.

Chemical and Biological Warfare (CBW) Agents and Exposures

There are a number of solid and anecdotal reports concerning troops in Desert Storm being exposed to CBW agents. The Department of Defense's insistence that such exposures did not occur, although preposterous in the face of such strong evidence, prevents the VA from conducting appropriate scientific research examining CBW exposures and GWS. The American Legion has, therefore, requested a large number of classified documents and reports that should shed some light on this issue, and is cooperating with private researchers who are conducting scientific studies into CBW exposures and symptoms.

Economic Impact Study

One out of five service members in the Gulf War was a mobilized Reservist or member of the National Guard. The American Legion has helped thousands of them make the transition back to civilian life. However, it has become apparent that mobilization has had a negative lingering impact on these veterans. The American Legion is therefore designing a study that will measure the financial impact mobilization had on these veterans. The findings of the study will be used to seek changes in the laws and regulations governing mobilization to ensure that 1) Gulf War veterans are aided in their continuing transition and 2) future veterans who are mobilized have more of a safety net in place for their return home.

VA's Persian Gulf Expert Scientific Committee

The American Legion sits on the committee composed of medical and scientific experts both inside and outside the federal government. The committee examines all aspects of patient care, possible medical diagnoses, and provides medical consultation to the VA. The American Legion has been a vocal advocate for Gulf War veterans on this committee.

Coalition Veterans

The American Legion is in close contact with a number of veterans groups in the United Kingdom, Denmark, Norway and Canada.

OUTREACH

The Internet

The American Legion introduced a Homepage on the World Wide Web in February 1996. A Gulf War site is on the Homepage, and it will evolve into a valuable resource for Gulf War veterans, their families, their advocates, and researchers in the months to come.

The American Legion Magazine and The Dispatch

Several past issues have been dedicated to Gulf War veterans and GWS, and the May 1996 issue of the Magazine will feature Gulf War veterans, their families and their advocates.

Toll Free Telephone Number

1–800–433–3318 will put a veteran in touch with the nearest American Legion Service Officer and Post who can help this veteran with any problems or disabilities he or she may confront.

Radio Public Service Announcements

Airing later this month they will announce The American Legion's toll free number and encourage Gulf War veterans in need to contact The American Legion.

CONCLUSION

Thousands of Gulf War veterans who are symptomatic for the illness, or illnesses known as GWS are not receiving health care or compensation from VA. This fact is not to deny that VA is treating and compensating thousands of Gulf War veter-

ans, many who may also suffer from GWS. The problem, nevertheless, is acute and demands the immediate action of the VA to fix.

The American Legion therefore offers the following recommendations:

1) VA should aggressively move to educate its medical doctors about newly defined illnesses (Chronic Fatigue Syndrome and Fibromyalgia) that are commonly misdiagnosed as psychological illnesses, the VA should also discourage their doctors from giving diagnoses for common symptoms of GWS unless thorough diagnostic testing confirms the diagnosis. This action will ensure that the data derived from the Registry is accurate.

2) VA should immediately coordinate its processing of Persian Gulf undiagnosed illness claims to create a more uniform and professional system. The four APOs are organized differently to adjudicate these claims, and the inconsistent adjudication may negatively affect the outcomes of the claims process.

3) VA should conduct an intensive outreach and follow-up effort with Gulf War veterans whose undiagnosed illness claims were denied.

The American Legion has actively supported Gulf War veterans and their families since August 1990. In October 1990, The American Legion created the Family Support Network. Today, The American Legion continues to serve Persian Gulf veterans and their families at the community, state and national level through 15,000 local posts and 3 million members, and an array of programs. As of February 1996, The American Legion has spent nearly a million dollars on the Persian Gulf health care issue.

Thank you for this opportunity to testify today.

THE AMERICAN LEGION

	Percent
Undiagnosed illness claims:	
Granted	4
Denied	73
Partial denial	23

Mr. SHAYS. Ms. Willard-West.

Ms. WILLARD-WEST. Chairman Shays, I am pleased to have this opportunity to present a statement on behalf of Vietnam Veterans of America.

VVA appreciates your concern and initiative in conducting these hearings. We look forward to working with you to ensure that veterans and their families receive the highest level of service.

While VVA is a single generation organization, members are deeply concerned for all veterans. Thousands of Vietnam veterans continue to serve on active duty and in the reserves, and many more have sons and daughters who served in the Persian Gulf. The founding principle that VVA members take very seriously is never again shall one generation of veterans abandon another.

The obvious bond between Vietnam veterans and Gulf war veterans is the Government's response to mysterious illnesses. The Gulf war veterans' experience is virtually parallel to that encountered by Vietnam veterans exposed to Agent Orange. Fortunately, the Government began to take Gulf war veterans' health problems seriously after a much shorter period of resistance. We commend Congress for early responsiveness and prodding, and commend the administration for taking appropriate actions in the last 3 years. This has saved 20 years of indifference Agent Orange victims suffered.

Though VVA takes issue with some of the DOD and VA actions, we do believe that some good-faith efforts are being made in varying degrees by each department. Regarding health care, VA should make sure care providers use up-to-date testing and treatment pro-

tocols. This information, as Mr. Sheehan-Miles indicated, doesn't seem to be disseminated readily through the large VA system.

Many physicians conduct exams, make diagnoses and prescribe treatments with outdated, incomplete or inaccurate background information. Similarly, VA Persian Gulf health registry protocols are designed to detect illnesses likely to be contracted in civilian life, not the effects of identified combat toxins.

Agent Orange-exposed veterans continue to face these problems, having to fight for dioxin exposure testing. As such, registry exam data is of minimal use to clinicians nor is it useful for research and statistical purposes.

Though VVA is not wholly satisfied with operations of these registry and priority care programs, it is critical that Congress reauthorize them, as both will expire at the end of this year. Otherwise, these veterans may be denied health care while waiting for modern science to catch up with their medical conditions.

Regarding research recommendations, VVA doesn't proclaim expertise in this area, though we do note certain trends that are reminiscent of the Agent Orange debacle. The VA needs to place more emphasis on epidemiological studies and on analysis of treatment modalities rather than simply attempting to find the cause. This is critical in learning how to provide the most effective, highest quality care for Gulf war illness.

Additionally, VVA has been disappointed by the minimal research on any potential correlation between birth defects and Gulf war service. Disproportionately high rates of miscarriages, stillbirths and birth defects continue to haunt Vietnam veterans' children and even their grandchildren.

Finally, logic lends support to the theory that Gulf war illness is caused by an extraordinary mix of toxic chemicals and endemic diseases in the Persian Gulf theater, yet both DOD and VA seem to be searching for a single cause. The search for a single cause is misleading and not useful for suffering veterans.

Regarding disability compensation, VA appears to be denying some Gulf veterans' claims, just as my colleague noted, in part because of adjudicator errors. VVA is aware of at least one Gulf war veteran who was wrongly denied benefits when the VA completely misstated the regulation. This was a claim that was processed at the Philadelphia regional office.

Additionally, comp exams have given inappropriate diagnosis of one or more symptoms while ignoring the complete health profile which may point to the undiagnosable illness. VA physicians and adjudicators should receive more training on the intricacies of the law in order to develop and process claims more consistently and appropriately.

Also, given the lack of conclusive data on the cause or causes of Gulf war illness, VVA recommends that the arbitrary 2-year time restriction on filing claims be eliminated. Currently, veterans are required to file a claim within 2 years of leaving the theater. Veterans have no guarantee that their maladies will develop during that timeframe. Elimination of the restrictive time period would ensure that all Gulf war veterans who may become ill are eligible to apply for disability compensation.

In closing, I am pleased to note that VVA National President Jim Brazee recently announced a grant of office space and the start of collaborative efforts between VVA and the National Gulf War Resource Center. VVA is honored and proud to work with and support our Persian Gulf war colleagues.

Mr. Chairman, this concludes my prepared statement, and I would be happy to respond to any questions.

Mr. SHAYS. Thank you very much.

[The prepared statement of Ms. Willard-West follows:]

PREPARED STATEMENT OF KELLI WILLARD-WEST, DIRECTOR OF GOVERNMENT RELATIONS, VIETNAM VETERANS OF AMERICA

PERSIAN GULF WAR ILLNESS—THE NEXT AGENT ORANGE

Chairman Shays and members of the Subcommittee, I am pleased to have this opportunity to present a statement on behalf of Vietnam Veterans of America (VVA). VVA appreciates your concern and initiative in conducting these hearings to evaluate the federal government's responsiveness to veterans of the Persian Gulf War. We look forward to working with you on these sensitive issues to ensure that veterans and their families receive the highest level of service from the Department of Veterans Affairs.

While VVA is a single-generation organization representing veterans of the Vietnam era, our membership is deeply concerned about the plight of all of veterans—particularly those who serve in times of military conflict. As a result of the neglect and indifference suffered by some veterans from an ungrateful post-Vietnam nation, VVA was formed in 1978 to represent the unique needs of this generation. The founding principle that VVA members take very seriously is. "Never again shall one generation of veterans abandon another."

VVA has been supportive of American troops serving in Grenada, Panama, the Persian Gulf, Somalia and Haiti. Similarly, troops currently serving in Bosnia and all future theaters of conflict can count on the support of Vietnam Veterans of America. And the veterans of all these military involvements can count on VVA's support, as well.

There is an obvious bond between Vietnam veterans and Gulf War veterans which goes far beyond the basic warrior camaraderie. The mysterious illnesses experienced by veterans of the Gulf War and the manner of the government's acknowledgment and response are virtually parallel to those encountered by Vietnam veterans exposed to Agent Orange. However, in the case of Gulf War veterans, the government began to take their health problems seriously after a much shorter period of resistance.

VVA certainly shares many of the concerns raised by the Presidential Advisory Committee on Gulf War Veterans' Illnesses in its Interim Report, and actually would like to see further issues addressed by an independent, non-governmental commission. Nonetheless, we must commend Congress for its early responsiveness and prodding, and commend the Administration for taking appropriate actions in the past three years. These compassionate responses have saved many veterans and their families the 20 years of indifference that Agent Orange victims suffered. Though VVA takes issue with some of the Department of Defense (DOD) and Department of Veterans Affairs (VA) actions, we do believe that good faith efforts have been made in varying degrees by each department.

VA HEALTH CARE

Gulf War veterans are eligible under Public Law 104–110 for "priority care" from the VA for conditions related to Persian Gulf Syndrome. Agent Orange and radiation-exposed veterans have comparable eligibility. Theoretically, this well-intentioned measure ensures that veterans, whose medical conditions cannot be conclusively proven to be service-connected based upon current scientific data, are not denied VA health care for conditions likely to be service connected. Although consistent implementation of this law (or any other) throughout a large agency like VA is virtually impossible, more needs to be done to educate health care providers about up-to-date testing and treatment protocols in the environmental medicine arena. Information about new theories and methodologies does not seem to be disseminated readily. Thus, many physicians conduct exams, make diagnoses and prescribe treatments with outdated, inaccurate or incomplete background information about these complex medical conditions.

It is reported that the VA Persian Gulf Health Registry exams are not done consistently nor are the exposure-appropriate tests being conducted in most instances. The VA Registry protocols are designed to detect illnesses likely to be contracted in civilian life, while not looking specifically for potential effects of identified combat toxins. Agent Orange-exposed veterans continue to face almost identical problems. They virtually have to demand tests to assess dioxin (the contaminant of Agent Orange) exposure levels. Similarly, VA Persian Gulf Health Registry exams do not include even inexpensive and easily conducted tests for depleted uranium, chemical and/or biological weapons, toxic oil smoke, inoculations and endemic diseases. VA and Congress should evaluate these programs and redesign the exams to specifically seek appropriate data. Otherwise the Registry exam data is of minimal use for clinicians prescribing care for these veterans, nor is it useful for research/statistical purposes.

Though VVA is not satisfied with the manner in which these "priority health care" and registry programs are operating, it is critical that Congress reauthorize these programs which are due to expire on December 31, 1996. Otherwise these veterans will be denied access to basic health care services while waiting for their claims to be processed by the Veterans Benefits Administration (VBA), or for modern science to catch up with their medical conditions. VVA urges you to work with your colleagues on the House and Senate Veterans' Affairs Committees to expedite passage of this authority.

Additionally, Gulf War veterans seeking care for undiagnosed illnesses face many of the challenging eligibility hoops and hurdles which confront the broader veterans population. For years the veterans community has advocated changes to the VA system which would alleviate convoluted inpatient/outpatient eligibility barriers, long appointment waiting periods, and varying levels of care and access among VA facilities. The Veterans Health Administration (VHA) is undergoing a significant reorganization which should improve the situation. However, Congress must pass veterans health care eligibility reform in order to permit the system to allocate resources and perform in modern, efficient ways. The overall quality of VA care is generally good. Nevertheless, customer service, timeliness and access have fallen behind private sector innovations. All of our nation's disabled veterans—including Gulf War veterans—deserve better!

RESEARCH RECOMMENDATIONS

VVA cannot claim expertise at this point on the research being conducted on Gulf War Illness by various federal agencies and private analysts. We do, however, note certain trends which are reminiscent of the Agent Orange debacle. First, epidemiological studies are crucial in the determination of causal relationships and treatment effectiveness—a hard-earned lesson resulting from delays in substantive Agent Orange research. VA needs to conduct more epidemiological research without delay.

Second, determining a cause or causes of Gulf War Illness is a useful goal of VA research, but equally important is the analysis of treatment modalities. Certainly VA must aim to determine the cause of these illnesses in order to more effectively prescribe treatments. Yet the absence of a diagnosis and causal relationship should not delay treatment analysis. If we wait until a cause is conclusively determined, thousands of veterans may suffer needlessly when some treatments may have alleviated symptoms. Outcome analysis is critical to providing the most effective, highest quality care.

Third, VVA has been disappointed by the minimal research on a purported correlation between birth defects and Gulf War service. Disproportionately high rates of miscarriages, still births and birth defects continue to haunt Vietnam veterans' children and even their grandchildren. It is disturbing to note that this issue was explicitly placed outside of the Presidential Advisory Committee's purview. VA's role in the health treatment of veterans' dependents is limited at this time by the current mission of the VA. However, such research can and should be conducted based upon the concern for the reproductive health of the veterans themselves. We urge the Subcommittee to look closely at this issue and evaluate solutions to this problem.

Finally, rather unique to the Gulf War experience is the extraordinary mix of toxic chemicals and endemic diseases veterans were exposed to in the theater—some have described it as a "toxic cocktail". While both DOD and VA seem to be searching for a single cause while touting the lack of one, the implication is that the federal government detects no cause for Persian Gulf Illness. To the contrary, some studies—and pure human logic—lend support to the theory that a combination of toxic exposures is causing the range of symptoms associated with service in the Persian

Gulf War. The search for a "single cause" is misleading and not useful for suffering veterans.

DISABILITY COMPENSATION

Passage of Public Law 103–446 made veterans of the Persian Gulf War eligible for VA service-connected compensation benefits for certain medical problems believed to be caused by their service in the Persian Gulf. VVA again commends the Congress for recognizing the mistakes of the Vietnam War and acting quickly to ensure needed compensation for ailing Gulf War veterans. To get these benefits, VA regulations require the veteran show: 1) that he or she developed an undiagnosed, chronic illness which lasted at least six months; 2) that the illness began while they were in the Gulf region or within two years of leaving the region; and 3) that the illness was at least 10% disabling under VA regulations.

Unfortunately, VA's own adjudicators at one of four Gulf War claim processing centers in the Philadelphia Regional Office don't seem to understand the VA regulations. VVA is aware of at least one Gulf War veteran who was wrongly denied these benefits. A VA letter stated that the veteran failed to show that his illness "existed for at least 6 months in service and continued during a 2 year period following service." This letter certainly misstates the requirements of the above regulation, making it tougher for the veteran to qualify for benefits.

Who knows how many veterans took the erroneous VA form letter at its word, naively assuming the processing was correct? VA should assume the responsibility for notifying these veterans and correcting mistakes. At the same time, VVA urges any Gulf War veteran whose claim has been denied to carefully read the VA's letter to make sure it applied the proper rules in deciding the claim.

Among some 945,000 service members deployed to the Persian Gulf theater, one VA survey reports 25.5 percent have developed poor health conditions of some kind. Yet only about 5 percent of claims filed under this law have been granted. One reason is inappropriate diagnoses based upon one or more symptoms, ignoring the complete health profile which may point to the so-far diagnosable Gulf War Illness. VVA recommends that Compensation & Pension physicians and adjudicators be required to receive more thorough training regarding the intricacies of the law, in order to develop and process claims more consistently and appropriately.

Given the lack of any conclusive data on the cause of Gulf War Illness or any cohesive diagnosis at this point, VVA recommends that the arbitrary two-year time restriction on filing claims under this law be extended. Veterans have no guarantee that maladies will develop during this time frame. Latency periods may cause cancers and other conditions to develop many years after leaving the combat theater. Lack of an identifiable disease and latency period dictate that elimination of the restrictive presumptive period is the only fair way to ensure that all Gulf War veterans who may become ill are eligible to apply for disability compensation.

DOD RESPONSIBILITY/RESPONSE

Though your hearing is specifically focusing on the VA response to Gulf War Illness, VVA wishes to submit the following thoughts pertaining to DOD and the recommendations of the Presidential Advisory Committee on Gulf War Veterans' Illnesses. We are pleased that the Advisory Committee has focused some attention on learning from DOD mistakes in order to make future military actions safer for all personnel. VVA agrees with the following Advisory Committee recommendations:

- DOD should thoroughly assess the health of troops prior to deployment.
- DOD should develop training to alert service personnel about the use of experimental drugs in the event of a threat of chemical and biological warfare.
- DOD should maintain complete medical records for troops treated with investigational drugs.
- DOD should develop better chemical and biological weapons detection systems.

Additionally, VVA views implementation of the following Advisory Committee recommendations as critical to alleviating some of the difficulties Gulf War veterans currently face in getting appropriate answers, health care and compensation:

- Both VA and DOD should aggressively reach out to Gulf War veterans and provide user-friendly information.
- DOD should assign a high priority to the problem of lost medical records.
- The Central Intelligence Agency (CIA) and DOD should coordinate analyses of Iraq's chemical and biological weapons capabilities and its intent to use them, and make this information public.
- DOD should make unit locations and troop exposure data available to researchers as quickly as possible.

We also have concerns about certain aspects of the Advisory Committees analysis of chemical and biological weapons, but are hopeful that this issue will be more fully addressed in the final report.

VVA'S COMMITMENT

One of the more exciting things to happen in the veterans community during the last six months is the development of a national Gulf War veterans organization to address the unique concerns of this generation of veterans. The National Gulf War Resource Center's (NGWRC) history and priorities are similar to those of VVA. VVA National President James L. Brazee, Jr. recently announced the commencement of collaborative efforts between VVA and the NGWRC. VVA will provide the Resource Center with a grant of office space and other resources in support of its mission.

Prior to the advent of this Gulf War veterans organization, VVA had already demonstrated a commitment to this new generation of war-time veterans by establishing a VVA national task force to evaluate data, formulate recommendations, and advocate on behalf of Gulf War veterans. In 1992, the VVA national board voted to make VVA Service Representatives available to assist Gulf War veterans with claims. We hope to assist the NGWRC in the future with development of its own network of accredited Service Representatives, reference materials, and further collaborate on a range of other activities. I also invite your attention to the March 1996 issue of The VVA Veteran, our organization's national publication, which demonstrates VVA's ongoing commitment. I have submitted copies to the Subcommittee for your purview.

Thousands of Vietnam veterans continue to serve on active duty and in the National Guard and Reserves. Many more have sons and daughters who served in the Persian Gulf. But these parochial connections are not the reason VVA chooses to fight for Gulf War veterans concerns. The "Never again . . ." credo is something VVA members take very seriously. VVA is honored and proud to work with and support our Persian Gulf War colleagues.

Mr. Chairman, this concludes my prepared statement. I will be happy to respond to any questions the Subcommittee may have.

Mr. SHAYS. Mr. Cullinan.

Mr. CULLINAN. Thank you, Mr. Chairman. On behalf of the 2.1 million members of the Veterans of Foreign Wars, I want to thank you for conducting and inviting our participation in today's most important hearing.

The VFW is going to remain committed to the full and compassionate resolution of the Persian Gulf issue. We will continue in this endeavor until each and every such veteran is cared for in an appropriate and necessary manner. In June 1994, the VFW ran a survey in its magazine in an attempt to compile data that would permit a more accurate assessment of the situation. This was done largely as a result of our own desire to obtain relevant data. The survey can also be attributed to the unreported incidences of problems associated with the registries of VA and DOD.

The results of VFW's registry, particularly the fact that 76 percent of the nearly 2,200 respondents, which have now expanded to a number of over 4,000 reported ailments attributed to service in the Gulf, indicate that there is in fact a serious problem facing some Persian Gulf veterans and that much more needs to be done to remedy the situation.

We stated as much to both the Department of Veterans Affairs and the Department of Defense, and for the most part, we are now pleased with the response, particularly with respect to the Department of VA.

I would also mention at this time, Mr. Chairman, that the VFW intends to conduct a followup survey, a direct mail survey to the 4,000 participants in our current registry. We are going to ask such things as what inoculants were they opposed to, the health of their

spouse, and of course how are they being treated by the Department of Veterans Affairs?

Overall, the VFW has been very supportive and appreciative of the job the VA has done in attempting to resolve this unique and unusual situation. However, there are some areas of concern that we encourage VA to rectify in an expeditious manner, among them, the problem of lost and misplaced medical records, to which VA has admitted, needs to be remedied and a priority needs to be placed in doing so.

VA needs to ensure that it is doing its utmost in terms of outreach to permit access to all the necessary information to all veterans who believe they have developed adverse health effects as a result of service in the Persian Gulf, and that was another purpose or function behind our own registry run in the magazine, to let veterans know what is going on and what's available to them.

VA should continue to monitor the treatment of the Gulf war veterans to ensure that such treatment is carried out in a professional and compassionate manner. It should be noted, however, that the early reported displays of rudeness, skepticism, and noncaring attitudes by VA to Persian Gulf veterans who seek out assistance has decreased dramatically in terms of such reports to the VFW.

The VA should continue to keep an open mind as to all viable causes of the ailments affecting Gulf veterans, including but not limited to the various vaccines given pre- and during deployment, as well as CBW's and other possible exposures. I would mention here, too, Mr. Chairman, that it struck the VFW that a lot of energy may have been wasted on debating whether or not troops were actually attacked by Iraqi forces with CBW agents. An active attack was not necessary for these veterans to have been exposed to such agents, and that's why we urge maintaining an open mind as a possible cause.

While there is room for improvement, the VFW commends VA in its efforts to resolve the situation. As previously mentioned, this is a unique and trying situation, one where brave men and women of our military service are reporting ailments that in some cases can't be attributed to an easily diagnosable cause. And after what can be termed a "rocky" falling-out stage, we feel that the VA has come a long way and is on the correct path toward resolving this issue appropriately.

And I would add in here too, Mr. Chairman, I too would draw a positive, strong distinction between the way the Government has attacked this issue and the neglect and denial that was the case for Vietnam veterans some 29 years ago.

And with that, I will conclude, Mr. Chairman.

[The prepared statement of Mr. Cullinan follows:]

PREPARED STATEMENT OF DENNIS CULLINAN, DEPUTY DIRECTOR OF NATIONAL LEGISLATIVE SERVICE, VETERANS OF FOREIGN WARS OF THE UNITED STATES

Mr. Chairman and members of the Subcommittee: On behalf of the 2.1 million members of the Veterans of Foreign Wars of the United States, I wish to thank you for inviting us to participate in today's most important hearing. The VFW has been at the forefront of the effort to resolve the dilemma consisting of the mysterious ailments that plague a number of our Persian Gulf War veterans. We will continue in this endeavor until every such veteran is cared for in the appropriate and necessary manner.

In June of 1994, the VFW ran a survey in its magazine in an attempt to compile data that would permit a more accurate assessment of the situation. This was done largely as a result of our own desire to obtain such data. The survey can also be attributed to the then reported incidences of problems associated with the registries of both VA and DOD.

The results of the VFW's Registry Survey, particularly the fact that 76% of the nearly 2,200 respondents report ailments attributed to service in the Gulf, indicate that there is in fact a serious problem facing some Persian Gulf veterans and that much more needs to be done to remedy the situation. We opined as much to both the Department of Veterans Affairs and Department of Defense and, for the most part, we are pleased with the response, particularly with regard to the effort undertaken by VA.

Overall, the VFW has been very supportive and appreciative of the job VA has done in attempting to resolve this unique and unusual situation. However, there are some areas of concern that we would encourage VA to rectify in an expeditious manner. Among them:

• The problems of lost or misplaced medical records, to which VA has admitted, needs to be remedied and a priority needs to be placed on doing so.

• VA needs to ensure that it is doing its utmost in terms of an "outreach" program to permit access to the necessary information to all veterans who believe they may have developed adverse health effects as a result of service in the Persian Gulf theater.

• VA should continue to monitor the treatment afforded to Gulf War veterans to ensure that such treatment is carried out in a professional and compassionate manner. It should be noted, however, that the earlier reported displays of rudeness, skepticism and non-caring attitudes by VA staff towards Persian Gulf veterans who seek out assistance has decreased dramatically, in terms of such reports to the VFW.

• The VA should continue to keep an open mind as to all viable causes of the ailments affecting Gulf War veterans, including, but by no means limited to, the various vaccines given pre- and during-employment as well as CBWs and other possible exposures.

While there is still some room for improvement, the VFW commands VA in its effort to resolve this situation. As previously mentioned, this is a unique and trying situation, one where the brave men and women of our military service are reporting ailments that in some cases can't be attributed to any easily diagnosible cause. And after what can be termed a "rocky" feeling out stage, we feel VA had come a long way and is on the correct path to resolving this issue appropriately.

One of the more noticeable and commendable undertakings by the VA is its National Health Survey, that will collect data on 15,000 military personnel who participated in Operations Desert Shield/Storm. Also of note is the planned VA epidemiological comparison of the mortality rates of all Gulf War veterans with that of a comparison veteran population. The VFW has long called for epidemiological studies of this magnitude and believes that such studies will shed further insight into the possible causes and rates of the undiagnosed illnesses.

The VFW will continue its efforts on behalf of the nation's Persian Gulf veterans who are experiencing adverse health effects as a result of their military service in Southwest Asia. We have worked closely with VA thus far, and will continue to work with it and any other interested party until this issue is resolved appropriately. Mr. Chairman, this concludes my remarks. Again, on behalf of the Veterans of Foreign Wars of the United States, I thank you for the opportunity to be here today at this most important hearing.

Mr. SHAYS. I am struck by the comment that you made, Ms. Willard-West, never again should one generation of veterans abandon another. I never thought of it in those terms.

Mr. SHAYS. Mr. Gilmer, nice to have you, and we welcome your testimony.

Mr. GILMER. Thank you, Mr. Chairman.

On behalf of the more than 1 million members of the Disabled American Veterans and its women's auxiliary, I wish to express our deep appreciation for the opportunity to provide this subcommittee with the DAV's views regarding the current status of medical research and the Department of Veterans Affairs treatment of illnesses suffered by Persian Gulf veterans. Additionally, our testi-

mony will briefly review the Veterans Administration's implementation of the legal requirements to compensate Persian Gulf war veterans for these undiagnosed illnesses.

The Disabled American Veterans is a congressionally chartered, private, nonprofit corporation that has 67 field offices staffed by some 270 specially trained personnel who assist veterans in developing their claims before the Veterans Administration, and we represent them in appeals all the way to the Court of Veterans Appeals.

Mr. Chairman, the issues before you are more difficult because of their complexity, lack of scientific evidence, the failure to maintain complete military medical records and military security. These are not new dynamics for veterans. A short review of the difficulty of establishing an adequate record for treatment and service connection of disabilities arising from exposure to radiation and mustard gas, including experiments, late-developing disabilities of prisoners of war which resulted from mistreatment at the hands of their enemy captors, disabilities which are now recognized as having their onset from the defoliant used in Vietnam, Agent Orange, and the long fight to obtain recognition of posttraumatic stress disorder are examples of why we are concerned.

In each of these cases, the foundation for recognizing the onset of these conditions as service connected took years for all the reasons previously cited.

Mr. Chairman, many of the men and women who served honorably, suffered tremendous pain and lived in squalor. Their loved ones suffered with them and shared their poverty. Agency policy or lack of scientific evidence to meet the threshold requirements for service connection denied them the benefits the veterans and their families needed to survive.

Many of these veterans died before the Government could be satisfied, and their dependents were denied the benefits which they should have received. We cannot allow this to happen to these Persian Gulf war veterans.

Mr. Chairman, the Persian Gulf syndrome studies we are familiar with are inadequate to support the types of conclusions which question whether or not the illnesses suffered by these veterans are related to their Persian Gulf service. In fact, we believe the correlation between the symptoms suffered by these veterans and the side effects of medication symptoms—pardon me, medication, symptoms of indigenous diseases, level of CBW contamination, and environmental factors is strong circumstantial evidence that many of the undiagnosed illnesses resulted from service in the Persian Gulf.

The DAV supports efforts to conduct research which will meet the rigorous standards necessary to provide reliable results. We do not believe the current research efforts have done that.

Because of the military mishandling of records, sidestepping of drug approval procedures, and assigning the security classification "Secret" to the dispensing of these drugs, no one may ever know the full impact of these things on the disabilities of the men and women who served in the Persian Gulf; and I would note the Government was in full control of every one of these elements.

The VA must change its rules to recognize the long-term effects and late-developing symptoms which result from the overall experi-

ence of service in the Persian Gulf. The VA must reconsider the policies which appear to have the effect of denying service connection as opposed to an equitable administration of the benefit.

Mr. Chairman, these men and women cannot purchase any insurance that will cover the conditions which are believed to be incurred due to their military service in the Gulf. Insurers refuse to insure military personnel while they are in conflict. They have no protection except that provided by the Government they risked their lives for. The Government, if it must err, must err on the side of those it sends to war. It is a part of the cost of sending our young men and women to war.

Mr. Chairman, we believe this subcommittee's interest in these issues are timely and critical. Because of the breadth of your subcommittee's jurisdiction, this hearing hopefully will result in increased cooperation between Federal agencies, less duplication of effort and better utilization of scarce resources for studies which will generate more reliable results.

As you will see from the testimony, which I have submitted for the record, we believe the past efforts in these areas have been inadequate. Mr. Chairman, a September 1995 paper prepared by the VA Environmental Epidemiological Service, entitled Health Surveillance of Persian Gulf War Veterans: A Review of the Department of Veterans Affairs Persian Gulf Registry Data, shows that as of July 1995, 38,512 veterans with symptoms had been identified. Of these, 76.7 percent were diagnosed by VA physicians, leaving 8,988 individuals, or 23 percent, with symptoms but no diagnosis.

These tables indicate that the symptoms presented have a high correlation to side effects suspected of the drugs administered by the military and symptoms of diseases indigenous to the region, environmentally induced illness from pollutants, low-level CW contamination and other problems such as the frequency of lead toxicity, which has been identified in returning men and women.

Mr. Chairman, anyone who has visited with these veterans knows that they are ill. Even the medical examinations confirm that they are ill. However, the failure to identify a single disease entity has made the Government response to their illness as a result of their service in the Persian Gulf controversial. It is an insult to the men and women who served faithfully to return home only to have their clearly identifiable symptoms result in reports and media presentations questioning their illnesses because adequate research has not yet confirmed the triggering entity.

The February 1996 interim report of the Presidential Advisory Committee on the Gulf War Veterans' Illness faulted the Department of Defense for its failure to provide adequate medical screening and evaluation, use of unapproved drugs and vaccines, and the quality of medical recordkeeping in the theater.

Mr. Chairman, on August 16, 1994, the DAV wrote to Secretary of Defense William J. Perry objecting to the failure of the military to follow the discharge protocol requiring a physical examination. This letter was prompted by information released by Rep. Sonny Montgomery, then chairman of the Committee on Veterans Affairs, which indicated that the discharge protocol was not followed with respect to certain National Guard veterans of Operation Desert

Shield-Desert Storm. A copy of this letter is attached to our testimony.

Failure to provide these required exams ensured that these men and women were released without their or the military knowing their conditions at separation. We believe these protocol violations and other lax discharge physical examination problems affect the Reserve and Active duty components as well.

The interim report of the Presidential Advisory Committee on Gulf War Veterans' Illnesses released this last February in many places documents the difficulty of determining what chemicals or medications were used at any given location because of the failure of the Department of Defense to either establish a record, loss of records, or by classifying them as "Secret," seriously complicating the maintenance of such records.

The military administered drugs which were allowed to be used without complete FDA testing and approval and without informed consent. The DOD then failed to maintain adequate records which would allow the veterans to establish they had received the drug. The failure to maintain these records will affect the reliability of any research and the veterans' ability to establish they took the drugs that were a factor in their disabilities.

The Presidential Advisory Committee in Chapter 5 indicates that the question of whether or not chemical and biological entities used in warfare had been released in Persian Gulf has not been resolved, "Battlefield detectors could not measure the types of low-level exposures that DOD regulations guard against in nonbattlefield situations."

In fact, Mr. Chairman, if we read their report correctly, these instruments that were used would only indicate toxic levels; so they would have to reach toxic levels before these men or women would ever know there was a problem. Thus, it was reassuring to see the recommendation that the CIA and DOD reopen and coordinate their analysis of whether or not there may have been low-level release of CBW agents.

Mr. Chairman, an additional concern is whether or not the current law providing for compensation for Persian Gulf war veterans with undiagnosed illness is adequate or has been properly administered by the VA. The affected group shared an experience in common, service in the Persian Gulf and this peculiar vague syndrome, and as previously indicated, there is strong circumstantial evidence of service-related causation.

Because the VA held that it had no authority to compensate veterans for this illness, the Congress responded with legislation, Public Law 103–446, authorizing the VA to compensate these veterans if their illness manifested either during active duty in the Persian Gulf area or within a presumptive period following service, such period to be set by the Secretary. However, because of the restrictions imposed by the VA, very few Persian Gulf war veterans are being compensated for their illnesses.

I would also point out, Mr. Chairman, that other veterans were obligated to give up parts of their compensation as part of the pay-go provisions in the budget and appropriations bills to compensate these Persian Gulf war veterans. We did not object to that. But now the funds sit in the coffers. So other veterans gave up their

benefits so that these Persian Gulf war veterans might benefit and it is not being expended.

The Secretary promulgated a rule which provides for service connection if the illness becomes manifest during active service in the Gulf region or presumption of service connection if manifested to the degree of 10 percent or more within 2 years following such service.

Given the unique and unprecedented nature of these illnesses and the fact that many of these symptoms may not present themselves until years after leaving the Persian Gulf, the DAV questions whether VA in this instance had adequate data or relevant experience from which to conclude as it did that a 2-year manifestation period was adequate.

Mr. Chairman, the DAV disagrees wholly with the conclusion that 2 years is sufficient time for all affected individuals to have had the opportunity to document the presence of illness.

In support of our position, we refer to the VA's own statistics. As of December 1, 1995, only 410 individuals—and remember there were thousands on this register—were granted service connection for undiagnosed illnesses. During this same period, 6,381 individuals were denied service connection for undiagnosed illnesses, of which 62 percent were denied because their disability didn't manifest during service or within the 2-year minimum manifestation period.

Mr. Chairman, we appreciate being invited to present our views before your subcommittee. This concludes my statement. I would be happy to answer any questions that you may have.

Mr. SHAYS. Thank you for your testimony.

[The prepared statement of Mr. Gilmer follows:]

PREPARED STATEMENT OF LENNOX E. GILMER, ASSOCIATE NATIONAL LEGISLATIVE DIRECTOR, DISABLED AMERICAN VETERANS

Mr. Chairman and Members of the Subcommittee: On behalf of the more than one million members of the Disabled American Veterans (DAV) and its Women's Auxiliary, I wish to express our deep appreciation for this opportunity to provide the subcommittee with DAV's views regarding the current status of medical research and the Department of Veterans Affairs (VA) treatment of illnesses suffered by Persian Gulf War veterans. Additionally, our testimony will briefly review the Veterans Administration implementation of the legal requirements to compensate Persian Gulf War veterans for these undiagnosed illnesses.

Mr. Chairman, the issues before you are more difficult because of their complexity, lack of scientific evidence, the failure to maintain complete military and medical records, and military security. These are not new dynamics for veterans. A short review of the difficulty of establishing an adequate record for treatment and service connection of disabilities arising from exposure to radiation and mustard gas, including experiments; late developing disabilities of prisoners of war which resulted from their mistreatment at the hands of the enemy captors; disabilities which are now recognized as having their onset from the defoliant used in Vietnam—Agent Orange; and the long fight to obtain recognition of Post Traumatic Stress Disorder are examples of why we are concerned. In each of these cases, the foundation for recognizing the onset of these conditions as service-connected took years for all the reasons previously cited.

Mr. Chairman, many of the men and women who served honorably suffered tremendous pain, and lived in squalor. Their loved ones suffered with them and shared their poverty. Agency policy or lack of scientific evidence to meet the threshold requirements for service connection denied them the benefits the veterans and their families needed to survive. Many of these veterans died before the government could be satisfied, and their dependents were denied the benefits which they should have received. We cannot allow this to happen to these Persian Gulf War veterans.

Mr. Chairman, we believe this Subcommittee's interest in these issues are timely and critical. Because of the breadth of your Subcommittee's jurisdiction, this hearing hopefully will result in increased cooperation between federal agencies, less duplication of effort and better utilization of scarce resources for studies which will generate more reliable results. As you will see from the testimony which will follow, we believe that these areas require attention.

Mr. Chairman, part of the difficulty has been the effort to define the Persian Gulf War Syndrome by identifying a single disease or triggering entity. Unfortunately, because many veterans suffer multiple illnesses which have overlapping symptoms, but no immediately identifiable onset trigger, many of the studies appear to be defensive rather than truly exploratory, that is, genuinely pursuing the question of why these men and women are so ill following their participation in the Persian Gulf War.

From August 1990 through the end of 1994, 945,000 service members served in the Persian Gulf Theater. The VA and the Department of Defense, in efforts to identify health problems of returning Gulf War veterans, has created registries, which list a non-random record of health problems of veterans who self-select themselves to be placed on the registry. According to the Persian Gulf Veterans Coordinating Board fact sheet, dated February 1996, more than 54,000 Persian Gulf veterans have taken advantage of the VA Persian Gulf War veteran physical examination program. Their names and records have become a part of the larger Persian Gulf registry which includes over 180,000 Gulf veterans who have used a variety of other VA health services.

The Department of Defense has established a comprehensive clinical evaluation program which, since June 1994, provides an in-depth medical evaluation to all eligible beneficiaries who have health concerns following service in the Persian Gulf. That program has evaluated over 10,000 patients.

Mr. Chairman, a September 1995 paper prepared by the VA Environmental Epidemiology Service, entitled *Health Surveillance of Persian Gulf War Veterans, A Review of the Department of Veterans Affairs Persian Gulf Registry Data* shows that as of July 1995, 38,512 veterans with symptoms had been identified. Of these, 76.7 percent were diagnosed by VA physicians, leaving 8,988 individuals, or 23.3 percent with symptoms but no diagnosis. (Table 2). Table 3 from that report indicates ten most frequent complaints among the 44,190. Table 4 lists the complaints of the 12,033 veterans with symptoms but no diagnosis.

TABLE 1.—COMPARISON PERSIAN GULF VETERANS SYMPTOMS ON VA PERSIAN GULF REGISTRY

Complaint	Percentage (Table 3)	Percentage (Table 4)
Fatigue	20.1	21.9
Skin rash	18.4	14.7
Headaches	17.2	16
Muscle/joint pain	16.2	11.4
Loss of memory and other general symptoms	13.5	11.2
Shortness of breath	7.6	7.2
Sleep disturbances	5.7	4.7
Diarrhea and other GI symptoms	4.4	2.9
Chest pain	3.4	3.6
Other symptoms involving skin and integumentary tissue	3.4	2.9
Cough	.....	3.2
No complaint	12.9	25.4

These tables indicate that the symptoms presented have a high correlation to side effects suspected of the drugs administered by the military, and symptoms of diseases indigenous to the region, environmentally induced illness from pollutants, and other problems such as the frequency of lead toxicity identified in returning men and women.

Table 14 of that report compares Persian Gulf veterans to Vietnam veterans, age 35–39 at the time of examination. While not scientific, this comparison at least allows the Persian Gulf veterans illnesses to be viewed in the context of other veterans in the same age group with a different conflict experience.

TABLE 2.—COMPARISON OF PERSIAN GULF WAR TO VIETNAM VETERAN

[In percentages]

Symptom	Persian Gulf veterans (n=5,588)	Vietnam veterans (n=59,740)
Fatigue	18.8	2.5
Skin rash	18.6	29.3
Muscle/joint pain	18.2	7.8
Headache	17.1	8.8
Sleep disturbances	7.4	1.7
Shortness of breath	7	1.9
Chest pain	3.5	2.1
Abdominal pain	2.8	2.1
Numbness/tingling of skin	2.7	3.8
Nausea and vomiting	1.2	.8

(The Vietnam veteran data is drawn from the VA Agent Orange registry.)

Mr. Chairman, anyone who has visited with these veterans knows that they are ill, even the medical examinations confirm that they are ill. However, the failure to identify a single disease entity has made government response to their illness as a result of their service in the Persian Gulf controversial. It is an insult to the men and women who served faithfully to return home only to have their clearly identifiable symptoms result in reports and media presentations questioning their illness because adequate research has not yet confirmed the triggering entity.

Mr. Chairman, it was disheartening to read the 1995 Interim Report of the Institute of Medicine, (IOM) entitled *Health Consequences of Service During the Persian Gulf War: Initial Findings and Recommendations for Immediate Action.* That report raised serious questions regarding government efforts, up to that time, to research these issues. For example, on page 9, in finding 2, they point out that there has been no single comprehensive data system established to enable researchers to track the health of Persian Gulf War veterans while on active duty and after separation. "This lack of a single data system is a hindrance to research concerning delayed health effects, both for Persian Gulf veterans and for those serving in future encounters."

On page 11, in finding 6, they fault study designs by indicating:

> To date, most studies of PGW (Persian Gulf War) veterans have been piecemeal—one military unit here, one collection of volunteers with some problems there, etc. But, some of these studies have several fundamental problems. They are necessarily incomplete, they usually lack proper controls, they are hard to generalize, they are subject to grave statistical problems because of post-hoc hypotheses and multiple comparisons, and where an effect truly exists they tend to have low statistical power to detect a difference.

Finding 7 included a recommendation which indicated "The committee reviewed work done indicating that some personnel in the Gulf had lead levels consistent with acute intoxication. Thus, in investigating lead exposure, special attention should be given to any history of abdominal pain or mental disorders." Finding 8 indicated "The VA study of mortality in the Persian Gulf veteran population is of insufficient duration to observe a higher rate of death than would be expected from chronic disease outcomes." Finding 9 indicated that studies regarding infertility, unrecognized and recognized pregnancy loss, premature delivery, fetal growth retardation, birth defects, and abnormal development are incomplete. ". . . data on outcomes are available only from a single cluster study in Mississippi in the Army surgeon general's preliminary data evaluation period."

Finding 12 recognized that the possible long-term toxicity to humans of DEET (N, N-Diethyl-m-toluamide) and Permathrin which were provided to the troops to prevent insect bites, had not been adequately studied to determine the dermal absorption from residues left on clothing, bedding, or elsewhere and there may be incomplete information regarding the long-term toxicity of DEET on humans. The lack of information in this area is compounded by the absence of research regarding the interaction of these drugs with pyridostigmine bromide (PB) pills which were provided to military service personnel as a prophylactic to the threat of exposure to nerve agent. The recommendation section indicates "Unsubstantiated suggestions that they [the drugs] may have chronic neurotoxic effects need to be tested in carefully controlled studies in appropriate animal models."

Mr. Chairman, finding 13 indicated "Reported symptoms suggestive of visceral leishmanial infections include fever, chronic fatigue, malaise, cough, intermittent diarrhea, abdominal pain, weight loss, anemia, lymphadenopathy, and splenomegaly." A major concern for the DAV is that the infection may be undetected and, even when treated, can recur for many years. Thus, veterans infected today may not suffer from symptoms until years later.

The IOM indicates on page 36:

> The organism may persist in the host after treatment that appears to be effective; thus relapse is not uncommon. Illness results from a cellular immune response that produces cytosine mediated symptoms that are compatible with some of the symptoms reported as part of the GWS (Gulf War Syndrome); these also have been produced by giving interferon gamma to healthy persons.
>
> If L. Tropica (leishmaniasis) can survive in a latent state, it will need to be included in different diagnoses of otherwise unexplained illnesses in returning veterans. . . .

Mr. Chairman, while federal agencies were charged with the responsibility of coordinating their joint efforts, page 21 of the IOM report indicates "When several investigators were contacted regarding their work, they were surprised that other federal agencies had been listed as being involved in the coordination of their research."

On page 23, the IOM criticizes many of the current research efforts by indicating:

> Because 'hot pursuit' studies in the Persian Gulf Health Registry represents samples of self-identified respondents, the data they provide are not representative of the collective experience of the entire cohort of Gulf War veterans. In the absence of data about the population at risk, these studies provide no information about the frequency of specific illnesses or syndromes in that population. Because no controlled populations are studied, no attributions of health outcomes to Gulf War service or specific exposures can be made.

On page 27, the IOM criticized the outbreak investigations conducted by the Department of Defense, indicating:

> These 'hot pursuit' studies, in which investigators focused on reported clusters of symptoms or illnesses among Persian Gulf War veterans, are similar in many respects to the frequent 'cluster studies' of illnesses in the United States with a possible environmental cause (Caldwell, 1990). This analogy is instructive, because many of the investigators who had participated in such cluster studies *have become skeptical about their scientific value.* (Rockman, 1990) (emphasis added)

The February 1996 interim report of the presidential advisory committee on the Gulf War veterans illness faulted the Department of Defense for its failure to provide adequate medical screening and evaluation; use of unapproved drugs and vaccines; and the quality of medical record-keeping in theater. (page 17).

Mr. Chairman, on August 16, 1994, the DAV wrote to Secretary of Defense William J. Perry, objecting to the failure of the military to follow the discharge protocol requiring a physical examination. This letter was prompted by information released by Representative G.V. (Sonny) Montgomery, then Chairman of the House Committee on Veterans' Affairs, which indicated that the discharge protocol was not followed with respect to certain National Guard veterans of Operation Desert Shield/Desert Storm. (attached) The failure to provide these required exams ensured that these men and women were released without their or the military knowing their condition at separation. We believe these protocol violations and other lax discharge physical examinations problems affect the reserve and active duty components as well.

On page 20, the Committee Interim Report indicated that the DoD could not administer PB and Botulinum Toxoid (BT), chemical warfare (COO) prophylactics, because they had not been approved by the Food and Drug Administration (FDA). The solution was for the FDA to write new rules which were adopted immediately allowing the DoD to administer the unapproved drugs without the informed consent of the military person.

Mr. Chairman, the Presidential advisory committee, on page 22, indicated "The secrecy of the vaccination program complicated record-keeping and created some confusion and fear among service members. Medical personnel in the field received instructions that receiving the shots was classified 'Secret' and that the shots were not to be discussed with anyone." The report goes on to indicate:

According to testimony presented to the Committee, in the flurry of personnel anxious to come home at the end of the Gulf War, much of the documentation about vaccinations was lost or destroyed. DoD maintains rosters of a fraction of the service members who received anthrax and BT vaccines; most are missing. DoD also has reported to the Committee that it is not possible to determine with certainty who actually ingested PB, or in what doses, because service members were supplied PB for self-administration.

The report, in many places, documents the difficulty of determining what chemicals or medications were used at any given location because of the failure of the Department of Defense to either establish a record, loss of records, or by classifying them as "Secret", seriously complicated the maintenance of such records. Thus, the military administered the unapproved drugs without informed consent and failed to maintain adequate records which would allow the veteran to establish they had received the drug. The failure to maintain these records will affect the reliability of any research and the veterans ability to establish they took the drugs.

The Presidential advisory committee, in Chapter 5, indicates that the question of whether or not the chemical and biological entities used in warfare have been released in the Persian Gulf has not been resolved. For example, the interim report indicates that the unit monitoring devices would not detect low levels of chemicals or biological contaminants. "No attempt was made to monitor CW agent exposure at levels below those known to cause acute toxicity. Battlefield detectors could not measure the types of low-level exposures that DoD regulations guard against in non-battlefield situations." (page 40) Ironically, measuring instruments which could have measured low levels of CW contaminants are readily available and in use by the military. Thus, it was reassuring to see the recommendation that the CIA and DoD reopen and coordinate their analysis of whether or not there may have been low-level release of CW agents.

Mr. Chairman, an additional concern is whether or not the current law providing for compensation for Persian Gulf War veterans with undiagnosed illnesses is adequate or has been properly administered by the VA. Significant numbers of Persian Gulf War veterans suffered from undiagnosed illnesses, the source and composition of which could not be determined. The inability to determine the disease entity, and consequently its origins, presented VA with special problems in establishing service connection. Not only was there an absence of a cause and effect linkage to military service, onset could often not be shown to have occurred during service. The affected group shared an experience in common, service in the Persian Gulf, and this peculiar vague syndrome, and as previously indicated, there is strong circumstantial evidence of service-related causation, however.

Because the VA held that it had no authority to compensate veterans for this illness, the Congress responded with legislation (P.L. 103–446) authorizing the VA to compensate these veterans if their illness manifested either during active duty in the Persian Gulf area or within a presumptive period following service, such period to be set by the Secretary. Because of the "pay-go" provisions of the Budget Enforcement Act, Congress rounded down the 1995 cost-of-living adjustment in compensation for all veterans and Dependents Indemnity Compensation (DIC) recipients to fund the compensation benefits for these Persian Gulf War veterans. However, because of the restrictions imposed by the VA, very few Persian Gulf War veterans are being compensated for their illness.

The Secretary promulgated a rule which provides for service connection if the illness becomes manifest during active service in the Gulf region or for presumption of service connection if manifested to the degree of 10% or more within two years following such service. Given the unique and unprecedented nature of these illnesses, and, as already indicated, that many of the symptoms may not present themselves until years after leaving the Persian Gulf, veterans organizations questioned whether VA, in this instance, had adequate data or relevant experience from which to conclude as it did that a two-year manifestation period was adequate.

Mr. Chairman, the DAV disagrees wholly with the conclusion that two years is sufficient time for all affected individuals to have had the opportunity to document the presence of illness. We view those who chose to remain and continue to remain on active duty status as a cohort of Persian Gulf War veterans who would not, for a number of reasons, least of which may be the adverse affect on their careers, come forward complaining of symptoms attributable to their service in the Gulf. For that reason, and others previously cited, we believe that the proposed rule limiting service connection presumptively to two years is inappropriate.

In support of our position, we will refer to the VA's own statistics. As of December 1, 1995, only 410 individuals were granted service connection for undiagnosed illnesses. During the same period, 6,381 individuals were denied service connection for undiagnosed illness, of which 62 percent, 3,965 individuals, were denied because

their disability did not manifest during service or within the two-year minimum manifestation period. The next highest reason for denial of benefits was that no discernible illness was shown by the evidence of record.

Mr. Chairman, in closing, the studies we are familiar with are inadequate to support the types of conclusions which question whether or not the illnesses suffered by these veterans are not related to their Persian Gulf service. In fact, we believe the correlation between the symptoms suffered by these veterans and the side effects of medication, symptoms of indigenous diseases and environmental factors is not considered. The DAV supports efforts to conduct research which will meet the rigorous standards necessary to provide reliable results.

Because of the military mishandling of records, sidestepping of drug approval procedures and assigning the security classifications "Secret" to the dispensing of these drugs, no one may ever know the full impact of these things on the disabilities of the men and women who served in the Persian Gulf.

The VA must change its rules to recognize the long term effects and late developing symptoms which result from the overall experience of service in the Persian Gulf. The VA must reconsider the policies, which appear to have the effect of denying service connection as opposed to an equitable administration of the benefit.

Finally, Mr. Chairman, these men and women cannot purchase any insurance that will cover conditions which are believed to be incurred due to their military service in the Gulf. Insurers deny insurance coverage due to military personnel while they are in conflict. They have no protection except that provided by the government they risked their lives for. The government, if it must err, must err on the side of those it sends to war. It is a part of the cost of sending our young men and women to war.

Mr. Chairman, we appreciate being invited to present our views before your Subcommittee. This concludes my statement. I would be happy to answer any questions you may have.

DISABLED AMERICAN VETERANS,
Washington, DC, Aug. 16, 1994.

Hon. WILLIAM J. PERRY,
Secretary of Defense,
Department of Defense,
The Pentagon,
Washington, DC.

DEAR SECRETARY PERRY: I write to you today to express a most significant concern of the Disabled American Veterans (DAV) regarding a recent revelation made public by Representative G. V. (Sonny) Montgomery, Chairman of the Committee of Veterans Affairs, that discharge protocol was not followed with respect to certain National Guard veterans of Operation Desert Shield/Desert Storm.

The DAV is appalled that certain National Guard veterans of the Persian Gulf War were released from active duty without the benefit of separation medical examinations or line-of-duty determinations, notwithstanding the fact they had unresolved medical conditions. Due to the nature of the unknown illnesses or diseases being suffered by Persian Gulf veterans, these veterans have an overwhelming burden to overcome in order to receive benefits and services from the Department of Veterans Affairs (VA). This burden has been greatly increased due to the feet that they were separated from military service without the benefit of a separation medical examination necessary to identify the fact that they were indeed suffering from illness or disease during their active military service.

If this abominable situation was allowed to occur with respect to National Guard veterans, is it possible to assume that this type of error in discharge protocol occurred in other branches of our armed services, including active duty and reserve units? It is, therefore, of utmost importance that the Department of Defense investigate this breach of discharge protocol in all branches of our armed services.

Secretary Perry, the DAV, as the largest single representative of veterans before the VA, is extremely concerned that many veterans will be denied benefits for service-connected disabilities because of their inability to demonstrate that they suffered from the disease or illness at the time of their separation from service.

Accordingly, on behalf of the more that 1.4 million members of the DAV and its Women's Auxiliary, I respectfully request that the Department of Defense take immediate steps to ensure that discharge protocol was followed in all branches of the armed services, and to correct the problem caused by the failure to conduct a separation medical examination.

Resolving this issue will go a long way in helping to restore the faith of our veterans that their government will care for them should they become disabled in service to their nation. I urge you to take expeditious action to do so. Your assistance in this matter will be appreciated.

I am anxious to receive your response and I hope that answers may be found as quickly as possible for those veterans who allege illness or disease as a result of service in the Persian Gulf War.

Sincerely,

RICHARD E. MARBES,
National Commander.

Mr. SHAYS. Our next witness is Mr. Scott Vanderheyden, who is the Gulf war coordinator for the Vietnam Veterans Agent Orange Victims, Inc. The reason I am saying his title again is he is a resident, of Darien, CT, which I represent.

Mr. VANDERHEYDEN. Stamford, Mr. Chairman.

Mr. SHAYS. Where I live now, and you will not be accorded any other special privilege that doesn't exist for anyone else who lives in the district.

Mr. VANDERHEYDEN. Mr. Chairman, members of the committee, thank you for giving me the opportunity to testify today. My name is Scott Vanderheyden, a U.S. Marine who served in the Persian Gulf from January 1991 to August 1991. I am the newest staff member of Vietnam Veterans Agent Orange Victims, Inc. We are a 501(c)(3) not-for-profit organization presently funded by the Agent Orange Class Assistance Program, AOCAP.

Our mission is to conduct case management to sick Vietnam veterans and their children. These children have problems that range from birth defects and chronic health problems to learning disabilities. Direct assistance provided ranges from the purchases of prosthetic devices and reconstructive surgery to educational tutoring and counseling. To date, we have provided specific programs and services to more than 6,705 Vietnam veterans, 1,242 children, and 1,690 significant others.

As news about our sick returning Gulf veterans began to surface, Vietnam Veterans Agent Orange Victims felt compelled to provide assistance to this new generation of veterans. In the last 3 years Vietnam Veterans Agent Orange Victims' goal has been to include the veterans and families from the Gulf war and provide for them the same outreach, referral, advocacy, support, and direct services that we have been providing for Vietnam veterans and their families.

I have been deeply involved in the Gulf war issue for some time. We have collected data on everything from research and legislation to committee reports and individual veteran statistics, amassing a comprehensive body of data and resources regarding not only the so-called Gulf war syndrome but a significant number of associated birth defects. I have been in close personal contact with and conducted case management intake with hundreds of Gulf war vets and their families throughout the country.

Not a day goes by that I don't speak with at least a half dozen Gulf war veterans concerned with their health or the health of a family member. Vietnam Veterans Agent Orange Victims has been in existence since 1978, and has helped veterans and their families from every era. In our 18 years of existence, we have been able to entrench ourselves into a national network creating contacts every-

where, enabling us to help any American veteran at any place in the country.

We have worked closely with some of the Gulf war grassroots organizations that have been popping up all over the world creating an unprecedented network capable of touching every community. Our priority is a major, ongoing outreach campaign where we are seeking out Gulf vets to collect individual and family statistical data.

We are collecting data from a medical questionnaire specifically for Gulf war veterans. Our statistics are constantly changing and we send and receive questionnaires every day. Questionnaires are filled out and mailed to us or data is gathered over the phone. Our goal with the questionnaire is to get a general overview of our veterans' health status and to educate and inform the veteran on new developments.

I feel the need to express the poor effort of funneling information to the Gulf veteran. Ninety percent of the Gulf war veterans that I have spoken with have no idea of what is going on. I have spoken with platoon commanders, company commanders, battalion commanders, and executive officers and not one of them could tell me what the Persian Gulf Health Registry was.

I know the DOD and the VA have used a number of techniques from hotlines and Internet sites to public service announcements and newsletters, but the fact is that the information is not reaching the individual vet. The DOD needs to coordinate better with the VA in its attempt to reach the individual veteran. The DOD and the VA should coordinate with veterans' organizations such as the Veterans of Foreign War, American Legion, Disabled American Veterans, and Gulf war grassroots organizations to outreach these vets. These veterans' organizations should set up outreach committees at the post and State levels. There are an endless array of networks and channels waiting to be tapped into that would greatly increase productive and direct outreach to veterans and their families.

The DOD and the VA need to saturate the general public through the media about the Gulf war illness issue and need to drive the point home. I challenge the media to help us find the solutions to our problems instead of looking for the hype and sensationalism, the same hype and sensationalism that has put the DOD in a defensive posture creating a distant and cautious relationship between the Government and its citizens. The time for pointing fingers is long past. Gulf war veterans need help now. It is time to unite and work together if we are going to do anything to help these sick vets and their family members.

The DOD and the VA have a moral obligation to ensure that every single Gulf war veteran has informative and accurate information as of where to turn for help. Each person who has served this country in the Gulf has earned and deserves the right to know what is being done to help them and where they can turn for assistance.

Getting the word out is only the first part to helping the veteran. It cannot stop there. I have personally heard complaints from veterans that when they go to their local VA for the Persian Gulf health exam the military doctors make comments like nothing is

wrong with the Gulf war veterans, it is all in their heads, and Gulf war illness is a psychological problem, not a physiological problem.

These personal opinions are sure to alter the accurate data of the exam, therefore possibly eliminating followup visits that so many of these vets need. How can we help these veterans if their physician expresses more of a one-sided personal view rather than the views of the U.S. Government? The establishment of a service coordinator conducting checks and balances can eliminate this problem.

Most of the research and concern has been focused on those veterans who served in the Kuwaiti and Saudi Arabian theater of operations, where a majority of our troops were concentrated. It is important that we don't forget about those troops that served in Operation Provide Comfort in northern Iraq and Operation Southern Watch in the south after the war. These troops have also reported individual sicknesses and possible chemical incidents such as Iraqi helicopters flying over the positions spraying a mist. Are these incidents being investigated?

When we went to the Persian Gulf, we were ready to fight and die for what was right. We put our lives on the line for Kuwait and America. We were ready to go up against anything Iraq threw in our way. We gave this country nothing less than our best. We returned home to a proud America and a "job well done"; so-called "heroes" overturning the image of the Vietnam veteran. Now we deserve the best the United States could give to us.

All sick veterans should be given medical treatment regardless of any doubts. The VA should establish case management services for families and children, and the policy of adhering only to the veterans should be extinguished.

Are these sicknesses and birth defects related to the veterans' service? This question has plagued the Vietnam veteran for years. Now we are seeing a mirror image of the Agent Orange issue. Once again, we are traveling down the same road.

The president of Vietnam Veterans Agent Orange Victims, Frank McCarthy, will be testifying at the second hearing. He will be testifying about the direct services that National Alliance for Veterans Service Organization is providing for Gulf war vets and their families, services the U.S. Government should also provide. This is valuable information that VVAOVI has learned over the last 18 years.

Vietnam Veterans Agent Orange victims is dedicated to helping Gulf war veterans and their families. We will continue to provide outreach, referrals, advocacy, support, and direct services for as long as we can.

Thank you for giving me the time to express the views and concerns of the Gulf war veterans I have spoken with.

[The prepared statement of Mr. Vanderheyden follows:]

PREPARED STATEMENT OF SCOTT VANDERHEYDEN, GULF WAR COORDINATOR, VIETNAM VETERANS AGENT ORANGE VICTIMS, INC.

Mr. Chairman, members of the committee, thank you for giving me the opportunity to testify today.

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I have been deeply involved in the Gulf War Illness issue for some time. We have collected data on everything from research and legislation to committee reports and individual veteran statistics. Amassing a comprehensive body of data and resources regarding not only the so called Gulf War Syndrome but a significant number of associated birth defects. I have been in close personal contact with and have conducted case management intake with hundreds of Gulf War Veterans and their families throughout the country. Not a day goes by that I don't speak with at least a half a dozen Gulf Veterans, concerned with their health or the health of a family member.

Vietnam Veterans Agent Orange Victims Inc. has been in existence since 1978 and has helped veterans and their families from every era. In our 18 years of existence we have been able to entrench ourselves into a national network creating contacts everywhere, enabling us to help any American veteran at any place in the country. We have worked closely with some of the Gulf War grass roots organizations that have been popping up all over the world creating an unprecedented network capable of touching every community.

Our current priority is a major on-going outreach campaign where we are seeking out Gulf Vets to collect individual and family statistical data. We are collecting data from a medical questionnaire specifically for Gulf War Veterans. Our statistics are constantly changing as we send and receive questionnaires every day. The questionnaire is filled out and mailed to us or data is gathered over the phone. Our goal with the questionnaire is to get an general overview of our veterans health status and to educate and inform the veteran on new developments.

I feel the need to express the poor effort of funneling information to the individual Gulf veteran. 90% of the Gulf War Veterans I have spoken with have no idea of what's going on. I have spoken with Platoon Commanders, Company Commanders, Battalion Commanders, and Executive Officers and not one of them could tell me what the Persian Gulf Health Registry was. I know the DoD and the VA have used a number of techniques from hot lines and internet sites to public service announcements and newsletters, but the fact is, is that the information is not reaching the individual vet. The DoD needs to coordinate better with the VA in its attempt to reach the individual veteran. The DoD and the VA should coordinate with Veterans organizations such as the Veterans of Foreign Wars, the American Legion, Disabled American Veterans and Gulf War grass roots organizations to outreach Veterans. These Veterans Organizations should set up outreach committees at the post and state levels. There are an endless array of networks and channels waiting to be tapped into that would greatly increase productive and direct outreach to Veterans and their families.

The DoD and the VA need to saturate the general public through the media about the Gulf War Illness Issue. They need to drive the point home. I challenge the media to help us all find the solutions to our problems, instead of looking for the hype and sensationalism. The same hype and sensationalism that has put the DoD in a defensive posture creating a distant and cautious relationship between the government and its citizens. The time for pointing fingers is long past. Gulf War Veterans need help now. It is time to unite and work together if we are to do anything to help these sick veterans and their family members. The DoD and the VA have a moral obligation to ensure that every single Gulf War Veteran has informative and accurate information as of where to turn for help. Each person who served this country in the Gulf has earned and deserves the right to know what is being done to help them, and where they can turn for assistance.

Getting the "word" out is only the first part to helping the Veteran. It cannot stop there. I have personally heard complaints from veterans that when they go to their local VA for the Persian Gulf Health Exam the military doctors make comments like, "Nothing is wrong with the Gulf War Veterans, it's all in their heads" and "Gulf War illness is a psychological problem, not physiological". These personal opinions are sure to alter accurate data of the exam therefore possibly eliminating follow-up visits that so many of these Veterans need. How can we productively help these veterans if their physician expresses more of a one-sided personal view rather

then the views of the United States Government. The establishment of a Service Coordinator conducting checks and balances could eliminate this problem.

Most of the research and concern has been focused on those veterans who served in the Kuwaiti and Saudi Arabia theater of operations, where the majority of our troops were concentrated. It is very important that we don't forget about those troops that served in "Operation Provide Comfort" in northern Iraq and "Operation Southern Watch" in the south, after the war. These troops have also reported individual sicknesses and possible chemical incidents, such as Iraqi helicopters flying over their positions spraying a mist. Are these incidents being investigated?

The defection of Saddam Hussein's son-in-law, Lt. Gen. Hussein Kamel Hassan has shed new light on the chemical exposure issue. New doors were swung wide open when he pointed U.N. inspectors to a cache of documents secreted in a remote farm house. On behalf of all Gulf War Veterans I respectively urge the United Nations Special Commission on Iraq (UNSCOM) and the Persian Gulf Investigating Team (PGIT) to continue to look into this issue with more vigilance than in the past. It is quite apparent that Iraq has deceived the United Nations Special Commission on Iraq, and the world about its nuclear, biological and chemical weapons program for the last 4 years.

When we went to the Persian Gulf we were ready to fight and die for what was right. We put our lives on the line for Kuwait and America. We where ready to go up against anything Iraq threw in our way. We gave this country nothing less then our best. We returned home to a proud America and a "job well done". So called "Heroes", overturning the image of the Vietnam Veteran. Now we deserve the best the United States could give us. All sick Veterans should be given medical treatment regardless of any doubt. The VA should establish case management services for families and children, and the policy of adhering to only the veteran should be extinguished.

Are these sicknesses and birth defects related to the veterans service? This question has plagued the Vietnam Veteran for years. Now we are seeing a "mirror" image of the Agent Orange issue. Once again we are traveling down the same road.

The President of Vietnam Veterans Agent Orange Victims, Inc., Frank McCarthy will be testifying at the second hearing. He will be testifying about the direct services the National Alliance for Veterans Service Organizations is providing for Gulf War Veterans and their families. Services the United States Government should also provide. This is valuable information that VVAOVI has learned over the last 18 years.

Vietnam Veterans Agent Orange Victims is dedicated to helping Gulf War Veterans and their families. We will continue to provide outreach, referrals, advocacy, support and direct services for as long as we can. I thank you for giving me the time to express the views and concerns of the Gulf War veterans I have spoken with.

Mr. SHAYS. I thank all of our witnesses. I appreciate all of your testimony. All were very important to the effort of this committee. And we thank you.

And I don't have a lot of questions. I think your statements are fairly self-explanatory, but I would like to know, is this Agent Orange all over again?

Mr. PUGLISI. In many ways, Mr. Chairman, it is not. And some of the other of my colleagues today have pointed that out pretty clearly, that the Government response to Gulf war veterans and the illnesses they suffer from is markedly different than the response that Vietnam veterans received.

On the other hand, we see some of the same behaviors on the part of particularly DOD and VA toward these illnesses and toward—I said the Federal Government's approach in general toward these illnesses; the way that the Federal Government analyzes data from registries, the DOD's and VA's registries, and makes conclusions from those registries that scientists wouldn't dare do if they were in a university or conducting a peer-reviewed study.

They have been refuting the fact that there is one cause or CBW was a cause of Gulf war illnesses, where most Gulf war veterans don't have that on their radar screens. Their agenda isn't about

proving that something or another caused the illnesses, but that in fact they exist and they need to be treated.

So, the answer is mixed concerning the Government response. It is different from Agent Orange, but in some ways unfortunately it is the same.

Ms. WILLARD-WEST. Mr. Puglisi is exactly right. As I noted in my testimony, some of the delays experienced by Agent Orange victims are not on the radar screen. That is in large part due to the actions that the Congress has taken—both to conduct hearings and pass legislation allowing VA to provide health care and compensation. But the systems are not in place to make sure that the intent of the law is implemented.

Again, we are very pleased that the delays in Government response have not been there, but there's not sufficient coordination to ensure that the frustrations Vietnam veterans experienced in navigating the bureaucracy aren't experienced by Gulf war veterans.

Mr. CULLINAN. Mr. Chairman, I am basically going to agree with my two colleagues. In terms of similarities between Agent Orange and Persian Gulf, ill-health symptoms are vague and not easily diagnosed. That is why there is a similarity.

The difference, though, is in the Government's response. It is immediate and it's strong and it's directed. And we intend that it should stay that way as well. But that in our view is a marked distinction between what happened in Vietnam and the Agent Orange issue.

Mr. SHAYS. When do you think it became immediate and strong?

Mr. CULLINAN. It took a little prodding early on. Back in—was it November 1993 the VFW testified at two congressional hearings? They took place on the same day, the House and Senate Veterans Affairs Committees. At that time while we saw good and positive action on the part of the VA, DOD, we said at this hearing, we said they were stonewalling. There was that problem.

A short while thereafter we were contacted by the office of General Blanck who offered to come over and conduct a seminar in our building to delineate what DOD, in fact, was doing and not doing. And it is our belief that out of that hearing came more concerted effort.

Mr. SHAYS. What I hear you saying is that the wake-up call was heard a little more quickly. But we still are behind the curve?

Mr. CULLINAN. Yes, absolutely. The distinction between, say, a delay of a year and a delay of 20 years is so marked in my mind from one, that I would almost say that, yes, the governmental response was immediate. It's not quite accurate. It took a little prodding, especially on the part of DOD but there is quite a distinction.

Mr. GILMER. Mr. Chairman, the similarities are that if you can't identify something, you can medically diagnose and develop the medical research to support that diagnosis, there is a tendency to be cynical and to not trust the patient. In that sense, they are very similar.

On the other hand, and once again this is a relative statement, if we look at how long it took the atomic veterans involved in all of the atomic tests where they were actually at the sites where all of these bombs were blasted then walked in Japan on top of radi-

ated ground, how long it took for those men and women to be service connected, in comparison, relatively, we are very pleased about that.

Mr. SHAYS. It is relative here.

Mr. GILMER. Exactly. The reality is for all men and woman who served who are sick and ill, they need the response now and they need the agencies to develop protocols which are more uniform, provide more uniform services, and to provide the extensive testing which is required to followup on the kinds of conditions we would expect to be seen here.

I would make one point. All of these agencies are limited, one, by their objectives. For the military person in the field, when they were in combat, the ability to sit down and make a note in a file. Or as the sergeant noted, do I take the pill and get sick or do I go fight the war? Forget the pill. I've got people trying to kill me out here. So, you take care of business at hand. That is their objective.

Then when you come back to the Veterans Administration, their budget has diminished, not in real dollars but in relative dollars year after year after year. They have absorbed budget cuts in CPI year after year. Their ability to respond to any veterans' needs is diminished. The newer veterans, then, are coming in on top of that and unfortunately that is effecting their ability to get the services. Those things have to be looked at.

Mr. SHAYS. Thank you.

Mr. VANDERHEYDEN. Mr. Chairman, I think it is very similar in the way that direct services aren't being provided to the individual. The Gulf war veteran has been very lucky. We have been able to use the Vietnam veterans—we have been able to springboard off the Vietnam veterans for over the last 20 years. They have been doing all kinds of work trying to get direct services for the Vietnam vets. The Gulf war veteran has been very lucky. A lot of Vietnam vets are behind the Gulf war vets, which is definitely helping to speed up the process.

Mr. SHAYS. One of the things I find rather disconcerting, I know that when I was in the Peace Corps we were considered a control group. We had 200 people that would be going to a particular new culture. There it wasn't medical physical, it was more mental health.

But they would have behavioral scientists come in and they would treat different groups differently, and then try to see when they did that who stayed the longest, who came back. I wasn't aware of it at the time other than I thought they were playing with our brains, until I went to graduate school and started reading some of the reports that the behavioral scientists wrote. Very disconcerting for me to think of certain chemicals that may be administered that we can't get a handle on because, "it is basically simply a secret."

It is disconcerting for me as a Member of Congress to read reports that you all haven't seen about the performance of some protected gear and so on. And we have got to make sure we put everything together in the end.

It is tremendously disconcerting for me to think that at discharge that someone wasn't given a full medical discharge. That they

weren't examined to the extent that the law requires and so on. And then records aren't properly maintained. And I am troubled by it seems to me the lack of coordination between DOD and the Department of Veterans Affairs' administration. These are things that we are going to try to get a handle on.

What would be the single most important thing you would want my staff to focus on, both Republicans and Democrats on this committee? What would each of you want to tell the staff member and to me as well? If you could limit it to one issue?

Mr. PUGLISI. Mr. Chairman, besides the claims process, which I went into some detail in the written testimony and my oral testimony——

Mr. SHAYS. Yes.

Mr. PUGLISI [continuing]. One of the key problems with this whole issue is the Federal Government's assertion that not many Gulf war veterans suffer from undiagnosed illnesses; that most of the active duty service members and the veterans who receive these protocol exams end up with a diagnosis.

Mr. SHAYS. And you don't think that is true?

Mr. PUGLISI. No, sir, I don't. And when looking at the data, not the diagnoses that they get but the symptoms that they report, that is going to show someone how prevalent these illnesses are. Because as we all know, if you are sick, you go to a doctor, the doctor gives you a diagnosis and you go for a second opinion, and sometimes you get a different diagnosis.

And because we are talking about something or some things that don't even have a case definition, we can't expect VA doctors, no less private doctors or DOD doctors, to diagnose these things or to admit that they don't have a diagnosis for the symptoms.

Mr. SHAYS. I am making an assumption that there is a general consensus, and some of you testified as such, that there is not one thing we are looking for. I certainly have that sense.

Ms. Willard-West, would you tell me one thing that you would want us to be alert to?

Ms. WILLARD-WEST. Sure. I think one of the most important things—Mr. Hollingsworth in the first panel made a very poignant statement that the DOD and VA position, that some of these veterans are just seeking compensation and his statement was that we'd much rather get our health back than get compensation.

That being the case, compensation is very important for veterans and their families who are severely disabled and going into poverty. But perhaps even more critical is making sure they get proper health care to treat their illnesses the best ways possible in order to help them try to get better.

Mr. SHAYS. Thank you.

Mr. CULLINAN. It's our view that one of the most important functions of oversight activity such as this today, along with discerning the particulars of a given problem, is maintaining the focus. So, I would have to say that this kind of oversight activity which keeps the Government focused on resolving the issue with the primary objective of getting these veterans better—we see the necessity of eventually discerning cause so that a full and effective cure might be devised, but in the interim what these veterans need is health care and they need it now.

Mr. SHAYS. You don't want us to study it to death.

Mr. CULLINAN. No, sir.

Mr. SHAYS. You want to help the living. Yes, sir?

Mr. GILMER. Mr. Chairman, I think that one of the most important things that could happen, and it's fortunate these other people have gone before me, I don't need to name the same things again.

Mr. SHAYS. So you would say all of the three plus. This is very helpful, all three are similar but different and it is helpful. Yes, sir?

Mr. GILMER. I think it's terribly important that as we look at the development of these registries, that uniform medical protocols be developed so that they provide a better foundation for looking at the kinds of symptoms and followup treatments that should come from that.

And as a function of that, they should increase medical testing which would typically be considered esoteric and typically expensive, to recognize that the conditions that we are looking for here are not common in our communities and if we do not explore those areas in these registries, they will not come to the front. We think that is critical to ultimately their treatment. Thank you.

Mr. SHAYS. Thank you. The four of you so far have done an excellent job of helping us write a report. And I know that the staff is listening.

Mr. VANDERHEYDEN. Mr. Chairman, I agree with the rest of the panel here. I believe that direct services for the veteran, the spouse, and the child are the most important issues.

Mr. SHAYS. I thank all of you for being here. This has been a very enlightening day. I think if I were to say the thing that I am most surprised about is the registry. I am just looking at this registry and I am wondering if it is not a cover for saying we are doing something. I wonder what are we getting from this registry. I think it could be an extraordinarily valuable tool for helping deal with the care problems and ultimate medical research and healing process. First in identifying problems, and also taking care of these veterans.

I will assure all of you we will be having the VA here at our next hearing, and I think they have been helped by your testimony as well. We will keep at it, and I am also going to say I probably don't need to say this, but I want you to keep at us. I want you to keep at Congress. I want you to put the pressures because you need to do that. Thank you very much.

This hearing is adjourned.

[Whereupon, at 1:30 p.m., the subcommittee was adjourned.]

[Additional information for the hearing record follows:]

PREPARED STATEMENT OF HON. JAMES M. JEFFORDS, A U.S. SENATOR FROM THE STATE OF VERMONT

Mr. Chairman, I would like to commend you for holding these hearings to examine various efforts by the federal government to determine the unexplained illnesses affecting Persian Gulf War Veterans suffering from mysterious symptoms.

Your call for hearings on the actions of the Department of Veterans' Affairs (VA) and the Presidential Advisory Committee's interim report on Gulf War Syndrome is a welcome initiative. I hope these hearings will accelerate both the scientific process of determining the causes of Persian Gulf War illnesses and the bureaucratic process of defining the government's proper role in caring for suffering veterans.

As a member of the Senate Veterans' Affairs Committee, I have a long-held interest in this matter and have worked vigorously to ensure that Persian Gulf veterans suffering from "unexplained illnesses" should be given priority treatment at VA and Department of Defense (DoD) medical facilities worldwide. Efforts by the Senate and House Veterans Affairs Committees have yielded some very positive results, including the Persian Gulf War Veterans' Benefits Act of 1994, which authorizes the Secretary of Veterans' Affairs to compensate any Persian Gulf War veteran suffering from a chronic disability resulting from an undiagnosed illness that became manifest following service in the Persian Gulf.

I think we both feel that the efforts made thus far by the U.S. Congress on this issue have been not only sincere, but productive in addressing the needs of ill Persian Gulf War veterans. Unfortunately, efforts at both the legislative and the executive levels of government have provided neither a conclusion nor a cure for afflicted veterans. Like you, I have reviewed the Presidential Advisory Committee's interim report on Gulf War veterans' illnesses. I must concur that there is a lack of both urgency and emphasis on expeditiously finding explanations to better treat and help save the health and lives of veterans suffering from these maladies.

In closing, I realize the enormous cost the federal government would shoulder in providing lifetime treatment and compensation to veterans suffering from Persian Gulf War Syndrome. However, we need to continue to pressure the executive branch participants to accelerate the research process and come to solid conclusions based on scientific evidence.

Again, I am pleased that you have initiated these hearings. This is an incredibly important issue to me, to Vermont and to the nation, and I look forward to hearing the Subcommittee's conclusions.

PREPARED STATEMENT OF THE NAVAJO NATION ON PERSIAN GULF WAR SYNDROME

INTRODUCTION

Mr. Chairman and members of the committee, on behalf of the Navajo veterans, thank you for inviting the Navajo Nation to submit written testimony on the Persian Gulf War Syndrome and for your help in assisting Native Americans. We are especially thankful for the Committee in working on the Native American Veterans Home Loan Program. In the same spirit, we ask that you provide Native American veterans the opportunity to participate in other veterans health studies.

America is a country of rich diversity and endless opportunities and we must cherish the principles and ideals that bind us together. Throughout history, thousands of brave Navajo veterans fought along side their American brothers and sisters in defense of their beloved country, in protecting their families and the families of future generations, to live in a free land under the blessings of democracy. To protect their native lands, many Navajo veterans came home from the war injured and disabled. Many more came home with a variety of unknown symptoms and illnesses. In the 1940s some Navajos were knowingly exposed to radioactive fallout from nuclear testing. In the 1960s and 1970s Navajo Vietnam veterans were exposed to Agent Orange and are currently suffering from its effects. The potentially toxic substances used in the 1991 Persian Gulf War have effected many servicemembers and our Navajo veterans also are feeling the effects. Unfortunately, the cause of the illnesses may not be defined. Nevertheless, they need medical attention today, not decades from now.

PROFILE OF THE NAVAJO NATION

The Navajo Nation is the largest and most populous Indian Nation in the United States with an estimated 219,000 members. The Navajo Nation encompasses 17.5 million acres, spanning the states of Arizona, New Mexico and Utah—one third of all Indian lands in the lower 48 states. The Navajo Nation is larger than the states of Connecticut, Delaware, Maryland, Massachusetts, and Rhode Island combined. Given our geographical composition, the Navajo Nation often encounters complex jurisdiction issues in regard to implementation of state and tribal programs, such as natural resource management, environmental protection and economic development.

Although the Navajo Nation is rich in natural resources and possesses tremendous economic potential, socioeconomic conditions on the Navajo Nation are comparable to those found in underdeveloped third world countries. According to the 1990 U.S. Census, approximately one-half of our people residing on or near the Navajo reservation are below the age of 21; and the Navajo population is growing at twice the national rate. Additionally, in 1992, a survey published by the Department of Health and Human Services' Indian Health Service (IHS) reported that approxi-

mately 15 percent of the Navajo population is under six years of age and indicated that the population growth is expected to continue with the Navajo Nation birth rate determined at 3.25 percent. This is twice as high compared to the 1987 U.S. birth rate of 1.57 percent.

The Navajo Nation is characterized by unemployment levels ranging from 36 to 50 percent depending on the season; per capita income averages $4,106.00; and over 56 percent of our people live below the poverty level. High unemployment on the reservation is the underlying reason that many Navajo families are disjointed, a result of family members being forced to relocate to nearby urban areas to find jobs. Private-sector businesses are nonexistent on the Navajo reservation. Family members who cannot find employment or provide adequate care and basic needs for their children experience stress, depression, and frustration. The consequences are illustrated by the increasing levels of child abuse and neglect, alcoholism, drug and substance abuse and depression.

Currently, the scarcity of adequate housing on the Navajo Nation is at a magnitude that can be characterized as a "housing crisis." The Navajo Nation has determined that 13,539 newly constructed homes are needed immediately to alleviate severe overcrowding. Additionally, many existing houses are in disrepair. The Navajo Nation estimates that 23,527 existing housing units on the Navajo Nation are in substandard condition because they lack either running water, indoor plumbing, electricity and/or central heating. This means about 62 percent of housing on the Navajo Nation requires significant improvement, in addition, to a continued extensive home building program.

Basic "necessities" of life, taken for granted elsewhere in America, are sorely lacking on the Navajo Nation: 77 percent of Navajo homes lack plumbing, 72 percent lack kitchen facilities, and 76 percent lack telephone service. Thirty-five percent of Navajo families (12,907 households) presently haul water from windmills or springs to meet their basic domestic water needs. Many of these domestic water systems were constructed prior to passage of the Clean Water Act, and therefore without adherence to, strict standards of water quality and well-head protection required by U.S. Environmental Protection Agency.

NAVAJO DEPARTMENT OF VETERANS AFFAIRS (NDVA)

The Navajo people are a traditional and cultural society with a common language interwoven with shared customs, values, and beliefs. Our cultural philosophy is embedded with the concepts of a "protector" and a "defender." The Navajo people have a high regard for warriors, as they are the protectors and the defenders of the Navajo people and their homeland. Therefore, much respect and appreciation is shown to veterans of all wars by their families, friends, and people in the community. Throughout the course of the United States history, the contribution of Navajo veterans to the cause of peace has exceeded their political and economic representation in American society.

The Navajo Nation has the largest number of Native American veterans, totaling more than 16,000, whose military service extends into various branches of the armed service since World War I. Navajo veterans comprise 15% of the total Navajo population, which, when compared with other ethnic groups, far exceeds the national ratio.

The Navajo Department of Veterans Affairs (NDVA) was established January 1971 by the Navajo Tribal Council, to address and serve the needs of all Navajo veterans. NDVA is centrally located in Window Rock, Arizona, with five suboffices in each Bureau of Indian Affairs (BIA) agency. NDVA operates on an annual budget funded entirely with Navajo general revenue. NDVA provides financial assistance for job training, emergency assistance, burial expenses, headstones, flags, traditional ceremonies, home improvements, travel, and personal loans. In addition, monies are used to staff personnel, who serve Navajo veterans in the five BIA agencies. However, the needs of the Navajo veterans far exceed the Navajo Nation financial resources. Very little money is received from Federal and State governments to meet the needs of Navajo veterans As such, Navajo veterans have struggled to gain full benefits and services entitled to veterans since the establishment of Title 38, U.S.C. (Veterans Benefits).

Of the living Navajo veterans on the reservation, 40% are unemployed. Since the economic conditions are grossly inadequate, many Navajo veterans turn to alcohol and drug abuse that ultimately leads to a vicious cycle of unemployment. Rehabilitative programs to treat veterans are not effective because there are no training and employment programs to boost their self-esteem. Some of our weakest and vulnerable Navajo veterans are on the verge of becoming homeless.

NAVAJO GULF WAR VETERANS

The Navajo Nation sent 300 warriors to the 1991 Persian Gulf War in which our country successfully drove Iraqi forces out of Kuwait. Today, there are 291 Persian Gulf War veterans living among us, some of whom are now suffering from a wide range of unknown illnesses and debilitating symptoms, such as fatigue, joint pains, headache, rashes, memory loss, flu, asthma, pneumonia, hypertension, cardiovascular disease, diabetes and allergies. Like their brothers and sisters who fought in the Vietnam War, they too, are experiencing illnesses beyond their comprehension. Some have literally given up on modern medicine and have resorted to alternative traditional healing methods.

Currently, Persian Gulf War veterans, pursuant to the Veterans' Benefits Improvement Act of 1994,[1] receive compensation benefits for disability resulting from a variety of chronic illnesses that cannot now be diagnosed. Many Navajo veterans show signs of illnesses but are discouraged by the inconvenience of accessing a DVA medical center. It would be unfair to impose the responsibility to treat veterans whose disabilities are caused by their services to a federal agency not having jurisdiction over the issue and whose budget are already severely constrained. The NDVA and Indian Health Services (IHS) are unable to provide adequate referral and health services, respectively because they lack the funding to provide such services. This is an example of the overwhelming need to provide much needed services to Native American Veterans.

COMMENTS AND RECOMMENDATIONS

1. Mandate that Native American Veterans participate in all health studies on and related to Persian Gulf War Syndrome.

The Navajo Nation strongly requests participation in any veterans study authorized by Congress to be conducted on the health abnormalities and effects of the Persian Gulf War veterans. Historically, Native American veterans have been underserved and only recently were extended veterans benefits. The Navajo Nation does not want to experience again having its Navajo veterans further excluded from any health related studies.

For example, if the proposed Persian Gulf War Syndrome study excludes Native Americans, the outcome could parallel the 1983 and 1989 studies on Vietnam veterans. In 1983,[2] DVA conducted a comprehensive study of Vietnam veterans to determine the effects of the Post Traumatic Stress Disorder (PTSD) and other psychological problems in readjusting to civilian life. Particular attention was paid to veterans who have service-connected disabilities. The study revealed that Black and especially Hispanic Vietnam veterans suffered higher rates of PTSD than Anglo veterans. As a result, Congress increased services to Hispanic veterans. Unfortunately, Native Americans were not included in this study. The alarming findings immediately led to positive efforts of improved health services and benefits to veterans with PTSD.

In 1989, at the request of Native Americans, Congress appropriated funds[3] to conduct another study of the psychological problems of certain Native American Vietnam veterans. The study by the National Center for American Indian and Alaska Native Mental Health Research, Denver, Colorado is still ongoing and the report is due Spring 1996. Navajo and Sioux veterans were selected for the study. The Center is currently working with NDVA to compile data on Navajo veterans. The preliminary results of the study revealed that Native American veterans experienced combat at a higher rate than any other ethnic group, thus, a higher prevalence of PTSD and related health problems (See exhibit A—attached graphs and results of the American Indian Vietnam Veterans Project study). Today, Native American veterans are reporting physical problems such as trouble hearing, arthritis, hypertension, respiratory problems, skin condition, diabetes, etc. These studies provide a basis to measure potential problems and solutions to the problems but Native Americans were excluded from the 1983 study, resulting in no services.

Navajo Nation looks forward to actively participating in all veterans health studies.

2. Provide a DVA Hospital on the Navajo Nation.

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[1] Veterans' Benefits Improvement Act of 1994 (Public Law 103–446), 108 STAT. 4645, Title I: Persian Gulf War Veterans' Benefits Act, November 2, 1994.

[2] Veterans' Health Care Amendments of 1983 (Public Law 98–160), 97 STAT. 993, To amend Title 38, United States Code, to extend and improve various health-care and other programs of the Veterans' Administration, November 21, 1983.

[3] Makes appropriations for the Departments of Veterans Affairs and Department of Housing and Urban Development (Public Law 101–144), November 9, 1989.

The Navajo Nation requests a veterans hospital to be located on the Navajo reservation. Currently, the Navajo Nation is primarily served by IHS with six hospitals and seven health centers that do not provide any type of services for veterans such as treatment of Agent Orange and other illnesses caused by the Persian Gulf War Syndrome. IHS currently receives only 85% funding level that fails to accommodate the growing health care demand of Navajo Area beneficiaries. Its budget is divided to address direct health care, preventive health care, health facilities construction and water sanitation projects. Consequently, direct care funding has eroded over the years because IHS has had to absorb mandatory increases such as pay raises, inflationary costs, etc. Moreover, many veterans are discouraged by long lines at IHS and the lack of a focus on veterans health care. Navajo Nation looks forward to working with this committee, DVA, U.S. Office of Management and Budget (OMB) and the Clinton Administration to provide health care services to veterans.

3. Appoint a Native American Representative to the President's Advisory Committee on Gulf War.

In 1995, President Clinton set up a 12-member Presidential Advisory Committee of scientists, physicians, and veterans advocates to look into mysterious illnesses and ailments reported by Persian Gulf War veterans. The Committee was set up "to review and make recommendations to President Clinton regarding government efforts aimed at finding the causes and improving the health care available to Persian Gulf War veterans." Because many Native Americans have given their lives in the Persian Gulf War, we encourage the Advisory Committee to include a Native American veteran on the Committee.

4. Provide adequate funding for the Navajo Department of Veterans Affairs online services to access benefits and participate in surveys.

The Navajo Nation requests that funding be provided to purchase computers that will enable NDVA to set up a simple Local Area Network for data collection on Navajo veterans. It will also enable NDVA to participate in surveys conducted by DVA and other private surveys via the Internet; utilize searchable databases and retrieve informational material on veterans benefits such as delayed checks due to government shutdowns; and, access educational and training programs. The computers will also enable NDVA access to CD–ROMs that provide thousands of hyperlinks to photos, videos, news reports, analyses and studies on veterans' issues. Basic tools of this nature standard in many offices and schools are still not yet available on the Navajo reservation. NDVA lacks the financial resources to invest in modern technology.

NDVA has suboffices that consist of one Service Officer and a Secretary, located in highly remote areas of the reservation. These suboffices are bombarded with a variety of requests from Navajo veterans. Navajo Nation provides limited general funds to operate these suboffices and cannot afford additional staff or equipment to accommodate the requests of Navajo veterans. Modern technology would link these remote suboffices to the growing Information Superhighway project, allowing for enhanced services to Navajo veterans. Services such as DVA's World Wide Web server is rated among the top 5% of all web sites on the Internet. These sites include informational data such as DVA published articles, policies, press releases, legislation and testimonies, benefits services, scholarship information, announcements for veterans, Persian Gulf Veterans homepage, information for veterans on other services such as DVA medical centers and regional office information, statistics and surveys on veterans.

Currently, there are many surveys being conducted on the Internet. One online survey sponsored by the Desert Storm Justice Foundation, is collecting data to show the "incredible difficulties both current Active Duty members and those no longer on Active Duty are having in accessing health care treatment for health conditions related to the Persian Gulf War."[4] Navajo veterans and NDVA have missed opportunities to participate in these surveys. The statistical results are submitted to Congress, keeping it informed of current problems experienced by Gulf War veterans. Since Navajo veterans are not able to participate in these surveys, Congress and DVA will once more be misinformed as to the needs of Navajo veterans. The other two surveys that NDVA would have participated if resources were available are a) the Gulf War Syndrome Survey by Researchers and b) the Survey for Female Gulf War Veterans.

5. Provide Veterans Readjustment Counseling Program for Navajo Veterans.

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[4] Clinton Woos Lukewarm Veterans Vow to Fight VA Cuts, Study 'Gulf War Syndrome' Thaws VFW's Mood, by John F. Harris, The Washington Post, March 7, 1995.

In 1979, Congress appropriated funding[5] to DVA Medical Centers to provide assistance and readjustment counseling programs for veterans of the Vietnam Era. Very few of these benefits trickled to Navajo veterans. Many Navajo Veterans still suffer from the painful, emotional and psychological trauma. The Navajo Nation requests that funding be made available to establish a Navajo Veterans Readjustment Counseling Program to serve Navajo veterans afflicted with PTSD. PTSD has caused a high number of Navajo Vietnam and Persian Gulf War veterans to turn to alcohol and substance abuse as a means of coping with their physical and mental ailments. The abuse contributes to unemployment, deteriorating health, family and social problems. Because the Navajo reservation is 335 miles from the nearest DVA hospital, access to veterans services are limited. A readjustment counseling program on the Navajo reservation would provide a Western and traditional Native counseling that would enable them to become productive contributing members in the Navajo society; alcohol and drug abuse counseling; employment and training services; priority counseling for sexual trauma and related health care for eligible women veterans; outreach services, benefits counseling; and, referral for Navajo traditional healing ceremony assistance.

DVA Albuquerque Office in response to a request by the NDVA stated that they will not establish a Veterans Center on the Navajo Nation because it would remove resources and permanent staff from other Veterans Centers and no existing Veterans Center has shown a decline in workload that would warrant transfer of resources to the Navajo Nation. DVA is concerned that transferring of these resources would impact negatively on client care in other Centers. If DVA fears services will offset cuts in benefits from other veterans currently being served, we urge that DVA seek an increase in funding to cover benefit services to Navajo veterans. If this is not possible, Navajo Nation requests that Congress provide direct funding to the Navajo Nation to set up these facilities to meet the dire needs of Navajo veterans.

DVA Central Office, however, in consultation with the Navajo Nation directed DVA Denver Office to enter into a Memorandum of Understanding (MOU) to provide services to Navajo veterans. The Navajo Nation requests DVA to continue to support this initiative.

6. Provide a field office to administer Direct Home Loan program.

Pursuant to (P.L. 102–527),[6] DVA was appropriated $58 million to make direct home loans to eligible Native American veterans living on trust lands through a Memorandum of Understanding (MOU) with Indian Nations, Alaska Natives and Native Hawaiians.[7] On January 1995, President Albert Hale and DVA signed the MOU. The Navajo veterans have not begun to fully utilize these loans because of the lack of accessibility and availability. The administration of this program was given to the Phoenix VA Regional Office which is 335 miles from the Navajo reservation. The Navajo veterans are discouraged by the enormous cost and long-distance travel involved including the complex loan application process. It is an eight-hour drive to Phoenix and the veterans are usually not guaranteed that they will be served that day in which case they spend an additional $80 for lodging and meals. In addition, they are not assured whether their loan applications would be approved. Whereas, if a field office were established on the Navajo reservation, it would only mean a short drive from their home to file the necessary paperwork.

Since the approval of the MOU between the Navajo Nation and DVA for direct home loans, only two have been approved and closed. NDVA requests that funding be made available to administer its own loan program for Navajo veterans on the Navajo reservation. The creation of the Navajo Home Loan field office would coordinate with DVA to administer loan programs, technical assistance and other benefit services. If given the opportunity, Navajo Nation will make services more convenient and accessible to Navajo veterans, using Navajo staff to make the process less intimidating and less costly.

7. Provide direct funding for employment and training.

In 1992, Congress appropriated funding[8] for the U.S. Department of Labor to provide employment and training to veterans. The Navajo Nation requests that direct funding be provided to meet the employment and training needs of Navajo veterans.

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[5] Veterans Health Care Amendments of 1979 (Public Law 96–22), 93 STAT. 47, and Veterans Health Care Act of 1992 (P.L. 102–585), 93 STAT 4943, Title I—Women Veterans Health Programs, November 4, 1992.

[6] Veterans Home Loan Program Amendments of 1992 (P.L. 102–547), to amend Title 38 U.S.C., with respect to housing loans for veterans, October 28, 1992.

[7] On January 10, 1995, DVA Secretary Jesse Brown and the Navajo Nation President Albert Hale signed the Memorandum of Understanding (MOU) under the DVA pilot program for direct loans to Native American veterans.

[8] Job Training Reform Amendments of 1992 (P.L. 102–367), JTPA, Title IV, Part C, U.S. Department of Labor Veterans Employment and Training, September 7, 1992.

Funding will be used to provide classroom training, on-the-job training, job counseling, vocational training for untrained and under-employed Navajo veterans with the goal of providing new skills that result in a steady long-term employment. Currently, there are competitive grants available from the U.S. Department of Labor which requires grant and proposal writers to apply for these grants. NDVA does not have the financial resources to hire grant writers to go after these funds.

CONCLUSION

Thank you for inviting the Navajo Nation to submit written testimony. Your hard work on behalf of Native American veterans does not go unnoticed. Lastly, the Navajo Nation recommends that a Veterans' Hospital be established on the Navajo Nation lands to enable the Navajo veterans of the Persian Gulf War, Vietnam and other foreign wars access to medical benefits. Major improvements are still needed to ensure that medical and other services are provided to improve their socioeconomic well-being to a level comparable to that of non-Indian veterans.

EXHIBIT A

Some results of the Navajo Vietnam Veterans Study

A total of 327 Vietnam theater veterans participated in the project.

Demographic description of Navajo Vietnam Veterans:

- 68% are currently married
- 92% have children
  - 51% of the veterans who have children have 3 or more.
- 58% have at least a high school education, while 40% report having attended at least some college.
- 59% are currently working, 22% are unemployed, and 5% are disabled, the remaining 14% are either working part-time, working off and on, or retired.

Serious problems since the war, as well as those still affecting them now.

One section of the questionnaire asked the veterans, in a general way, what problems they had experienced since the war, and whether they considered these problems serious, and if so, were these problems still serious today.

- 22% have had serious problems **finding jobs;**
  - 16% continue to have serious difficulty in this area.
- 30% have had problems **getting enough money to live on;**
  - 22% have serious problems in this area now.
- 21% have had serious problems **holding a job;**
  - 15.5% have this problem now.
- 6% have had serious **problems with drugs;**
  - 2% continue to have these problems.
- 43% report having problems with **drinking too much;**
  - 15% report having such problems now.
- 24% report having had **serious mental or emotional problems;**
  - 14% report such problems now.
- 28% report having had serious **physical health problems;**
  - 26% continue to have such problems.
- 12% report having had serious **problems with the law;**
  - 4% report having such problems now.
- 26% report having had serious **problems with their wives or children;**
  - 11% report having such problems now.

Physical health problems:

In this section we asked the veterans to give us their overall impression of their physical health, as well as to report on specific problems. We ended by asking questions about the degree of impairment caused by physical health problems.

- Twenty-nine percent (29%) report their health as "very good" or "excellent", 37% report it as "good", 28% as "fair", and 7% as "poor". When comparing their physical health to others their age, 37% of these veterans report their health as "better" than others their age, 46% as "about the same", and 17% as "worse".

- The reported prevalence of physical problems in the past year:

✓	Trouble hearing	48%
✓	Arthritis	35%
✓	Hypertension	35%
✓	Respiratory problems	27%
✓	Skin condition	19%
✓	Diabetes	16%
✓	Urinary tract problem	16%
✓	Heart trouble	11%
✓	Ulcers	11%
✓	Arm or hand stiffness	11%
✓	Back or leg stiffness	10%
✓	Seizures	7%
✓	Cirrhosis of the liver	3%
✓	Cancer	1%
✓	Paralysis	1%

- Impairment: Physical health has kept veterans from the following activities for 3 months or more.

✓	kept from working	19%
✓	limited other activities	19%
✓	trouble walking	14%
✓	driving a car	7%
✓	needed help in travel	5%
✓	stayed in bed	3%

- 53% report some physical limitation to the type of work they do
  - 53% of these report that the limitations are a result of their war experiences.

Services use:

We also asked the vets a good number of questions about their use of both biomedical (IHS, VA, etc.) and traditional health services, for both physical and emotional problems. When someone had used services, we asked about their experiences in that system; when they had not used these services, we asked "why not". The percentages given here are restricted to use of services for physical health problems.

- **Use of VA services:**

  - 45% had gone to the VA for a physical problems
    - ✓ 34% of these had received inpatient care at some time
      81% had received outpatient care at some time
      51% felt treatment was "good" or "excellent"

    - ✓ reasons the other 55% have not used the VA (they were allowed to choose more than one reason)

VA too far away	83%
used other health care	77%
wanted to solve problem on your own	52%
problem not serious enough	50%
treatment wouldn't help	32%
VA doesn't offer needed care	26%
not trust the VA	26%
too much red tape	25%
quality of care poor at VA	24%
worried about what others would think	20%
not eligible	15%
worried about racial prejudice	12%

- 28% have applied for VA disability; of these 64% have had their claim allowed, 21% have been denied, and for 15% the claim is pending. Of the 72% who have <u>not</u> applied for VA disability, 19% believe they do have a service-connected disability.

- **Use of IHS services:**

  - 67% had gone to IHS for physical problems
    - ✓ 45% of these had received inpatient care at some time
      71% had received outpatient care at some time
      55% felt treatment was "good" or "excellent"

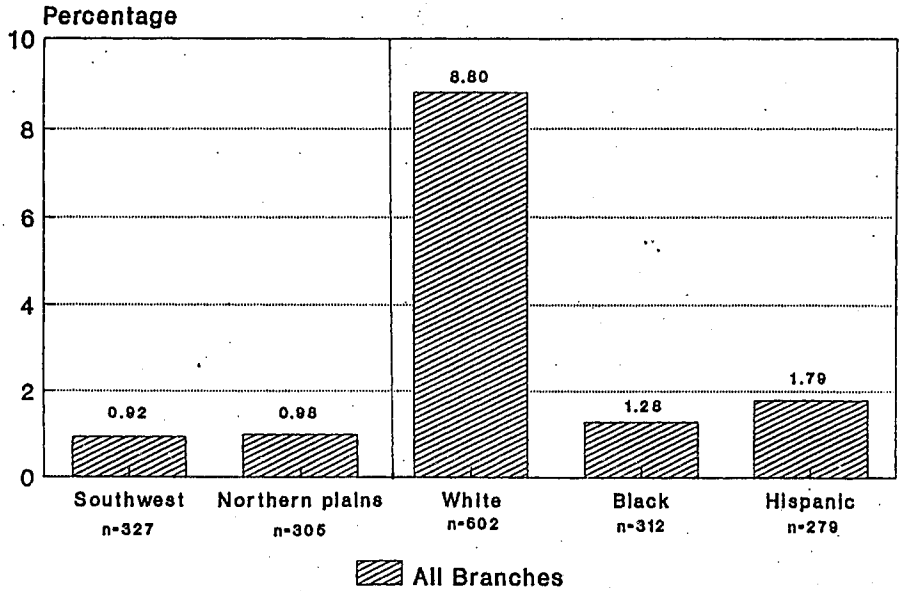
    - ✓ reasons the other 33% have not used the IHS (allowed more than one reason)

too much red tape	63%
problem not serious enough	60%
wanted to solve problem on your own	55%
used other health care	50%
quality of care poor at IHS	39%
IHS doesn't offer needed care	33%
treatment wouldn't help	33%
not trust the IHS	30%
worried about what others would think	22%
IHS too far away	15%
worried about racial prejudice	8%
not eligible	5%

- **Use of traditional services:**

  - 55% had gone to Traditional healers for a physical problem
    - ✓ 85% felt treatment was "good" or "excellent".

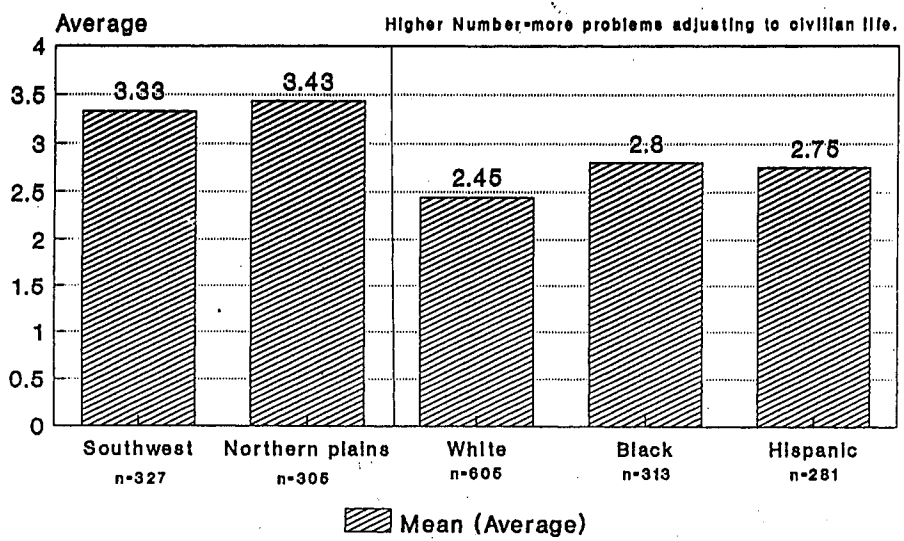
Commissioned Officers



Commissioned Officers.

From the graph you can see that the ethnic group with the most Commissioned Officers is the White (8.8%). Next are Hispanic (1.8%), then Black (1.3%). The Southwest (0.92%) and Northern Plains (0.98%) have the smallest percentages.

Index of Readjustment Problems
grouped by ethnicity



Index of Readjustment Problems.

For this category, having a higher number means that this ethnic group had more problems readjusting to civilian life after Vietnam. Each group was scored according to their responses in the interview. These scores were averaged for each group and that number appears at the top of each column for that group. So from looking at the graph, the group with the most problems are the Northern Plains (3.43) and the group with the least problems are the Whites (2.45).

Interim Report

Presidential Advisory Committee on Gulf War Veterans' Illnesses

◆

Executive Summary

President Clinton established the Presidential Advisory Committee on Gulf War Veterans' Illnesses to ensure an independent, open, and comprehensive examination of health concerns related to Gulf War service. This 12-member panel, made up of veterans, scientists, health care professionals, and policy experts, will review the full range of relevant activities, including: research, coordinating efforts, medical treatment, outreach, reviews conducted by other governmental and nongovernmental bodies, risk factors, and chemical and biological weapons.

As mandated by Executive Order 12961, we are delivering our interim report to the President, through the Secretaries of Defense, Health and Human Services, and Veterans Affairs, six months after our initial meeting (held on August 14-15, 1995). Our final report will be delivered no later than December 31, 1996.

This interim report includes four chapters addressing specific elements of the Committee's charter: outreach, medical and clinical issues, research, and chemical and biological weapons. The final chapter describes the Committee's work plan for the next 10 months. Within each chapter, the Committee presents its analytical approach; describes background material uncovered through testimony, document review, and interviews; and makes findings based on investigations to date. Recommendations we believe can improve the government's response to the broad array of issues encompassing Gulf War veterans' illnesses follow.

OUTREACH

The Committee found the Department of Defense (DOD) and the Department of Veterans Affairs (VA) have used a number of progressive techniques—from establishing telephone hotlines for the health care programs that serve veterans to posting declassified documents on the Internet—to educate veterans and other citizens concerned about Gulf War veterans' illnesses. Neither department, however, has adopted performance measures sophisticated enough to evaluate the success of these programs. Our investigation revealed some relatively simple ways for the departments to receive feedback on the utility of various outreach programs and a critical need to present information to veterans more clearly.

- *Operators at the DOD Medical Registry Hotline, DOD Incident Reporting Line, and VA Helpline should be instructed to ask "How did you find out about this number?" as a method of qualitatively measuring the success of the different methods for publicizing the numbers.*
- *In the next Comprehensive Clinical Evaluation Program end-of-evaluation questionnaire, which participants answer when the initial evaluation is completed, DOD should include a question about satisfaction with the referral provided by the Persian Gulf Medical Registry Hotline.*
- *DOD and VA should utilize more refined performance measures to determine how well outreach services are reaching concerned parties. Caller volume data are not adequate.*
- *To assist the general public in interpreting the declassified intelligence documents on GulfLINK* [a DOD site on the World Wide Web], *DOD should prepare a user's guide. This guide should explain in general terms the various sources of intelligence information, how they may differ in quality and reliability, and how intelligence analysts compile and evaluate reports from a variety of sources in the field to obtain corroboration before preparing a final assessment. This guide should be featured prominently on the GulfLINK home page.*
- *In its outreach campaign, VA should forego use of the term "priority care." VA should state clearly that Gulf War veterans are entitled to receive the Persian Gulf Health Registry examination free of charge, including any diagnostic testing found to be medically necessary and counseling regarding findings.*
- *VA should make its broadcast public service announcements (PSAs) about the toll-free Helpline more explicit. The PSAs should include brief explanations of the purpose of the Helpline and the referral process for the Persian Gulf Health Registry.*
- *Future conflicts are likely to generate controversial and unexplained health concerns, and DOD and VA should anticipate the need and plan for outreach services and implement them expeditiously.*

MEDICAL AND CLINICAL ISSUES

For this interim report, the Committee focused on medical treatment issues that surfaced during the deployment and demobilization of troops. We found DOD's policies and procedures were not adequate in all cases to prevent service members with preexisting conditions from being deployed or to identify health problems extant at the time of demobilization; these conditions could have contributed to some current health concerns.

The Committee believes DOD and the Food and Drug Administration (FDA) deliberated carefully before enabling, through rulemaking, DOD to require troops to take pyridostigimine bromide (PB) and botulinum toxoid (BT) vaccine as antidotes to possible chemical and biological warfare (CBW) agents without FDA approval of the products for that purpose. Yet we find FDA has failed, in the five years since the Gulf War, to devise better long-

term methods governing military use of drugs and vaccines for CBW defense. We also find DOD's inability to produce the records of who received PB or BT indicative of much need for wholesale improvement in the government's performance on medical recordkeeping during military engagements.

- *DOD should regularly review and update the policies and procedures that govern the pre-, during, and postdeployment medical assessment of the Ready Reserve to ensure they are current and adequate.*
- *DOD should establish a quality assurance program to ensure compliance with pre-, during, and postdeployment medical assessment policies.*
- *Prior to any deployment, DOD should undertake a thorough health assessment of a large sample of troops to enable better postdeployment medical epidemiology. Medical surveillance should be standardized for a core set of tests across all services, including timely postdeployment followup.*
- *Given that FDA's interim rule* [permitting waiver of informed consent for use of unapproved products in a military exigency] *is still in effect, DOD should develop enhanced orientation and training procedures to alert service personnel they may be required to take drugs or vaccines not fully approved by FDA if a conflict presents a serious threat of chemical and biological warfare.*
- *If FDA decides to reissue the interim final rule as final, it should first issue a Notice of Proposed Rule Making. Among the areas that specifically should be revisited are: adequacy of disclosure to service personnel; adequacy of recordkeeping; long term followup of individuals who receive investigational products; review by an institutional review board (IRB) outside of DOD; and additional procedures to enhance understanding, oversight, and accountability. The Committee, at this time, withholds judgment on the adequacy of the current interim final rule.*
- *DOD should assign a high priority to dealing with the problem of lost or missing medical records. A computerized central database is important. Specialized databases must be compatible with the central database. Attention should be directed toward developing a mechanism for computerizing medical data (including classified information, if and when it is needed) in the field. DOD and VA should adopt standardized recordkeeping to ensure continuity.*

RESEARCH

The Committee found most of the studies sponsored by DOD, VA, and the Department of Health and Human Services (DHHS) are well designed and appropriate to determine if Gulf War veterans have mortality, symp-

toms, or diseases that might be attributable to service in the Gulf War. However, we believe inadequate response to scientific peer review, disregard for the importance of allocating scarce research dollars to the best designed studies, and inattention to the need to communicate effectively with veteran participants are undermining the effectiveness of the government's research efforts. The lack of data about exposure to various risk factors (e.g., oil fire smoke or infectious diseases) also hampers research. Though DOD is attempting to recreate certain exposure scenarios with the Persian Gulf Registry of Unit Locations, we recommend heightened efforts to collect exposure data in future conflicts.

- *All epidemiologic studies aimed at Gulf War veterans' health issues should incorporate external scientific review and ongoing interaction with appropriate outside experts throughout the study process, from study design through analysis of results.*
- *The Persian Gulf Veterans Coordinating Board should play an active role in allocating the limited resources available for research on Gulf War veterans' illnesses. The Research Working Group of the Coordinating Board should monitor the findings and recommendations of scientific peer review committees. If scientific reviews draw into question the usefulness of particular studies to the overall research strategy, the Research Working Group should, via the Coordinating Board, recommend appropriate actions to the Secretaries of the three departments involved.*
- *DOD, DHHS, and VA should recommend their principal investigators use public advisory committees in designing and executing epidemiologic studies of Gulf War veterans' illnesses.*
- *For those questions that are common to different* [epidemiologic] *surveys, coordination between principal investigators and survey design experts should take place to arrive at common wording. The Persian Gulf Veterans Coordinating Board's Research Working Group should take responsibility for this coordination.*
- *The Persian Gulf Registry of Unit Locations should be made available to qualified government and private researchers as quickly as possible, within the constraints of confidentiality.*
- *DOD should make reasonable and practical efforts to collect and record better troop exposure data during future conflicts and to make those data available as quickly as possible to health care researchers.*

CHEMICAL AND BIOLOGICAL WEAPONS

The work of the United Nations Special Commission on Iraq (UNSCOM) provides a more definitive picture of Iraq's advanced CBW capabilities than was available at the time of the Gulf War and underscores the considerable uncertainty regarding Iraq's intentions to use CBW agents against American and coalition troops. The Committee believes the decisions of

DOD and the Central Intelligence Agency (CIA) to reopen their investigations of CBW in the Gulf War are positive steps and urges DOD and CIA to draw fully on their resources to answer some of the war's most controversial questions; we will monitor their progress carefully. In addition, we find improved technology to detect the presence of CBW agents would improve the health care surveillance of troops involved in future conflicts.

- *CIA and DOD should coordinate their analyses to ensure a comprehensive review of the complete record of the Gulf War. Each agency should make full and prompt disclosure of all findings.*
- *DOD should devote more attention to monitoring low-level (subacute) exposures to chemical warfare (CW) agents. One possible basis for such a system is the automated air-sampling system developed by the U.S. Army Edgewood Research, Development and Engineering Center for UNSCOM, which is using it to monitor emissions from Iraqi chemical plants. Another approach might be to modify the detection system the U.S. Army uses to monitor for leaks at chemical weapons storage depots.*
- *DOD should continue to invest in the development of a biological point detector/alarm system that can detect and identify biological warfare (BW) agent aerosols rapidly enough to enable troops to take protective measures before being exposed.*

CONCLUSION

The Committee adopted the strategy of investigating and analyzing for the interim report those key questions raised by the charter we believed could be answered in the near-term. Toward this end, the Committee received testimony from the public and government officials and reviewed scores of reports related to Gulf War veterans' illnesses. This document reports the Committee's evaluations to date and makes findings and recommendations in each of the major areas of our mandate, but our work is by no means complete.

Securing a healthy future for Gulf War veterans is of paramount importance to President Clinton. We promise our full dedication to his charge.

List of Acronyms

ACADA	-Advanced Chemical Agent Detector/Alarm
AFIS	-American Forces Information Service
AFRTS	-Armed Forces Radio and Television Service
BT	-botulinum toxoid
BW	-biological warfare
CBW	-chemical and biological warfare
CCEP	-Comprehensive Clinical Evaluation Program
CDC	-Centers for Disease Control and Prevention
CentCom	-Central Command
CIA	-Central Intelligence Agency
CW	-chemical warfare
DHHS	-Department of Health and Human Services
DMDC	-Defense Manpower Data Center
DOD	-Department of Defense
DSB	-Defense Science Board
DU	-depleted uranium
ESG	-Environmental Support Group
FDA	-Food and Drug Administration
GAO	-General Accounting Office
IIRs	-Intelligence Information Reports
IND	-investigational new drug
IOM	-Institute of Medicine
IRB	-institutional review board
NIH	-National Institutes of Health
OMB	-Office of Management and Budget
PB	-pyridostigmine bromide
PGIT	-Persian Gulf Investigation Team
PHS	-Public Health Service
PSAs	-public service announcements
UNSCOM	-United Nations Special Commission (on Iraq)
VA	-Department of Veterans Affairs
VBA	-Veterans Benefits Administration
VHA	-Veterans Health Administration

Timeline of Significant Events Concerning Persian Gulf Veterans' Illnesses

Policy, Congressional Hearings, Legislation		Clinical, Research, Oversight
	1990	
Saddam Hussein invaded Kuwait	August	
United Nations Resolution 678 - use "all necessary means" to get Iraq out of Kuwait	November	
	1991	
P.L. 102-1 signed, authorizing use of U.S. military forces in Southwest Asia; air attacks began	January	
Four-day ground war fought, ended Feb. 28	February	
	April	U.S. interagency report on health effects of oil fires
	May	VA initiated Mortality Follow-Up Study
Last troops in ground war returned to U.S.	June	
P.L. 102-190 signed establishing DOD registry of troops exposed to fumes from oil well fires	December	
	1992	
	April	Investigation of illnesses among Army reservists in Indiana
	August	VA established registry for ill Persian Gulf veterans (health examination program only); VA established three referral centers (Houston, TX; Washington, DC; West Los Angeles, CA)
First congressional hearings held before House Subcommittee	September	
P.L. 102-585 signed, establishing comprehensive VA registry, modifying DOD registry, mandating OTA reviews of both registries, and a NAS study	November	

	1993	
VA published first issue of *Persian Gulf Review*	February	
	May	VA Blue Ribbon Panel of scientists met to discuss veterans' illnesses
Hearings before House and Senate Committees	June	
Czech defense Minister announced detection of nerve gas during Gulf War	July	
VA designated as lead agency for Persian Gulf-related research	August	
Senator Donald Riegle's report on chemical and biological warfare	September	OTA report on VA health registry
VA chartered Persian Gulf Expert Scientific Committee (formerly Blue Ribbon Panel)	October	
Hearings before House and Senate Committees	November	Investigation of illnesses among members of Naval Reserve Mobile Construction Batallion in North Carolina; VA established neurologic disease pilot program (Birmingham, AL)
P.L. 103-210 signed, requiring VA to give priority medical treatment to eligible Persian Gulf veterans	December	VA initiated depleted uranium surveillance project (Baltimore, MD)
	1994	
Hearing before House Committee; formation of Persian Gulf Veterans Coordinating Board	January	
Hearing before House Committee	February	
Hearing before House Subcommittee	March	
	April	NIH Technology Workshop on Gulf War veterans' health
Hearings before Senate Committees; Senate Banking Committee report on chemical and biological warfare	May	
DOD established registry toll-free hotline	June	DOD instituted Comprehensive Clinical Evaluation Program; Defense Science Board Task Force report
	July	
GAO report on reproductive toxicants; hearing before Senate Committee	August	VA established three Environmental Hazards Research Centers (Boston, MA; Portland, OR; East Orange, NJ)
Hearings before Senate Committees	September	OTA report on DOD Kuwait oil fire registry
P.L. 103-446 signed, authorizing VA to pay disability benefits to Gulf War veterans with undiagnosed conditions; P.L. 103-452 signed, extending priority care through 2003	November	
Senate Veterans' Affairs Committee report on military research and veterans' health	December	First IOM report on CCEP; report on birth outcomes of Mississippi National Guard members

	1995	
	January	IOM report: Health Consequences of Service During the Persian Gulf War - Interim Findings and Recommendations for Immediate Action
VA established toll-free hotline; VA published regulations to compensate Gulf War veterans	February	
Hearing before House Subcommittee	March	
DOD created Persian Gulf Investigation Team	April	
Hearings before House Subcommittee; Presidential Advisory Committee on Gulf War Veterans' Illnesses established by Exec. Order 12961; DOD established toll-free incident reporting number	May	
DOD established GulfLINK	June	VA established fourth referral center (Birmingham, AL)
	August	Second IOM report on CCEP; Persian Gulf Veterans Coordinating Board working plan for research
United Nations Special Commission on Iraq report	October	
	November	VA initiated Persian Gulf Health Survey
	1996	
	January	Third IOM report on CCEP
	February	Presidential Advisory Committee on Gulf War Veterans' Illnesses interim report

Prepared by CRS (3/96)

VA Persian Gulf Registry: Most Frequent Complaints

(based on 44,190 exams)

- Fatigue - 20.1%
- Skin rash -18.4%
- Headache -17.2%
- Muscle/Joint Pain - 16.2%
- Memory loss - 13.5%
- Short of Breath - 7.6%
- Sleep Disturbance - 5.7%
- Diarrhea/GI - 4.4%
- No Symptoms or Complaints - 12.9%
  (5678 PGW Registry participants)

Persian Gulf Registry: Diagnostic Categories

(44,190 veterans)

- Nervous System -- 8.1%
- Infectious Disease -- 7.0%
- Circulatory System -- 7.0%
- Injury and poisoning -- 4.8%
- Genitourinary system -- 3.4%
- Musculoskeltal & Connective Tissue -- 24.1%
- Respiratory System -- 14.2%
- Mental Disorders -- 14.6%
- Skin -- 13.4%
- Digestive System -- 11.2%
- Symptomatic but no diagnosis - 20%

as September 1995

PERSIAN GULF WAR VETERANS' ILLNESSES **Summary of Legislation**	
P.L. 102-190 (H.R. 2100) Signed December 5, 1991	National Defense Authorization Act of FY1992-1993: (i) Required Secretary of Defense to establish a registry of the names of military personnel exposed to fumes from burning oil wells in connection with Operation Desert Storm. Provide medical examinations upon request to any member listed in the registry.
P.L. 102-585 (H.R. 5193) Signed November 4, 1992	Omnibus Veterans' Health-Care Improvements Act: (i) Required Secretary of Veterans' Affairs to establish a health registry of Persian Gulf War veterans who apply for health care or services from the VA, or who file a claim for disability compensation. Provide health examinations and counseling for veterans listed on the registry. Notify registry members of significant developments in research on the health consequences of military service in the Persian Gulf War. (ii) Amended P.L. 102-190 by expanding the DOD registry to include all other personnel who served in the Persian Gulf War. (iii) Required the National Academy of Sciences to review the scientific information on the health consequences of military service in the Gulf War and prepare a report. Required the Office of Technology Assessment to assess the potential utility of both the DOD and VA registries. (iv) Required the President to designate a lead Federal agency to coordinate all Federal research activities.
P.L. 103-210 (H.R. 2535) Signed December 20, 1993	Required the VA to give priority medical treatment to eligible Persian Gulf War veterans. Priority treatment authorization expired on December 1, 1994.
P.L. 103-452 (H.R. 3313) Signed November 2, 1994	Extended priority treatment authorization in P.L. 103-210 to the year 2003.
P.L. 103-446 (H.R. 5244) Signed November 2, 1994	Persian Gulf Syndrome Compensation Act: (i) Authorized the VA to pay disability compensation to Persian Gulf War veterans with undiagnosed medical conditions who were at least 10 percent disabled. (ii) Authorized the VA to study the impact of Persian Gulf Syndrome on the spouses and children of veterans who served in the Gulf War. Final rule on compensation payments published in the *Federal Register* on February 3, 1995.

Prepared by CRS (2/96)

THE STATUS OF EFFORTS TO IDENTIFY PERSIAN GULF WAR SYNDROME, PART II

THURSDAY, MARCH 28, 1996

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON HUMAN RESOURCES AND
INTERGOVERNMENTAL RELATIONS,
COMMITTEE ON GOVERNMENT REFORM AND OVERSIGHT,
Washington, DC.

The subcommittee met, pursuant to notice, at 11:10 a.m., in room 2247, Rayburn House Office Building, Hon. Christopher Shays (chairman of the subcommittee) presiding.

Present: Representatives Shays and Towns.

Staff present: Lawrence J. Halloran, staff director and counsel; Kate Hickey and Robert Newman, professional staff members; Thomas M. Costa, clerk; and Cherri Branson, minority professional staff.

Mr. SHAYS. I will call this hearing to order and give my statement. We will be officially in session with the participation of another member, but we will get started now.

Two weeks ago, testimony before the subcommittee by veterans, veterans' service organizations, and researchers expressed varying degrees of frustration over the response by the Department of Veterans Affairs, the VA, to the health problems of Gulf war veterans, frustration over an unfocused research agenda, and frustration over reluctant and inconsistent diagnosis and treatment, frustration that the only syndrome the VA seems to recognize is the "squeaky wheel syndrome" that requires veterans to fight as hard or harder for their survival at home as they fought in the Persian Gulf.

We also heard the inevitable frustration felt by those who desperately need a cure but who are told to wait while medical science searches for the causes of their illnesses. But while scientific inquiry may yield reliable answers only grudgingly, it is our task to make sure the government that sent 697,000 men and women into war is not as grudging about meeting the very real and very immediate needs of Gulf war veterans.

Today, we invite the Veterans Administration to respond to the issues raised in our previous hearing and to describe the most recent efforts to coordinate research and treatment programs. We also asked researchers and clinicians familiar with Gulf war veterans' health problems to comment on the diagnosis and treatment of these chronic, often debilitating symptoms. Specifically, we want to be assured that all plausible theories of causation for Gulf war veterans' illnesses are being aggressively explored.

We also want to be sure the research agenda and VA treatment protocols display no bias against the conclusion that the illnesses of Gulf war veterans are service-connected. Sadly, that is a suspicion harbored by many veterans and me. They suspect the broad array of possible causes, the wide variety of symptoms, and the resultant lack of a single diagnosis or "syndrome" will be used as a pretext to limit Federal liability while we literally study the problem to death.

As we heard in our last hearing, it is a suspicion based on the historic reluctance of the military and the VA to acknowledge the results of exposures, such as atomic radiation or Agent Orange. And it is a suspicion reinforced when veterans have to struggle to convince doctors and claims counselors that their pain is real. It is a suspicion we expect the VA to dispel through a concerted, urgent effort to find answers and offer treatment to Gulf war veterans.

I welcome all our witnesses here today, and I look forward to their testimony.

Before swearing them in, I want to say that I asked my staff "On a scale of 1 to 10, how would you describe the cooperation of the Department of Veterans Affairs, on a scale of 1 to 10?" They described the cooperation as a 2.

I can tell you that, if that's the case, we won't stop at three or four or five hearings. We will go on and on and on until we have the total and complete cooperation of this department, as we have with the other five departments that we oversee. I can't emphasize that enough. We have the staff to do the research. We will be continually persevering in our interest to get at the facts.

I will also say something else. One of the challenges that you have in communicating with us is that we are going to be—me, in particular, and other Members—this isn't our expertise, and we don't want to play the lawyer game of trying to ask the specific right question and get an answer that is only in response to that. We want there to be an effort to try to educate this committee, as well.

What I will say is that that was the past; today is today. I am going to make my own evaluation today and in the weeks and months to come.

Hopefully, my staff's feelings will change during the course of what happens in the future.

At this time, I would like to recognize the distinguished former chairman of this committee and, right now, ranking member, someone who has been really a pleasure to work with.

Mr. Towns.

Mr. TOWNS. Thank you very much, Mr. Chairman.

The VA health system is the largest, centrally managed health care delivery system in the Nation. The system includes 171 medical centers, over 300 clinics, and 132 nursing homes. The system employs almost 250,000 professional, technical, and support personnel. The system serves over a million patients and provides 24 million outpatient visits annually.

In essence, in a system with this huge coverage, there are undoubtedly instances in which policy and practice may not coincide. However, the better questions are whether a policy requiring universal implementation exists and whether procedures exist to as-

sure compliance and accountability. These questions can be answered in the affirmative. These policies are implemented through VA medical center directors who are responsible for assuring appropriate implementation of Persian Gulf policies and programs.

VHA established a quality management/self-assessment program for Persian Gulf veterans registry. Completed assessments are currently being returned, and survey results are expected in May 1996. I believe we must await the results of the assessment before we can determine whether quality management is really an issue.

Finally, Mr. Chairman, whenever one speaks of treatment, there is always a discussion of alternative treatments which may be beneficial. And that's a fact. While I encourage the VA to seek out physicians and researchers who may have noteworthy findings, it seems to me that the scarcity of research dollars made possible by the Congress would limit the VA's ability to adequately test the results of these private studies. And I think that's a fact.

Therefore, if our concern is that the Persian Gulf war vets receive effective treatment in a timely manner, I believe that our mission is this: Congress should be able to match our funding with our concerns. In other words, put up or shut up.

Again, I want to thank the chairman for holding today's hearing and look forward to the testimony of all the witnesses. I think this is a very important issue, and I agree with you that we need to have some answers. I think we have the people here today who can give us the answers.

I yield back.

[The prepared statement of Hon. Edolphus Towns follows:]

PREPARED STATEMENT OF HON. EDOLPHUS TOWNS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

I want to thank the chairman for holding this second hearing on Persian Gulf war veterans. The focus of today's hearing is the procedures used by the Department of Veterans Affairs for diagnosis and treatment of illnesses faced by Persian Gulf war vets.

This hearing was called to answer two questions: whether there is a standard protocol for diagnosing Persian Gulf vets and whether that protocol is implemented by the Department of Veterans Affairs. It is my understanding that the answer to both questions is yes.

The VA does have a standard protocol used in the examination of Persian Gulf war veterans. The uniform case assessment protocol was implemented by the VA and the DOD in 1994. The Institute of Medicine reviewed the protocol and found that it was a helpful diagnostic instrument. Additionally, the VA has established a national training program on Persian Gulf veterans health for its physicians and personnel caring for Persian Gulf vets.

All veterans who identify themselves through the Persian Gulf Registry, are given a standard medical examination. Seventy-seven percent of veterans who undergo this exam receive a diagnosis and are treated at local VA medical centers. If a diagnosis is not possible following the preliminary examination, a referral for a follow-up exam is given at one of the four Persian Gulf referral centers. These centers have developed expertise in addressing symptoms arising out of undiagnosed illnesses.

The VA health system is the largest centrally managed health care delivery system in the Nation. The system includes 171 medical centers, over 300 clinics and 132 nursing homes. The system employs almost 250,000 professional, technical and support personnel. The system serves over a million patents and provides 24 million outpatient visits annually. In essence, in a system with this huge coverage, there are undoubtedly instances in which policy and practice may not coincide. However the better questions are whether a policy requiring universal implementation exists and whether procedures exist to assure compliance and accountability. These questions can be answered in the affirmative.

These polices are implemented through VA medical center directors are responsible for assuring appropriate implementation of Persian Gulf polices and programs. VHA established a quality management/self assessment program for Persian Gulf Veterans Registry. Completed assessments are currently being returned and survey results are expected in May 1996. I believe we must await the results of that assessment before we can determine whether quality management is an issue.

Finally, whenever one speaks of treatment, there is always a discussion of alternative treatments which may be beneficial. While I encourage the VA to seek out physicians and researchers who may have noteworthy findings, it seems to me that the scarcity of research dollars made possible by this Congress would limit the VA's ability to adequately test the results of these private studies.

Therefore, if our concern is that the Persian Gulf war vets receive effective treatment in a timely manner, I believe that our mission in this Congress should be to match our funding with our concerns.

Again, I want to thank the chairman for holding today's hearing and look forward to the testimony of the witnesses.

Mr. SHAYS. I thank the gentleman.

Before swearing our witnesses, I just will take care of some housekeeping.

I ask unanimous consent that all members of the subcommittee be permitted to place an opening statement in the record and that the record remain open for 3 days for that purpose. And, without objection, so ordered.

I also ask unanimous consent that our witnesses be permitted to include their written statements in the record, if they choose to summarize. And they are encouraged to summarize, but not necessarily. This is very important, so we are not asking that you do summarize. And, without objection, so ordered.

At this time, let me just describe our panel. We have Dr. Thomas Garthwaite, who is Deputy Under Secretary of Health, Department of Veterans Affairs—all of our witnesses are from the Department—Dr. Susan Mather, Director, Office of Public Health and Environmental Hazards; Dr. Frances Murphy, Director of the Environmental Agents Service; Dr. Timothy Gerrity, Deputy Director, Medical Research Office; Mr. Quentin Kinderman, Assistant Director, Compensation and Pension Service.

So we have very qualified people to respond to our questions. I sincerely appreciate all of you being here. If you would all stand, we swear in all our witnesses, even Members of Congress.

[Witnesses sworn.]

Mr. SHAYS. For the record, all of our five witnesses have responded in the affirmative.

Dr. Garthwaite, are you the only one with testimony, and the others are here to respond, or do we have other testimony, as well?

Dr. GARTHWAITE. Right.

Mr. SHAYS. OK. What I will do is, I will have you make your statement, and then I will ask if any of you want to just emphasize a certain point. if you think of something you just want to emphasize before we start the questioning, you will all be permitted to do that.

Dr. Garthwaite, you don't have a time limit on you. That's a dangerous thing to say, but you are the primary witness, and you may make your testimony as you see fit.

STATEMENTS OF THOMAS GARTHWAITE, DEPUTY UNDER SECRETARY OF HEALTH, DEPARTMENT OF VETERANS AFFAIRS, ACCOMPANIED BY SUSAN MATHER, DIRECTOR, OFFICE OF PUBLIC HEALTH AND ENVIRONMENTAL HAZARDS; FRANCES MURPHY, DIRECTOR, ENVIRONMENTAL AGENTS SERVICE; TIMOTHY GERRITY, DEPUTY DIRECTOR, MEDICAL RESEARCH OFFICE; AND QUENTIN KINDERMAN, ASSISTANT DIRECTOR, COMPENSATION AND PENSION SERVICE

Dr. Garthwaite. Thank you, Mr. Chairman.

Dr. Kizer and I have been working hard for just over a year now to rethink and reinvent the Veterans Health Administration. We have a new goal, that is to be rated No. 1 by your staff, in terms of responsiveness, and we will see if we can't do that.

Mr. SHAYS. Thank you very much.

Dr. GARTHWAITE. I would like to thank you for this opportunity to appear here and would ask that the written testimony be submitted in whole, and I have a relatively brief summary, because I think that the best way to open up good communications is to deal with the issues that you have. With me today—you have already introduced the other members of the panel.

I am pleased to be here today to reaffirm VA's commitment to provide a timely and comprehensive response to the health concerns of Persian Gulf war veterans and their families. As Secretary Brown has often stated, we know that many Persian Gulf war veterans and their families are suffering from real health problems, and we will do everything we can to find the answers they need and deserve.

They answered the Nation's call, they faced great dangers bravely, and they fought gallantly. Our Nation's Persian Gulf veterans have earned their government's very best efforts.

Mr. Chairman, approximately 697,000 service members were deployed to Operation Desert Shield and Desert Storm, beginning in August 1990. U.S. troops were deployed to a bleak, sandy desert environment and were housed in crowded conditions, with little privacy and few sanitary facilities.

You and I, as citizens, watched on television the intense smoke from oil well fires. We knew of the very real threat of chemical and biological warfare. We saw the blowing sand. But what we couldn't see on television were the potential risks of pests, pesticides, endemic infections, multiple vaccines, nerve agent protection pills, exposure to depleted uranium, fumes from unvented tent heaters, burning of human waste, and exposure to petrochemicals.

We have a four-pronged strategy to address the concerns of Persian Gulf veterans. The first part of our strategy is to provide accurate diagnosis, available treatments, and compassionate and coordinated care to symptomatic veterans.

Since 1991, the Persian Gulf War Registry has provided veterans who have health concerns with access to a comprehensive physical examination and baseline laboratory tests. The information from these examinations is entered in a computerized data base, and the results are closely monitored to identify patterns of illness and complaints among Persian Gulf war veterans.

By the end of January 1996, more than 57,000 veterans had received registry examinations at VA medical centers nationwide.

The most common symptoms reported by Persian Gulf veterans requesting the examination are: fatigue, skin rash, headache, joint and muscle pain, memory and concentration problems, shortness of breath, sleep disturbances, and gastrointestinal complaints. To date, no single exposure or unique new syndrome appears to explain the illnesses seen in the registry participants.

The second part of our strategy is to provide health care benefits and compensation to affected veterans for undiagnosed illness. In 1993, the President signed legislation authorizing priority health care, both inpatient and outpatient, for Persian Gulf war veterans. Under this authority, veterans are eligible for free VA health care for any disability that may be associated with exposure, during their service, to a toxic substance or environmental hazard in the Gulf.

The third part of our strategy is to conduct research to find the causes and best treatments for the problems reported by Persian Gulf war veterans. A cornerstone of the VA research efforts is the national health survey of Persian Gulf veterans. It is designed to determine the prevalence of symptoms and illness among a representative sampling of Persian Gulf veterans across the Nation. When this study is complete, we will have a picture of the prevalence of symptoms and illnesses among the entire population of Persian Gulf veterans and their spouses and children.

VA scientists are also conducting a number of smaller epidemiologic studies. These studies focus on specific clinical end points and organ systems, including the central nervous system, the immune system, and the endocrine, musculoskeletal, and gastrointestinal systems. Significant progress has been made in the studies of the central nervous system, with particular emphasis on psychological and neurological end points. Several other studies have demonstrated an increased prevalence of PTSD, stress reaction, and psychological disorders among Persian Gulf war veterans.

The fourth prong of our comprehensive Persian Gulf illness strategy is to reach out to veterans to keep them informed of how to access our help and to keep them aware of the current state of our knowledge of the health effects of service in the Persian Gulf. This is done through meetings, personal contacts, telephone lines, computer access, and media and public service announcements.

We are aware that, in the huge medical system which has provided care to approximately 150,000 Persian Gulf war veterans and special registry examinations to more than 57,000, some veterans will encounter problems with some aspect of their care. We have instituted several quality assessment measures in our program and have intensified our training efforts.

I want to encourage all veterans who have any concerns regarding Persian Gulf illness to call our Persian Gulf Help Line at 1–800–PGW–VETS. By calling this number, veterans can let us know of their personal concerns and give our staff a chance to help them as much as possible.

In closing, we are committed to caring for veterans whose health may have been adversely affected as a result of their service in the Persian Gulf war. We are, likewise, committed to fully addressing the questions and health-related concerns of Persian Gulf war vet-

erans and their families. We welcome any and all suggestions from this committee or from any source.

This concludes my statement, Mr. Chairman. My colleagues and I will be pleased to respond to any questions you or other Members may have.

[The prepared statement of Dr. Garthwaite follows:]

PREPARED STATEMENT OF THOMAS GARTHWAITE, DEPUTY UNDERSECRETARY FOR HEALTH, DEPARTMENT OF VETERANS AFFAIRS

Mr. Chairman and Members of the Subcommittee: Thank you for this opportunity to discuss with you the various Department of Veterans Affairs programs for Persian Gulf War veterans. With me today are Dr. Susan Mather, Chief, Public Health and Environmental Hazards Officer, Dr. Frances Murphy, Director, Environmental Agents Service, Dr. Timothy Gerrity, Deputy Director, Medical Research Service, and Mr. Quentin Kinderman, Assistant Director, Policy and Planning, Compensation and Pension Service.

I am pleased to be here today to reaffirm VA's commitment to provide as timely and comprehensive a response as possible to the health concerns of Persian Gulf War (POW) veterans and their families. As Secretary Brown has often stated, we know that many PGW veterans and their family members are suffering from real health problems, and we will leave no stone unturned in our efforts to find the answers they need and deserve. They answered the nation's call, faced great dangers bravely, and fought gallantly. They have earned our very best efforts.

To address their needs, VA has developed a four-pronged approach covering medical care, education and outreach, research, and compensation programs. Since the focus of this hearing is health care programs, I will restrict my comments to the first three VA program areas.

Before I discuss the Department's efforts, I believe it is important to outline some background information to provide an appropriate context. Approximately 697,000 service members were deployed to Operations Desert Shield and Desert Storm beginning in August 1990. Of those troops approximately 17 percent served in Reserve or National Guard units and 7 percent were women. U.S. troops were deployed to a bleak, sandy desert environment and were housed in crowded conditions with little privacy and few sanitary facilities. Smoke from oil well fires, the threat of chemical and biological warfare, blowing sand, pests and pesticides, multiple vaccines and nerve agent protection pills (pyridostigmine bromide), depleted uranium, fumes from unvented tent heaters, open burning of human waste, exposure to petrochemicals and solvents, CARC (chemical agent resistant coating) paint, and the possibility of exposure to endemic infections are now under investigation as factors which may have adversely impacted the health of some PGW veterans.

MEDICAL CARE

In preparation for the return of Persian Gulf veterans after Desert Shield and Desert Storm, the Veterans Health Administration, Office of Public Health and Environmental Hazards developed a Persian Gulf Registry Health Examination Program in April 1991. We began then what was the first of a significant number of actions to address health issues related to service in the Persian Gulf. The PGW Registry was designed to provide veterans who have health concerns with access to a comprehensive physical examination, baseline laboratory tests, and other appropriate diagnostic tests. The information from these examinations is entered into a computerized data base with the results closely monitored to discern patterns of illness and complaints among PGW veterans. As of January 31, 1996, more than 57,000 veterans received Registry examinations at VA medical centers nationwide. A summary of the latest available information contained in the Registry database has been provided to the Subcommittee.

I want to emphasize that the Registry was designed, first and foremost, to provide medical evaluations and care for Persian Gulf veterans with health concerns after their Gulf War service. Secondarily, this clinical program was designed to afford VA a means to track trends in health patterns among these veterans and monitor for sentinel medical events, but it remains primarily a health care program. The foundation of any potential outbreak investigation is a clinical description of the illness or illnesses. Therefore, the first step to clinical understanding involves careful medical evaluations of the affected individuals. The Persian Gulf Registry has provided such a systematic examination protocol to accomplish these clinical goals.

We have evaluated the results of the first 52,916 PGW Registry examinations (46,757 men and 5,429 women). The most common symptoms reported by Persian Gulf veterans requesting the examination are: fatigue (20%), skin rash (18%), headache (18%), joint and muscle pain (17%), memory and concentration problems (14%), shortness of breath (8%), sleep disturbances (6%), and GI complaints (5%). A wide spectrum of diagnosable medical conditions spanning the entire array of medical illnesses, is identified in Registry participants. To date no single exposure or unique, new syndrome appears to explain the illnesses seen in the Registry participants. Oversight committees such as the Institute of Medicine, the Presidential Advisory Committee on Gulf War Veterans' Illnesses and the NIH Technology Assessment Workshop Panel, have independently come to the same conclusions regarding the health problems identified in the Persian Gulf veterans. However, we must remember that because of the voluntary, self-selected nature of the VA Registry these results cannot be generalized to the entire population of PGW veterans nor can the results provide definitive answers to the questions raised about the health of Persian Gulf veterans. Those answers will be provided by research studies.

Seventy-seven percent of PGW veterans receiving care at VA medical centers have diagnosable medical conditions. The remaining 23 percent suffer from unexplained illnesses, that is, their symptoms elude medical diagnosis. The absence of a diagnosis does not imply the absence of the need for medical treatment.

If a Persian Gulf veteran presents with symptoms which cannot be diagnosed or otherwise medically managed at the local VA medical center, a referral can be made to one of four Referral Centers at VA medical centers in Birmingham, Houston, Washington, DC, and West Los Angeles. As of January 1996, there have been more than 300 admissions to the Referral Centers. The expertise developed at the Referral Centers has resulted in diagnosis and treatment of many veterans with previously unexplained illnesses. Furthermore, the uniform case assessment protocol, which was implemented nationwide by VA and DoD in 1994 for evaluation of PGW veterans with unexplained illnesses, was developed and piloted by the VA Referral Center in Washington. A review of the protocol by the Institute of Medicine praised it as a good tool for evaluation of difficult-to-diagnose PGW veterans.

As VHA learned about the PGW veterans' concerns, exposures and illnesses, the Phase I Registry protocol was revised to record data on ten or more symptoms and diagnoses, reproductive outcomes, and an expanded list of exposures. In addition, a uniform case assessment protocol (comparable to the Department of Defense Comprehensive Clinical Evaluation Program protocol) was developed for evaluation of PGW veterans with unexplained illnesses and incorporated into the Registry protocol as Phase II.

In 1993, legislation authorizing priority health care for Persian Gulf War veterans on both an inpatient and outpatient basis, was signed into law by the President. Under this authority, PGW veterans are eligible for priority VA treatment and care for any disability that may be associated with their possible exposure during service (in Southwest Asia theater) to a toxic substance or environmental hazard, unless the VA physician determines the disability was caused by something other than such possible exposure. However, as the Presidential Advisory Committee on Gulf War Veterans' Illness in its interim report pointed out, the terminology "priority care" creates confusion for some veterans. VA will clarify the concept of priority care in its future outreach efforts.

Moreover, in response to concerns raised about any possible long-term effects of exposure to retained depleted uranium (DU) shrapnel, we have established a Depleted Uranium Medical Surveillance program at the Baltimore VA Medical Center (VAMC). The program provides medical follow-up for veterans and active duty soldiers who have been wounded with munitions containing DU. Individuals identified as having been on or in a vehicle at the time it was struck with DU munitions were contacted and asked if they wished to participate. Thirteen veterans and 17 active duty soldiers participated in this medical evaluation program. Participants underwent x-ray examination to determine the presence and location of shrapnel and 24 hour urine collection for uranium levels. The first eight subjects underwent whole body radiation counting for retained radioactivity. All participants were asked to undergo a battery of diagnostic blood tests, urine analysis, high resolution chest CT, a structured psychiatric interview and a battery of neuropsychological tests. DU has low radioactivity and is primarily an alpha particle emitter. Therefore, radiation biologists feel that the potential adverse health effects are more likely to result from kidney and nervous system toxicity due to DU's chemical properties as a heavy metal rather than its radioactivity. Evaluations to date have not shown evidence of heavy metal toxicity. Further follow-up is planned for the future.

INFORMATION DISSEMINATION

The problems faced by PGW veterans are complex and pose new challenges for VA health care providers. In response, VA has developed a large number of innovative programs to serve the needs of these veterans. We have used a wide variety of means to inform our managers, physicians, and employees of the latest developments in this rapidly changing field. Conference calls, exhibits, electronic mail, information letters, periodic mailings to Registry physicians, quarterly newsletters, and policy directives have been utilized to inform medical centers about the latest relevant legislative and policy changes.

Continuing medical education on PGW veterans' illnesses has been provided through a series of nationwide satellite video teleconferences. Five teleconferences were broadcast in the past and a sixth is planned for April 19, 1996. These teleconferences provide VA the means to disseminate new knowledge in a timely and effective manner. In addition, a two day conference on PGW veterans' health was held in July 1995; it was attended by approximately 100 VA health care providers. This year VA has initiated a National Training Program for PGW veterans' health issues, which will further expand our education efforts. Better education and understanding of the possible health consequences of Persian Gulf service should increase quality of care delivered to PGW veterans.

Complementing these efforts are VA's outreach programs for PGW veterans. VA has used a wide variety of methods to inform PGW veterans about medical care, research and benefits programs. Posters, public service announcements, quarterly newsletters, and a variety of print media have been produced to communicate with veterans and their family members. In February 1995, VA established a toll-free Helpline (1–800–PGW–VETS) and an on-line computer information service (1–800–US1–VETS). More than 150,000 calls have been received by the Helpline as of March, 1996. As the Subcommittee is aware from testimony provided on March 11, 1996, both the Institute of Medicine and the Presidential Advisory Committee have recommended specific enhancements of VA PGW outreach programs. We have already begun to redesign our public service announcements, Helpline operations and other communication vehicles and VA will carefully measure our progress in the future.

COORDINATION OF FEDERAL ACTIVITIES

In January of 1994 the Secretaries of Veterans Affairs, Defense, and Health and Human Services established the Persian Gulf Veterans Coordinating Board. The Coordinating Board is supported by three working groups: the Clinical Working Group, the Disability/Compensation Working Group, and the Research Working Group. The Subcommittee has been provided an article published in the Federal Practitioner which describes the function and mission of each Working Group. To illustrate one aspect of the Board's Important contributions, I will describe for you now the activities of the Research Working Group.

In 1993, pursuant to Public Law 102–585, the President named VA's Secretary to coordinate all federal research on PGW veterans. As a result, the Research Working Group is chaired by the VA Offce of Research and Development. It is charged with:

- assessing the state and direction of PGW-related research;
- identifying gaps in factual knowledge and conceptual understanding; identifying testable hypotheses;
- identifying research approaches to test hypotheses;
- reviewing research concepts as they are developed;
- collecting and disseminating scientifically peer-reviewed research information; and
- insuring that appropriate peer review and oversight of research are conducted.

Membership on the Research Working Group consists of 13 senior research and clinical managers from VA, DoD, HHS, and the Environmental Protection Agency (EPA). The Research Working Group meets monthly to carry out its functions. Specific tasks and projects the Research Working Group have undertaken include: inviting speakers to present ideas and preliminary research results to the Research Working Group; sponsoring meetings of investigators at which they can exchance information with each other: maintaining a database on PGW veterans research, developing the *Working Plan for Research on Persian Gulf Veterans Illnesses;* and conducting programmatic review of proposals submitted to DoD's recent Broad Agency Announcement for research on PGW veterans' illnesses.

Virtually all current federal research directly related to PGW veterans' illnesses is conducted or sponsored by VA, DoD, or HHS. These three departments currently conduct or sponsor 71 distinct research projects on PGW veterans' illnesses, of

which 52 are ongoing, 18 are complete and 1 planned. VA alone is conducting or sponsoring 36 projects, of which 26 are ongoing, 9 are complete and 1 planned. Most of the large (and many of the small) research projects and programs, such as the large epidemiology studies and VA's three Environmental Hazards Research Centers (encompassing 14 projects), involve some participation by all three departments and the EPA. In many cases scientists from two or more departments are direct collaborators on a project or program.

The scope of the research sponsored or conducted by the federal government is very broad. In size, projects range from small pilot studies using limited or no directly appropriated research funds, up to large-scale epidemiology studies and major research centers using significant amounts of appropriated research funds.

The 71 research projects on PGW veterans' illnesses represent only research which is judged to be directly related to the health problems of PGW veterans. The federal research portfolio on PGW veterans' illnesses does not account for the vast number of research projects funded over the last 40 years by the federal government, that form the foundation upon which the current 71 projects rest.

A recently completed VA study conducted by the Environmental Epidemiology Service followed the cause-specific mortality experience of all 697,000 service members deployed to the Persian Gulf during Operations Desert Shield/Desert Storm up to September 1993. When compared with the mortality experience of non-deployed service members over the same time period, there was an increase in the overall mortality rate of deployed PGW veterans. However, when deaths due to accidents, suicide, and homicide were excluded, there was a decrease in mortality related to any specific disease. These data suggest that at this time PGW veterans have not experienced life-threatening illnesses at a rate beyond that of a control population of non-deployed veterans.

Indeed, when compared with appropriate groups of U.S. civilians, the deployed veterans have a lower mortality rate. VA plans to conduct additional mortality follow-up studies at appropriate time intervals.

A cornerstone of the VA research efforts on PGW veterans illnesses is the National Health Survey of Persian Gulf Veterans. This study is well underway. It is a population-based health survey of 30,000 veterans representing various strata of troops from the Persian Gulf era (15,000 Persian Gulf veterans and 15,000 non-Persian Gulf veterans, males and females). The study is designed to determine the prevalence of symptoms and illnesses among a representative sampling of PGW veterans across the nation. The study is being conducted in three phases. In Phase I a health questionnaire was mailed to all 30,000 veterans followed by multiple follow-up mailings to increase the overall response rate. The first questionnaire mailing was in November 1995, and the first follow-up was in January 1996. Phase I should be complete by May 1996 with results shortly thereafter Phase II is a telephone interview of 4,000 non-respondents from Phase I (2,000 from each group) to determine if there are any symptom/illness differences between respondents and non-respondents. In addition, 1,000 respondents from each group will be selected for a record review (medical, hospital, personnel, etc.) to validate their responses from the mail survey. Phase II will begin later this year. Finally, VA plans to conduct a Phase III of the study. In Phase III the latter 2,000 veterans would be invited, along with their family members, to participate in a comprehensive physical examination protocol at a VA, DoD, or private medical facility. VA hopes to complete Phase III by Spring 1998. When this study is complete we will have a picture of the prevalence of symptoms and illnesses among the entire population of PGW veterans and their spouses and children.

Besides these two large epidemiology studies, VA scientists have been engaged in a number of smaller epidemiology studies. These studies focus on specific clinical endpoints and organ systems including: the central nervous system, the immune system, and the endocrine, musculo-skeletal, and gastrointestinal systems. Significant progress has been made on studies of the central nervous system with particular emphasis on psychological and neurological endpoints. Several studies have demonstrated an increased prevalence of PTSD, stress reaction, and other psychological disorders among PGW veterans. Six of the completed VA projects involve psychological and neuropsychological endpoints.

Besides the ongoing VA-led projects, VA is involved with research conducted or sponsored by other Departments. An important example is a study of birth defects and health problems among children born to PGW veterans in Mississippi. In late 1993 there was a report of an apparent cluster of birth defects and other health problems among children born to veterans of two Mississippi National Guard units that had been deployed to the Persian Gulf during Operations Desert Shield/Desert Storm. The Department of Veterans Affairs in Jackson, Mississippi, the Mississippi State Department of Health, and the Centers for Disease Control and Prevention

(CDC) conducted a collaborative investigation to determine whether an excess number of birth defects occurred among children born to this group of veterans. Investigators reviewed the medical records of all children conceived by and born to veterans of these two units after deployment to the Persian Gulf. The total number of major and minor birth defects was not greater than expected. Limitations of statistical power due to the small number of births (54) prevented investigators from drawing conclusions about the occurrence of specific birth defects. The frequency of premature birth and low birth weight in the study group appeared similar to that in the general population. This study was published in January 1996 in the journal *Military Medicine* after undergoing scientific peer review.

Another example of inter-Departmental collaboration is a study conducted by CDC of illnesses among Pennsylvania Air National Guardsmen. This study was requested by VA, DoD, and the Pennsylvania Department of Health to investigate a report of illnesses among members of an Air National Guard Unit. CDC conducted a three stage investigation to: 1) characterize signs and symptoms among the veterans in this unit who were being seen at a local VA medical center; 2) determine whether the prevalence of symptoms was higher among members of this unit compared to three other units and higher among deployed than non-deployed personnel; and 3) characterize the illnesses and identify risk factors. At this time stages 1 and 2 have been completed.

In the first stage, 59 symptomatic PGW veterans from the VA medical center were interviewed and received standard physical exams. A variety of chronic symptoms were reported including: fatigue, joint pain, nasal or sinus congestion, diarrhea, joint stiffness, unrefreshing sleep, excessive gas, diffculty remembering, muscle pains, headaches, abdominal pains, general weakness, and impaired concentration.

In the second stage, members of the index unit and three comparison units were surveyed to determine the prevalence of selected symptoms identified in stage 1. All units included deployed and non-deployed veterans. In all units chronic symptom prevalence was significantly greater among deployed than non-deployed veterans. The prevalences of self-reported symptoms from five categories: chronic diarrhea, gastrointestinal complaints, difficulty remembering or concentrating, "trouble finding words," and fatigue, were all significantly greater in the deployed veterans from the index unit than the deployed veterans from the other units. These findings were reported in a June 1995 article in *Morbidity and Mortality Weekly Report.*

Except for ascertainment of vaccination status, third stage data collection is complete. Testing for infectious agents and analysis of the data are underway.

Epidemiologists at VA are involved in a group of seven epidemiology studies of PGW veterans and their family members being conducted by the Naval Health Research Center in San Diego, California. These studies are focused on three general areas: (1) overall symptom prevalence among PGW veterans; (2) reproductive health of PGW veterans and spouses; and (3) hospitalizations of PGW veterans. Two of the seven studies have produced preliminary data which were reported at the Annual Meeting of the American Public Health Association Meeting in San Diego, California, in October 1995. A study of 1,500 Seabees shows that those who were deployed to the Persian Gulf have an increased prevalence of symptoms and abnormal psychological indices but no objective physiological differences when compared with their non-deployed counterparts. A second study of the hospitalization records of DoD hospitals reveals that deployed PGW veterans have been no more likely to be hospitalized since the Persian Gulf War than their non-deployed counterparts. A third study, an examination of DoD hospital records for pregnancy outcomes, is nearly complete with results expected very soon.

To summarize the findings to date, early studies indicate the following:

- It is clear that some cohorts of PGW veterans are experiencing an excess of symptoms in comparison with non-deployed veterans of the same era. The connection between symptoms and a specific disease pathology or pathologies has not yet been identified. Until the VA National Health Survey and other large epidemiology studies are complete, it is not possible to generalize these results to the entire PGW veteran population.
- Based on VA and DoD mortality studies, there does not appear to be an excess of disease-related deaths in PGW veterans when compared to veterans of the same era indicating that, at least at present, any excess illnesses are not life-threatening.
- The Navy study of hospitalizations indicates that, at least among active duty personnel, the rate of hospitalizations of PGW veterans does not exceed their non-deployed counterparts. This suggests that PGW veterans are not experiencing (at this time) an excess of illnesses of a severity that would lead to hospitalization. Caution must be exercised in drawing a more general conclusion because the study does

not account for veterans who may have left the military. A subsequent study is examining civilian hospitalization records.

• One focused study of a small cohort of PGW veterans was unable to uncover an overall excess of birth defects among their offspring. As with the hospitalization study, caution must be exercised in drawing more general conclusions about birth outcomes. Although this study suggests that there are no problems with pregnancy or birth outcomes among PGW veterans and spouses, further study is underway to provide more definitive results.

The future course of research has been mapped out by the Research Working Group. At the conclusion of the *Working Plan for Research on Persian Gulf Veterans' Illnesses* the Research Working Group identified areas of concern in need of further investigation. These were:

• studies of the prevalence of illnesses within other coalition forces;

• studies of the prevalence of illnesses within indigenous populations;

• studies of the prevalence of adverse reproductive outcomes among PGW veterans and their spouses;

• simple and sensitive tests for *Leishmania tropica* infection leading to quantitation of the prevalence of *L. tropica* infection among PGW veterans; and

• studies on the long-term, cause-specific mortality among PGW veterans.

These areas of inquiry were used by DoD in their solicitation of proposals contained in a Broad Agency Announcement in June 1995. Over 100 proposals were reviewed by outside scientific peer-review panels for scientific merit. After ratings were assigned by the peer-review panels, summary review statements (redacted for personal and institutional identifiers) were provided to a subcommittee of the Research Working Group for the purpose of evaluating proposals for their relevancy to the research needs established by the *Working Plan.* The Subcommittee refrained from any further scientific review relying on the scientific peer-review panels for that. The Subcommittee forwarded its recommendations on fundable projects through the full Research Working Group and the Persian Group Veterans Coordinating Board to DoD. DoD is currently finalizing negotiations with the offerors and will soon be making a public announcement about awards. I am pleased with the hard work of DoD and the Research Working Group in arriving at a list of new research projects that are of the highest scientific guality and fill in gaps in knowledge about PGW veterans' illnesses.

EVALUATION OF THE SPOUSES AND CHILDREN OF PERSIAN GULF WAR VETERANS

Section 107 of Public Law 103–446, "Evaluation of Health Status of Spouses and Children of Persian Gulf Veterans," provides for the conduct of a study to evaluate the health status of spouses and children of PGW veterans. This study must be carried out to determine the nature and extent of association, if any, between the illnesses or disorders of the spouses or children and the illnesses of veterans. Section 107 also requires the development (and dissemination to outside entities) of standard protocols and guidelines for testing and examinations, entrance of examination results of spouses and children in the VA Persian Gulf War Veterans Health Registry, outreach initiatives, and a final report to Congress, analyzing the data gathered and making any appropriate recommendations.

VA has begun work on three new programs. First, in April 1996 VA will establish a voluntary examination program for PGW veterans' spouses and children—at no charge to them—and enter the results of these evaluations in the Registry. Second, we have developed a mechanism to enter the results of private physician examinations of spouses and children into the Registry. Third, Phase I of the National Health Survey of Persian Gulf Veterans will look at veterans' symptoms frequency, their Gulf exposures, birth defects in the veterans' children, and reproductive problems after Persian Gulf Service.

VA has taken a number of additional steps to further comply with section 107. VA developed a uniform case assessment protocol; in September 1995, published instructions for VA physicians for using the protocol as a clinical guideline when evaluating health problems among PGW veterans' family members; and developed and soon will publish a code sheet and instructions for private physicians' reports on family members' examination results. VA will make the code sheets and instructions available to all interested parties as soon as possible. VA researchers will analyze completed code sheets to identify health trends in family members to generate hypotheses for testing in scientific studies.

The Department of Veterans Affairs would like to extend our appreciation to the Presidential Advisory Committee on Gulf War Veterans' Illnesses and the Institute of Medicine for their interim reports and their contribution to addressing the needs and concerns of PGW veterans and their families.

VA has an obligation to address the needs of PGW veterans through medical care, compensations, and research into what is causing their health problems. We believe that our comprehensive programs are meeting the vast majority of these expectations. Nonetheless, the recommendations on further enhancements will ensure that VA continues to make improvements in response to the needs of PGW veterans and their families. The recommendations that were specific to VA will be closely evaluated in the process of developing appropriate implementation plans. Specifically, VA will provide detailed responses for the following areas addressed:

VA's research is world-class, and its peer-review process for medical research is second to none. However, special care will be taken in the external peer review process for federally-funded PGW-related research programs and in ensuring comparability among epidemiological studies.

Regarding the recommendations on the Persian Gulf War Coordinating Board, VA's Under Secretary of Health, with the Board's executive director, has taken steps to implement closer coordination by the Board's Research Working Group of research monitoring, review and strategic planning. The Working Group will monitor the findings and recommendations of scientific peer review committees and continue to play an active role in the allocation of the resources available for research on Persian Gulf War Illnesses.

Within the next few weeks VA will provide detailed implementation plans for actions based on the Presidential Advisory Committee's recommendations.

In closing, I want to emphasize that we are committed to caring for veterans whose health may have been adversely affected as a result of their service in the Persian Gulf. We are likewise committed to fully addressing the questions and health-related concerns of PGW veterans and their families. This concludes my formal statement. I would be pleased to respond to any questions you may have.

VA Fact Sheet

VA PROGRAMS FOR PERSIAN GULF VETERANS

The Department of Veterans Affairs (VA) offers Persian Gulf veterans physical examinations and special eligibility for follow-on care, and it operates a toll-free hotline at 800–749–8387 to inform these veterans of the program and their benefits. VA also is compensating veterans under unprecedented regulations addressing undiagnosed conditions. Special research centers and other investigations are searching for answers to aid seriously ill patients whose underlying disease is unexplained. Most Gulf veterans are diagnosed and treated; but for some, such symptoms as joint pain or fatigue have been chronic. Some respond to treatment of symptoms even though their doctors have not yet identified an underlying illness or pathogenic agent.

UNEXPLAINED ILLNESS: The prevalence of unexplained illnesses among Persian Gulf veterans is uncertain. Data from special VA examinations show that 10,391 veterans had current symptoms and did not receive a diagnosis. This may be an overestimate or under-estimate of the problem of "undiagnosed illnesses" as the diagnoses recorded may not explain all the symptoms. Further, VA does not have information on the chronology, severity or current existence of the symptoms. Answers about illness prevalence are expected through epidemiologic research involving representative samples of the Gulf veteran population (see page 3).

PERSIAN GULF "SYNDROME" UNDEFINED: Several panels of government physicians and private-sector scientific experts have been unable to discern any new illness or unique symptom complex such as that popularly called "Persian Gulf Syndrome." "No single disease or syndrome is apparent, but rather multiple illnesses with overlapping symptoms and causes," wrote an outside panel led by professors from Harvard and Johns Hopkins University that convened for an April 1994 National Institutes of Health (NIH) workshop. VA has neither confirmed nor ruled out the possibility of a singular Gulf syndrome.

RESEARCH AND RISK FACTORS: With variation in exposures and veterans' concerns ranging from depleted uranium in armaments to possible contamination from Iraqi chemical/biological agents, VA has initiated wide-ranging research projects evaluating illnesses as well as risk factors in the Gulf environment, spending $2.75 million in fiscal year 1995. The activation of three research centers conducting 14 protocols has enabled VA to broaden its activity from largely descriptive evaluations to greater emphasis on hypothesis-driven research.

STATISTICS

Some 945,000 servicemembers served in the Gulf from August 1990 through the end of 1994, nearly 697,000 of them serving in the first year. About 549,000 have become potentially eligible for VA care as veterans, having separated from the military or having become deactivated reservists or Guard members. More than 57,000 veterans have responded to VA's outreach encouraging any Gulf veteran to get a free physical exam under VA's Persian Gulf Program. Not all are ill:

- 12 percent of the veterans who had the registry health exam had no health complaint (among the first 52,000 computerized records).
- 26 percent of the same group rated their health as poor or very poor, while 73 percent reported their health as all right to very good (the remaining 1 percent did not have an opinion).

VA HEALTH PROGRAMS FOR GULF VETERANS

- SPECIAL HEALTH EXAMINATION: A free, complete physical examination with basic lab studies is offered to every Persian Gulf veteran, whether or not the veteran is ill. A centralized registry of participants, begun in August 1992, is maintained to enable VA to update veterans on research findings or new compensation policies through periodic newsletters. This clinical database also provides information about possible health trends and may suggest areas to be explored in future scientific research. The 57,000 Persian Gulf veterans who have taken advantage of the physical examination program become part of a larger Persian Gulf Registry. As defined by P.L. 102–585, this includes 181,000 Gulf veterans (generally including those counted in the special examination program) who have been seen for routine VA hospital or clinic care, or who have filed compensation claims—or whose survivor registers a claim.
- PERSIAN GULF INFORMATION CENTER: VA offers a toll-free information line at 800–PGW–VETS (800–749–8387) where operators are trained to help veterans with general questions about medical care and other benefits. It also provides recorded messages that enable callers to obtain information 24 hours a day. Information also is being disseminated 24 hours a day through a national computer bulletin board, VA–ONLINE, at 800–US1–VETS (800–871–8387). It also can be reached at telnet://vaonline.va.gov via the Internet.
- SPECIAL ACCESS TO FOLLOW-ON CARE: VA has designated a physician at every VA medical center to coordinate the special examination program and to receive updated educational materials and information as experience is gained nationally. Where an illness possibly related to exposure to an environmental hazard or toxic substance is detected during the examination, followup care is provided on a higher-eligibility basis than most non-service-connected care. As with the health examination registry, VA requested and received special statutory authority to bypass eligibility rules governing access to the VA health system.
- PERSIAN GULF REFERRAL CENTERS: If the veteran's illness defies diagnosis, the veteran may be referred to one of four Persian Gulf Referral Centers. Created in 1992, the first centers were located at VA medical centers in Washington, D.C.; Houston; and Los Angeles, with an additional center designated at Birmingham, Ala., in June 1995. These centers provide assessment by specialists in such areas as pulmonary and infectious disease, immunology, neuropsychology, and additional expertise as indicated in such areas as toxicology or multiple chemical sensitivity. There have been approximately 296 veterans assessed at the centers; most ultimately are being diagnosed with known/definable conditions.
- STANDARDIZED EXAM PROTOCOLS: VA has expanded its special examination protocol as more experience has been gained about the health of Gulf veterans. The protocol elicits information about symptoms and exposures, calls the clinician's attention to diseases endemic to the Gulf region, and directs baseline laboratory studies including chest X-ray (if one has not been done recently), blood count, urinalysis, and a set of blood chemistry and enzyme analyses that detect the "biochemical fingerprints" of certain diseases. In addition to this core laboratory work for every veteran undergoing the Persian Gulf program exam, physicians order additional tests and specialty consults as they would normally in following a diagnostic trail—as symptoms dictate. If a diagnosis is not apparent, facilities follow the "comprehensive clinical evaluation protocol" originally developed for VA's referral centers and now used in VA and military medical centers nationwide. The protocol suggests 22 additional baseline tests and additional specialty consultations, outlining dozens of further diagnostic procedures to be considered, depending on symptoms.

RISK FACTORS OF CONCERN TO VETERANS

Veterans have reported a wide range of factors observed in the Gulf environment or speculative risks about which they have voiced concerns. Some are the subject of research investigations and none have been ruled out. There appears to be no unifying exposure that would account for all unexplained illnesses. Individual veterans' exposures and experiences range from ships to desert encampments, and differences in military occupational specialty frequently dictate the kinds of elements to which servicemembers are exposed.

Veteran concerns include exposure to the rubble and dust from exploded shells made from depleted uranium (or handling of the shells); the possibility of a yet-unconfirmed Iraqi chemical-biological agent; and a nerve agent pre-treatment drug, pyridostigmine bromide. Many other risk factors also have been raised. In 1991, VA initially began to develop tracking mechanisms that matured into the Persian Gulf Registry as a direct consequence of early concerns about the environmental influence of oil well fires and their smoke and particulate.

INTERAGENCY COORDINATION AND WHITE HOUSE RESPONSE

The federal response to the health consequences of Persian Gulf service is being led by the Persian Gulf Veterans Coordinating Board composed of the Departments of VA, Defense and Health and Human Services. Working groups are collaborating in the areas of research, clinical issues and disability compensation. The Board and its subgroups are a valuable vehicle for communication between top managers and scientists, including a staff office for the Board that follows up on critical issues and promotes continuity in agency activities. President Clinton designated VA as the Coordinating Board's lead agency.

In March 1995, President Clinton announced formation of the Presidential Advisory Committee on Gulf War Veterans' Illnesses to review and make recommendations on: Coordinating Board activities; research, medical examination and treatment programs; federal outreach; and other issues ranging from risk factors to chemical exposure reports. It has been meeting since August 1995 and published its first report Feb. 15, 1996.

MEDICAL RESEARCH

• Environmental Hazards Research Centers: Through a vigorous scientific competition, VA developed major focal points for Gulf veteran health studies at three medical centers: Boston; East Orange, N.J.; and Portland, Ore. With 14 protocols among them, the centers are conducting a variety of interdisciplinary projects, including some aimed at developing a case definition for an unexplained illness and clarification of risk factors. Some protocols involve areas of emerging scientific understanding, such as chronic fatigue syndrome or multiple chemical sensitivity, while others are evaluating or comparing factors in immunity, psychiatry, pulmonary response, neuroendocrinology and other body systems, some at the molecular level.

• Health Survey and Mortality Study. VA's Environmental Epidemiology Service is surveying 15,000 randomly selected Gulf veterans and an equal size control group of veterans of the same time period (but who were not deployed) to compare symptoms in veterans and their family members, examining risk factors and providing physical examinations for a representative sample to help validate the self-reported health data. That office also is engaged in a mortality study, analyzing death certificates to determine any patterns of difference in causes of deaths between deceased Gulf veterans and matched controls. Preliminary data have suggested the deployed veterans have a higher rate of post-war deaths due to accidents and traumatic injury as opposed to diseases or illness. Further analysis is continuing, with a report expected to be submitted for publication in a scientific journal later this year. (Independent of the study, VA has learned of 2,900 deaths among deployed veterans, which is lower than expected under general U.S. mortality rates.)

• Exposure-Oriented Studies: Some current VA investigations are examining hypotheses of specific potential risks and comparing study subjects with controls who did not serve in the Gulf to determine differences in health patterns. A Baltimore project is following the health status of individuals who retained tiny embedded fragments of depleted uranium. A Birmingham, Ala., pilot program offers an extensive battery of neurological tests aimed at detecting dysfunction that would be expected after exposure to certain chemical weapons.

• Other Federal and Collaborative Studies: In its second annual report to Congress in March 1995, VA, on behalf of the Persian Gulf Veterans Coordinating Board participating agencies, detailed about 50 Persian Gulf research initiatives, re-

views and clinical investigations, many involving VA. For example, VA investigators are collaborating with the Naval Medical Research Center in San Diego in general epidemiological studies comparing Gulf veterans and control-group veterans (who served elsewhere) to detect differences in symptoms, hospitalizations, and birth outcomes in large cohorts of active duty servicemembers. A detailed research working plan is available online at http://www.dtic.dla.mil/gulflink/varpt via Internet.

• Outside Reviews: With the Department of Defense (DOD), VA has contracted with the National Academy of Sciences (NAS) to review existing scientific and other information on the health consequences of Gulf operations. Congress has authorized VA and DOD to provide up to $500,000 annually to fund the review. In its first report issued in January 1995, a committee of the NAS Institute of Medicine called for systematic scientific research, including large epidemiological studies. Its recommendations urged greater coordination between federal agencies to prevent unnecessary duplication and assure high-priority studies are conducted.

Another nongovernment expert panel brought together at an NIH technology assessment workshop in April 1994 examined data and heard from both veterans and scientists, concluding that no single or multiple etiology or biological explanation for the reported symptoms could be identified and indicating it is impossible at this time to establish a single case definition for the health problems of Gulf veterans. A copy is available through VA–ONLINE.

VA DISABILITY COMPENSATION

On Feb. 3, 1995, VA published a final regulation on compensation payments to chronically disabled Persian Gulf veterans with undiagnosed illnesses. The undiagnosed illnesses, which must have become manifest either during service in or within two years of leaving the Southwest Asia theater, may fall into 13 categories: fatigue; signs or symptoms involving skin; headache; muscle pain; joint pain; neurologic signs or symptoms; neuropsychological signs or symptoms; signs or symptoms involving the respiratory system (upper or lower); sleep disturbances; gastrointestinal signs or symptoms; cardiovascular signs or symptoms; abnormal weight loss; and menstrual disorders. While these categories represent the signs and symptoms frequently noted in VA's experience to date, other signs and symptoms also could qualify for compensation. A disability is considered chronic if it has existed for at least six months. For claims considered under this special regulation, VA has a 29 percent approval rate among claims where the veteran has demonstrated symptoms within a required two-year period after leaving the Gulf. Among the remaining 71 percent, most are diagnosable conditions treated under conventional regulations, while some symptoms fail to meet the 6-month chronicity requirement or are found to be related to another known cause.

Outside of the new regulation, VA has long based monthly compensation for veterans on finding evidence a condition arose during or was aggravated by service. VA has approved 22,694 compensation claims of Gulf veterans for service injuries or illnesses of all kinds, including 1,033 claims in which the veteran alleged the cause was an environmental hazard, and within that group, 421 claims approved under the new undiagnosed illnesses regulation.

Mr. SHAYS. Thank you, Dr. Garthwaite.

Do any of you want to just make a point before we start the questioning?

[No response.]

Mr. SHAYS. I don't know if that's against protocol or not, but we do things a little differently.

Thank you for your gracious comments when we started. I appreciate it.

Mr. Towns.

Mr. TOWNS. Thank you very much, Mr. Chairman.

Dr. Garthwaite, let me begin by first asking you, how is this telephone number advertised? How would people know that it exists?

Dr. GARTHWAITE. I think it's included in everything that we send out or attempt to do in our public service announcements, in our pamphlets. It is given to every place we can possibly send it.

Maybe Susan can respond.

Dr. MATHER. The veterans service organizations make this number available in their literature, their magazines, and things like that.

Mr. TOWNS. In other words, you put forth a great effort to make certain that veterans are aware of this number.

Dr. GARTHWAITE. We've had, I believe, over 150,000 calls to date.

Mr. TOWNS. So they know about it.

Dr. GARTHWAITE. A fair number do.

Mr. TOWNS. Yes. The President has said that there should be no stone left unturned in trying to discover the cause of health problems of Persian Gulf vets. Do you believe that you are effectively carrying out this mandate?

Dr. GARTHWAITE. We're making every effort we can, within the funds available to us, to turn over every stone that's possible. As with any illness for which we as yet do not have a cause or the definitive therapy—cancer, heart disease, Alzheimer's disease, and many others—it always seems like we could do more. We would always like to do more, but we bump against the reality of what's possible with the funding that's available.

I would say that we are making every effort to coordinate those research endeavors to make sure we get the maximum utilization of the dollars we're given, to pursue funding. We are open to every suggestion. We make our research dollars available to all good ideas and subject all those to peer review, but we are open to any and all suggestions, in terms of research.

Mr. TOWNS. So budget cuts might hamper your mandate?

Dr. GARTHWAITE. Well, the total amount of research that one can do is limited by the number of dollars provided to do it. Most research is people-intensive and requires appropriate funding.

Mr. TOWNS. In our first hearing on this subject, several of the veterans testified about the Department of Defense responsibility in keeping and forwarding medical records to the VA. Do you believe that this is a fair criticism, and, if so, what suggestions would you offer to assist in improving record coordination, which seems to be a problem, based on some of the comments that were made from the witnesses.

Dr. GARTHWAITE. I think I will ask Fran to respond.

Dr. MURPHY. Maybe I can help with that. Part of the difficulty that the veterans are referring to is the difficulty in keeping good medical records in a wartime situation. They were working in a combat zone. There were paper records that, after the conflict, were boxed up and sent to warehouses.

So sometimes, when the veterans come to VA for health care, the records from their service during Operation Desert Shield and Desert Storm have not been collated with their consolidated health record that we would use to provide medical care. And that creates some concern and confusion on the part of both the veterans and the health care providers.

The way we approach that, in providing medical care, is that the physician would take an exposure history and a medical history, the same as you would do for any patient, and document the veterans' concerns and their reports about exposure, and then do appropriate diagnostic testing and physical examination based on that.

There is a system in place whereby military records are transferred from DOD to VA for compensation purposes, and maybe I can turn that over to Mr. Kinderman to expand on.

Mr. KINDERMAN. Thank you. Mr. Towns, we have a records processing center in VA where we receive the records directly from the service departments. That's been in operation for a couple of years, and that's helped a great deal in getting the records. A problem that Persian Gulf veterans have had that has not been a problem in prior periods is, a lot of reservists were called up. A lot of the clinical records of the reservists are back in the Reserve units all over the country.

When we centralized processing of a lot of the Persian Gulf claims to four different area processing offices, we call them, four regional offices, we first experienced some problems getting those records, say, from Philadelphia, for a veteran who lived somewhere else on the East Coast and would normally be served by a different regional office.

We adjusted our procedures in order to get full cooperation of the local regional office dealing with those local National Guard and Reserve units. So we think we've got, sort of, that problem under control, but it's still something that requires us to get actively involved and be persistent in every case.

Mr. TOWNS. Thank you very much, Mr. Kinderman.

Mr. Chairman, should I continue? I see the red light is on.

Mr. SHAYS. I'm sorry. There's no red light. I apologize.

Mr. TOWNS. OK. Thank you.

Mr. SHAYS. You didn't see a red light.

Mr. TOWNS. Thank you very much. Thank you very much. I appreciate that. I do have a few more questions.

Concerns have been expressed that the various research efforts into the illnesses of Persian Gulf veterans are taking too much time. Can you explain why this is happening?

Dr. GARTHWAITE. I think I can explain, from a more generic sense, that anytime that you're suffering from an illness for which there's not a clear diagnostic set of criteria, or for which there's no clear treatment, then research is taking too much time. I think that's true for many diseases that plague mankind.

And I think that it's part of the reason that many of us went into medicine in the first place, is a hope to be able to help either deliver the known treatments or to find new ones. From my review of the research efforts of the VA since I've come to Washington, about 14 months ago, is that we're very aggressively pursuing every research opportunity we have to find the answers for Persian Gulf syndrome.

So the fact that research is a methodical endeavor, the fact that the answers often aren't obvious, the fact that sometimes it's more luck than anything else that leads us to the dramatic advances in medicine, are frustrating when you have an illness for which you would like to have help.

Mr. TOWNS. What I'm really sort of getting to is that, when I talk to veterans, they will say to me, "Look, why don't you put more money in research?" And, of course, what I'm saying to you is, do you have sufficient resources to be able to pursue this aggressively?

Because if you have more people involved in looking at a problem, sometimes that creates some of your luck, you know.

Dr. GARTHWAITE. Yes. Well, as a general supporter of biomedical research, I'd be happy to think that the Nation feels comfortable adding additional dollars to biomedical research, and as someone who really cares deeply about finding an answer for Persian Gulf illness, I would hope, it would be nice to have additional dollars to spend there.

I think, a couple administrations ago, war was declared on cancer. And although I think there have been improvements, I don't think we can say we have won that war. So resources alone aren't always the final answer for finding all the cures to the maladies that plague mankind.

Mr. TOWNS. I understand that. But I think that, when I'm asked the question, you know—and I really want to sort of like hear an answer on your side. They are saying, "Why don't you take this very seriously?" Because, see, they connect you and I, you know, not only because I'm a veteran, but they connect us because you're with the Government and I'm with the Government, you know. So they sort of tie me into that whether I should be in it or not.

So when they ask me, "Congressman, why don't you pursue this much more aggressively? You need to have more people involved in research. You need to have things going on, because, after all, we've defended the country. We were out there, and now nobody cares about us," I mean, how do I answer that? That's a real concern. If you tell me we have one person somewhere doing it, you know, but is that sufficient, though? Do you know what I'm saying?

Dr. GARTHWAITE. Yes. I think my simple answer is, we would love to have additional resources to turn to this.

Mr. TOWNS. OK. In other words, really, I should be very careful when I answer that question; is that what you're saying to me? That I should say, you know, "Let me talk to them again." I mean, I'm not sure what you're saying here. Are you saying that you need more resources?

I know you're saying, "If we had it, we could use it," which is not quite an answer for me. Because I need to have something solid to say to these veterans out here that are coming to my office asking very specific questions on "What should we do?," you know.

Mr. SHAYS. See, he's trying to get you in trouble.

Dr. GARTHWAITE. I think I'm simply trying to say that more money doesn't guarantee an answer, but the more research we do, the more we learn, the closer we come to answers. I think that has been true over the past 20 or 30 years in medicine. We know more and we have better techniques than we've ever had to answer scientific questions.

But the answer to Persian Gulf illness may come from funding microbiological research on plants or something. I mean, the history of science is that a lot of the very great advances and understandings are often unrelated to the actual designed studies. I think we need to do both.

Mr. SHAYS. If the gentleman would yield a second.

Mr. TOWNS. I would be glad to yield.

Mr. SHAYS. We both are coming from the same direction on this. We need to be certain that you have all the direct resources you

need to do what we're asking you to do, and we have to be sure that we're not being hypocrites, complaining that you're not doing something that we haven't given you the resources to do.

Both Mr. Towns and I want to help focus the attention of both DOD and the Department of Veterans Affairs on medical research, as best you can and we can. We also want to provide a greater sense of urgency than we think exists to deal with the existing complaints the veterans have, whether or not we establish it as related to the Gulf war. And we need to be sure that you have the resources to do it.

So we're going to make a request that you tell us if you have the resources you need, in writing, and if you don't have what you need, and maybe give us levels. I mean, this is level one, level two, level three. Then we, collectively, on a bipartisan basis, will go to our colleagues to ask that, if you don't have certain things, that you get them.

Dr. GARTHWAITE. I hear what you're saying.

Mr. SHAYS. Obviously, you have to be responsible in that request. But that will give you time to work out, with OMB and others in your department, what you may need to do before answering the question. We don't want to be throwing stones if you don't have the ability to catch them.

Dr. GARTHWAITE. I hear what you're saying. Maybe Dr. Gerrity has a point, also.

Mr. SHAYS. So you're going to followup on that?

Dr. GARTHWAITE. We will.

Mr. SHAYS. Thank you.

Dr. GERRITY. Mr. Shays, the Medical Research Service is one of the three research services of the Office of Research and Development in the Department of Veterans Affairs. The cornerstone of research in the Medical Research Service is, as Dr. Garthwaite indicated, investigator-initiated research. We support approximately 4,000 scientists across a very wide range of disciplines within that Research Service. These are scientists who share both academic as well as VA affiliations.

We invite these researchers to submit proposals to tackle some of the most difficult questions facing the health problems of veterans, not just Persian Gulf illnesses. So we have certainly very important and viable mechanisms in place to invite investigators to come in.

In addition to that, though, we have directed efforts in research. For example, the Medical Research Service initiated three major environmental hazards research centers through a directed request for applications over 2 years ago, and they have been up and running and are now beginning to produce research results.

So we feel that we are very concerned that we are, as President Clinton said, leaving no stone unturned. Part of doing that is resting our research on this foundation of investigator-initiated, peer-reviewed research, which has been endorsed over and over again as the right way to address the health needs of both our citizens as well as the world community.

Dr. GARTHWAITE. We will respond in writing. I will say that, at the current time, I think we're funding 15 percent of the ideas that are sent to us and the grants that are sent to us. We wouldn't

judge the remaining 85 percent as worthy of funding, in terms of their scientific quality, but there's a fair amount of difference between those that are qualified and those that we can actually fund.

So that will give you some sense of the desire in the community to perform research and the ideas that are coming forward. We try to rate those and rank them, with the scientists, to do the best ones and the most likely to yield fruit. But at the current time we're funding about 15 percent of those submitted.

Mr. TOWNS. Let me just say, I'm not here to bash. I mean, really, I want you to know that. I'm not. But I'm here to try to see if we can't get some answers. And maybe there are some things that we need to do on this side, as well, and I'm prepared to do that. Because when I look at those veterans out there, and when they come and ask questions, you know, I think that we need to be able to say something to them.

On that note, what about the coordination between other Federal agencies, how are you doing with that, others that are involved in research? One thing I've found with agencies is that coordination sometimes can be a serious problem, not only in your agency, but even in law enforcement. I've heard where one agency locked up another agency's person who was working on the same case. And the police department, I mean, I've heard all kinds of stories. So I know coordination can be a problem. How are you doing, in terms of coordination?

Dr. GARTHWAITE. I think that there may have been an issue early on with that, but I think that we're doing well with the Persian Gulf Interagency Council and research working groups. They meet on a regular basis and compare notes, and plan, and strategize together. I haven't gone to those meetings, but I think maybe others would comment. I think that, over the last couple of years, certainly the last year, the coordination has been markedly improved and quite good.

Dr. GERRITY. Yes. The VA has been designated by President Clinton as being the lead Federal agency for coordination of the Federal research effort. VA chairs the research working group that Dr. Garthwaite referred to. This working group meets on a monthly basis to discuss a variety of issues related to research in the primary departments of concern, and that's DOD, VA, and HHS.

We also maintain a data base of research projects that are either sponsored by or conducted by Federal departments. We work very, very hard to ensure that that data base is as complete as possible. We recognize that there may be some imperfections, but we feel that we have captured, in that data base, the vast majority of research that is going on in the Federal sector. But it isn't just a matter of capturing that data, it's also doing the active coordination of the research, which does go on through the research working group.

Mr. TOWNS. But you do feel there's cooperation coming from the other agencies?

Dr. GERRITY. Absolutely. I would say that this is, in my experience in working in the Federal Government, an unprecedented degree of cooperation among departments on this particular issue.

Mr. TOWNS. I'm going to ask two more questions, Mr. Chairman, and then I will yield back.

It is my understanding that some veterans are helped by treatment provided by private physicians. Can you tell us whether the VA incorporates new or innovative treatments by private doctors into the VA system?

Dr. GARTHWAITE. Yes. We look at everything that we can find that's available on Persian Gulf. Much of that information comes from published studies, but we've become aware of anecdotal information from veterans who have been helped, by a variety of means, letters, telephone calls, press clippings, and so forth, and have made an honest attempt to investigate everything that has been put forward, met with many of the investigators who have used nonconventional or even perhaps yet unproven treatments, and tried to put some scientific background to them.

I mean, there is a fine line that confronts all clinicians when they have a disease that shows some evidence, perhaps, of an infectious etiology, of using antibiotics on an empiric basis, because the antibiotics are approved for other conditions but not for the particular one you are treating. And most State laws give you the license to do some of that. It's often an individual judgment.

Where we have to look carefully, I think, is in providing the good scientific basis. This committee and others have criticized the military for their use of physostigmine in the Persian Gulf experience, for a condition it may or may not have been approved for. We have to be careful not to get into that same situation. We must make sure that we have sound scientific evidence, and the FDA has to be involved, before we can find treatments that are given the seal of approval.

But we should be looking carefully, and we are, I believe, looking at the research opportunities with regard to those kinds of treatments.

Mr. TOWNS. Thank you very much.

Thank you, Mr. Chairman, for your generosity. I yield back.

Mr. SHAYS. Thank you. The gentleman may have more time afterwards, when I'm done.

Mr. TOWNS. Thank you.

Mr. SHAYS. I have a number of questions. Does the VA accept that the Persian Gulf war veterans' health problems are real and might very well be a consequence of the Gulf war?

Dr. GARTHWAITE. Yes.

Mr. SHAYS. What kind of feedback have you received? Can you give us a description of the kind of feedback you've received from Persian Gulf veterans? What kind of feedback are you getting from them, in terms of their feelings about the job the department is doing?

Dr. GARTHWAITE. I think they are quite variable. Some veterans, I believe, have some significant issues. I had the opportunity to listen to a variety of those during a town hall meeting in the evening, in Baltimore, a few months ago. Dr. Murphy has done many of those meetings, and maybe I will let her kind of just summarize some of the concerns they still have.

Mr. SHAYS. That would be helpful.

Dr. GARTHWAITE. But we are attempting to get out and to listen very carefully to them.

Mr. SHAYS. Well, I have a sense of what they are telling me. I just want to know if you're getting the same message.

Dr. GARTHWAITE. Sure.

Dr. MURPHY. I think I have the honor of being the only person sitting at the table who has actually treated and cared for Persian Gulf veterans. I began my involvement in Persian Gulf veterans' illnesses as the director of the DC VA Referral Center for Persian Gulf veterans and had the opportunity, on a daily basis, to interact with veterans and hear about their concerns, to try to provide the best medical care and treatment for them.

Many of them expressed their gratitude to the VA, because, in fact, the majority of veterans do go away with a diagnosis and treatment for those diagnoses. We recognize that there are some very vocal critics of the VA, and we hear their concerns and we take them to heart. And we have altered our programs, begun quality control programs based on the kinds of difficulties we have heard that veterans and their families have had with the VA responding to their needs.

We are concerned about the timeliness of the VA response, access of veterans to care, and the quality of that care. We have designed programs and continue to improve our programs to try to take those concerns into consideration. We have, for instance, put into place a number of performance measures that allow us to track when the next available appointment is for Persian Gulf Registry examinations. Our centers report in, on a bimonthly basis, allowing us to monitor how well we're addressing the varying demand for those registry examinations.

I would be happy to expand on any particular issue that you are concerned about related to the veterans.

Mr. SHAYS. What is the primary complaint you receive from Persian Gulf veterans in terms of the response of the VA?

Dr. MURPHY. The largest concern that I hear from veterans related to the VA's response is the VA's inability—or the medical community at large—inability to define a cause for their symptoms. They want to know why they are sick and how they can get well. Unfortunately, at this point, for some veterans, we're not able to give them those answers.

Mr. SHAYS. Well, isn't the first complaint that sometimes they don't feel that you've even diagnosed their illness? So, I mean, their first complaint is, one, not that they want to know the cause, but they want to know what their problem is that needs to be treated.

Dr. MURPHY. But, in fact, in the majority of veterans' cases, we can provide a diagnosis.

Mr. SHAYS. So you can.

Dr. MURPHY. There are about 25 to 30 percent who go away without a clear-cut diagnosis for their conditions.

Mr. SHAYS. Isn't that a particularly high number?

Dr. MURPHY. You know, I would hesitate to compare this population with the general U.S. population. But if you look at primary care clinics and general practice nationwide, there are probably about 25 to 30 percent of symptoms that don't get diagnosed in those patient populations also.

Mr. SHAYS. But then they go somewhere else. Where does a veteran go? When you can't diagnose their symptoms, where do they go?

Dr. MURPHY. We have a referral mechanism. At the smaller VA Medical Centers, they can refer to their regional center for further diagnostic evaluation. And if the tertiary care medical centers in their locality cannot provide a diagnosis and effective treatment, we have four referral centers set up nationwide: at Washington, DC; Birmingham, AL; Houston; and West LA.

Mr. SHAYS. And then you pay to send them there?

Dr. MURPHY. Yes, we do. We provide transportation.

Mr. SHAYS. So would it be your testimony that any veteran who you can't diagnose would be given the opportunity to go to one of those four centers?

Dr. MURPHY. If a veteran has a difficult-to-diagnose condition or a condition that has not responded to treatment, their physician may make a referral to any of those four referral centers for further evaluation and treatment. That is correct.

Mr. SHAYS. And you pay the cost of the physician? You're talking about their own—let me get this straight. They come to the VA to be diagnosed; 25 to 30 percent do not get a diagnosis. I mean, you just don't know what their problem is. Then what do you do? Do you send them to their own private caregiver, send them there; is that what you do?

Dr. MURPHY. No. We continue to provide medical care within the VA system, if that's what they choose.

Mr. SHAYS. I'll tell you why I'm confused. So you need to straighten this out. I'm confused because you gave the implication is that they aren't getting to one of those four sites unless one of their own physician suggests that they go there.

Dr. MURPHY. I was referring to a VA physician.

Mr. SHAYS. OK. So I just want to know what your testimony is. If the veteran coming to you does not know what his or her problem is, and you don't know what his or her problem is, are they sent to one of these four sites?

Dr. MURPHY. If that is a necessary part of their medical care.

Mr. SHAYS. I don't understand that. The problem to the veteran is that they are sick.

Dr. GARTHWAITE. I think maybe there is some evidence.

Mr. SHAYS. I'm not trying to put you on the spot. I'm trying to understand this.

Dr. MURPHY. I think maybe the misunderstanding is that, in many cases, these are nonspecific symptoms that may not receive a diagnosis at a private medical clinic, at a DOD facility, or at a VA facility.

Mr. SHAYS. Now, "private medical clinic" is their own doctor.

Dr. MURPHY. Their own physician.

Mr. SHAYS. OK.

Dr. MURPHY. You know, it's not uncommon for most of us to have symptoms that don't result in a characteristic set of physical signs and diagnostic tests that allow us to make a diagnosis.

Mr. SHAYS. It just strikes me that 25 to 30 percent is a very large number.

Dr. MURPHY. Actually, it's not. Many people in this country complain of fatigue and headaches and joint pains. I think, if we asked the people in this room, many of us have had those symptoms at some time or another.

Mr. SHAYS. OK. Let's accept that.

Dr. MURPHY. If you go to a physician, they will provide symptomatic treatment for those conditions.

Mr. SHAYS. So your basic testimony would be that this 25 to 30 percent is not much different than what it would be for the so-called "private world"?

Dr. MURPHY. We're looking at prevalence of symptoms, through scientific studies, and comparing them to a population of non-deployed veterans to try to get a better understanding of whether Persian Gulf veterans, as compared to other healthy military populations, have a higher rate of these symptoms.

Mr. SHAYS. I'm not sure if that's a yes or a no.

Dr. GARTHWAITE. I think she's trying to answer from a statistical standpoint.

Mr. SHAYS. Yes.

Dr. GARTHWAITE. As practicing physicians, it's not uncommon that you don't come up with a clear answer or you don't feel that the severity of the symptoms warrants referral to a specialist, doing fancy tests, and so forth. It's of interest, in the registry exam, even those with symptoms, a significant portion of those 23 percent who have symptoms and undiagnosed illness, still rate their health overall as fairly good.

Mr. SHAYS. I thought it was 25 to 30 percent. Are you saying 23 percent? Is it 25 to 30 percent?

Dr. GARTHWAITE. I think that's correct.

Mr. SHAYS. So it's 23 percent. I was saying 25 to 30. If I say something wrong, correct me.

I misunderstood you. I thought you said, Dr. Murphy, 25 to 30 percent.

Dr. MURPHY. It depends on which population you look at. If you look at the registry population, 77 percent go away with a diagnosis; 23 percent have symptoms but no diagnosis. If you look at the super-selected population that go to the VA referral centers, the percentage becomes slightly higher, up to 30 percent of individuals who come to that setting. So I gave you a range, trying not to mislead.

Mr. SHAYS. Yes. Because I asked you those people who come to the department to be examined. What was your point?

Dr. GARTHWAITE. Even of those who have symptoms and yet no diagnosis, some of those rate their overall health as being good or fairly good. They have symptoms. They are concerned about the long-term effects. They are concerned about the effects on their family. They are concerned about a variety of things with Persian Gulf illness. They are not incapacitated by it, but they don't feel extremely well. Those may be patients that are elected to follow for a period of time. They are not interested in pursuing a diagnosis; others may be.

The options, I think, are, for a VA physician who does the initial exam, try to make a diagnosis. If you can make it, try to treat it. If you can't make a diagnosis, ask for help. I think that's what all

physicians, hopefully, are trained to do, and most do on a regular basis. The initial phase of asking for help may be to try to find specialists locally at another VA.

Mr. SHAYS. It seems logical to me, but the disadvantage is I'm not a doctor. The advantage is, though, that I'm just trying to think like a normal person would think. And it would seem logical to me that, if you have a number of veterans who are pretty determined that they are not well, and you all don't get it, and you have—what's the total number of facilities that they could go—come in to be examined, around the country, approximately?

Dr. GARTHWAITE. We have 173 hospitals.

Mr. SHAYS. Right. Plus some clinics, and so on.

Dr. GARTHWAITE. A lot of clinics; right.

Mr. SHAYS. So, you've got 173 different ways of looking at it. You would like to have one set of protocols, and so on, and everybody be consistent. It's logical and it's comforting to know that there are these four centers. But it would seem to me that someone who is convinced that they are not well should have the right to go to one of these facilities. So I want to get a sense of what determines who gets to go.

And I would see the advantage of these facilities is that you have people who see the same kind of—potentially, the same kinds of problems. They deal with the same kinds of frustrations. They would be, potentially, a little more sympathetic and a little more understanding in how they get at both the mental and physical needs of these individuals.

Dr. GARTHWAITE. Let me just try a couple of things and see if they help. I think one of the things is that we're trying to do is quality measurement, so we try to assess the quality at each individual place. We have picked out individuals to coordinate who are sort of the lead individuals, physicians.

Mr. SHAYS. In each hospital?

Dr. GARTHWAITE. Yes, for each hospital, for Persian Gulf illness, so we can communicate with them better; hopefully, increase their basic knowledge so that they become aware of all the other referral possibilities.

There probably will be an occasional person who feels that they would like more of an answer, and our only hope of reaching those is to encourage them to call, or to do more surveys.

Mr. SHAYS. What's the gate that gets someone in one of these four facilities?

Dr. GARTHWAITE. A referral from another VA, largely.

Mr. SHAYS. And what determines how each VA is going to decide who goes to one of those four facilities?

Dr. MATHER. I think that has a lot of different aspects, but the patient is a partner in the diagnosis and treatment of these illnesses. And I think the patient also helps decide how far, at this point in time, he or she wants to go with the workup. Sometimes they choose to try symptomatic treatment for a while and see what that does. They can always come back and change their minds. To go far away from home and to have to be hospitalized, and most of these intensive workups do require approximately 2 weeks in the hospital, this may not be a commitment that the veteran is ready to make.

Mr. SHAYS. Well, let me be clear on this point, because we will have veterans afterwards who are going to come up to us, and they are going to tell us things. I wonder if what they are going to tell me is, "I wasn't well, and I was given the opportunity to go." I want to know how you decide who you extend this invitation to.

Dr. MURPHY. If a VA physician has a patient, a veteran, who has an undiagnosed illness or someone they feel needs further evaluation or a second opinion, they, in consultation with that veteran, will offer them the opportunity, in many cases, to go to one of these referral centers. The physician providing the care for that veteran then contacts the director, the physician-director, of the Persian Gulf referral center in their region, and they exchange medical records, plan a workup, and arrange for an evaluation at the appropriate referral center.

So the mechanism is to try to use the registry examination and the uniform case assessment protocol to make a diagnosis locally. If that does not happen, and the veteran wishes to pursue further evaluation, which, again, requires the time commitment on their part, the referral gets made.

Mr. SHAYS. I know. But some of these people are very sick people, who are not well, not happy, not able to get any work done. So I have personally been in contact with a number of these individuals. It would be interesting for me to go back and ask this question. If I asked this question, what do you think the answer would be? "Were you given the opportunity to go to one of these referral centers?" What do you think their answer would be? We're going to get them back here. What do you think their answer would be?

Dr. MURPHY. It's hard for me to predict, but I would suspect that many of them have been offered that opportunity.

Mr. SHAYS. OK.

Dr. GARTHWAITE. If they haven't been offered that opportunity, and they have those concerns and would like that opportunity, we would encourage you to have them contact us or for you to contact us, and we will get in contact with them and try to arrange for that.

Mr. SHAYS. So would it be fair to say that anyone who did not get a diagnosis—they were not able to get one—would have the inherent right to make this request, and it would be more than likely that it would be accepted?

Dr. MURPHY. Yes.

Dr. GARTHWAITE. I think that's fair, yes.

Mr. SHAYS. OK. But you're not able to say, categorically, that everyone who is in that circumstance has been offered that? I'm not trying to pin you down.

Dr. MURPHY. In fact, I would say no.

Dr. GARTHWAITE. I would probably say it probably hasn't been offered to everyone, but there may be reasons.

Mr. SHAYS. There's no written statement that you have, no protocol, that basically says, if you can't diagnose it, give them the opportunity, as a veteran, to go to these facilities. There's nothing in writing, no direction.

Dr. MURPHY. The program manual for the Persian Gulf health examination program has a stipulation that, if the physician feels

that the veteran has an undiagnosed illness, they should then go on to phase two, or the uniform case assessment, a protocol examination.

Mr. SHAYS. Phase two doesn't necessarily mean being referred.

Dr. MURPHY. That could be done at any tertiary care center or any VA Medical Center, nationwide. And the goal is to provide care locally as much as possible, to decrease the inconvenience, and also to have continuity.

Mr. SHAYS. No. But, see, the problem I have with that is, the reason why you have these centers, it seems to me, is that you're trying to really focus just on the Persian Gulf veterans and the fact that many of us suspect that their problems may be somewhat unique.

I'm surprised, in your statement, Dr. Garthwaite, that there are only 300 that have been referred. That seems like a very small number to me.

Dr. MURPHY. But we have large medical centers that are tertiary care centers that are highly university-affiliated, that have academic physicians, at numerous sites around the country. And the referral center exam, the protocol exam can be done at any of those medical centers, and it often is accomplished at that level.

Mr. SHAYS. I don't mean to beat this to death, but I'm going to make sure that I do it enough so I don't have to come back to it. What is the purpose, then, of these four facilities? If we've got other places, then what is the purpose of these four facilities?

Dr. MATHER. I think there are several purposes. One is that, for some veterans, to actually have a time in the hospital where you can intensively look at them would be a benefit. It's not a benefit for everyone. Many of these examinations can be done on an outpatient basis. But for some, there is a value to putting them in the hospital, what in the old days they used to call "for observation." It's a very directed period of time, very intense period of time, and it allows them to be seen by people who are interested and who do have experience. It's a second opinion, in many cases.

They were set up at a time when not every hospital was fully up and running, as far as doing the uniform case assessment. We've continued them because there is a value in this inpatient, this having an observation from new physicians who haven't seen the patient.

Mr. SHAYS. What I hear you saying, Dr. Mather, is that these facilities were set up not necessarily to have just four places where you would just focus on Gulf war veterans' illnesses, but that you had areas in the country where you couldn't give the service, so you at least made sure they could be sent there. Plus, you do see the advantage.

Dr. MATHER. There are advantages to having these centralized places and disadvantages. I think we've chosen to continue them—and, in fact, originally we had three; we have added a fourth one—because they are valuable. But I don't think anybody should get the impression that you're getting something different when you're going to a referral center. You're getting a more concentrated approach, and you're getting a focused examination.

Mr. SHAYS. This is what Dr. Garthwaite said in his testimony. He said, "The expertise developed in the referral centers has re-

sulted in diagnosis and treatment of many veterans with previously unexplained illnesses."

Dr. MATHER. Exactly. As we said, about 70 percent of those who go to the referral centers do end up with a diagnosis. Sometimes it's a confirmation of a diagnosis that was suspected at the local center.

Mr. SHAYS. What I'm going to do is—I don't know if there are any veterans—I think there may be one or two in this audience. If you feel like your illness has not been diagnosed just speak to some of the staff behind me so that I could just pursue this point.

I'm sorry to put you through this process of where we have to go vote, but we're voting on a rule, and there are two votes. I suspect that we will be back in the next 15 minutes. But if you're back by 25 after, we will be fine.

Dr. GARTHWAITE. No problem.

Mr. SHAYS. We will recess for that.

[Recess.]

Mr. SHAYS. I call this hearing to order again. Thank you for your patience.

We didn't have anyone who came up to us, attending this hearing. We had some who came up and made some other comments but nothing regarding this issue of referral to one of the four centers.

But one of the inferences that has been made, one of the claims that has been made is that, in the past—not now—in the past, early on, people in the department, in the hospitals, were not encouraged to diagnose an illness that they could call an illness related to the Gulf war. It could be an illness, but not related to the Gulf war. That, I think, is changing, at least I hope it is.

The reason I asked about feedback was, we've had a lot of people giving us complaints that when they go into one facility they are treated one way; when they go to another facility, they are treated another way. We've had some who have said that they still are getting a reaction from some who examine them that it is more psychological than physical.

What I've learned so far from this hearing is that these four centers were basically established, first and foremost, to be a facility someone could go to to get a diagnosis, not necessarily that you were going to try to specialize in these four centers and that this would be the gravity to which everything would be attracted, but that there are some benefits, obviously, if all they do is focus in on undiagnosed illnesses from Gulf war veterans.

Do you agree with this and what the consequences are if it's true? Dr. Garthwaite, is it true that a lot of veterans were sent to the Persian Gulf without a physical before they were sent?

Dr. GARTHWAITE. I have no personal knowledge.

Mr. SHAYS. Do you know from any of your dealings with DOD?

Dr. Murphy, you were at our other hearing, and you know that to be the fact.

Dr. MURPHY. I believe that the DOD has provided testimony to that effect. I think that the specifics of that should be referred back to them, or, if you would like, we can get the information and provide it to you in writing.

Mr. SHAYS. Is it true that some veterans completed their service in the Persian Gulf and were not given physicals?

Dr. MURPHY. We have certainly heard from veterans that, upon returning from the Persian Gulf, they did not receive a physical examination. They were, in many cases, offered the exam, and if they chose to go home without it, they were allowed to do that.

Mr. SHAYS. OK. It would seem to me that, one, you would have a really good handle on both of those facts, not something you would even wonder about. Because what is the significance of not having a physical before and after? What does that say about your job?

Dr. GARTHWAITE. In a sense, our job is to deal with the veterans, those who have been discharged from the service and when we pick them up. We believe that there should be better coordination between the military and the Department of Veterans Affairs in terms of that transition from being in active military and being a veteran. So we actually have some pilot studies that the discharge physical from the military, in a sense, is an initial physical for the Department of Veterans Affairs. And we hope to expand that program. We're working with DOD to do that.

Mr. SHAYS. It seems to me this is really a no-brainer. You don't know if they went into the Gulf war with an illness, and that would certainly be helpful. And you don't know if, immediately after, they left with an illness that they didn't have before.

Dr. GARTHWAITE. Correct. I mean, we don't perform those exams or set that policy, but certainly it makes common sense that it would be very helpful to know the physical state of everyone and their readiness for combat.

Dr. MURPHY. In many cases, those examinations were not done by DOD prior to deployment to the Persian Gulf, nor were all the troops provided a physical examination on returning. We've heard that.

Mr. SHAYS. Do you know if there's a protocol that basically says that that should be done?

Dr. MURPHY. The Department of Defense has developed a new medical surveillance program for deploying troops which enhances and improves their ability to provide examinations prior to deployment, better medical surveillance for environmental and other exposures during deployment, and better followup and post-deployment examinations. So they recognize that there were difficulties with the way they dealt with those issues in Operation Desert Shield and Desert Storm and have proposed mechanisms to allow for better approaches in the future.

Mr. SHAYS. I would think that your department would also be—it's good that they are doing that, but I would think your department—to me this is kind of a no-brainer that your department would be recommending that this happen, and that they are making your job a hell of a lot more difficult by their not doing that.

Dr. MURPHY. We have done that. We have ongoing discussions.

Mr. SHAYS. Can you supply the committee with any documentation where you've done that?

Dr. MURPHY. Yes.

Dr. GARTHWAITE. Sure. That's actually part of our—we have a reinventing government initiative that we're working with the De-

partment of Defense on, on sharing of a variety of things and where we can work together more collaboratively in the future. And planning for the medical consequences of war is amongst those initiatives.

Mr. SHAYS. Now, we have a circumstance where some medical records are lost, they are just literally lost or they are just very incomplete. How does that impact the research that you do, the medical research that you do?

Dr. MURPHY. In some respects, it makes quality epidemiologic studies very difficult to design. One of the aspects that we need to look at in doing research is what exposures are associated with outcomes, health consequences. And if we don't have a good measure or documentation of exposure, it makes the kinds of conclusions that we can draw limited.

Mr. SHAYS. What's the challenge for the veteran when this happens?

Dr. GARTHWAITE. It should not interfere with our ability to either compensate the veteran or to give them health care, unless information is of clinical importance. For the most part, much of that clinically important stuff can be reconstructed. But that's always an issue with a missing medical record.

Mr. SHAYS. Is the presumption with the veteran, or is it with the Government, that they don't have an illness and that the Government isn't responsible?

Dr. GARTHWAITE. Quentin.

Mr. KINDERMAN. Very often—I might say, Mr. Chairman, that there is—in the absence of an induction exam, there's a presumption of soundness, going on active duty.

Mr. SHAYS. No. The presumption is—the veteran has to prove that they are not well, not the other way around.

Mr. KINDERMAN. Yes.

Mr. SHAYS. So when the department loses records, how the heck are they able to—I mean, that's a gigantic disadvantage for that veteran.

Mr. KINDERMAN. Well, very often, it depends on when he files his claim. If he files his claim at separation or shortly thereafter, we would set up an examination for him, and very often we would be able to discover the cause of the disability very close to the exit of service, and we could assume that that happened on service.

Very often, though, disabilities that appear years later are addressed in other ways. It's a 2-year presumption for service connection for Persian Gulf veterans leaving the Persian Gulf, for undiagnosed illnesses. And other conditions have presumptions, as well, to address that lack of evidence, very often.

The lack of a separation exam might be remedied by the fact that we had in-service clinical records.

Mr. SHAYS. Can you move the mike just up a little? It's down a little too low.

Mr. KINDERMAN. Yes, sir.

Mr. SHAYS. Thank you.

Mr. KINDERMAN. Even if we didn't have a separation exam—and we are very serious about getting separation exams and working with DOD on that—we may have a clinical record of treatment on the veteran, while he was on active duty, that would be useful.

Mr. SHAYS. I want to talk about the registry, and I'm just going to jump back to one issue. I'm still trying to wrestle with the uniformity and the protocols that you use. We have too many veterans who feel that there is a bias toward the illness being psychological. Do you have a document that the committee can see, or do we have a document that I should be asking for, that makes it very clear what the protocols are when someone comes in?

Dr. GARTHWAITE. My understanding is that we have provided the standard protocol to the committee. I have some extra copies with me and would be happy to give you those.

Mr. SHAYS. I guess what I wanted to do is, we have too many people who suggest that there is just a bias toward the psychological. And I guess I'm interested to know, do you have anything that specifically addresses that issue?

Dr. MURPHY. I believe we do. We have provided you some of the documentation from the data that we have obtained through the registry examination program. And you will see that, from the diagnoses that are made by VA physicians, from the registry examination program, that about 14 percent of Persian Gulf veterans who come into a VA hospital and get the registry examination are given a mental diseases diagnostic category diagnosis. That could include anxiety, depression, PTSD, or other conditions. But that's a relatively small number of the total diagnosed conditions.

That doesn't negate the importance to the individual veteran who is suffering from a mental illness or a disorder that might be related to wartime stress. The pain and the suffering is just as real for people suffering from psychological conditions as it is from a condition that stems from a physical disorder.

Mr. SHAYS. But some feel that the department focuses on psychological illnesses, and it is very frustrating for them to hear, "Well, you have a psychological problem."

Dr. MURPHY. And I think the record shows that, in fact, VA physicians, in large part, don't focus on that.

Mr. SHAYS. We have too many veterans who have been in contact with this committee that would disagree, and too many organizations that gave testimony at the last hearing—you were at the first hearing. You heard testimony from individuals that would suggest that there's too much of a focus on the psychological.

Let me just get into the whole issue of the participation in the registry program. I need to just get a sense of how significant the program is. It really is an opportunity for me to suggest to you why I have been a little frustrated.

But on question No. 9, we said, "Please indicate the total number and nature of claims filed by veterans of the Persian Gulf war who have alleged that they contracted their illness or disease during service, including service-connected disability claims as well as death claims. Please include information by age, gender, unit assignment, and all medical conditions listed in the claims."

Now, that's a fairly comprehensive question, but it struck me as not unreasonable. You responded to question 9, but then the department said, "We do not maintain statistics by age, gender, unit assignment, and claimed medical conditions," which is surprising to me. Then we got another response that said you could get this in-

formation but it would cost money that you don't have available, that it would be laborious, and so on.

This gets me to the whole issue of what is in this registry? You have 54,000 individuals who are in this registry; correct? You say, "Part of a larger Persian Gulf registry, which includes 180,000 Gulf veterans who have used a variety of other VA health services."

What's the difference between the two?

Dr. GARTHWAITE. Dr. Mather.

Dr. MATHER. OK. I think there is some understandable confusion between what the registry is—there are two components to the registry, and those components are not related to the disability claims process.

The registry examination program is the one that was set up in 1991–92 that was designed as a clinical program to make it easier for Persian Gulf veterans to access VA health care, unrelated to whether their problems or their conditions are service-connected. They come in, they get a physical examination, and we collect certain data from those physical examinations as a sort of operational tool. It's not a research tool; it's a clinical operational tool.

Mr. SHAYS. May I interrupt? Can you give me the simple answer? What's the difference between the 180,000 and the 54,000?

Dr. MATHER. The 180,000 are all the people who have come to the VA for health care who not necessarily have had an examination.

Mr. SHAYS. They are all Persian Gulf?

Dr. MATHER. Yes. Yes. But they may be coming because they have hurt their leg, or they are having chest pain, or for any number of reasons. They come and ask for health care and receive it.

Mr. SHAYS. Why is participation in the registry voluntary? Let me preface it by saying that, in our testimony at the first hearing, the Institute of Medicine has criticized the VA's registry as "not administered uniformly," and because the veterans who participate in the registry are self-reported, "productive scientific research" cannot be generated from the registry.

Dr. MATHER. Their criticism was of the registry as a research tool. The registry is not a research tool; it's a clinical operational tool to allow us to see these veterans, to provide them medical care, but also a complete physical examination. And it's a voluntary thing.

Mr. SHAYS. But why?

Dr. MATHER. Because we're not the Army; they are not in the military. We can't force them to have an examination that they don't want.

Mr. SHAYS. Right.

Dr. MATHER. And we don't require that they be sick. A person who just wants to be in the system, who served in the Persian Gulf, who's afraid they may have problems develop later on that may be related to the Persian Gulf, they want that examination.

Mr. SHAYS. We're all Americans, and we all want to help those who aren't well. If you had 60 people in a unit and 15 of them had a serious illness, wouldn't there be an effort to contact the other 45 to see if they had a problem?

Dr. MATHER. If we were responsible for the unit. But the Department of Veterans Affairs was not set up to respond from that point

of view. I think, to look at a unit is, in a sense, an epidemiologic problem, and it's a problem perhaps for the Department of Defense.

Mr. SHAYS. That may make sense to you, but that doesn't make sense to me. If I have 15 people out of 60 who have a serious problem, I would want to know if the other 45 did. And I would want to know, what did those 15 do that maybe the other 45 didn't do.

Dr. MURPHY. In some instances.

Mr. SHAYS. Did they go visit mine fields? Did they take the pills when others didn't, et cetera. And in my mind that was part of what the whole registry was to do. Well, you know, then I'm beginning to think the registry is a joke.

Dr. MURPHY. Well, let me clarify.

Mr. SHAYS. No, I'm beginning to think it's a joke.

Dr. MURPHY. Let me clarify the differences. What you're talking about is a cluster evaluation, a cluster investigation. In some cases, that has been done. The Indiana 123d Army Reserve unit, for instance.

Mr. SHAYS. Who did that?

Dr. MURPHY. That was done by DOD. When VA heard that there was a group of Air National Guard members up in Pennsylvania who had an outbreak or a cluster of illnesses, we immediately contacted the Centers for Disease Control and asked for their cooperation in performing an outbreak investigation in that unit. And that is currently being prepared for publication.

Those kinds of efforts are necessary and are ongoing. When we hear about a unit that has a large number of veterans who are ill, we can address it.

Mr. SHAYS. What constitutes a large unit? I want to know what you mean by that. I want to know—when you hear—what happens if you don't hear? And how are you going to hear? Who is supposed to hear? Who is listening? Think about it for a second. When you say "we," who is "we"?

Dr. MURPHY. The Department of Veterans Affairs in collaboration with DOD and HHS.

Mr. SHAYS. Someone has a physical in San Diego. Someone has a physical in Alabama. Someone has a physical in New York City. Someone has a physical in Boston. To each of those individuals, wherever a veterans' facility is, to each of those individuals it's not a cluster. But then it may have been a cluster. How do you have the ability to take all of this and bring it together?

Dr. MURPHY. All of those examinations that are done in the VA registry program are entered into a computerized data base, and we can look across the system to see if there is any single illness or set of illnesses.

Mr. SHAYS. If I asked you now to produce later today a document that would tell me, in a particular unit, what types of illness, would you have the ability to do that?

Dr. MURPHY. In people who are currently serving in the military or in veteran populations?

Mr. SHAYS. I'm going to let you answer that question. I'm not going to help you out.

Dr. MURPHY. Some of the documentation that we have provided you divides the registry participants into people who served in Re-

serve units and National Guard units. And certainly we can go back.

Mr. SHAYS. That's it?

Dr. GARTHWAITE. Some of the published data talks about finding the symptoms in units that were in various parts of the Gulf, from infantry and artillery to others.

Mr. SHAYS. No, but you used the word "cluster," Dr. Murphy. I was driving at the word "cluster," but I didn't use it. You used the word "cluster," so I'm getting impressed. You're telling me that, when you hear that there is a cluster, you deal with it. I want to know how you find out if there's a cluster.

Dr. MURPHY. One of the ways that we've tried to address that in a more a scientific way is through the VA's national Persian Gulf survey. That will allow us to survey a representative sample of Persian Gulf veterans, 15,000 veterans and 15,000 who did not serve in the Gulf, along with their unit designations, their location in the Gulf.

Mr. SHAYS. You want to be helpful to us. This is not to embarrass you all, but we're trying to find out where we're content and where we're not content. Has DOD given you the unit location data to match veterans in the registry?

Dr. MURPHY. The Geographic Information System, which is the unit location roster that you are referring to, was just recently completed by DOD. We do have access to that. We have set up a briefing, and we're going out.

Mr. SHAYS. So it's not possible now to cluster, is it? I mean, the honest answer is—I mean, if you really are honest with the committee, you do not have the ability to cluster, because you don't know who is in what unit. Isn't that true?

Dr. MURPHY. But.

Mr. SHAYS. Please, please, no. Isn't that true?

Dr. MURPHY. It will be possible from our research.

Mr. SHAYS. No, no, not "will." Not "will." Not "will." Not "will." Not "will."

Dr. MURPHY. But we don't.

Mr. SHAYS. No, answer the question, please. The question is, do you have the ability to know what soldier, man or woman, was in what unit and how large that unit was?

Dr. MURPHY. Yes, we do.

Mr. SHAYS. You do.

Dr. MURPHY. But we have not done that at this point with the registry data, because it is not a research study, and we would be further criticized by the Institute of Medicine and other scientists for trying to do that. It's a self-selected, voluntary population, and you can't draw those kinds of conclusions.

Mr. SHAYS. I'm missing something. Dr. Murphy, I'm missing something, though. In my simple mind—I'm not where you are—but in my simple mind, I'm just thinking in terms of numbers and groupings. And you tried to give me the impression, which I think is a false impression, that if you have someone who went to a veterans' facility in Connecticut and someone who went to a veterans' facility in New York, and someone who went to a veterans' facility in Florida, and they all happened to be in the same unit and they

all happened to have the same problem, you would know to cluster them together, and then you would look into this.

I need you to be very clear and not mislead the committee. I want to know now, not what you intend to do. Can you tell me what you intend to do? Do you have the ability to cluster people together?

Dr. MURPHY. We have not performed that analysis today. We have the ability to do that.

Mr. SHAYS. And how do you have the ability, because you know everybody in every unit?

Dr. MURPHY. No, because there is a Geographic Information System that was developed by DOD, which allows us to place individual units in the Gulf, at various locations, at various times.

Mr. SHAYS. But that will help you in terms of location.

Dr. MURPHY. We can take our registry data base and match that against the Geographic Information System. In fact, there are plans to do that, to allow us to see if, in fact, the registry data analyzed in that way gives us any further information. But it is limited by the fact that these are individuals who may not be representative of either their units or the Persian Gulf population in general.

Mr. SHAYS. That's true. It may not be, but how do you know unless you get the entire unit and find out? There are five major theories. There might be more you could add to them, but the five theories are: long-term exposure to burning oil wells, exposure to chemical or biological weapons, reaction to vaccines, reaction to the antinerve drug, and exposure to depleted uranium.

Are those basically the five that we should be focusing in on? Are there others, as well? And then I guess I'd put "other."

Dr. GERRITY. Well, Mr. Chairman, I think we do adopt the view that we will—even though this is a stone unturned in our research effort—but we also have made a conscious effort to focus our attention on certain areas. You did name, indeed, some of them as you spoke, and that is not necessarily exhaustive.

I would like to return, for a moment, to this discussion about clusters. There is research going on right now, that is being sponsored by VA, that is utilizing troop unit location data to conduct epidemiologic investigations, to try to identify risk factors associated with the illnesses being reported by Persian Gulf veterans. The Boston VA Medical Center, the Environmental Hazards Center there, is using it, and the Portland Environmental Hazards Center is using that troop unit location data.

Indeed, right now—I think it sounds like a small thing, but the Boston center is able to say that, when veterans come into their research study, when they say they were at a certain location, that when they are asked the question, "Where were you and when were you there?" and they report that, when they check that against the troop unit locations, they get concordance with the two.

Mr. SHAYS. I'm going to yield to Mr. Towns. But what I'm wrestling with is that a lot of physicals were not given when soldiers went in; they weren't given when they left. What I'm wrestling with is that this registry is voluntary. And I understand you can't force people, but you sure as heck can encourage. And telling an 800 number is not quite what I'm suggesting. I mean, I could see

a letter that is sent out to a unit that says, you know, "Fifteen of your fellow soldiers have reported this illness. Do you have this illness?"

I don't think you have the capability, the Veterans Administration does not have the capability to know who was in those units, to be able to write letters to those individuals, and to me that's kind of scary. And I get the sense that, from your standpoint, you're the Department of Veterans Affairs, and then you've got DOD, and, you're not responsible for what they did. But we are, here. And I'm just trying to get an idea of why it's so crazy.

Dr. MURPHY. The Persian Gulf programs are coordinated across the three departments, VA, DOD, and HHS, through the Persian Gulf Coordinating Board. And, in fact, DOD did make an effort to send out letters to both people on active duty and those who had left the military, back last year. Secretary Perry and General Shalikashvili personally sent letters to those individuals who participated in Desert Shield and Desert Storm.

Mr. SHAYS. How many letters went out?

Dr. MURPHY. I believe they tried to contact every individual who served during that period of time. We know from personal experience, trying to do the national survey through a mail mechanism.

Mr. SHAYS. May I say something to you? If it was 100,000, I would be amazed. So you're saying that, and it will get reported that they have done that, and there could be in inference. I'm not aware that many letters were sent out. So would you just give me an estimate of how many letters you think were sent out?

Dr. MURPHY. I can tell you what they have reported in public testimony.

Mr. SHAYS. What did they report?

Dr. MURPHY. Which is that they tried to send a letter to all 690,000 individuals.

Mr. SHAYS. No, but they could tell you exactly how many letters they sent out. How many letters did they say?

Dr. MURPHY. They said they sent one to every participant of Desert Shield and Desert Storm.

Mr. SHAYS. OK. And who said that?

Dr. MURPHY. The Department of Defense.

Mr. SHAYS. Can you kind of nail it down a little better for me?

Dr. MURPHY. The letters were sent by Secretary Perry.

Mr. SHAYS. No, because we're going to go to the Department of Defense, and we're going to ask them how many letters they sent out. And if it was more than 100,000, I will be amazed.

Mr. Towns.

Mr. TOWNS. Thank you, Mr. Chairman.

I just want to sort of get some clarification of comments that were made earlier. Is the 14 percent of diagnoses for psychological disorders included in the 23 percent of undiagnosed illnesses, or is that a part of the 77 percent of the illnesses with a diagnosis?

Dr. MURPHY. That's part of the 77 percent with a diagnosis.

Mr. TOWNS. How many Persian Gulf vets receive disability compensation as a result of Persian Gulf service, would you know?

Mr. KINDERMAN. If I could indulge you just a moment and go through the numbers.

Mr. TOWNS. Sure.

Mr. KINDERMAN. We've received over 75,000 claims from Persian Gulf veterans for disability compensation. We're paying service-connected compensation to about 23,000. Now, that includes any condition that they acquired on active duty, whether they were in the Persian Gulf or not.

Within those claims, about 9,000 we identified as perhaps due to something that happened in the Persian Gulf, probably environmental. Of those 9,000, approximately 1,000 were granted service-connected compensation under our existing laws, and about another 440 under our specific authority under Public Law 103–446 for undiagnosed conditions. So some subset of the 23,000 are disabilities incurred in the Persian Gulf.

Mr. TOWNS. Do you have any reason to believe that Persian Gulf vets receive Social Security disability because they do not qualify for VA disability compensation?

Mr. KINDERMAN. I have no way of answering that question, Mr. Towns. I have no familiarity with eligibility for Social Security among Persian Gulf veterans. Are you saying that certain people are getting disability Social Security based on Persian Gulf disability?

Mr. TOWNS. Yes, because they don't qualify for VA. For one reason or another, they didn't qualify for VA disability.

Mr. KINDERMAN. I don't know. We could seek to get that answer and provide that for the record, sir.

Mr. TOWNS. Mr. Chairman, I would like for the request to be made officially for the record that this information be part of the record.

Mr. SHAYS. Would you state exactly again what it is?

Mr. TOWNS. In other words, it's my feeling that some veterans might have to go on Social Security disability because they do not qualify for VA disability. I'm asking, how many? I wanted to find out. He said he did not have the information, but what he would do is get it for us, and I would like to have that included in the record.

Mr. SHAYS. Is that a number you can get for us?

Mr. KINDERMAN. Well, we would probably have to ask Social Security for that. I believe—I'm not an expert in Social Security, but I believe that, if the disability is sufficiently severe, permanently and totally disabling, a veteran could qualify for both disability Social Security and VA compensation on the same disability.

Mr. SHAYS. But you will followup with our committee on that?

Mr. KINDERMAN. Yes, sir.

Mr. SHAYS. Thank you.

Mr. TOWNS. Yes. I would like to know. The other question that is not clear, I want to make certain, is the referral process the same for Persian Gulf vets as for all other veterans, or is there a different process? Because I'm hearing—for Persian Gulf vets, the referral process, is it the same?

Dr. GARTHWAITE. It's largely the same, although there are, I think, a couple unique facets. Any veteran whose treating physician needs help has that capability of asking for help from a specialist or someone with more knowledge in a particular area. In addition, for Persian Gulf veterans, the second physical, or phase two or the referral to the tertiary care facility, is a very comprehensive

examination by a protocol. So that's slightly different. We wouldn't necessarily have a protocol other than the medical protocol via the training and certification of clinicians.

Then the third option, to go to a specialized center for Persian Gulf, would only exist for certain other specialized centers that we have, like a transplant center or an open heart surgery center or a spinal cord injury center. So for specific other veterans who have specific diseases, there could be a referral on to what we call a center of excellence or a special center for that particular condition.

Mr. TOWNS. Could you explain to me what "priority care" means?

Dr. GARTHWAITE. I think, in terms of Persian Gulf veterans, that we are mandated to take care of patients with service-connected disabilities, and we have nonmandatory or discretionary care for others who meet a means test. Persian Gulf veterans have a priority of care probably in between the two, in terms of a priority for caring for those.

At the current time, we care for most of the discretionary patients. There are probably a few in what we used to call "Category A" that we can't see at every facility. But, by and large, the Persian Gulf veterans we're seeing in the highest range, just below service-connected.

Mr. TOWNS. Mr. Chairman, I think that, in light of my concern about coordination and making certain that everybody is doing what they are supposed to do and when they are supposed to do it, I think that at our next hearing we should ask DOD to come in, because I see a lot of questions here that I would like to raise with them.

I yield back.

Mr. SHAYS. I would just like to followup on the very kind of question that was being asked in terms of, I'm trying to understand who our universe is. I always thought the universe was 697,000 people. That's the number of people who went to the Persian Gulf; am I correct?

Dr. GARTHWAITE. That's my knowledge.

Mr. SHAYS. Of that number, how many are still actively in the service?

Dr. MURPHY. About one-third are still on active duty, and about two-thirds are now eligible for VA.

Mr. SHAYS. It's the "about" that concerns me. Do we know?

Dr. MURPHY. It's a number that changes on a daily basis as people get discharged.

Mr. SHAYS. Fair enough. Fair enough.

Dr. MURPHY. But, yes, we do have a specific number that we can provide you.

Mr. TOWNS. Mr. Chairman, does that include the reserves, too, that number, the one-third?

Mr. SHAYS. Yes, that's a good question.

Dr. MURPHY. The reserves would not be considered active duty at this point, so they would be included in the two-thirds, as would the National Guard members who were deployed to the Gulf.

Mr. TOWNS. I'm having some trouble with the numbers, though. It would be one-third that would still be on active duty. What number would probably be in the reserves or National Guard?

Mr. SHAYS. Of the two-thirds.

Mr. TOWNS. Of the two-thirds.

Mr. SHAYS. Yes.

Dr. MURPHY. I don't know the numbers broken down by people who are in that category. About 17 percent of the individuals who went to the Gulf were on reserve or National Guard duty and activated at that point. My understanding is that most of those individuals would be in the two-thirds that are VA-eligible and no longer eligible for active duty at this point.

There are a small number of individuals who would be considered active National Guard members and who might still be eligible, under certain circumstances, for DOD care. But my belief is that most of the reserve and National Guard members, that 17 percent, are now veterans and VA-eligible.

Mr. SHAYS. If you can think the way I think for a second, you will know why I find this kind of astounding, in one way. First off, do you have a list of every individual who has been discharged who fought in the Gulf war?

Dr. MURPHY. We have a list of every individual who served in the Persian Gulf.

Mr. SHAYS. You have a list of 697,000 names?

Dr. MURPHY. We do.

Mr. SHAYS. OK.

Dr. MURPHY. We have it on a roster in a computerized data base.

Mr. SHAYS. So, when someone comes in, you can compare them to that data? You would have that in your computer?

Dr. MURPHY. Yes. And, in fact, we update that list on a frequent basis, because the period of the Persian Gulf war was not closed after Desert Storm, and people would still be considered Persian Gulf veterans who served in the Gulf theater of operations even after the hostilities ended. So now we have almost a million individuals who would be included on a larger roster.

Mr. SHAYS. Well, you're giving an answer that I'm happy to know. You have a list of everyone who served. You also should have a list of everyone who was discharged. OK. And you do not have the ability, though, to break down whether they were in the reserves or National Guard.

Dr. MURPHY. Yes, we do.

Mr. SHAYS. OK. I'm looking at your Persian Gulf Veterans Coordinating Board fact sheet, and it says, "Persian Gulf Registry." Help me out here.

"The clinical data base also provides a mechanism to catalog prominent symptoms, report exposures and diagnoses." Then it says, "The more than 54,000 Persian Gulf veterans who have taken advantage of the physical examination program become part of a larger Persian Gulf Registry which includes over 180,000 Gulf veterans who have used a variety of other VA health services, have an approved benefits claim, or whose survivor receives benefits."

Now, you started to explain it, and let me put it in my words to see if I understand it. You're telling me that, if I subtract 54,000 from 180,000, those are individuals who have come, who have chosen not to become voluntarily part of the registry of 54,000.

Dr. MURPHY. It's actually a little bit more complex than that. There is some overlap. We've done more than 57,000 Persian Gulf Registry examinations to date. About 155,000 individuals, unique

veterans, have come to get outpatient care in VA Medical Centers and facilities around the country, and about 14,000 have been admitted to VA Medical Centers for inpatient hospitalization.

There is some overlap between the outpatient visits and the registry, so that's where you're getting confused.

Mr. SHAYS. When they come in, and they are not part of the 54,000, do you ask for all the information and ask if they would be willing to have a physical and do all the things that would put them in that list? Why wouldn't your list be over 100,000?

Dr. MURPHY. The registry health examination program is a specialized examination done according to protocol. We encourage all of the Persian Gulf veterans to come in and get that examination, whether they are sick or not.

Mr. SHAYS. So I make an assumption that all of them were invited and all of them refused, if they weren't part of the 54,000. That's the assumption I make.

Dr. MURPHY. Yes.

Mr. SHAYS. Is that a correct assumption?

Dr. MURPHY. In some cases, I think that's probably not true. There may have been veterans who, you know, were missed. But I don't think they are a large percentage. Certainly, when a veteran comes in to a VA Medical Center, we have, in policy, the Medical Administration Service is to make them aware of the registry examination, and we certainly have done an outreach to veterans of the Persian Gulf to encourage them to come in for registry examinations.

So I would say the majority, the vast majority of those individuals have chosen not to participate.

Mr. SHAYS. Let me just end with asking you about this document, the "Physicians Program Guide, Persian Gulf Spouses and Children Program." Is that a book by you all? Whose document is this?

Dr. MURPHY. It was produced by our office.

Mr. SHAYS. OK. Table 11 is the distribution of cancer by site among 52,216 veterans on the Persian Gulf Registry. It's just sad that it can't be larger than 52,000, but, at any rate, that's the number. Is the VA collecting data on the incidence of cancer among Persian Gulf veterans?

Dr. MURPHY. That information is collected in several different ways. The table that you're referring to is the total number of cancer diagnoses in people who participated in the registry health examination program. If you look further back in that document, we also have produced a look at hospital admissions from our inpatient treatment file. And we can determine how many inpatients were Persian Gulf veterans and may have received a cancer diagnosis.

Mr. SHAYS. Where would I see that chart? What chart is that?

Dr. MATHER. Table 17.

Mr. SHAYS. Table 17. So, in other words, the Table 11 is just the 52,000. And it gives percentages. Table 17? I must be on the wrong table. Page 17?

Dr. MURPHY. In other words, there were 15,486.

Mr. SHAYS. I want to know what you're looking at.

Dr. MURPHY. Table 17.

Mr. SHAYS. OK.

Dr. MURPHY. OK. There were 15,486 Persian Gulf veterans who had inpatient admissions at VA Medical Centers around the Nation, and 4.9 percent received a diagnosis of some kind of a neoplastic disease or a cancer diagnosis. Of those, 2.1 percent had malignant cancers.

Mr. SHAYS. Of the 4.9, 2.1 percent.

Dr. MATHER. This is all the Persian Gulf veterans who were admitted to VA hospitals.

Mr. SHAYS. Is this your list of 180,000?

Dr. MURPHY. They are part of that list.

Dr. MATHER. This is the 15,486 who were actually admitted to VA hospitals, who were Persian Gulf veterans.

Mr. SHAYS. I don't mean to be facetious, but is it conceivable that you have veterans who have cancer, who are not part of Table 11, who were Persian Gulf veterans?

Dr. GARTHWAITE. If they were treated outside the VA.

Mr. SHAYS. Then why is this table helpful? I mean, if you have cancer, you've got cancer. I'm trying to understand why I should be impressed with this voluntary effort. I mean, if a veteran decides not to become part of this registry, but he has cancer.

Dr. GARTHWAITE. I think this table is important because it basically says, in 30,000-plus veterans, 15,000 who were deployed to the Gulf and 15,000 who were of the same era, and presumably have a variety of other characteristics of age, sex, and so forth.

Mr. SHAYS. You're talking about Table 17?

Dr. GARTHWAITE. Yes. Then you could see whether or not—you have an opportunity to see whether or not certain illnesses occur in a greater frequency in those who were deployed versus those who were not deployed.

Mr. SHAYS. And the answer is yes? And the answer is no?

Dr. MATHER. Yes, for some diseases; no, for others.

Dr. GARTHWAITE. Right. And these are serious enough to get you in the hospital, so it selects, from both populations, a special group.

Mr. SHAYS. OK. But that's not really the question I asked. We're not going to, obviously, nail this down today. There were 697,000 who went to the Persian Gulf. There are only 54,000 or so who are on your registry, and they are the ones who voluntarily decided to be part of your registry. And the question I asked is, are there Gulf war veterans who are not part of the registry, of the 54,000, who have cancer? And the answer is yes.

Dr. GARTHWAITE. Likely, yes.

Dr. MATHER. Most likely, yes.

Mr. SHAYS. At least, what, 15,000?

Dr. MURPHY. That data is not tracked.

Dr. GARTHWAITE. You can only make a guess. If the percentage in those who don't use the VA for care were similar to the percentage who might use the VA for care, you could extrapolate some of the data. I think that really points to the issue of why we believe that a prospective study, where we randomly select individuals and then aggressively survey their health status, is really the answer to the question you're asking.

Mr. SHAYS. Right. And what is the status of that?

Dr. GERRITY. Mr. Chairman, there are several attempts at this. Right now, there is the development of the mechanism to establish a cancer surveillance registry, first in the State of Massachusetts where there is a cancer registry within the State. This will go further in establishing linkages to cancer registries that are available in adjacent States in the New England area. So, as an initial attempt at addressing this question, we are moving forward and making those data base linkages.

Dr. MURPHY. Maybe I can answer the question that you asked, which was, where are we with the national Persian Gulf survey? The survey was begun with the first mailing of the questionnaire.

Mr. SHAYS. To how many people?

Dr. MURPHY. 15,000 Persian Gulf veterans selected as a representative sample, with oversampling of women and minorities.

Mr. SHAYS. At random.

Dr. MURPHY. Yes. And 15,000 Gulf era veterans, people who served in the military but did not get deployed to the theater of operations. We've sent out the first two mailings of the questionnaire; a third mailing will go out next month. And we expect to follow that with a sample of 1,000 Persian Gulf veterans and their families and 1,000 Gulf era veterans, and invite them in for physical examinations to determine their health status.

Mr. SHAYS. That would seem very logical we should do that, Doctor. I had a distorted view of what the Persian Gulf Registry was. For me, it's almost meaningless, whatever the statistics are, because it's only those who voluntarily came forward. And you're telling me that, if they went in and decided that they didn't want to go under the protocol of the registry, if they have cancer, they don't show up here.

I understand why some veterans are telling me that you're keeping two books, you know, one set is here and there's another set that nobody knows, they feel. I mean, but that's the feeling, and I understand why, because they say, "Well, I'm not part of this registry. I have cancer, and I don't show up."

So, Doctor, I would love to have a private conversation with you later. I just need to sort out some things, and we will have that conversation.

Dr. GARTHWAITE. Any time.

Mr. SHAYS. The last thing I want to do is give any impression that you are less interested. I would say you are more interested than we are to nail this down. But maybe not as much as Mr. Towns.

Mr. TOWNS. Thank you. I appreciate that.

Mr. SHAYS. I know that you all want to deal with this. I am left with a feeling that, in some ways, though, there's the challenge that the VA has and the Department of Defense has. And the veterans are talking to one group, and then they are talking to another group. They talk to their private physician and get one story; they talk to someone from the VA. They hear that some people get sent to the centers and some people don't, and why.

They hear that there's one set of numbers that say, you know, of the people in the registry—and then I'm beginning to say, "Well, so what. What does it really mean? It's voluntary." I'm hearing that people are coming into your hospitals who are not willing to

go under the protocol. So, you know, it just raises a lot of questions that we need to sort out.

Is there anything that you want to ask or say?

Mr. TOWNS. No. I would just like to thank the witnesses for the testimony, Mr. Chairman. Also, as indicated, I look forward to talking to DOD, because I really feel that the coordination here is very, very important, with HHS and, of course, the VA, and also DOD, because I think there's more that could be done. And I think, with that kind of coordination, if we really stress it, I think that we can learn a lot, too, at the same time.

I think it's a great opportunity for us to get some information, retrieve it, and to be able to use it to better life for all. I think we should make certain that we avail ourselves of that opportunity.

Mr. SHAYS. Thank you.

If you had the names of 697,000 soldiers, why don't you have their units? I just don't understand that.

Dr. MURPHY. We do have their units.

Dr. GARTHWAITE. We just got it, though.

Mr. SHAYS. You just got it.

Dr. MURPHY. We just got it.

Mr. SHAYS. Five years later. When did you get this list of 697,000?

Dr. MURPHY. In 1992.

Mr. SHAYS. So you got it in 1992, and it didn't give you the units that they served in. Doesn't that seem kind of crazy to you that you wouldn't have gotten it? And why you wouldn't have demanded it?

Doctor, one of you might answer.

Dr. GARTHWAITE. My sense is, when you're dealing with numbers that large—the focus going into the Persian Gulf was the war, the concern about biological hazards and other things. So, prospectively, things were not done.

Mr. SHAYS. That's a good try, but, you know, we're paying checks to people who served. We had to verify that they served, and I can't imagine that we don't know who's in and who's out. And I can't imagine why that wouldn't just be given to the VA.

Dr. GARTHWAITE. In terms of troop location and actual exposure, that would be helpful.

Mr. SHAYS. I'm just talking units.

Dr. GARTHWAITE. Branch of service.

Dr. MATHER. Well, we have branch of service.

Mr. TOWNS. That would be DOD, though; right?

Mr. SHAYS. I know DOD has it, but once they have it, they should share it.

Dr. MURPHY. Actually, there's another level of complexity, because, in fact, people's unit designation may not always give you good information about what unit they served with in the Gulf, because people were detailed to work with other units. So it becomes a very complex issue.

Mr. SHAYS. I realize that, but if you can at least know where the units are. I mean, I understand you've got locations. And I'm not going to beat this to the end, but it's just, to me, crazy.

Any comments you all want to say? Doctor.

Dr. GARTHWAITE. I think we're all learning from this. As I say, I think we went into this to fight a war and to win a war, and no

one anticipated the health issues and implications of being there, and no one anticipated what veterans would experience. It's our pledge to continue to try to learn, and we welcome the opportunity to meet with you at any time and discuss anything further, as you need.

Mr. SHAYS. Thank you. Believe it or not, we are a friendly committee. If there are resources that you need, we will fight to get those resources. But I have learned that the bureaucracy in Washington is extraordinary. You didn't create it, and we all have to deal with it. I don't blame you or anyone else, Republican or Democrat. This is a gigantic government, and everybody wants to protect information they have.

I wouldn't be surprised if I found out from some of my friends overseeing the National Security Committee that they would say they just don't want you to have information, because they don't want you to know who served in what. But it's not a good answer, if that's the answer.

So I thank you all. We will go to our next panel. Thank you. Thank you very much.

Our second and last panel is Dr. Clauw, Georgetown University; Dr. Penny Pierce, University of Michigan; and Dr. Howard Urnovitz, who is a research microbiologist. This is our last panel, and we would ask all three to stand, and we will swear you in.

[Witnesses sworn.]

Mr. SHAYS. We will go in the order I called you, actually. We will start with Dr. Clauw, and then we will go with Dr. Pierce, and then we will end with you, Dr. Urnovitz. We will do it in that order.

STATEMENT OF DANIEL J. CLAUW, ASSISTANT PROFESSOR OF MEDICINE, GEORGETOWN UNIVERSITY; PENNY F. PIERCE, ASSISTANT PROFESSOR, SCHOOL OF NURSING, UNIVERSITY OF MICHIGAN; AND HOWARD B. URNOVITZ, RESEARCH MICROBIOLOGIST

Dr. CLAUW. Thank you.

My name is Daniel Clauw. I am an assistant professor of medicine and rheumatology at Georgetown University Medical Center in Washington, DC. I have been involved in a number of areas of research related to illnesses associated with deployment to the Persian Gulf. I have just been awarded a large U.S. Army grant to study these illnesses, and am also the principal investigator of an NIH grant related to a syndrome termed "fibromyalgia."

In addition to performing research on fibromyalgia, I have treated more than 1,000 individuals with this or related disorders. I would like to briefly summarize the reasons for my opinion that many Gulf war veterans developed fibromyalgia and related conditions as a result of their military service, and suggest some steps which could be taken to improve the care of these individuals.

Fibromyalgia is a disorder defined by the presence of diffuse musculoskeletal pain and by the finding of widespread tenderness on physical examination. In addition to diffuse pain, individuals with fibromyalgia typically also suffer a number of other symptoms, including fatigue, weakness, and memory problems. These other symptoms are outlined in the figure on the following page.

ugh fibromyalgia is the most common rheumatic dis
ividuals below the age of 60, affecting at least 2 percent of the population, I suspect that many of you have not even heard of this disorder. Yet I am certain that all of you know individuals who suffer from this condition, although many of these persons have not yet been appropriately diagnosed or treated.

There are several reasons for this general lack of recognition of fibromyalgia in the medical community, and I will explain some of these since these are germane to the problems that the Gulf war veterans have been enduring. One of the reasons for the incomplete recognition of fibromyalgia is that this symptom complex is given many different names and many different attributions.

For example, if one looks at a large group of individuals with fibromyalgia, you will find that most of these individuals will also meet criteria for one or more of another group of illnesses, including chronic fatigue syndrome, multiple chemical sensitivity, and somatoform disorders.

The overlap between these systemic disorders is represented in the figure below, as is a depiction of the fact that most individuals with unexplained illnesses associated with deployment to the Persian Gulf will meet criteria for one or more of these diagnoses.

Thus, it appears that there is a group of closely related systemic conditions, such as fibromyalgia and chronic fatigue syndrome, as well as a group of closely related organ-specific conditions, such as migraine headaches and irritable bowel syndrome, that form one large spectrum of illness with common demographics, inciting factors, and treatment.

It is important to recognize that these illnesses individually or collectively occur with a very high frequency in the general population. The systemic illnesses noted in the second figure occur collectively in approximately 4 percent of the U.S. population, whereas the aggregate incidence of the organ-related illnesses in the first figure is much higher, affecting well over half the population.

Another significant problem with the recognition and acceptance of fibromyalgia and related conditions is that these illnesses, in general, have become known as psychosomatic conditions. All of these illnesses are either triggered by or exacerbated by a variety of physical, immune, or emotional stressors, and there is likely a common underlying cause or causes for this entire spectrum of illness. Unfortunately, the root causes for this spectrum of illness are not presently known.

The link to emotional stress and the fact that, at present, we have no blood test or other objective diagnostic test that can verify the presence of these conditions has led some to contend that these illnesses are "all in the head." Well, in fact, the most recent research into these conditions suggests that these illnesses really do begin in the head, but that instead of these being psychiatric conditions, these entities are characterized by dysfunction of various components of the central nervous system.

Finally, the relationship between these disorders and psychiatric conditions needs to be clarified. Many individuals with fibromyalgia and related conditions will have concurrent psychiatric diagnoses; however, in most cases, the psychiatric diagnosis is not

the primary problem but, rather, occurs as a result of the physical symptoms that the person experiences.

In clinical practice, telling an individual with this type of illness that it is all in their head or that there is no "organic cause" for their symptoms will always lead to frustration and a sense of abandonment by that individual. It is not difficult to see why many of the veterans with these illnesses, as well as their families and advocates, have become so frustrated with this vicious cycle of no diagnosis, no effective treatment, and the psychiatric attribution of their symptoms.

This may be of little consolation to the Gulf war veterans, but millions of Americans are struggling with all these same issues on a daily basis when they are seen with these same types of syndromes in the private sector. Thus, we should be careful not to place the blame regarding the inadequate treatment or diagnosis of these individuals solely on the VA or military hospitals. This is a much larger problem that involves our entire medical system.

Nearly all of the unexplained symptoms seen in the Gulf war veterans are seen in fibromyalgia and related conditions, and my opinion is that this is the illness that many of these individuals are experiencing. The countless individuals who were previously healthy, who returned from the war with severe symptoms, are compelling evidence that these individuals developed these illnesses as a result of their military service.

Then why and how could this happen? There seem to be a variety of physical, immune, and emotional stressors that are capable of triggering or exacerbating this entire spectrum of illness. Physical trauma such as motor vehicle accidents, immune stressors such as infections, and emotional stressors of virtually any type are the best described triggers of fibromyalgia and related illnesses. Individuals deployed to the Persian Gulf may have been exposed to any or all of these types of biological stressors.

I am aware that there is an ongoing debate regarding the potential role of biologic or chemical weapons or toxins in the development of these symptoms. I feel that these questions remain unanswered at present, so I will not offer opinions about whether these types of environmental exposure may have played a role in causing the symptoms in some of the veterans. However, from a biologic standpoint, it is quite plausible that these illnesses could have been triggered without any of these types of environmental stimuli.

Also, studies suggest that the risk of developing these symptoms had little to do with where in the Persian Gulf an individual was deployed. And this same set of symptoms has occurred after nearly every conflict that the United States has been involved in, although different names have been used to describe the symptom complex. Thus, if specific environmental exposures are involved in the development of these illnesses, they probably play a minor role.

Once an individual develops fibromyalgia or a related disorder, it does not appear to matter what triggered this illness; the treatment remains the same. In fact, this focus on causation is not only unlikely to be of benefit, but it may actually be harmful.

It is clear that when a patient with this type of illness develops a victim mentality and focuses on the fact that something or someone caused their illness, they rarely improve. Instead, it is more

important that patients, health care providers, and policymakers begin to focus on better understanding this entire spectrum of illness and to use our existing knowledge regarding these entities to develop multidisciplinary treatment programs for afflicted individuals.

Numerous types of therapy have been demonstrated to be effective in treating these disorders. My personal experience is that, in some cases, the VA Medical Centers are not well-versed in treating this spectrum of illness, perhaps in part because these conditions occur more frequently in females and so few women are seen within the VA system, and perhaps because there has been, in the past, a cultural bias within the VA system to too quickly refer these patients to psychiatrists.

I will end by giving a few discrete recommendations. I will be more blunt than Mr. Garthwaite was able to be this morning and say that much more funding is needed for research into this whole spectrum of conditions. The problems regarding the diagnosis and treatment of Persian Gulf veterans are a symptom of a much bigger problem that we have in this country.

Amazingly enough, despite the very high prevalence of these illnesses in the population, the aggregate amount of yearly funding for these conditions, through all of the institutes at the NIH, and through other sources such as the DOD, may perhaps reach $20 million. This spectrum of illnesses cost the government alone billions of dollars in lost productivity disability and health care costs. The costs to the private sector are much larger.

Second, most of the experts on these types of illnesses in this country are not in the VA or military systems. An expert panel could be formed to help address issues regarding treatment and research into the pathogenesis of these conditions, which could provide recommendations, either to Congress to the VA.

Finally, and perhaps most importantly, continue to take these veterans seriously. The physical and emotional toll of this type of illness is great, and these individuals developed these problems while serving our country. View with skepticism anyone who might assert that because there are no abnormalities on these individuals' blood tests, x-rays, or other diagnostic studies, that there is nothing wrong or that these are psychiatric conditions. It is arrogant of us, as scientists, to feel that because we cannot precisely define a problem that it does not exist.

Thank you.

[The prepared statement of Dr. Clauw follows:]

Testimony of:
Daniel J. Clauw M.D.
Assistant Professor of Medicine
Georgetown University Medical Center

Before:
The Subcommittee on Human Resources and
Intergovernmental Relations of the Committee on
Government Reform and Oversight

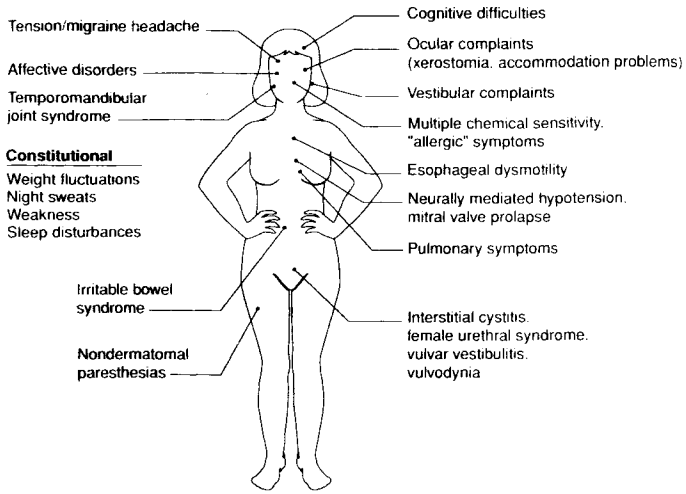
Regarding:
Illnesses and Diseases Reported by Veterans
Who Served in the Persian Gulf War

March 28, 1996

BACKGROUND. My name is Daniel Clauw. I am an Assistant Professor of Medicine and Rheumatology at Georgetown University Medical Center in Washington, D.C. I have been involved in a number of areas of research related to the illnesses associated with deployment to the Persian Gulf. I have just been awarded a large U.S. Army grant to study these illnesses, and am also the Principal Investigator of an NIH grant. I have studied a group of disorders called Environmentally Associated Connective Tissue Diseases, where people become ill because of exposure to something present in the environment, whether this is a drug, toxin, food, medical device, etc. Because of this expertise, I serve as a consultant to the Food and Drug Administration on these issues.

My other area of research is in the syndrome termed fibromyalgia, as well as in other entities closely related to this condition. In addition to performing research on this illness, I have treated more than a thousand individuals with this or related disorders. I would like to briefly summarize the reasons for my opinion that many Gulf War veterans developed fibromyalgia and related conditions as a result of their military service, and suggest some steps which could be taken to improve the care of these individuals.

DEFINITION OF FIBROMYALGIA. Fibromyalgia is a disorder defined by the presence of diffuse musculoskeletal pain, and by the finding of widespread tenderness on physical examination. In addition to diffuse pain, individuals with fibromyalgia typically also suffer a number of other symptoms including fatigue, weakness, and memory problems; these are outlined in the figure on the following page.

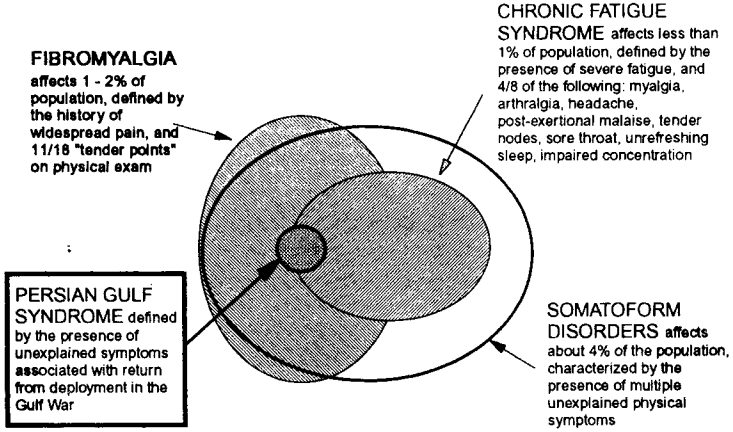


Although fibromyalgia is the most common rheumatic disease in individuals below the age of 60, affecting at least 2% of the population, I suspect many of you have not even heard of this disorder. Yet, I am certain that all of you know individuals who suffer from this condition, although many of these persons have not yet been appropriately diagnosed or treated. There are several reasons for this general lack of recognition of fibromyalgia in the medical community, and I will explain some of these, since they are germaine to the problems that ill Gulf War veterans have been enduring.

REASONS FOR A LACK OF RECOGNITION OF FIBROMYALGIA IN THE MEDICAL COMMUNITY. One of the reasons for incomplete recognition of fibromyalgia is that this symptom complex is given many different names, and many different attributions. For example, if one looks at a large group of individuals with fibromyalgia, you will find that most of these individuals will also meet criteria for one or more of

another group of illnesses including chronic fatigue syndrome (CFS), multiple chemical sensitivity, and somatoform disorders. The overlap between these systemic disorders is represented in the figure below, as is a depiction of the fact that most individuals with unexplained illnesses associated with deployment to the Persian Gulf also will meet criteria for one or more of these diagnoses.

Overlap between fibromyalgia and closely related disorders



Thus, it appears that there is a group of closely related *systemic* conditions, such as fibromyalgia and chronic fatigue syndrome, and a group of closely related *organ-specific* conditions, such as migraine headaches and irritable bowel syndrome, that form one large spectrum of illness, with common demographics, inciting factors, and treatment. It is important to recognize that *these illnesses individually or collectively occur with a high frequency in the general population.* The systemic illnesses noted in

the second figure occur collectively in approximately 4% of the U.S. population, whereas the aggregate incidence of the "organ-related" illnesses in the first figure is much higher, affecting well over half of the population.

Another significant problem with the recognition and acceptance of fibromyalgia and related conditions is that these illnesses in general have become known as "psychosomatic" conditions. *All of these conditions are either triggered or exacerbated by a variety of physical, immune, or emotional stressors, and there is likely a common underlying cause or causes for this entire spectrum of illness. Unfortunately, the root causes for this spectrum of illness are not presently known.*

The link to emotional stress, and the fact that at present we have no blood test or other objective diagnostic tests that can verify the presence of these conditions, has led some to contend that these illnesses "are all in the head." Well, in fact, the most recent research into these conditions suggests that these illnesses really do begin in the head, but that instead of these being primary psychiatric conditions, these entities are characterized by dysfunction of various components of the central nervous system.

Although our incomplete understanding of the precise mechanisms which lead to symptoms in these disorders *should not* lead to treating this group of patients differently than those with illnesses we understand better, this is commonly done. Furthermore, the fact that these conditions can be either initiated or exacerbated by stress should not be viewed by either patients or physicians as a negative factor, since we now know that nearly all illnesses, including cancer and coronary artery disease, can likewise be profoundly affected by stress.

Finally, the relationship between these disorders, and psychiatric conditions, needs to be clarified. Many individuals with fibromyalgia and related conditions will have also have concurrent psychiatric diagnoses. However, in most cases, the psychiatric diagnosis is not the primary problem. In most cases, the individual has developed a mood disorder such as depression or anxiety disorders *as a result of* the physical symptoms.

THE PROBLEM WITH CONSIDERING THESES ILLNESSES AS PSYCHIATRIC CONDITIONS. In clinical practice, telling an individual with this type of illness that it is "all in their head," or that there is no "organic" basis for their symptoms, will always lead to frustration and a sense of abandonment by that individual. It is not difficult to see why many of the veterans with these illnesses, as well as their families and advocates, have become so frustrated with this vicious cycle of no diagnoses, no effective treatment, and psychiatric attribution of symptoms.

This may be of little consolation to the Gulf War veterans, but millions of Americans are struggling with all of these same issues on a daily basis when they are seen with these same syndromes in the private sector. Thus, we should be careful not to place the blame regarding the inadequate treatment of these individuals solely on the VA or military hospitals. It is actually a much larger problem with our entire medical system.

ARE THE UNEXPLAINED ILLNESSES SEEN IN THE GULF WAR VETERANS EXPLAINED BY FI3ROMYALGIA AND RELATED CONDITIONS? Nearly all of the unexplained symptoms seen in the Gulf War veterans are seen in fibromyalgia and

related conditions, and my opinion is this is the illness most of these individuals are experiencing. Since these illnesses occur at such a high frequency in the general population, some have argued that the symptoms in Gulf War veterans merely represent the high background rate of these conditions in the general population. I do not agree. The countless individuals who were previously healthy who returned from the war with severe symptoms are compelling evidence that these individuals developed these illnesses because of their military service.

WHY WOULD GULF WAR VETERANS DEVELOP FIBROMYALGIA AND RELATED CONDITIONS? Why and how could this happen? There seem to be a variety of physical, immune, and emotional stressors that are capable of triggering or exacerbating this entire spectrum of illness. Physical trauma such as motor vehicle accidents, immune stressors such as infections, and emotional stressors of virtually any type are the best described triggers of this fibromyalgia and related illnesses. Individuals deployed to the Persian Gulf may have been exposed to any or all of these types of stressors. I am aware that there is an ongoing debate regarding the potential role of biological, chemical, or toxins in the development of these symptoms. I feel that these questions remain unanswered at present, so I will not offer opinions about whether these types of environmental exposure may have played a role in causing symptoms in some of the veterans. However, from a biological standpoint *it is quite plausible that these illnesses could have been triggered without any of these types of environmental exposures. Also, studies suggest that the risk of developing these symptoms had little to do with where in the Persian Gulf an individual was deployed.*

And this same set of symptoms has occurred after nearly every conflict that the U.S. has been involved in, although different names have been used to describe the symptoms. Thus, if specific environmental exposures are involved in the development of these illnesses, they probably play a minor role.

IF THESE INDIVIDUALS SUFFER FROM FIBROMYALGIA, WHAT SHOULD WE DO NOW? Once an individual develops fibromyalgia or a related disorder, it does not appear to matter what triggered the illness; the treatment remains the same. In fact, this focus on causation is not only unlikely to be of benefit, but may actually be harmful. It is clear that when a patient with this type of illness develops a "victim" mentality, and focuses on the fact that someone or something caused their illness, they rarely improve. Instead, it is more important that patients, health care providers, and policy makers begin to focus on better understanding this entire spectrum of illnesses, and to use our existing knowledge regarding these entities to develop multidisciplinary treatment programs for afflicted persons.

Types of therapy which have been demonstrated to be effective include low doses of tricyclic drugs, graduated low-impact aerobic exercise programs, and cognitive-behavioral therapy. Other types of drugs may be effective but have yet to be proven so in double-blind, placebo-controlled trials. My personal experience is that in some cases the VA Medical Centers are not well-versed in the treatment of these conditions, perhaps in part because these illnesses occur more frequently in females (and so few women are seen within the VA system), and perhaps because there is a cultural bias within the VA system to quickly refer these patients to psychiatrists. If a

physician or other health care provider does not believe that these individuals are suffering from a real disease, they will likely be ineffective in treating this group of patients.

I will end by giving a few discrete recommendations:

- Much more funding is needed for research into these conditions. The problems regarding the diagnosis and treatment of Persian Gulf veterans are a symptom of a much larger problem in this country. Amazingly enough, despite the very high prevalence of these illnesses in the population, the aggregate amount of yearly funding for these conditions through all institutes at the NIH, and through other sources such as DOD, may perhaps reach 20 million dollars. This spectrum of illness costs the government alone billions of dollars in lost productivity, disability, and health care costs. The costs to the private sector are much larger.

- Most of the experts on these types of illnesses in this country are not in the VA or military systems. An expert panel could be formed to help address issues regarding treatment and research into the pathogenesis of these conditions, which could provide recommendations either to Congress or to the VA.

- Continue to take these veterans seriously. The physical and emotional toll of this type of illness is great, and these individuals developed these problems while serving our country. View with skepticism anyone who might assert that because there are no abnormalities on these individuals' blood tests, x-rays, or other diagnostic studies, that there is nothing wrong, or that the individual is suffering from a psychiatric condition. It is arrogant of us as scientists to feel that because we cannot precisely define a problem, it doesn't exist.

Mr. SHAYS. Thank you.

I guess, Dr. Pierce, you are next.

Ms. Pierce. Thank you.

I welcome the opportunity to speak before you this morning. I am an assistant professor at the University of Michigan School of Nursing and a faculty associate at the Institute for Social Research. My work is focused specifically on women who served in Desert Storm.

As we all know, the Gulf war imposed very unique threats and stressors on our military forces, as the prolonged buildup led to a very short, decisive victory. However, many troops spent months in the desert under constant stress and uncertainty about the events to follow, and they lived under very harsh, unsanitary, and demanding conditions.

Mobilization for the war included an unprecedented number of women from the active forces as well as the Reserves and National Guard. Over 33,000 United States military women served in key combat support positions throughout the Persian Gulf region. Yet there is a very acute lack of attention to assessing if there are long-term outcomes of toxic exposure common to the combat scenario that may pose particular and specific threats to women's health.

Little is known about the general health effects of combat exposure on women's health, despite their service alongside their male counterparts. Since the end of the war, there has been increasing concern about the possible health effects for both men and women, and yet there has been little systematic research devoted particularly to women who were deployed in these unprecedented numbers.

To my knowledge, the two studies I have conducted to date with my collaborator, Dr. Amiram Vinokur, are the only randomized studies focusing solely on the health effects of service in the theater of the war on women's health. These studies were conducted with the support of the Tri-Service Nursing Research Program, and we are extremely grateful to them for the resources to conduct these projects.

In the first study, that was conducted 2 years after the war, we selected a randomized sample of 525 Air Force women from the active, Reserves, and Guard who were deployed to the Gulf, with a comparison group of women deployed elsewhere during the same time period.

In a followup study conducted 2 years after that, we again measured the health status of the same sample of women. In this followup study, we were interested to see if the physical health effects reported in the first year were limited to the initial year of readjustment or if they continued for an additional period of time.

In the first survey, we asked respondents to report any of the conditions or symptoms for which they had sought medical services from beginning service in the armed forces. The results comparing the ratings of both general as well as gender-specific health problems indicated there were no differences in the baseline. That's an average of about 10 years of military service prior to the war.

But there was no difference between those deployed in the Gulf and those deployed elsewhere on any of the baseline symptoms. Therefore, women deployed to the theater and those deployed else-

where were equivalent in terms of their prior health status. When we analyzed health problems based on the length of time in the theater, however, we found very significant findings.

Among the general health problems, there were significant differences between the two groups in reports of skin rashes, and differences in depression between the two groups, unintentional weight loss, insomnia, and headaches. Health problems are higher, in general, for those serving in the Persian Gulf region, and ratings are highest among those no longer in the military. Presumably, some have left due to health reasons.

When we conducted our followup survey 2 years after the first one, which was about 4 years after the war, we found a very different display of symptoms, with the exception of the skin rashes, which continue to persist among those that had served in the theater.

The symptoms reported in the first survey included depression, unintentional weight loss, and insomnia, but they were no longer statistically significant. However, the problems of cough and respiratory problems, irritability, joint and muscle pain were reported. Also, memory problems were very significantly different between those deployed to the Gulf and those deployed elsewhere.

The same was true in gender-specific health problems, and this is where I would like to draw your attention today. When we looked at the prior gynecologic and reproductive health of the women, there had been no differences between the two groups that either were deployed to the Gulf or deployed elsewhere.

However, when we measured this group after the war, we found that there were striking differences between those deployed in the theater and those deployed elsewhere. We found significant differences, for example, in the reporting of lumps or cysts in the breast, and findings of abnormal PAP results. Both were clinically and statistically significant and require much further investigation.

In summary, we believe that there is sufficient evidence to warrant further study of the group of health problems, including rashes, depression, cough, unintentional weight loss, insomnia, joint pain, and memory problems. We need to look closely for other explanations for the vague configuration of symptoms, despite the fact that they do not fit into existing diagnostic categories.

Vigilant followup and care of those no longer in the military is warranted, since it appears that poor health following the Gulf war may have been a contributing factor to their leaving the military. The incidence of gender-specific health problems, in particular, warrants further attention and points directly to the unique health care needs of military women.

Specifically, there is a need for rigorous followup on the significant findings concerning changes in breast lumps and cervical alterations that have been reflected in our finding of a twofold increase among women serving in the Persian Gulf. We need to know now if there are gynecologic or reproductive problems that may pose a risk to future generations that are the beneficiaries of health care.

The opportunity to study the health consequences of Persian Gulf veteran women in a timely fashion meets a critical and longstand-

ing need. The priorities for a national agenda of military women's health research should, in my opinion, include the following:

First, we should commit the needed resources to establish the prevalence of health problems of Gulf war veteran women in well-designed epidemiologic studies.

Second, we need to document and monitor the health effects of occupational and environmental stressors found in combat to better understand the effects of gender, menstrual cycle, reproductive capability, and the interaction of these factors on the health and well-being of American women who serve their country in uniform.

In this regard, we must all recognize that environmental and occupational exposures may affect women differently than men, and we need to have scientific information upon which we can reliably determine if there are preventable risks that are associated with specific military duties, certain deployment locations, or a combination of factors.

The third priority acknowledges that women play a key role in the military readiness of this country, and keeping them healthy is as vital to our Nation's defense as other members of the armed forces.

It is time that attention is given to better predeployment health screening of women, improved gender-specific health care for women in deployed locations, and better surveillance and treatment of health problems in the postdeployment period.

Ultimately, we hope that future research will help us determine if there are preventable risks to women that are associated with military duties, so that they can be modified to protect the health and reproductive capability of service women during times of peace as well as war.

Thank you very much.

[The prepared statement of Ms. Pierce follows:]

PREPARED STATEMENT OF PENNY F. PIERCE, R.N., ASSISTANT PROFESSOR, SCHOOL OF NURSING, UNIVERSITY OF MICHIGAN

The Gulf War imposed unique threats and stressors on our military forces as a prolonged buildup led to a short and decisive victory. However, many troops spent months in the desert under constant stress and uncertainty about the events to follow living under harsh, unsanitary and demanding conditions. Mobilization for the Gulf War included an unprecedented proportion of women from the active forces (7%) as well as the Reserve and National Guard (17%). Over 33,000 U.S. military women served in key combat-support positions throughout the Persian Gulf region (U.S. Dept of Defense, 1992). Yet, there has been a lack of attention to assessing if there are long-term outcomes of toxic exposure common to the combat scenario that may pose particular and specific threats to women's health.

Little is known about the general health effects of combat exposure on women's health despite their service alongside their male counterparts. Since the end of the war there have been increasing concerns about the possible health effects for both men and women yet there has been little systematic research devoted particularly to women who were deployed in unprecedented numbers. To my knowledge, the two studies I have conducted to date, with my collaborator, Dr. Amiram Vinokur, are the only randomized studies focusing solely on the health effects of service in the theater of the war on women's health. These studies were conducted with support of the Tri-Service Nursing Research Program and we are grateful to them for the resources to conduct this project in the first study, we selected a randomized sample of 525 Air Force women from the active, reserve, and guard who were deployed to the Gulf with a comparison group of women deployed elsewhere during the same time period (Sept. 1991–Aug. 1993). In a follow-up study, conducted from September 1994 to August, 1995, we again measured the health status of the same sample of women. In this follow-up study we were interested to see if the physical health find-

ings reported in the first year were limited to the initial year of readjustment or if they continued for an additional period of time.

In the first survey we asked the respondent to report any of the conditions or symptoms for which they sought medical services since beginning service in the armed forces. Results comparing the ratings of both general as well as gender-specific health problems indicated that there were no differences between those deployed to the Gulf and those deployed elsewhere on any of the baseline symptoms. Therefore, the women deployed to the theater and those deployed elsewhere were equivalent in terms of their prior health status. When we analyzed health problems based on the length of time[1] in the theater, we found several significant findings.

Among the general health problems, there were significant differences in the first survey in reports of skin rashes between women who did not deploy to the theater and women who were in the theater over 120 days (1.17[2] vs. 1.50, p=.008), significant differences in depression between those deployed elsewhere and those in the theater less than 120 days (1.84 vs. 2.22, p=.03), unintentional weight loss was significantly different between those deployed elsewhere and those in the theater (1.07 vs. 1.27, p=.006) as well as a significant difference between those in the theater less than 120 days and those in theater more than 120 days (1.03 vs. 1.27, p=.006), and reported frequency of insomnia was significantly different between those deployed in the theater less 120 days and those deployed elsewhere (2.34 vs. 1.90, p=.04). Health problems are higher in general for those serving in the Persian Gulf region and ratings are highest among those no longer in the military, presumable some left due to health reasons.

When we conducted a follow-up survey 2 years after the first and 4 years after the war, we found a different display of symptoms with the exception of skin rashes which continues to persist among those who served in the theater. The symptoms reported in the first survey including depression, unintentional weight loss, and insomnia are no longer statistically significant. However, reports of cough emerges as a significant findings between those deployed elsewhere and those deployed to the theater less than 120 days (1.49 vs. 1.91, p=.004) as well as those remaining in the theater over 120 days (1.49 vs. 1.85, p=.004). Also, reports of memory problems are significantly different between those deployed elsewhere and those in theater less than 190 days (1.60 vs. 2.13. p=.008).

Based on the findings of our first survey there were no differences in reported gender specific health problems between women who deployed to the theater and those deployed elsewhere on the basis of their prior gynecologic and reproductive health (during the entire length of their military career). However, when the same group was measured again two years later, there are striking differences between those deployed to the theater and those deployed elsewhere. We found significant differences in reports of lumps or cysts in the breasts (p=.001), and headaches (p=.001). Findings of abnormal Pap results (4.9 vs. 10.4) is both clinically and statistically significant (p=.03) and requires further investigation.

In summary, we believe there is sufficient evidence to warrant further study of the group of general health symptoms including: rashes, depression, cough, unintentional weight loss, insomnia, and memory problems. We need to look closely for other explanations for the vague configuration of symptoms despite the fact that they do not fit into existing diagnostic categories. Vigilant follow-up and care of those no longer in the military is warranted since it appears that poor health following the Gulf War may have been a contributing factor to their leaving the military. The incidence of gender-specific health problems, in particular, warrants further attention and points directly to the unique health care needs of military women. Specifically, there is a need for rigorous follow-up on the significant findings concerning changes in breast lumps and cervical alterations that are reflected in the two-fold increase among women serving in the Persian Gulf. We need to know now if there are gynecologic or reproductive problems that pose a risk to future generations that are the beneficiaries of military health care.

The opportunity to study the health consequences of Persian Gulf women in a timely fashion meets a critical and long-standing need. The priorities for a national agenda of military women's health research should include the following: First, we should commit the needed resources to establish the prevalence of health problems of Gulf War veteran women in well-designed epidemiological studies. Second, we

[1] Mean and median length of time for deployment in the theater was 120 days so the analysis for those deployed to the Persian Gulf includes one group deployed less than 120 days and another group deployed over 120 days.

[2] These numbers represent the mean severity rating of each symptom based on how often they experienced the symptom (1=hardly ever or never, 2=about once a month or less often, 3=about 2–3 times a month, 4=about once a week, 5=about 2–3 times a week, 6=about every day).

need to document and monitor the health effects of occupational and environmental extremes found in combat, to better understand the effects of gender, menstrual cycle, reproductive capability, and the interaction of these factors on the health and well-being of American women who serve their country in uniform. In this regard we must all recognize that environmental and occupational exposures may affect women differently than men and we need to have scientific information upon which we can reliably determine if there are preventable risks that are associated with specific military duties, certain deployment locations, or a combination of factors. The third priority acknowledges that women play a key role in the military readiness of this country and keeping them healthy is as vital to our nation's defense as any other member of the armed forces. It is time that attention is given to better predeployment health screening of women, improved gender-specific health care for women in deployed locations, and better surveillance and treatment of health problems in the postdeployment period. Ultimately, we hope that future research will help us determine if there are preventable risks to women that are associated with military duties so they can be modified to protect the health and reproductive capacity of our servicewomen during times of peace as well as war.

Mr. SHAYS. Thank you.

Dr. Urnovitz.

Mr. Urnovitz. Thank you, Mr. Chairman.

I am grateful to this subcommittee for allowing me to discuss some preliminary research findings on Persian Gulf-related illnesses or, as I will call it, "Gulf war syndrome."

My name is Howard Urnovitz. I am a research microbiologist and immunologist from the University of Michigan, as my two colleagues are here. I have served as a postdoctoral fellow in the Department of Pathology at both Washington University in St. Louis and at the University of Iowa. I have spent the last 11 years in biotechnology firms and founded my own company in 1988.

One of my research efforts is focused on how chemical and infectious agents interact to initiate and maintain a chronic disorder. I became actively involved with the mysterious, unexplained illnesses surrounding Gulf war syndrome because the symptoms are similar to those of over a dozen unexplained epidemics over the last 60 years. The common features of these various illnesses include headache, muscle pain, slight paralysis, damage to the brain, spinal cord, peripheral nerves, mental disorders, and minimal or no fever. These epidemics have had a number of names over the years, including epidemic neuromyasthenia, benign myalgic encephalomyelitis, Icelandic Disease, chronic fatigue syndrome, post-polio syndrome, and post-viral fatigue syndrome.

The difficulty in defining these various types of syndromes has been the lack of clearly defined, objective clinical markers. It is for this reason that my colleagues and I began trying to identify markers for Gulf war syndrome.

Various reports on Gulf war syndrome suggest that there might be an underlying problem with the immune system. Therefore, the first marker for our studies was selected because of the substantial body of literature on the subject: the antibody response to the polio vaccine. A survey study was designed to test whether military personnel who had developed symptoms of Gulf war syndrome had expected antibody responses to the oral polio vaccine. According to government records, military personnel were given an adult booster just prior to their deployment to the Persian Gulf war.

A serum survey was conducted on age-matched subjects in three groups: First, 345 randomly selected, nonmilitary civilians; second, 134 subjects deployed to the Persian Gulf, many of whom had

symptoms consistent with Gulf war syndrome, 35 veterans from California and 99 from Arkansas; and the third, 32 Arkansas veterans who were not deployed to the Gulf. These studies were done in collaboration with Dr. Susan Guba, assistant professor of medicine and pathology at the University of Arkansas for Medical Sciences and the Little Rock Department of Veterans Affairs Medical Center; Prof. Marie Chow, who is professor of microbiology, immunology, and pathology, also at the University of Arkansas for Medical Sciences; and Dr. Jean Higashida, who is chief of rheumatology at the Veterans Affairs Northern California Health Care System.

The response of the random civilian population showed the expected level of antibodies to all three strains of the polio virus. A small difference was noted among the test groups with respect to the antibody to polio type I. In contrast, the serum from the military test groups, both deployed and not deployed, showed an unexpectedly low response to polio type II. Moreover, only the deployed military personnel showed a low antibody response to polio type III. The levels found in the nondeployed group of veterans were not significantly different from that of the general public.

The poor antibody response to polio suggests and supports the concept that there is an underlying problem with the immune response of Persian Gulf war military to a vaccine considered to be effective over the last four decades.

It is important to note that several recent studies have suggested that prolonged and aggressive antibiotic therapy appears to abate many of the symptoms associated with Gulf war syndrome. Usually, the therapy takes longer than ordinary treatments, that is, 6 to 9 weeks instead of the usual 3 weeks, and in many cases the symptoms return when the therapy is discontinued. It is not clear whether the response is directly due to the control of some antibiotic-sensitive microorganisms or a direct action on an inflammatory or neurologic process, or some placebo effect. My strong recommendation to this subcommittee is that controlled, rigorous clinical trials must be initiated to test the effect of various antibiotic and antiinflammatory agents, with continuous monitoring of diagnostic markers.

Although the failure to mount an antibody response to live polio vaccine has been observed in association with post-viral fatigue syndrome, this study cannot conclude that post-viral fatigue syndrome is the underlying cause of Gulf war syndrome. It is important to note that other mechanisms may be involved, either independently or in direct association.

It is known that the Persian Gulf war was one of the most toxic battlefields in the history of modern warfare, as has been reported by Mr. James Tuite, who has written several government reports for the U.S. Senate on this issue. Syndromes associated with organophosphate-induced delayed neuropathy, OPIDN, could explain many of the observed and unexplained illnesses. However, it may not be mutually exclusive to have tissue damage as a result of toxic exposures leading to inflammatory responses in critical tissues with ensuing opportunistic bacteriological, viral, and fungal infections. The continued presence of these pathogens may greatly impair a possible healing process. All of these risk factors need to

be considered in trying to understand the underlying pathology of Gulf war syndrome.

The results of this serum survey actually raise more questions than they answer.

First, what experience did the veterans share that would result in observed phenomena?

Second, why are the nondeployed veterans showing an abnormal response to type II polio yet no signs of Gulf war syndrome?

Third, why are the ill deployed veterans showing an abnormal response to type II and type III polio?

Fourth, what other immunologic, neurologic, and microbiologic markers must be tested?

Fifth, why does antibiotic therapy seem to result in symptom abatement in some of the sick veterans? Are these effects antimicrobial, antiinflammatory, biochemical, or simply placebo?

Sixth, why do many of these veterans show signs of illnesses consistent with toxicologic syndromes such as organophosphate-induced delayed neuropathy or microbiological syndromes such as post-viral fatigue syndrome? Is there a link between chemical agent exposure, persistent inflammation, and microbial disease?

As scientific investigators, we must understand that each one of these questions contains clues as to where we must look to solve the problem. There is no question in my mind that a problem exists. It is my own personal commitment to continue to pursue the underlying mechanism of Gulf war syndrome. It is my very strong belief that the results of this line of inquiry will have major implications on our approach to diagnosing and treating other chronic illnesses such as cancer, neurologic disorders, which I would like to chronic fatigue syndrome in, autoimmune diseases, and AIDS.

I appreciate the opportunity to discuss with you our survey and its implications. I wish to thank my collaborators who worked so hard to obtain samples and provide critical analysis of the data. I especially want to thank the brave men and women who have sustained these severe health problems from the development of this illness while serving their country in the Persian Gulf war. It is our objective to ensure that science makes every effort to determine the cause, course, and consequence of this illness, with the hope of a meaningful treatment. The American government and the American people owe them no less.

I ask that the full text of my statement be submitted for inclusion in the record of the hearing. Thank you.

Mr. SHAYS. Thank you.

I would just like to note for the record, it's not often, when we have a department come and testify, that they stay and listen to the testimony of those who follow them. I just want to thank Dr. Garthwaite and others who stayed. That's very nice of you to do that.

Mr. TOWNS. I would like to associate myself with that remark.

Mr. SHAYS. I think one of the bottom line points is that each of you have done research that would—and all of you are proponents for continued research, potentially at government expense, that would pursue areas that you have spent a lot of time and focus on. And that would add to our point that we had better make sure

we're not hypocrites on this side, saying, "Well, this needs to be done." We need to make sure there's money to do it.

I don't have the ability to know whether any of the three of you deserve to have something funded or not. But you struck the staff's consciousness in terms of the work you have done, and it seems fairly thorough. So I'm just going to say that I'm happy to have given you all this platform to make a very important point as it relates to your area of expertise. We certainly don't have the ability to evaluate it, but others do.

What does interest me, though, is that all of you got drawn into this. You got drawn into this in part because you started to see symptoms that you had been aware of, or, in the case of you, Dr. Pierce, you have been intrigued with this issue of how are women affected differently than men. But, in all instances, you ended up with contact with Gulf war veterans.

Your contact was, they came to you, or you went to them?

Dr. CLAUW. My contact with Gulf war veterans has been limited to date. I probably have only seen about five veterans. My contact is with patients who have these same types of symptoms that we would call fibromyalgia or chronic fatigue syndrome.

Mr. SHAYS. So, in other words, you started reading about what veterans have declared as symptoms, and you have seen it in your own work.

Dr. CLAUW. Exactly. What I see is that symptoms that have been reported to be a unique illness associated with Gulf war deployment are not at all unique. They are the same things that we see and call "chronic fatigue syndrome" or "fibromyalgia."

Mr. SHAYS. OK. But it is not a mental disorder; it leads to a physical. They combine. But they actually have physical symptoms.

Dr. CLAUW. Very physical symptoms, and I think that's one of the things that all of us sort of emphasized. This is a very physical illness.

Mr. SHAYS. Doesn't the medical community acknowledge there's obviously a very real relationship between mental and physical?

Dr. CLAUW. It's one thing to recognize that there's a relationship; it's another to act on that. What happens in the practice is that a lot of physicians don't like to see this group of patients. They are quite frustrated with these illnesses, because we can't diagnose them very well with a blood test, and we don't have very effective treatment, at present, for them.

So these people, like I said, get the runaround in the private sector on a daily basis, just like some of the veterans have described to you occur in the VA hospitals or the military hospitals.

Mr. SHAYS. Probably more frustrating, though, if you are a veteran, because you feel that you didn't get sent there voluntarily. I mean, you did volunteer, but you went because your country called you. And if you do see that relationship, you do feel that the Government has a specific and necessary role to play in that.

Dr. Pierce, did you seek out veterans? Did they seek you out? Is it a combination?

Ms. PIERCE. My interest really stems—I'm a scientist, but I'm also an Air Force Reserve officer, and I spent 6 months in the Gulf doing aeromedical evacuation as a flight nurse.

Mr. SHAYS. During the Gulf war?

Ms. PIERCE. Yes, sir.

Mr. SHAYS. So did you have veterans who came to you?

Ms. PIERCE. Yes, I did.

Mr. SHAYS. Did you have trouble finding veterans?

Ms. PIERCE. You mean for the study?

Mr. SHAYS. Yes.

Ms. PIERCE. Did they come to me? No, sir. We randomized them from the data base.

Mr. SHAYS. And who provided you the data base?

Ms. PIERCE. The Defense Manpower Data Center.

Mr. SHAYS. And this was funded by whom?

Ms. PIERCE. It was funded by the Tri-Service Nursing Research Program. It was the first year of funding, in 1991.

Mr. SHAYS. But is that funded by the Veterans Department?

Ms. PIERCE. No, sir.

Mr. SHAYS. I'm not familiar with the organization. Who funded you?

Ms. PIERCE. It's through the Department of Defense, at the Uniformed Health Services University.

Mr. SHAYS. OK. DOD did it, funded you, then. OK.

Ms. PIERCE. It's a very small pot of money, but it was an opportunity to document the effects of war, combat exposure, on women.

Mr. SHAYS. So this was not really to see, you know, if there was this tie-in with veterans in the Gulf. This was an opportunity to look at any group of women who had been in a combat environment.

Ms. PIERCE. We looked at health effects. We were concerned about the effects of mother separation on their children and children's adjustment. This was relatively new.

Mr. SHAYS. But is the answer yes, though, to the question? The question being that you were really looking—your focus—this isn't passing judgment. I'm just trying to get—your focus was, here is a group—a case study that you could have. There was a war, and you could go now and see it. You weren't out to seek that there was a, "Gulf war syndrome?"

Ms. PIERCE. No, not at that time.

Mr. SHAYS. OK. But you used the word "significant," and you didn't give statistics next to it, but you saw a disproportionate share of women versus the control group. In the group in the Gulf, you noticed a distinct difference.

Ms. PIERCE. Yes, very distinct.

Mr. SHAYS. OK.

Ms. PIERCE. They are in the testimony. I just didn't verbally give you all the statistics.

Mr. SHAYS. Yes. So the value to our committee, aside from the work you're doing with women, is that here you started doing it and you saw a big difference.

Ms. PIERCE. Yes, sir.

Mr. SHAYS. OK. Doctor, did veterans get drawn to you, or did you get drawn to them?

Mr. URNOVITZ. My research is all based on survival. I'm going to die in the next few years of cancer. My entire family has. I'm looking for groups out there.

Mr. SHAYS. Slow down. Slow down. Slow down. Let's take this more slowly. You say you are determined that you're going to die.

Mr. URNOVITZ. My whole immediate family has died of cancer in the 1970's.

Mr. SHAYS. OK.

Mr. URNOVITZ. And I'm searching why. So I look for groups that can help me provide answers, and those two areas are AIDS and Gulf war syndrome. When I was giving a talk at a scientific meeting, I came back to my room—which my co-convenor is in the audience—and I heard Representative Boyer describing a list of symptoms I had just got done talking, and was confused on how this could make the press so quickly. And then he started talking about something called Gulf war syndrome.

I then came here to the Hill to find people and was pointed to a group called the Northwest Veterans for Peace. These are Vietnam veterans who were concerned about the fact there might be ill effects to veterans. They quickly mobilized samples for us, which we tested blinded. We didn't want to know their identity. And then, when we started to realize that there was an underlying immune disorder, we then went through IRB approval, institutional review boards, at northern California, Martinez, and then at the Arkansas facility in Little Rock.

So we, basically, because of our presence and also the fact that we put it on our Internet site, which Discover magazine picked as one of the top health sites on the Internet, we've gotten a tremendous response from everybody who's got a computer. I wish more people did. We've just posted, as of last night midnight, 101 papers on these epidemics that have been called "mysterious," but they are out there.

Mr. SHAYS. OK. But the bottom line is, did veterans start to come to you?

Mr. URNOVITZ. Oh, yes. All you have to do is just say, "I'm concerned," and you will get a lot of phone calls.

Mr. SHAYS. When I went to vote the last time, I ran into Joe Kennedy. I was telling him about this hearing, and he said that, even though he wasn't on a committee of jurisdiction, he spent about 500 hours just getting to this issue and has spent a lot of time on it, and has found that, it's different groups, nobody talking to each other. They still haven't connected, whether they are private or public.

But he then said that—which kind of touches on the point—I want to do him justice and I won't, and unfortunately I mentioned his name—but the bottom line is that our generation is living with chemicals that no other generation has lived with. And that's, obviously, a factor in this whole debate.

Mr. URNOVITZ. Yes. It's a very big factor. And I want to point out for the committee and for testimony that we think this is solvable. But we also think we can get at the cause, because we're going international, not just national, although we've had a lot of great response from the Americans.

There doesn't seem to be a Gulf war syndrome in France. And we can probably piece together the difference of exposure in the French troops. We know they got the inactivated polio vaccine, but

we also know that they were wearing their MOP units whenever the alarms went off.

So we believe strongly that our research efforts will take us to an international level. We know the British have Gulf war syndrome. We know that the Americans have it. The French do not. So we're going to focus a lot of our attention also internationally.

Mr. SHAYS. That's a strong statement to say they don't. I don't know if some veterans in France would agree or not.

Mr. URNOVITZ. Well, we've been looking, and we can't find people to come out with the same incidence. And there's roughly about the same number who served as did the British.

Mr. SHAYS. See, in my simple mind, these are the—I say "simple mind," But in my "uneducated mind" is probably a better way to say it. The clusterings to see where there are—how they did it differently than us and how we did it differently than them, and, you know, there are questions about the masks that we used and the viability of those masks, and so on. So there are a whole host of factors that, obviously, will take a long time, but our veterans can't wait forever.

Mr. URNOVITZ. Well, there is a medical treatment out there now, but I think it should be done under clinical trials. Prolonged antibiotic therapy is working for many veterans. I've witnessed it on just four, but we do know that there are about 100 that are, in fact, doing well. I think it should be done under clinical studies.

Mr. SHAYS. I'm going to give the floor to Mr. Towns. But I will say that one of the challenges that I have is that I do think that there is a relationship between mental and physical. And when veterans have to go out of their way to convince people that they are sick, I think they make themselves sicker.

That's the thing that's—you know, if we can at least get beyond the point where people at least believe them that they are sick, and then say, "You're sick. Now, how can we help you?" I think that will go a long way. That will be, obviously, a nice way to start the healing process.

Mr. URNOVITZ. I agree.

Mr. SHAYS. Mr. Towns.

Mr. TOWNS. Thank you very much, Mr. Chairman.

Let me begin by thanking all of you for your testimony.

Let me just begin with you, Dr. Pierce. In our previous hearing, we heard from the wife of a vet concerning her health concerns. Have you done any research concerning this group of women?

Ms. PIERCE. No, I haven't, personally.

Mr. TOWNS. Thank you.

Mr. SHAYS. You're talking about the spouses.

Ms. PIERCE. Spouses.

Mr. TOWNS. Yes.

Ms. PIERCE. No, I haven't.

Mr. TOWNS. You haven't. OK. In our first hearing on this subject, several of the veterans testified about the Department of Defense responsibility in keeping and forwarding medical records to the VA. Do you believe that this is a fair criticism, and, if so, what suggestions would you offer to assist in improving record coordination?

You know, I'm very concerned about coordination. I guess you probably detected that by now. Any comments on that, either one of you?

Mr. URNOVITZ. We would certainly like to have access to a data base of the units. I think you were asking all the right questions this morning. If you're going to do a good epidemiology, I wouldn't do it self-serving. I would go out there and make sure that there was some way to find out what units were in what positions, what their vaccine records were, what their exposure records were. Tie it to the chemical logs that were—you know, let's do a real study here.

My fear is, we may blow the greatest opportunity medical science has ever had because a tragedy happened and we refused to acknowledge it. You knew that there were roughly 700,000 people over there; about 10 percent are ill. You knew they weren't ill when they went over there. And I would like to see coordination going on.

So we've set up our own little Web site, but certainly we would like to be a little bit more formal in being able to have access to unclassified documents. I'm not here to tell the military how to run their business, but I would like to be an advisor, because we think we have strong experience, too. But we really need access to medical records.

Mr. TOWNS. Are we talking about a lot of money in order to do this, you know? Are we talking about a lot of money in order to do this?

Mr. URNOVITZ. I did my study, personally, for less than $50,000. And I think that it's not a question of throwing money at it. I think you have to throw the right resources at it.

I think the comment that was made earlier was absolutely perfect, and that is that we have seen these unexplained illnesses for years and years. And I think you're developing a whole new branch of medicine, which we're not going to get into at this hearing, but that the fact is, we need to put the right talented people together. And I don't think it's just going to be government scientists. You're going to have a lot of nongovernment scientists that should be involved.

I also would like to say, a lot of patient advocates on the board, also, making sure we're all on the right page, doesn't hurt. We've been very, very effective in making sure people oversee what we're doing.

Dr. CLAUW. I would like to make just a brief comment, if I could. Mr. Towns, you've been asking today about coordination. There is a tremendous lack of coordination within the National Institutes of Health with these same types of issues. Even though it's clear, for example, that chronic fatigue syndrome, fibromyalgia, somatoform disorders, migraine headaches, TMJ syndrome, all of these illnesses track together, they have the same inciting factors, the same kinds of treatments, the different institutes don't talk to each other.

What happens is that there will be an RFA or an RFP for TMJ syndrome from the Dental Institute, and then there will be one from NIAM's for fibromyalgia. And what we really need is that these research efforts become more integrated, and to recognize

that this is a very big problem. Perhaps the Office of Women's Health could organize it, because these illnesses are overrepresented in women, although they don't occur exclusively in women, by any means.

Once again, this is not just a DOD issue or a VA issue. I think what you're hearing from all of us is, that this is a bigger problem. And we do need to throw some money at it, or at least redirect some money at it, because the amount of money that we spend per fibromyalgia or chronic fatigue syndrome patient in this country is 1/100th or 1/1000th of what we spend per cancer patient or per AIDS patient.

I'm not trying to minimize those other diseases, but they don't cause nearly—the number people is not nearly as high that are affected with those other diseases as they are with these illnesses we're talking about.

Mr. SHAYS. If the gentleman would yield.

Mr. TOWNS. Yes.

Mr. SHAYS. Our committee oversees the National Institutes of Health and, obviously, all of HHS. So it's interesting how, sometimes, when we get in one department, we end up seeing the impact on another.

Mr. TOWNS. Yes. I think that the gentleman's suggestion is a very good one, because as I alluded to earlier, I think sometimes we waste a lot of money by not having the proper coordination. As I talk, I'm beginning to feel that there is some need for further dialog among the various department. And I think that this is a very serious issue. I think that we should go and try and resolve it. And I think that, in order to it, we need to have everybody sort of pulling the same way and that information will have to be shared. I think that we need to make certain that we have the necessary information.

Mr. Chairman, I think that whatever we can do, in terms of this committee, to sort of move forward, move aggressively, to sort of talk to DOD and anybody else that we think might be able to give some information, it might be helpful. Because when I talk to veterans out there, I mean, they are very frightened about what's going on, and they feel that those of us who are involved in government are not doing enough.

Of course, they see you as being a part of government, Mr. Chairman. I want you to know that. And they see me as being a part of government. Of course, people who have the responsibility in these areas, they see you as a part of government, too. So I think that the time has come when we should all sit down—and if there is some need for dollars, I think that we have to fight to be able to put the necessary resources there. Because we probably would end up saving money if we do it and do it right.

So, Mr. Chairman, I look forward to working with you as you pull in DOD and, of course, the NIH, and whoever else we think could be helpful. Thank you very much for this hearing.

And let me thank the witnesses for their testimony. You have been extremely helpful.

Dr. CLAUW. Thank you.

Mr. URNOVITZ. Thank you.

Mr. SHAYS. I thank our witnesses. Is there any comment that you want to conclude with?

[No response.]

Mr. SHAYS. I thank you for coming.

I wanted to thank our court reporter. I only have the first name of Amy. There's a last name. Rose. Thank you, Amy Rose.

I thank all our witnesses, and I thank the committee staff for their work on this issue. This is an issue that we're not just touching on and going to be forgetting about. We are going to be pursuing this and carrying it out to the end. So I thank you for your contribution to that effort.

Again, I thank the Department of Veterans Affairs for staying for the entire hearing. Thank you very much.

This hearing is adjourned.

[Whereupon, at 2:05 p.m., the subcommittee was adjourned.]

THE SECRETARY OF VETERANS AFFAIRS
WASHINGTON

MAY 2 1996

The Honorable Christopher Shays
Chairman, Subcommittee on Human Resources
and Intergovernmental Relations
Committee on Government Reform and Oversight
U.S. House of Representatives
Washington, DC 20515-6143

Dear Mr. Chairman:

At the March 28, 1996 hearing on Illnesses and Diseases Reported by Veterans Who Served in the Persian Gulf War, VA witnesses agreed to provide you and Congressman Towns with additional information regarding three issues.

Attached is that additional information.

Sincerely yours,

Jesse Brown

Jesse Brown

Enclosure
JB/rlh

cc: Hon. Edolphus Towns

Putting Veterans First

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. CHRISTOPHER SHAYS AND HON. EDOLPHUS TOWNS TO THE DEPARTMENT OF VETERANS AFFAIRS

Question 1: Provide the number of veterans who get Social Security disability compensation because they can't get disability compensation through VA.

Answer: The Social Security Administration has identified 186 veterans receiving supplemental security income or disability benefits under title II.

Social Security disability compensation is not related to VA compensation. The two benefits are separate entitlement programs with different eligibility criteria. Entitlement to one benefit neither precludes nor guarantees entitlement to the other. An individual may receive both benefits simultaneously, without offsetting one benefit in favor of the other.

Question 2: Provide documentation that VA has requested the Department of Defense perform pre- and post-deployment physical examinations.

Answer: The Veterans Health Administration has recommended, in a number of forums and through a variety of means, that better health screening including a physical examination be performed on military service members before and after a deployment. VA staff have raised this issue during meetings of the Clinical Working Group of the Persian Gulf Veterans Coordinating Board. Veterans Health Administration staff also participated with the DoD Operational Medical Surveillance Plan Work Group. This work group considered flaws in current capability, what future deployment needs were and how a deployment medical surveillance plan should be shaped. No formal minutes from the Work Group deliberations are available but the VA advocated pre- and post-deployment physical examinations to that group. The final product of that process is the Bosnia Deployment Plan which reflects the lessons learned from the Persian Gulf War, with attention to potential health risks in the Bosnian theater. We understand this plan has already been provided to you by DoD staff. Current activities include a REGO II Project Initiative between VA and DoD on Deployment Related Issues (Attachment). In that collaborative effort, VA has stressed again our view that routine annual physical examinations, pre-deployment health screening, and post-deployment physical examinations are of utmost importance to veterans' health and a better understanding of the medical consequences of military deployment.

Question 3: Does VA have enough resources to conduct research into the illnesses of Persian Gulf veterans? If not, how much additional resources are needed?

Answer: At the current time, resources to investigate the health problems of Persian Gulf veterans are adequate. VA spent over $2.5 million in appropriated research funds on Persian Gulf-related research in FY '95. VA is firmly committed to allocating appropriate research resources to the investigation of health problems of Persian Gulf veterans. Furthermore, in its role as the coordinator of the Federal research effort, VA is proactive in identifying important areas of research on Persian Gulf veterans' illnesses that need addressing by VA and other agencies. As new research results become available, the scope of the research effort could change necessitating alternations in resource commitments through appropriate budgetary processes.

DEPLOYMENT RELATED INITIATIVES

REGO II PROJECT VA/DOD HEALTH CARE SYSTEMS

ISSUE

Deployment Initiatives: The purpose of this initiative is to develop collaborative relationships with DoD's Office of Health Affairs to address their current operational procedures and to exchange information concerning VA's policies and procedures for follow-up of veterans' health concerns. Through this informational exchange a continuum of medical care from the active duty troops through their veteran status will be coordinated.

WORKGROUP MEMBERS

Susan H. Mather, M.D., M.P.H., Veterans Health Administration, Washington, D.C.; Fran M. Murphy, M.D., M.P.H., Veterans Health Administration, Washington, D.C.; Han Kang, Ph.D., Veterans Health Administration, Washington, D.C.; Tim Gerrity, Ph.D., Veterans Health Administration, Washington, D.C.; Craig Hyams, M.D., Veterans Health Administration, Washington, D.C.; Al Batres, M.D., Veterans Health Administration, Washington, D.C.; Artie Shelton, M.D., Veterans Health Administration, Washington, D.C.; Quinton Kinderman, Veterans Benefits Administration, Washington, D.C.; Col. Richard Beauchemin, DoD, Pentagon, Washington,

D.C.; Col. Salvatore Cirone, DoD, Pentagon, Washington, D.C.; and Cdr. Larry Grubb, DoD, Pentagon, Washington, D.C.

BACKGROUND

VA's Office of (then) Environmental Medicine and Public Health coordinated with the Army Office of Preventive Medicine when setting up the Persian Gulf Registry in early 1991. However, this was primarily information sharing and was a continuation of some of the post Vietnam efforts.

Two DoD representatives serve on the VA's Persian Gulf Expert Scientific Committee, and have arranged briefings on subsequent deployments for that group.

The establishment of the Persian Gulf Coordinating Board (PGCB) marked a turning point in substantive interaction and cooperation between DoD and VA.

RECOMMENDED STRATEGY

Through the PGCB, VA, DoD and HHS share information, coordinate research, clinical and benefits issues and responses. This has been discussed with Dr. John Mazzuchi, Director, DoD's Office of Health Affairs, and he has agreed to support the Board as needed with assignments of active duty health care professionals for an indefinite period of time and to explore the expansion of issues beyond those related to the Persian Gulf.

The Medical Surveillance Plan for US Ground Troops Being Deployed to Bosnia has been shared with VA and plans are underway to establish a small VA/DoD/HHS Working Group to monitor the surveillance. This activity has DoD support for VA involvement. One goal is for both Departments to address surveillance concerns noted in the medical records of Persian Gulf veterans.

PRIORITY

A priority is to develop methodologies to share information with DoD so that a continuum of care can be implemented to the benefit of individual veteran. Past military conflicts, i.e. Vietnam and Persian Gulf, serve as illustration where both important medical information is recorded and highlights areas where additional work is needed. In addition, by developing complementary and consistent medical query in original care (i.e., DoD) and follow-up care (i.e., VA) a smooth transition will result for the individual patient as he/she moves from one health care system to the other.

WORK PLAN

It is planned to continue the PGCB's existence to address future deployments. Dr. Mazzuchi has agreed with this plan and is supportive of it.

Explore ways that VA Medical Center staff can supplement the pre- and post-deployment medical examinations for the National Guard and Reserves. There were some inadequates in some of the Persian Gulf medical records. A working group consisting of VA, DoD, Guard and Reserve medical administrators has been established to address these issues.

Collaborations will begin with the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) to track and assess environmental exposures and medical outcomes for future deployments and operations in Joint Endeavor (Bosnia). This has been discussed with DoD personnel and there is agreement to collaborate on a plan of action.

THE STATUS OF EFFORTS TO IDENTIFY PERSIAN GULF WAR SYNDROME, PART III

TUESDAY, JUNE 25, 1996

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON HUMAN RESOURCES AND
INTERGOVERNMENTAL RELATIONS,
COMMITTEE ON GOVERNMENT REFORM AND OVERSIGHT,
Washington, DC.

The subcommittee met, pursuant to notice, at 2:08 p.m., in room 2247, Rayburn House Office Building, Hon. Christopher Shays (chairman of the subcommittee) presiding.

Present: Representatives Shays and Fattah.

Also present: Representative Buyer.

Staff present: Lawrence J. Halloran, staff director and counsel; Kate Hickey and Robert Newman, professional staff members; Thomas M. Costa, clerk; and Cheryl Phelps, minority professional staff.

Mr. SHAYS. Some time ago we decided to convene this hearing, our third on Gulf war issues, to discuss lapses in the coordination of medical data between the Department of Defense (DOD) and Veterans Affairs (VA).

During our previous hearings, it became clear that information on pre- and post-deployment physicals, exposure risks and troop location data were not being shared effectively by the two departments. In particular, I expressed my doubts about the adequacy of data on neoplasms or tumors occurring in Gulf war veterans.

One corrosive by-product of this uncoordinated approach has been denials: denials by VA doctors that Gulf war veterans' illnesses are physiologically based, denials by the VA of service-connection for cancer claims, denial by the VA of compensation claims and blanket denials by the Pentagon that chemical or biological agents were present in the Gulf war.

Last Friday, the wall of official denial began to crumble. At last there is the admission of direct evidence, corroborating the overwhelming circumstantial evidence produced by veterans and others over the past 5 years, that U.S. troops were exposed to chemical and biological warfare agents.

Perhaps now, shed of the need to defend premature conclusions about what did not happen in that far away desert, the Department of Defense and Veterans Affairs can be about the task of helping those suffering the effects of what obviously did happen.

Perhaps now we will finally be able to admit that the chronic, debilitating ailments suffered by Gulf war veterans are, in fact,

caused in part by low level exposure to the toxic mix of pernicious agents detected throughout the combat theater.

Perhaps now the true history of the Gulf war can be written in veterans' survival rates, not mortality statistics. Perhaps now we can stop studying Gulf war illnesses literally to death. Perhaps now.

As a Nation, our obligation is to reach reasonable conclusions about the causes of veterans' illnesses in time to be of help to the living.

Still, the sad fact remains that through painstaking, sometimes disingenuous denial of even the possibility of such exposure, precious time and precious lives have been squandered.

The report the Pentagon hastily announced last Friday merely confirmed information provided by United Nations inspectors in 1991.

That delay is symptomatic of the languid, disjointed approach to Gulf war veterans' problems by DOD and VA noted by witnesses before this subcommittee and others. Friday's announcement should give the diagnosis and treatments of Gulf war illnesses a sharper focus and renewed urgency.

That focus should be on the effects of low level exposure to chemical and biological agents, effects already known to include the joint pain, headaches, fatigue, rashes, insomnia, paralysis, loss of sensation as well as many other symptoms that have come to be called the Gulf war syndrome.

Other theories of causation—exposure to oil fires, reaction to vaccines, reaction to anti-nerve drugs, infection by indigenous agents and exposure to depleted uranium—should now be evaluated as secondary risks in the context of probable chemical and biological contamination.

The announcement last week that United States personnel had exploded an Iraqi munitions bunker that contained chemical weapons dramatically underscored the importance of the issues that bring us here today. Accurate, timely and transportable information on matters affecting the health of Gulf war veterans is an essential component of the care they have earned.

To determine the extent to which the United States troops in, around and downwind of the Iraqi bunker may have been vulnerable to low level exposure, both DOD and VA need simultaneous access, simultaneous access to accurate troop location data, medical histories and meteorological information.

But troop location data is still not available to the VA. Medical histories of active duty and reserve troops are inconsistent or incomplete. Some medical data simply does not survive the trip between the incompatible VA and DOD recordkeeping systems.

There even appears to be some dispute about the accuracy of the meteorological data upon which the Defense Department relies to discount the theory that our own bombing of Iraqi chemical weapons plans and depots resulted in the contamination of United States and allied troops.

Finally, I remain more than a little suspicious about the adequacy and utility of DOD and VA health registry data. With specific regard to benign and malignant tumors, for example, data, on the one hand, that is pronounced biased or otherwise inadequate

to support a conclusion that Gulf war veterans are getting an unusual number of cancers cannot be, on the other hand, used to disprove the same conclusion. Yet, that appears to be the official position.

On March 11, Brian Martin testified before our committee about the debilitating effects of the chronic ailments he suffers as a result of his service in the Gulf, service as a member of the Army's 37th Airborne Engineer Battalion, which demolished the munitions bunker now thought to have contained chemical weapons warheads.

He has had to fight harder to survive at home than he did in the Iraqi desert, overcoming daunting physical and bureaucratic obstacles.

Many more Gulf war veterans, their families, and the survivors of those who died, face the same barriers of denial.

Our purpose here today is oversight. Through vigilant and constructive inquiry, we seek to make sure those responsible for the care of Gulf war veterans and their families meet that duty with the same selflessness and sense of urgency those veterans brought to the service of their Nation.

We welcome our witnesses, and we appreciate their taking the time to participate in what I believe is very important work.

Mr. SHAYS. Mr. Fattah, serving as the ranking member today, your opening statement.

Mr. FATTAH. Thank you, Mr. Chairman. Congressman Green has an opening statement that I'd like to submit for the record.

[The prepared statement of Hon. Gene Green follows:]

PREPARED STATEMENT OF HON. GENE GREEN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

Thank you, Mr. Chairman, for calling this, the third hearing on the sickness known as Persian Gulf War Syndrome. These hearings have shown the necessity of improved record keeping and coordination between the Department of Defense and the Department of Veterans Affairs. More and more, technology and the expectations of the public require that the government agencies in charge of the health and well-being of our soldiers be closely monitored. This requires a more thorough system of record keeping than it evidently in use by DOD and the VA.

It is my intention that today's hearings will shed some light on the reasons why the DOD and VA are not coordinating as well as they should be. Perhaps the reasons deal with bureaucratic turf, or conflicting missions given to the Departments by Congress. Nevertheless, I believe this subcommittee has learned of important shortcomings in the record keeping system of the health of our soldiers and we definitely need to repair it.

Thank you, Mr. Chairman.

Mr. FATTAH. Let me make a few comments beyond that statement that it's obvious that the Congress has shown a great deal of interest in this matter.

Having reviewed the records since September 1992, the Congress has held a number of hearings, and the 103d Congress authorized both priority treatment for Persian Gulf veterans and for the provision of disability compensation for those with illnesses that were part thereof of what has come to be known as the Gulf war syndrome.

I welcome these hearings today. I start these hearings, however, believing that both the Department of Defense and Veterans Affairs, obviously, are doing all that they can do to respond to these

issues and looked forward to us addressing and hearing from them on these matters as we go forward. So thank you.

Mr. SHAYS. I thank the gentleman. I appreciate your cooperation with this committee throughout its year and a half.

We have Mr. Buyer, who is a member both of the Veterans Committee and the National Security Committee and also a Gulf war veteran who has been at the forefront of this issue for as long as it has been an issue since 1991, and I appreciate your participation today, Mr. Buyer.

Mr. BUYER. Thank you, Mr. Chairman. I have an opening statement, if I may. Mr. Chairman and members of the subcommittee, thank you very much for allowing me to make part in these hearings. I also believe that they're very timely as it has been a while since the Congress has taken a look at this issue.

We've had hearings, as the ranking member has said, not only on the Veterans Affairs Committee over the last 3 years but in the House National Security Committee, but I'm really pleased that Government Reform and Oversight is also taking up the issue.

Mr. Chairman, next week our country will celebrate the 220th anniversary of our Nation's independence and freedom on July 4th.

Unfortunately, as I look out there at a lot of the faces of my comrades, it's just another day. It's another day of actual pain and suffering and fear of the unknown.

You see, Mr. Chairman, these are veterans who served with distinction and honor in the Persian Gulf war, and they continue to fight this war on a daily basis, not only with themselves but also with their families.

Many suffer from illnesses that make day-to-day life extremely difficult, if not impossible, not only for themselves but also for their families.

I've met with many of these veterans and their families throughout this country. I've also traveled across the ocean and met with families of Gulf war veterans from the United Kingdom.

I could close my eyes, and I would think that we're talking to American veterans as I was in the United Kingdom, as they suffer from very similar undiagnosed illnesses.

Many of these individuals simply want their government to tell them what has harmed their bodies, if, in fact, they know, and how do they beat these mysterious illnesses so that they can get on with their lives.

Mr. Chairman, as a veteran of the Gulf war, I know the sacrifices these men and women and their families have made when they're called to serve their country.

We, in Congress, with the strong bipartisan support not only of Congressman Joe Kennedy, Lane Evans and myself, have pioneered legislation that have provided for the health care access to Gulf war veterans.

We've opened up the veterans health system for these veterans—we did that over 3 years ago—and we funded numerous studies.

And I compliment you, Dr. Joseph. I've had a review of your latest release. I'd like to go over some of that with you here today on some of the funding. Some of the decisionmaking process for those funds we'll discuss here today.

Well, I think much progress has been made. I think these hearings are, in fact, critical to check and ensure our policies are being implemented.

One in particular we'll also get into, Dr. Joseph, is the funding of compensation for undiagnosed illnesses.

While, in fact, we had that in the VA, we also put it in the October 1994 Defense authorization bill. I'm curious as to how much of that has been implemented.

I think these hearings are extremely important, but Mr. Chairman, what causes me great concern and challenge during my 3 years of working on this issue is, I think, there are continued attempts by some within the Department of Defense to discount and discredit the Gulf war illnesses.

You see, I'm one that cringes every time I hear someone refer to it as the Gulf war syndrome, I cringe because 3 years ago I'm someone that stepped forward and said there is no sole-source cause here.

Refer to it as the Gulf war illnesses. A syndrome refers to some form of sole-source cause, and you're not going to find that in the Persian Gulf war.

You're going to find many different forms of causation, and it should be referred to as the Gulf war illnesses, not the Gulf war syndrome.

I do look forward to this hearing, and I appreciate, Mr. Chairman, you having me here to testify. I am bothered, though, when I think that we fund so much in the Pentagon, Mr. Chairman, billions and billions of dollars, and we spend a lot of money on ships and missiles and tanks, but then when we look at the pittance that goes to actually help those who have borne the risk and the cost of battle, it is not proportionate at all. And I appreciate you having me here today.

Mr. SHAYS. If I could get some housekeeping out of the way, I ask unanimous consent that all members of the subcommittee be permitted to place any opening statements in the record and that the record remain open for 3 days for that purpose and our guest, Mr. Buyer. Without objection, so ordered.

And I ask unanimous consent that our witnesses be permitted to include their written statements in the record, and without objection, so ordered.

I'm going to submit in the record four documents, a report to the subcommittee entitled, "Chemical Biological Weapons Exposure and Gulf War Illnesses" by Jonathan Tucker, Ph.D., dated January 29, 1996—he was with the staff of the President's Advisory Commission—a letter from Joseph F. Delfico, Acting Assistant Comptroller General, General Accounting Office, responding to the subcommittee's request for evaluation of the data supplied by the VA on neoplasm in the Gulf war veterans dated June 21, 1996; a letter from Dr. Satcher, M.D., Director of Centers for Disease Control and Prevention responding to the subcommittee's request for evaluation of the data supplied by the VA on neoplasms in Gulf war veterans dated June 21, 1996; and finally, a letter from Philip Landrigan, M.D., and Ethel H. Wise, Professor of Community Medicine and Chairman, Department of Community Medicine, Mount Sinai Medical Center, responding to the subcommittee's request for evalua-

tion of the data supplied by the VA on neoplasms in Gulf war veterans dated June 21.

Without objection, so ordered.

[The Jonathan Tucker report can be found in subcommittee files.]

[The other material referred to follows:]

GAO
Washington, DC, June 21, 1996.

Hon. CHRISTOPHER SHAYS,
Chairman,
Subcommittee on Human Resources and Intergovernmental Relations,
Committee on Government Reform and Oversight,
House of Representatives.

DEAR MR. CHAIRMAN: This correspondence responds to your request that we assist your subcommittee in evaluating data supplied by the Department of Veterans' Affairs (VA) on the frequency of neoplasms (growths of abnormal tissue, or tumors) among veterans of the Persian Gulf war and military personnel who were not veterans of that war. As we discussed with your staff, we reviewed the pertinent data in order to determine whether they indicated any differences in the rate of neoplasms; whether the differences, if any, could be attributed to Persian Gulf service; and, finally, what additional information would be needed to allow meaningful conclusions on this subject.

RESULTS IN BRIEF

The data that VA provided to your staff indicate that Persian Gulf war veterans have a substantially higher rate of diagnosis of neoplasms than nonveterans of that war. However, this difference is not necessarily attributable to service in the Persian Gulf. A number of explanations could be offered, and examining them would involve as much professional judgment as extensive statistical analysis.

BACKGROUND

Since the U.S. troops returned from deployment in the Persian Gulf, many have complained of health problems that they believe result from their service there. Research has shown that U.S. troops were exposed before, during, and after the war to a variety of potential hazards. These include

- hazardous occupational substances, such as the use of diesel fuel as a sand suppressant in and around encampments, the burning of human waste with fuel oil, the presence of fuel in shower water, and the drying of sleeping bags with leaded vehicle exhaust;
- infectious diseases, most prominently leishmaniasis;
- prophylactic agents to protect against chemical and biological weapons;
- depleted uranium contained in certain ammunition and in the fragments of exploded rounds embedded in casualties;
- pesticides and insect repellents; and
- a large variety of compounds contained in the extensive smoke from the oil-well fires that enveloped the region at the end of the war.

The data you asked us to examine relate specifically to the rate of neoplasms found among gulf war veterans.

DATA SOURCES

Because of the subcommittee's time constraints, we did not collect original data. We relied exclusively on information that VA and the Department of Defense (DOD) had provided to the subcommittee. The VA data came from three sources: (1) Patient Treatment Files (PTF) that include September 1990 to March 1996 data from VA hospital inpatient discharge records; (2) the Persian Gulf Registry (PGR), which lists, among its information from 1992 to January 1996, all persons who served in the Persian Gulf theater of operations and who apply for care or services from VA or request a health examination under the PGR; (3) the Persian Gulf Mortality Follow-Up Study, a separate VA study of deaths among Persian Gulf and non-Persian Gulf veterans from January 1990 through September 1993.

VA also provided information from DOD's Defense Manpower Data center (DMDC) that included population totals for both Persian Gulf and non-Persian Gulf

veterans.[1] These population statistics are not at the same level of disaggregation as the VA hospital PTF records, but they do provide the total number of persons who were deployed and who were not deployed in the gulf area during the war.[2]

We limited our analysis to three comparisons between veterans of the gulf war and veterans who did not serve there. We compared their (1) rates of diagnosis of neoplasms, (2) rates of surgical procedures relating to neoplasms, and (3) rates of hospital discharge as reflected in PTF.

OUR ANALYSIS

We combined the VA data on the number of neoplasms diagnosed for both Persian Gulf veterans and non-Persian Gulf veterans with the DMDC population statistics to form neoplasm rates for each group. The number of neoplasms reported for Persian Gulf war veterans represents a total of diagnoses from both PTF and PGR, while the count of neoplasms for non-Persian Gulf war veterans is derived from PTF data.[3] The rate of neoplasm diagnosis among Persian Gulf veterans is more than three times higher than that for non-Persian Gulf veterans.

TABLE 1.—NUMBER AND RATE OF DIAGNOSIS OF NEOPLASMS

Deployment	Diagnosed neoplasms	Total veterans	Rate/percent of diagnosed neoplasms
Persian Gulf	1,691	696,665	0.0024/0.24%
Elsewhere	1,092	1,605,087	0.0007/0.07%

A number of explanations could be offered for this difference between the two groups in table 1. One is that Persian Gulf veterans may be more likely to seek treatment at VA hospitals than their peers who served in other areas during the gulf war period and, therefore, VA is more likely to diagnose and record any medical conditions they present.

We were able to test this hypothesis indirectly by comparing the rates at which Persian Gulf veterans appear in the PTF. We found that Persian Gulf veterans appear in the PTF at a rate 2½ times higher than do their peers. PTF is a measure not of the numbers seeking treatment from VA but of the number of patients discharged from VA hospitals. Nevertheless, the difference in the discharge rate shown in table 2 may well reflect a difference in the rate at which Persian Gulf war veterans seek VA treatment.

TABLE 2.—NUMBER AND RATE OF GULF WAR AND NON-GULF WAR VETERANS RECORDED IN PTF

Deployment	No. of veterans in PTF	Total veterans	Rate/percent of veterans in PTF
Persian Gulf	31,092	696,665	0.045/4.5%
Elsewhere	28,917	1,605,087	0.018/1.8%

The VA data may also indirectly indicate the seriousness of the health threat posed by the neoplasms that VA has diagnosed. VA reported the number of surgical procedures performed on Persian Gulf war veterans and non-Persian Gulf war veterans, as well as the number of procedures performed for neoplasms (see table 3).

[1] The total number of Persian Gulf war veterans was based on the total number of Operation Desert Shield and Operation Desert Storm participants; the total number of non-Persian Gulf war veterans was based on the total number of individuals who were on active duty in the U.S. military during the Persian Gulf war (September 1990 to May 1991) but not deployed in the Persian Gulf area.

[2] VA provided data on the diagnosis of neoplasms by race, gender, age, membership in individual branch of service, and active versus reserve duty status. However, without the population totals for these groups, we could not determine specific rates for them.

[3] VA informed us that duplication of cases was eliminated before the files were combined.

TABLE 3.—NUMBER AND RATE OF SURGICAL PROCEDURES FOR NEOPLASMS

Deployment	No. of surgical procedures	Total surgery patients	Rate/percent of surgical procedures for neoplasms
Persian Gulf	202	1,748	0.1156/11.6%
Elsewhere	276	2,424	0.1139/11.4%

While the rate of neoplasm diagnosis was substantially higher among Persian Gulf veterans, the proportion of surgical procedures for these neoplasms is not significantly different from that for non-Persian Gulf war veterans. This may suggest that the neoplasms diagnosed among Persian Gulf war veterans were less serious than those presented by non-Persian Gulf war veterans, were less amenable to surgical procedures, or resulted from Persian Gulf veterans' choosing to go outside the VA hospital system for surgical procedures at a rate higher than non-Persian Gulf veterans.

Other arguments could be offered that could result in the conclusion that the rate differences for neoplasm diagnosis shown in table 1 either underestimate or exaggerate. For example, it has been suggested that some Persian Gulf war veterans may have been discouraged from seeking treatment at VA for various reasons. Or it may be that VA health care providers have become more sensitive to the possibility of illness associated with service in the Persian Gulf and are, therefore, more likely to diagnose conditions among Persian Gulf war veterans than among others.

None of these arguments can be addressed directly by the data we analyzed. Further insights into possible differences between groups of Persian Gulf war veterans or between different types of neoplasms might be gained if subpopulation statistics were available that corresponded to the level of disaggregation provided by the VA statistics. However, without further information to address possible alternative explanations for the differences in neoplasm rates between Persian Gulf war veterans and non-Persian Gulf war veterans, the difference cannot be confidently attributed to Gulf War service. The task of examining alternative explanations would require both extensive statistical analysis and professional judgment.

If you have further questions, please call me at (202) 512–2900 or Robert White at (202) 512–3092.

Sincerely yours,

JOSEPH F. DELFICO,
Acting Assistant Comptroller General.

DEPARTMENT OF HEALTH & HUMAN SERVICES,
CENTERS FOR DISEASE CONTROL AND PREVENTION,
Atlanta, GA, June 21, 1996.

Hon. CHRISTOPHER SHAYS,
House of Representatives,
Washington, DC.

DEAR MR. SHAYS: Thank you for the opportunity to assist the House Subcommittee on Human Resources and Intergovernmental Relations in its ongoing investigation into the possible health consequences to veterans who served in the Persian Gulf War. The Department of Veterans' Affairs data supplied by your office regarding the frequencies of neoplasms (malignant and benign) among veterans of the Persian Gulf War and non-Gulf War veterans have been reviewed by staff of the Centers for Disease Control and Prevention (CDC). CDC staff have determined that these data cannot be used to provide the answers to the important questions you posed in your letter regarding cancer in Gulf War veterans.

Enclosed is information delineating why such an analysis cannot be made solely on the basis of the data provided.

We hope this information is helpful.

Sincerely,

DAVID SATCHER, M.D., PH.D.,
Director.

Enclosure

BACKGROUND INFORMATION

REQUEST FOR THE CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC) TO ASSIST IN EVALUATING DATA ON MALIGNANT AND BENIGN NEOPLASMS AMONG PERSIAN GULF WAR VETERANS

• The data provided are not adequate to assess whether service in the Gulf War resulted in increased risks for developing neoplasms, having had related surgical procedures, and/or dying from cancer. Cancer risk varies by age, gender, and site of disease. However, in the data set under review, no information is provided on the number of people who served in the Gulf and those who did not. Without information to permit the calculation of age- and gender-specific rates for each group, a meaningful analysis of differences in cancer rates between these populations cannot be performed.

• The occurrence of cancers diagnosed in the Department of Veterans' Affairs (VA) medical care system do not accurately represent cancer incidence rates. Gulf War veterans have special eligibility status for medical care in the VA system, they have enhanced access to VA medical care and medical surveillance. Other veterans do not have similar eligibility. As a result, cancers occurring in Gulf War veterans are more likely to be diagnosed and treated in VA hospitals and to appear in the databases used for this analysis. Therefore, data from these two populations should not be compared.

• A four- or five-year follow-up period after service in the Gulf War is probably an insufficient length of time to have passed to appropriately evaluate potential risks for development of or dying from cancer associated with such service. In cancer and other chronic diseases, there is a delay between a potential exposure and the onset of clinically detectable disease (latency). Although the latent period varies for different cancer sites and from person to person with the same cancer, it is unlikely that cancers identified in the data provided developed as a result of exposures that occurred within the past five years.

• A majority of the neoplasms identified in this database among the Gulf war veterans represent benign, non-malignant growths that are not cancer. Benign neoplasms represent unrestrained growth of cells that do not invade surrounding tissue and are not cancer. A large proportion of the benign growths in the Gulf War veterans represent non-malignant skin growths or fatty tumors (lipomas). From an etiologic, cancer control, or a clinical perspective, a comparison of rates that combine both malignant and benign neoplasms is inappropriate.

• It is critical that the key questions in your investigation be identified independent of a data source, and then discussed with representatives of the VA and the DOD. The composition of a database is fundamental to its effectiveness in answering questions about cancer and other health conditions. For example, a clinical database can be useful in identifying an excess of a very rare cancer. An epidemiologic study may be necessary to identify an excess of a common cancer.

In this way, you can be guided to the best data sources for your purposes, and you can be advised in advance of the limitations of the data. Unfortunately, there is no cancer incidence database that includes all veterans. Neither veterans' status nor their specific deployments are routinely recorded in existing population-based cancer incidence registries. Definitive studies of cancer occurrence in the Gulf War veteran population would be complex and costly and, more importantly, would probably be of limited value until a reasonable latent period has passed.

THE MOUNT SINAI MEDICAL CENTER,
New York, NY, June 21, 1996.

Hon. CHRISTOPHER SHAYS,
Chairman,
Subcommittee on Human Resources and Intergovernmental Relations,
Committee on Government Reform and Oversight,
House of Representatives,
Washington, DC.

DEAR CHAIRMAN SHAYS: Thank you very much for having invited me to review the data on neoplasms in Persian Gulf era veterans that were submitted to your Subcommittee by the Department of Veterans Administration. I found it interesting to review this matter, particularly because I am serving as a member of the Presidential Commission on the Gulf War Veterans Illnesses.

A general comment I would offer is that it is probably too early to see any excess cancers that may eventually develop among Persian Gulf veterans who might have

been exposed to carcinogens in the course of their service in the Gulf. The problem is that for most types of cancer triggered by chemical or physical toxins a time interval of at least twenty years and in some cases as long as forty or fifty years must elapse between exposure and the appearance of cancer. This long latency or incubation period reflects the fact that the development of cancer is a multi-stage process that requires a stepwise series of alterations in the DNA of affected cells. This process typically takes decades.

The actual data that the Veterans Administration have presented you are not very informative. The Veterans Administration has provided your Subcommittee with raw counts of the numbers of cancers that have occurred among Persian Gulf veterans and among non-Persian Gulf veterans of the same era. They have provided no denominator data and made no attempt to calculate incidence rates or otherwise to adjust the data for the size of the population. I see that more cancers have occurred among Gulf war veterans than among non-Gulf war veterans. However, in the absence of any data on the size of the two populations or on the selection factors that may have influenced one or the other group to seek medical care at Veterans Administration facilities, I can offer no comment on the meaning of this information.

I would be pleased to continue to work with you and your staff on this matter. Clearly attaining full understanding of the illnesses that have developed and that may develop in future years among the Persian Gulf War veterans is an urgent national priority. I commend you for your interest in the welfare of these brave men and women.

Sincerely,

PHILIP LANDRIGAN, M.D.

Mr. FATTAH. Mr. Chairman?

Mr. SHAYS. Yes, sir.

Mr. FATTAH. You did mention the June 21 letter from David Satcher?

Mr. SHAYS. Yes, sir.

Mr. FATTAH. OK. Thank you.

Mr. SHAYS. We will be submitting that into the record and any others that you'd like. Thank you for your patience. And with that, we would call Dr. Steven Joseph, Assistant Secretary for Health Affairs, Department of Defense, and Mr. Gary Hickman, Director of Compensation and Pensions, Department of Veterans Affairs, accompanied by Dr. Francis Murphy, Director of Environmental Agent Services, Department of Veterans Affairs.

I understand, Dr. Joseph, that you may have others who might need to respond; we would welcome that. So we would ask anyone else that you think might respond to a question to also stand. I'm going to ask all of you to stand, and as we do to everyone in this committee, including Members of Congress, we swear them in.

We'll identify the four in the back in a second. If you could just identify your names in the back.

Mr. SOPER. I'm Gordon Soper, S–o–p–e–r.

Ms. HAMILL. Patricia Hamill.

Mr. GACKSTETTER. Gary Gackstetter.

Mr. PATTERSON. Relford Patterson.

Mr. SHAYS. You're all welcome to participate. If you'd all raise your right hand.

[Witnesses sworn.]

Mr. SHAYS. For the record, all seven have responded in the affirmative. Our primary three witnesses or, actually, our two witnesses.

I understand, Dr. Murphy, that you don't have a statement but that Mr. Hickman and Dr. Joseph, you will both be giving statements; is that correct?

Dr. MURPHY. That's correct.

Mr. SHAYS. Dr. Joseph, it's a privilege to have you here, and I thank you. We have a 5-minute rule, but your testimony is very important to us, and we're going to let you give your testimony as you would like to give it, and it can go beyond that amount, as it can for you, Mr. Hickman.

Mr. HICKMAN. Thank you.

STATEMENTS OF STEPHEN JOSEPH, ASSISTANT SECRETARY OF DEFENSE FOR HEALTH AFFAIRS; J. GARY HICKMAN, DIRECTOR, ATLANTA REGIONAL OFFICE, VETERANS BENEFITS ADMINISTRATION, DEPARTMENT OF VETERANS AFFAIRS; AND FRANCES MURPHY, DIRECTOR, ENVIRONMENTAL AGENCY SERVICE, DEPARTMENT OF VETERANS AFFAIRS

Dr. JOSEPH. Thank you, Mr. Chairman, Mr. Fattah. And Mr. Buyer, it's always a pleasure to see you and get your firsthand experience in this discussion.

It's a pleasure to testify here today. I will, in my testimony, respond at some length to the specific questions that you asked in your letter to the department.

I also want to take some time in responding or speaking about some issues that are more recent, and I would leave some of the detail out just so as not to be too long, but I'd ask that my entire statement be submitted into the record.

Mr. SHAYS. Your entire statement will be submitted, and you're free to make any other comments you'd like.

Dr. JOSEPH. Thank you, sir. Mr. Chairman, your letter identified several specific issues regarding the illnesses reported by Persian Gulf war veterans, and I want to respond to those specific questions and also include some comments on the information that the Department released last Friday concerning United States destruction of a bunker at Kamisiyah, Iraq.

The first issue in your letter was that of medical examinations conducted prior to deployment in theater and prior to discharge as well as the maintenance and transmittal of medical records.

Back in 1990, in preparation for deployment to the Gulf, service members had their medical records and physical profiles reviewed to identify members with adverse medical conditions, conditions which would compromise their ability to perform their mission. Those individuals with such conditions did not deploy.

Additionally, troops preparing for deployment received briefings regarding immunizations, infectious disease threats and other relevant environmental hazards.

The military services documented these findings for these screenings in the individual medical record. However, at that time there was substantial variance among the services as to the consent of those screenings and examinations.

At that time, in 1990, there were no Department of Defense wide standards or policies addressing the system is collection and maintenance of this information.

As a result of the lessons learned from the Gulf, we have designed and implemented in Bosnia a new joint surveillance medical program which details specific actions for pre- during and post-deployment.

This involves an integrated framework to monitor the health of deployed personnel, to provide enhanced predeployment education, to identify and assess hazards in theater and to conduct pre- and post-deployment health screening.

We have implemented, as I said, this program in a joint endeavor, and we anticipate that it will become permanent DOD policy in October of this year.

In addition, we will be using post-deployment data from Bosnia on the new Comprehensive Clinical Evaluation Program Information System, which we developed in the wake of the Gulf.

In Operations Desert Shield and Desert Storm, most service members did not have their medical records with them while deployed. As a result, documentation of health problems as well as immunizations received while in theater was problematic.

I must tell you, Mr. Chairman, the deployed personnel medical record remains today the single most important problem in having a good sense of health conditions that are experienced by the troops in theater.

We are working with the VA collaboratively to develop a plan for standardized recordkeeping and deployment medical surveillance system which utilize the latest information systems technology, and we're involved now, as part of our telemedicine efforts in Bosnia, in testing a computer-based electronic record, which would be a dog tag sized read-write computer record that I believe is the answer to this problem. It's difficult to have the conventional medical record in the soldier's backpack. We need a way to read and write, track medical events while troops are deployed.

We will complete a report by the end of calendar 1996 on the issue of medical records, including the handling of records—this is another problem—involving classified information and the development of an automated medical record system for the deployed force.

Additionally, with the VA, we now have developed a Report of Medical Screening Form that is used while interviewing retiring or separate service members. I think you'll hear more about that in a few minutes.

Also, in October 1995, an MOU was signed by the DVA Undersecretary for Benefits, Mr. John Vogel, and the Undersecretary of Defense for Personnel and Readiness, Mr. Edwin Dorn, for the direct transfer to DVA of medical records of service members who were leaving active duty.

Your next issue, Mr. Chairman, was that as you mentioned in your opening statement of troop location information. The Department is now refining a Troop Exposure Assessment Model, which obviously was designed to assess troop exposures to smoke from the oil well fires.

But over the past 2 years, as issues around illnesses in returning Gulf veterans has come to the fore, this model is being incorporated into a more detailed Geographic Information System.

We will have this system uploaded as a data base by July 15. We'll provide a complete date, place, record of every unit in the Gulf for every day of the Gulf.

This is really a key, as I've talked about before with Mr. Buyer. This is really a key to the understanding of these problems because once we have this data base complete we can now overlay onto that

troop locations, symptoms, registrants in DVA or DOD registry, et cetera.

We expect to have some results in late July of some of the most important matches from the GIS, including those that relate to the current interest around Kamisiyah.

It is perfectly possible to have the VA Clinical Evaluation Program overlain onto this issue, and we are in conversation with Veterans Affairs to make this happen.

Next, Mr. Chairman, you asked about medical information collected in DOD's Persian Gulf Registry Program.

When I assumed my position in DOD early in 1994, there was a Persian Gulf DOD registry with approximately 300 names on it. There was no plan for what to do with these names other than to maintain them for future reference.

With strong support from the Secretary of Defense, by May 11, 1994, I announced the three-point plan to address the clinical concerns of Gulf war veterans.

The plan included an aggressive, comprehensive clinical diagnostic program offering intensive examinations throughout registration on a 1–800 number to service members who served during the Gulf war and had concerns about possible health consequences of that service.

To date, through the CCP, Comprehensive Clinical Evaluation Program, we have extensively examined and reported on over 20,000 individuals. For the record, I'll submit to you our latest report of the clinical findings and our interpretations from that analysis.

The majority of CCP participants have clear diagnoses, which include a variety of common conditions, and in my printed testimony, I have some charts related to that.

The type of conditions identified appear similar to those seen in the general population. However, formal research involving appropriate comparison populations is necessary to determine the degree to which certain kinds of symptoms or diagnoses may or may not be more common among Gulf war veterans.

The CCEP clinical experience to date reveals no evidence for a single unique illness or syndrome among Persian Gulf veterans participate in the CCEP.

However, as Mr. Buyer pointed out in his opening statement, an unknown illness or a syndrome that was mild or one that affected only a small proportion of veterans at risk might not be detectable in a case series no matter how large. Our findings in this regard closely parallel reviews by the National Institutes of Health and the Institute of Medicine. These findings, of course, mean that our job is not done.

President Clinton has vowed to leave no stone unturned in the search for answers to our Persian Gulf war veterans' health concerns, and we have said each time we've issued a clinical report that we will keep looking, as we go further and further into looking, for any possible small groupings, possible unusual occurrences that are not explainable by the current analysis.

The final specific issue for which you requested information, Mr. Chairman, concerns the rate of neoplasms among Persian Gulf veterans.

Our clinical experience with the CCEP has identified neoplasms as a primary diagnosis in less than 1 percent of all CCEP participants, including spouses and children of Persian Gulf veterans.

A primary diagnosis of malignant disease was found in 0.3 percent, that's 52 individuals, of CCEP participants who served in the Gulf, and those 52 diagnoses are not clustered in a single organ system.

Definitive conclusions regarding the possibility of increased cancer risks associated with deployment require formal epidemiologic studies.

Such studies are now in progress and involve appropriate comparison groups, and these studies will characterize more clearly any association between deployment to the Persian Gulf and specifically health outcomes; in this case, malignancies or neoplasms.

One such study involving 1.2 million persons compares the DOD hospitalization experience of active duty personnel who deployed to the Gulf war with active duty personnel of the same era who were not deployed. These are the so-called "Gray Studies."

Preliminary results indicate that the employed group was not at increased risk of hospitalizations after and since the war.

Examination the hospitalizations according to major International Classification of Diseases diagnostic categories reveals no increased risk of cancer among Gulf war veterans.

There is a strong collaboration among the Veterans Affairs, HHS and DOD regarding the possible health consequences of service in the Gulf and the kind of epidemiologic research that needs to be continued.

In closing, my response to your specific questions, Mr. Chairman, I believe that this administration rapidly and effectively developed a comprehensive, well organized cross-departmental program for Persian Gulf veterans designed first and foremost to take care of our service members.

We are committed to pursuing the science to find answers to remaining questions and to clarify our clinical findings.

Now, as you know, information has recently come to light regarding the involvement of United States forces in the destruction of Iraqi chemical weapons following Operation Desert Storm.

In early March 1991, the 37th Engineering Battalion of the 20th Engineering Brigade was responsible for the destruction of a bunker complex in Kamisiyah north of Bosrah. The engineering battalion was approximately 3 miles from the site during the actual demolition. Other troops are known to have been present at greater distances, and we are in the process of identifying those units and those locations.

This is a perfect example of how that Geographic Indicator Study will be so valuable because we will be able to pinpoint on all those days, March 7 through 9, 1991, just which units were exactly where.

It is believed that one bunker at the site contained chemical weapons. To date, there has been no evidence found that soldiers located in this area complained of or presented any symptoms characteristic of acute exposure to chemical agents. However, we are still searching for any additional information.

Now, the most important thing that I really have to say about this is that the current accepted medical knowledge is that chronic symptoms or physical manifestations do not later develop among persons exposed to low levels of chemical nerve acts into did not first exhibit acute symptoms of toxicity. However, this avenue is also being further explored by the department, both looking back at the situation historically and in research that we will be undertaking.

As a result of the Kamisiyah information, we are taking a number of actions, and these have begun. For example, the department is committed to locating the individuals of the 37th and encouraging them to participate in the Comprehensive Clinical Evaluation Program or, if eligible, into the Analogous Department of Veterans Affairs Clinical Program.

We are also undertaking a review, a clinical review, of patient records for those CCEP participants who were or are in the 37th Engineering Battalion and cross-checking to see if the members of the 37th appear in any unusual way in our large study on hospitalization rates of those who served in the Gulf.

Also, using the CCEP results overlaid into the GIS system, which is the Geographic Indicator System which I outlined earlier, we will seek to determine if there are any patterns of illness given the unit and personnel proximity to the bunker destruction.

Last, we will be funding peer reviewed research, new additional research focused on low level exposure.

Let me, if I may, take the opportunity of the hearing to repeat in public view the 1–800 number which Persian Gulf veterans can call for referral and recollection into the clinical registry. That is 1–800–796–9699, 1–800–796–9699.

Consistent with the mandate given by President Clinton, the department is committed to leaving no stone unturned on this issue.

The department will continue to examine all available evidence pertaining to possible exposure of U.S. troops to chemical weapons.

Thank you, Mr. Chairman. I'll be happy to answer any questions or comments that you and your colleagues might have.

[The prepared statement of Dr. Joseph follows:]

PREPARED STATEMENT OF STEPHEN JOSEPH, ASSISTANT SECRETARY OF DEFENSE FOR HEALTH AFFAIRS

Mr. Chairman, Distinguished Members of the Committee, on behalf of Secretary of Defense Perry, it is my pleasure to accept your invitation to testify today.

Mr. Chairman, your letter of invitation identified several specific issues regarding the illnesses and diseases reported by Persian Gulf War veterans. My statement responds to those issues in your letter of invitation. I have included comments on the information the department released on Friday concerning the U.S. destruction of a bunker at Kamisiyah, Iraq.

The first issue is that of medical examinations conducted prior to deployment, in theater, and prior to discharge as well as the maintenance and transmittal of the medical records related to these examinations.

In 1990, in preparation for deployment to the Persian Gulf, service members had their medical records and physical profiles reviewed to identify those with adverse medical conditions, that is, conditions which would compromise the service member's ability to perform the mission. These individuals did not deploy. Additionally, troops preparing for deployment received briefings regarding immunizations, infectious disease threats, and other relevant environmental hazards.

The military services documented the findings from these screenings in the individual's medical record. However there was substantial variance among the services as to the content of the screenings. Also, requirements differed among the services

regarding collection and maintenance of aggregate descriptive data about the numbers and types of conditions for individuals found not qualified for deployment. At that time, in 1990, there were no Department of Defense-wide standards or policies addressing the systematic collection and maintenance of this information.

As a result of the "Lessons learned" from the Gulf War, we designed and implemented for Bosnia a new joint service medical surveillance program which details specific actions for pre-, during and post-deployment. This program retains effective measures and adds new ones to ensure continuity of surveillance activities through each phase of deployment. The program calls for an integrated framework to monitor the health of deployed personnel; provide pre-deployment health education; identify and assess occupational, environment and infectious disease health hazards in-theater; conduct pre- and post-deployment health screening; and, determine the most effective preventive medicine interventions for specific situations. We have implemented the major components of this surveillance program in Bosnia.

As we responded to the Presidential Advisory Committee on Gulf War Veterans' Illnesses, we are using the current Bosnia surveillance program as the basis for a broader directive on pre, during and post-deployment medical assessments. This directive will be completed by October 1996. We are also developing a quality assurance plan to measure compliance with pre, during and post-deployment medical assessments and to ensure the capture of pre-deployment data in medical records. Post-deployment data will be available on the new automated Comprehensive Clinical Evaluation Program (CCEP) information system, which was designed for any deployment situation. The system can interface with the military treatment facility based health information system, as well as transmit data to the DoD CCEP.

In Operations Desert Shield and Desert Storm, most service members did not have their medical records with them while deployed. As a result, documentation of health problems as well as immunizations received while in-theater was problematic. Many individuals had immunizations recorded in their shot records while others documented receipt of vaccines on unit logs and rosters.

Medical records remain today one of our most significant problems as the Presidential Advisory Committee's interim report points out. DoD and VA are working cooperatively to develop a plan for standardized record keeping and deployment medical surveillance systems which utilize the latest information systems technology. Although not yet a reality, we are testing a computer-based electronic record keeping system in Bosnia. Work Groups, co-chaired by VA and DoD, expect to complete a report on these issues by October 1996. DoD's Assistant Secretary for Health Affairs and VA's Under Secretary for Health have made the improvement in medical surveillance and continuity of record keeping high priorities.

DoD will complete a report by the end of 1996 on the issue of medical records, including the handling of records involving classified information and the development of an automated medical record system for a deployed force. Pre and post-deployment medical date are being captured in the database established for the CCEP program. In addition, DoD's overall patient data systems capability in this area will be enhanced before the end of 1996 by adding outpatient data capability and linking with medical records in theater.

Additionally, with the DVA, we now have developed a Report of Medical Screening Form that is used while interviewing retiring or separating service members. This form becomes part of the individual's permanent medical record. If, during the interview, any complaints, illnesses or injuries are identified, a comprehensive physical evaluation is required. This initiative streamlines the process for the DVA by documenting physical conditions that are possibly service connected and therefore subject to compensation. Modifications of this same form serve as the basis for pre- and post-deployment health screening assessments. Use of this form began in June of last year.

Also, in October, 1995, a Memorandum of Understanding (MOW) was signed by the DVA Under Secretary for Benefits (Mr. John Vogel) and the Under Secretary of Defense for Personnel and Readiness (Mr. Edwin Dorn) for the direct transfer to DVA of medical records of service members leaving active duty. Today this is a hard-copy exchange. However we forecast that in the future, transfer of medical records between our Departments will be via electronic means.

Mr. Chairman, your next issue was that of troop location information.

The Department is now refining a Troop Exposure Assessment Model (TEAM) which originally was designed to assess troop exposures to smoke from the oil well fires. Additionally, this model is being incorporated into a Geographic Information System (GIS) which can be used to assess other potential health threats relative to specific locations for individual units at definite periods of time. These systems will allow integration of diagnostic information and geographic locations for use in epidemiologic studies to look for clustering of illness patterns. The diagnostic data are

being obtained from the Department's Comprehensive Clinical Evaluation Program. We expect to have some results in August.

This same process could be accomplished with the diagnostic data from the DVA's clinical evaluation program. Conversations are underway between DoD and DVA to make this happen.

Next, Mr. Chairman, you asked about medical information collected in DoD's Persian Gulf Registry program.

When I assumed my position in DoD early in 1994, there were approximately 300 names of Persian Gulf veterans on the DoD registry. There was no plan for what to do with these names, other than to maintain them for future reference.

With strong support from the Secretary of Defense, on May 11, 1994, I announced a three-point plan to address the clinical concerns of Gulf War veterans. The plan included an aggressive, comprehensive, clinical diagnostic program offering intensive examinations to service members who served during the Gulf War and had concerns about possible health consequences of that service. The entire leadership within DoD joined the effort to reach out to the service members and to encourage them to participate in this Comprehensive Clinical Evaluation Program.

To date, through the CCEP we have extensively examined and reported on approximately 20,000 individuals. For the record, I will submit our latest report of findings from our analysis of CCEP information.

The majority of CCEP participants have clear diagnoses which include a variety of common conditions. The chart below offers a concise depiction of the broad range of diagnostic conditions.

PRIMARY DIAGNOSTIC CATEGORIES AMONG 18,075 IN-THEATER CCEP PARTICIPANTS

	Percent
Musculoskeletal	18
Psychological	18
Signs, symptoms, ill-defined conditions	18
Healthy	10
Respiratory	7
GI	6
Skin	6
Nervous Sys.	6
Other*	11

Includes malignant neoplasms which represent 0.3% of all primary diagnoses.

The types of conditions identified appear similar to those seen in the general population. However, formal research involving appropriate comparison populations is necessary to determine the degree to which certain kinds of symptoms or diagnoses may, or may not, be more common among Gulf War veterans.

The CCEP clinical experience to date reveals no evidence for a single, unique illness or syndrome among Persian Gulf veterans participating in the CCEP. However, an unknown illness or a syndrome that was mild or affected only a small proportion of veterans at risk might not be detectable in a case series, no matter how large. Our findings in this regard closely parallel reviews by the National Institutes of Health and the Institute of Medicine. These findings, however, do not mean that our job is done. President Clinton has vowed to leave no stone unturned in the search for answers to our Persian Gulf War veterans' health concerns. Additionally, the Department of Defense is committed to providing quality, compassionate care to service members who are Persian Gulf veterans and their families.

The final issue for which you requested information, Mr. Chairman, is the rate of neoplasms among Persian Gulf veterans.

Our clinical experience with the CCEP has identified neoplasms as a primary diagnosis in less than 1% of all CCEP participants, including spouses and children of Persian Gulf veterans. A primary diagnosis of malignant disease was found in 52, or 0.3%, of CCEP participants who served in the Gulf. These diagnoses are not clustered in a single organ system, although the most frequently diagnosed malignant neoplasms involve skin cancers and lymphomas.

Definitive conclusions regarding the possibility of increased cancer risks associated with deployment require formal epidemiologic studies. Such studies are in progress and involve appropriate comparison groups. These studies will characterize more clearly any association between deployment to the Persian Gulf and specific health outcomes.

One such study involving 1.2 million persons compares the DoD hospitalization experience of active duty personnel who deployed to the Gulf War with active duty

personnel of the same era who were not deployed. Preliminary results indicate that the deployed group was not at increased risk of hospitalizations after the war. Examining the hospitalizations according to major International Classification of Diseases (ICD–9) diagnostic categories revealed no increased risk of cancer among Gulf War veterans. A similar study involving non-federal hospitals in California will assess the health of those who have left military service. This study has just recently been approved by the collaborating agencies, and data collection is expected to begin soon.

There is strong collaboration among the DVA, DHHS and DoD regarding the possible health consequences of service in the Persian Gulf War. In fact, the shared research efforts are unprecedented.

In closing, Mr. Chairman, I believe that this Administration rapidly and effectively developed a comprehensive, well-organized, cross-departmental program for Persian Gulf veterans designed, first and foremost, to take care of our service members. We are committed to pursuing the science to find answers to remaining questions and to clarify our clinical findings.

In taking the many actions just enumerated, this Administration will leave an important legacy to the U.S. Armed Forces: a capability to assess the health status of personnel prior to deployment, evaluate environmental hazards in a theater of operations, and identify adverse health outcomes which may be the result of the deployment. Further, these program will foster better working relationships between the DVA and DoD which will lead to better service for the men and women of the Armed Forces.

As you know, information has recently come to light regarding the involvement of U.S. forces in the destruction of Iraqi chemical weapons following Operation Desert Storm. In March of 1991, the 37th Engineering Battalion of the 20th Engineering Brigade was responsible for the destruction of a bunker complex in Kamisiyah, North of Basrah. The Engineering Battalion was approximately three miles from the site during actual demolition. Other troops are known to have been present at greater distances and we are in the process of identifying those units. It is believed that one bunker at the site contained chemical weapons. To date, there has been no evidence found that soldiers located in this area complained of or presented any symptoms characteristic of acute exposure to chemical agents. However, we are still searching for any additional information. The current accepted medical knowledge is that chronic symptoms or physical manifestations do not later develop among persons exposed to low levels of chemical nerve agents who did not first exhibit acute symptoms of toxicity. However, this avenue is also being further explored by the Department.

As a result of the Kamisiyah information, we are taking a number of actions. For example, the Department is committed to locating the individuals of the 37th and encouraging them to participate in the Comprehensive Clinical Evaluation Program, or if eligible, into the analogous Department of Veterans Affairs Clinical Program. We are also undertaking a re-examination of patient records for those CCEP participants who are in the 37th Engineering Battalion and cross checking to see if the members of the 37th appear in any unusual way in our large study on hospitalization rates of those who served in the Gulf. Also, using the CCEP results overlaid onto the GIS system—which I outlined earlier—we will seek to determine if there are any patterns of illnesses given the unit/personnel proximity to the bunker destruction. Lastly, we will be funding peer review research focused on low level exposure.

Consistent with the mandate given by President Clinton, the Department is committed to leaving "no stone unturned" on this issue. The Department will continue to examine all available evidence pertaining to possible exposure of U.S. troops to chemical weapons.

Mr. SHAYS. Thank you, Dr. Joseph. I'm going to have Mr. Hickman give his statement. Then we're going to go to Mr. Buyer first for questions after Mr. Hickman and then to my colleague, Mr. Fattah and then myself. Mr. Hickman.

Mr. HICKMAN. Thank you, Mr. Chairman, and members of the subcommittee. With me this afternoon is Dr. Fran Murphy, Director of the Environmental Agents Service.

After returning from the Persian Gulf, many veterans began exhibiting symptoms that cannot be attributed to known clinical diagnoses. Because of the concerns about these illnesses, VA, DOD and

HHS established the Persian Gulf Veterans Coordinating Board in January 1994.

The Coordinating Board has three primary objectives: One, to provide health care to Persian Gulf veterans for problems related to the war; two, to develop a research program to understand their health problems; and three, to develop guidelines for evaluating and compensating disabilities related to Gulf service.

Three working groups of the Coordinating Board address these objectives. The clinical working group provides direction for clinical efforts. The research working group provides guidance for research activities: the disabilities and compensation working group provides guidelines for disability determinations and compensation programs.

In the last few years, we have taken steps to ensure a smooth transfer of service medical records from the branches of service. Most of these records are stored either at the National Personnel Records Center at St. Louis or VA's own Service Medical Records Center (SMRC), also in St. Louis.

Between October 1992 and May 1994, the branches of the military services began sending service medical records to the VA's SMRC, which is now the chief repository of these records. The medical records of persons who have an obligation in the active Reserves or National Guard are generally maintained by the units to which they are assigned.

We are aware of no particular difficulties in obtaining service medical records and are satisfied with current procedures.

Recently, we provided data on neoplasms to this subcommittee. Those data indicate that we have granted service connection to Persian Gulf veterans for over 70 percent of neoplasms for which compensation was claimed. For non-Gulf veterans, we have granted service connection for over 80 percent of neoplasms.

One cannot use these data to draw scientifically valid inferences about the risk of developing a neoplasm. First, Persian Gulf veterans are authorized special health care eligibility that is not authorized to non-Gulf veterans.

Second, many Persian Gulf veterans with neoplasms were identified in the Persian Gulf War Registry Examination data base. No similar data base exists for non-Gulf veterans. These factors introduce a selection bias that makes comparison of the neoplasms rates invalid. Our data bases also do not include individuals who sought non-VA medical care.

VA has sponsored research programs that can appropriately assess morbidity and mortality related neoplasms. The VA National Persian Gulf Survey will assess the prevalence of symptoms in medical conditions in 15,000 randomly selected Persian Gulf war veterans and 15,000 Gulf era veterans.

VA has completed a mortality study of both Persian Gulf veterans and a comparison group who served between September 1990 and May 1991 but not in the Persian Gulf. Preliminary results currently reveal no difference in mortality related to neoplasms, but we will update this study at 5-year intervals.

Mr. Chairman, this completes my oral statement. Dr. Murphy and I will now be happy to answer any questions that you or other members of the subcommittee might have. Thank you.

[The prepared statement of Mr. Hickman follows:]

PREPARED STATEMENT OF J. GARY HICKMAN, DIRECTOR, ATLANTA REGIONAL OFFICE, VETERANS BENEFITS ADMINISTRATION, DEPARTMENT OF VETERANS AFFAIRS

Mr. Chairman and Members of the Subcommittee: On August 2, 1990, Iraqi forces invaded Kuwait. U.S. troops began deployment in Operation Desert Shield five days later. The air war against Iraq began on January 16, 1991, and Operation Desert Shield became Operation Desert Storm. On February 24, 1991, the ground war began for U.S. military personnel. The fighting ended four days later, with few U.S. combat casualties. After the return of U.S. forces from the Persian Gulf, some veterans began exhibiting symptoms that even today cannot be readily attributed to a known clinical diagnosis. They often have combinations of nonspecific symptoms that do not fit a single case-definition, and a single case-definition might not be sufficient.

Because of these concerns, the Secretaries of VA, DoD, and HHS established the Persian Gulf Veterans Coordinating Board in January 1994 to provide coordination of federal programs related to Persian Gulf War veterans

In addition, in 1995 the President established the Presidential Advisory Committee on Gulf War Veterans' Illnesses to conduct a thorough, independent assessment of the issues associated with these veterans' illnesses. The Advisory Committee submitted an interim report in February 1996; its final report is due by the end of the year.

The Persian Gulf Veterans Coordinating Board provides an interdepartmental means of sharing information on Persian Gulf War (POW) issues, to effectively allocate available resources, and to provide means of disseminating information. The Coordinating Board has established three primary mission objectives:

- To provide all veterans the complete range of health care services necessary for medical problems that may be related to deployment in the Persian Gulf War.
- To develop a research program that will result in the most accurate and complete understanding of the health problems experienced by PGW veterans and the factors that have contributed to these problems.
- To develop clear and consistent guidelines for the evaluation and compensation of disabilities related to Persian Gulf Service.

Three working groups established by the Coordinating Board address these mission objectives related to medical care, research, and compensation. The clinical working group provides direction and coordination for clinical efforts on behalf of Persian Gulf War veterans. Oversight functions include coordination of VA and DoD Persian Gulf health registries and development of comparable clinical assessment questionnaires and examination protocols. This group also develops educational tools and programs, publishes medical articles and facilitates the development of comparable medical records systems. The working group also provides interdepartmental coordination of medical surveillance planning for future military deployments, including Bosnia.

The research working group provides guidance and coordination for VA, DoD and HHS research activities related to Persian Gulf Health issues. The working group coordinates all studies conducted or sponsored by these three departments to prevent unnecessary duplication and to ensure that important gaps in knowledge are identified. The working group is actively involved in directing resources toward high-priority research questions. The research working group monitors relevant new scientific information, maintains a database of ongoing federally-sponsored research projects, and generates periodic reports to federal oversight authorities. The working group also coordinates development of an annual Persian Gulf research plan.

The research working group has been responsive to the recommendations of external advisory panels. In particular, they are responding to the Presidential Advisory Committee on Gulf War Veterans' Illnesses' recommendations to strengthen its external peer-review process and improve its resource allocation methods. With the group's coordination, the shared research among DoD, VA, and HHS have been unprecedented and set an inter-agency collaboration standard that will extend beyond the Gulf War.

As part of the Administration's commitment to better understand the illnesses reported by PGW veterans, last week the Departments of Defense and Veterans Affairs announced the award of $7.3 million for 12 research studies to government, non-government, and academic institutions on possible causes and treatment of Gulf War veterans' illnesses. Last spring, the departments sought proposals from government and non-government applicants including universities, hospitals, and research institutions on:

• epidemiological studies of health problems of Persian Gulf veterans related to their service in the Gulf War;

• health effects of pyridostigmine bromide used alone and in combination with other chemicals; and,

• clinical studies and other research on the causes, modes of transmission and appropriate treatments for illnesses of Gulf War veterans.

The Broad Agency Announcement issued last May resulted in the submission of 111 scientific proposals. From these submissions, the departments selected 12 proposed investigations after conducting an exhaustive, independent peer-review process. The final selection was made on the basis of scientific merit and program relevancy.

The disabilities and compensation working group is responsible for coordinating the establishment of clear and consistent guidelines for VA and DoD disability determinations and for compensation programs. The group's coordination was particularly important after December 8, 1994, when VA proposed new rules pursuant to the Veterans Benefits Act of 1994 to provide compensation for certain disabilities due to undiagnosed illnesses among Persian Gulf War veterans.

The Persian Gulf Veterans Coordinating Board has established a precedent of interdepartmental cooperation and collaboration on medical care, research and compensation issues including issues and recommendations made by the Presidential Advisory Committee. The Coordinating Board has identified gaps in medical assessments, medical records, research, and compensation. Its activities have been vital to understanding the current Persian Gulf War health issues and to enhancing future coordination of deployment medical surveillance and assessment of health risks.

I would like to elaborate on issues related to compensation for Persian Gulf War veterans suffering from undiagnosed illnesses. There have been concerns that these illnesses were caused by chemical exposure or other environmental hazards in the Persian Gulf, for example, pesticides or smoke from oil well fires. Some believe that certain medications given to Gulf veterans, singly or in combination with insecticides, contributed to the illnesses. Others believe that Persian Gulf veterans may have been exposed to chemical or biological warfare agents. Because of these special concerns, the Veterans Benefits Administration (VBA) centralized the adjudication of Persian Gulf compensation claims based on environmental hazards in the Louisville Regional Office, beginning December 1992. In October 1994, we redistributed the environmental hazard claims to four regional offices, known as Area Processing Offices (APOs). The APOs are Louisville, Nashville, Phoenix, and Philadelphia.

VA strongly supported legislation, enacted in 1994 as Public Law 103–446, which authorized us to pay compensation to Persian Gulf veterans suffering from chronic disabilities resulting from undiagnosed illnesses that became manifest either during Persian Gulf War service or to a degree of 10 percent or more disabling within a subsequent presumptive period, as determined by the Secretary of Veterans Affairs. Under a regulation published in February 1995, which established the presumptive period as two years, we began paying compensation to these veterans. The adjudication of Persian Gulf claims based on undiagnosed illnesses also has been centralized at the four APOs mentioned earlier. Although there have been proportionately few grants of compensation for undiagnosed illnesses, reviews by both GAO and VA reveal that we have awarded compensation to as many as 50 to 60 percent of these claimants for diagnosed conditions. We are, however, looking further at the issue of compensation rates for undiagnosed illnesses.

I would now like to say a few words about the maintenance and transmittal of the service medical records (SMRs) of Persian Gulf veterans for purposes of compensation claims. In the last few years, we have taken steps to ensure a smooth and expeditious transfer of service medical records from the various branches of service to reduce delays in adjudicating compensation claims.

The SMRs are the complete military health records for each veteran. They typically include all physical examinations (including entrance and discharge physical examinations), medical history, all dental examinations and records, clinical record cover sheets and summaries, entries from outpatient medical and dental treatments, physical profiles, medical board proceedings, and prescriptions for eyeglasses and orthopedic footwear.

Most of these records are stored in one of two places, the National Personnel Records Center (NPRC) in St. Louis, which is operated by the National Archives and Records Administration, and VA's own Service Medical Records Center (SMRC), also located in St. Louis.

Certain SMRs are not stored at either the NPRC or the SMRC. These are the medical records of persons who, at the time of separation from active duty, have an

obligation in the active reserves or National Guard. Their medical records are, with some exceptions, maintained by the units to which they are assigned.

VA's SMRC is now the chief repository of SMRs for recently discharged veterans. As of October 16, 1992, the Army began sending SMRs to the SMRC. The Navy followed suit on January 31, 1994, and the Air Force and Marine Corps on May 1, 1994. SMRs for service members separated prior to these dates are in the NPRC.

The SMRs of service members who do not apply for VA compensation at the time of separation from service are sent to the SMRC. The SMRC will maintain control of the SMRs until a disability claim is filed and a claims folder established at a regional office. If a veteran files a claim for compensation at time of separation, the service department will send directly to the regional office of jurisdiction the signed application form and complete SMRs, including entrance and discharge physical examinations. Whenever a veteran is separated for disability, these medical records are furnished to the regional office even if the veteran does not file a compensation claim.

We are aware of no particular or persistent difficulties in obtaining veterans' SMRs. Some delays do occur, but it is to be expected that isolated problems will appear in a Department of our size, handling the large volume of casework that we see each year. By and large, the greater delays occur in obtaining SMRs from reserve or National Guard units. While it cannot be said that we have eliminated all problems in this area, overall we are satisfied that the procedures established with the service departments have served to expedite the process. Due in large part to these procedures, we would anticipate fewer problems in obtaining SMRs for all Persian Gulf veterans than for veterans of previous eras. Moreover, given the current 2-year presumptive period for Persian Gulf veterans seeking compensation for undiagnosed illnesses, a lack of documentation of their illnesses in their SMRs need have no adverse impact on their claims.

Before concluding, Mr. Chairman, I would like to discuss briefly the information on neoplasms that we recently provided to the Subcommittee. As you know, the design of our computer data bases and the purposes for which we in VA process data initially presented problems in presenting the data you requested, and the information we sent you was perhaps not as full and detailed as we would have liked. However, we made our best effort within the bounds of those limitations, and we hope that you were satisfied and found the data useful.

Mr. Chairman, you have expressed concern that Persian Gulf veterans may be two-and-a-half times less likely to receive compensation payments for diagnosed tumors than non-Gulf veterans with the same diagnosis. The raw data we provided do not permit this conclusion.

The data provided do not identify the number of veterans who were receiving compensation for tumors (or neoplasms). The data indicate the number of veterans who are receiving compensation for *any* service-connected condition *and* who have a neoplasm. For example, they would include a veteran receiving compensation for a knee injury who also has a non-service-connected benign cyst. Moreover, service connection does not necessarily result in receipt of compensation. While establishment of service connection is a prerequisite for compensation, service connection may be established at a non-compensable level disability, which we call less than 10 percent or "zero percent." Our data show a high number of benign skin tumors, which are often rated at less than 10 percent disabling and for which compensation would not be payable. Our data also show a higher proportion of such non-compensable tumors among Persian Gulf veterans than among non-Gulf veterans. Other factors that must be considered before reaching valid conclusions about the grant rates of service connection for tumors include such things as length of service, branch and component of service, age, sex, and overall health status.

Our data on Persian Gulf veterans actually show that we have granted service connection for 72 percent of all types of neoplasms, both malignant and benign, for which these veterans submitted compensation claims. For malignancies, which accounted for only 11 percent of the total conditions, service connection was granted 76 percent of the time. Service connection was granted for benign neoplasms 71 percent of the time. We caution that these statistics on service connection do not necessarily indicate any relationship between a particular veteran's service in the Persian Gulf and the development of a neoplasm. They indicate that the neoplasm appeared either sometime during a veteran's service, within a statutory one-year presumptive period following service, or even beyond the statutory presumptive period if service connection was granted because evidence from the veteran's service records allowed us to connect the neoplasm to an incident that occurred during active duty.

The figures on Gulf War veterans show a somewhat lower frequency of service connection than do the data on other Persian Gulf era veterans who served in the

military but were not deployed to the Persian Gulf. VBA's data on these Persian Gulf era veterans show that we have granted service connection for 84 percent of all types of neoplasms. For malignancies, which accounted for 19 percent of the total conditions, service connection was granted 89 percent of the time. Service connection was granted for benign neoplasms 83 percent of the time. I know of no reason for concluding that the difference in these rates and the rates for Persian Gulf veterans reflects, as you suggested they might, any VA bias against Persian Gulf veterans.

The information provided the Committee regarding benign and malignant neoplasms identified in Persian Gulf War veterans was derived from the PGW Registry examination database, VA's hospitalization database and VBA's compensation files. These databases identified 6,397 Persian Gulf War veterans and 21,227 other Persian Gulf era veterans with benign or malignant neoplasms. One cannot draw any scientifically valid inferences about the risk of developing a neoplasm among Persian Gulf veterans based on these data because of several important limitations.

First, Persian Gulf War veterans have been authorized special eligibility to health care for both inpatient and outpatient treatment at VA medical facilities. The same special eligibility is not authorized for other Persian Gulf era veterans resulting in a potential for underrepresentation of this veteran group. Second, of the 1,691 PGW veterans in VHA databases with neoplasms, 755 were identified in the PGW Registry health examination program database. No similar database exists for other Gulf era veterans. Both of the above factors introduce a selection bias that makes comparison of the rates of neoplasms in these two groups invalid. Furthermore, these databases do not include individuals who sought care from non-VA medical facilities, including active duty military members.

The Department of Veterans Affairs has sponsored several research programs that can more appropriately assess the morbidity and mortality of Persian Gulf veterans related to neoplasms. The VA National Persian Gulf Survey is an epidemiological study that will assess the prevalence of symptoms and medical conditions in 15,000 randomly selected PGW veterans and 15,000 Gulf era veterans. This study will be an important research component of VA's overall plan to determine the relative risk of developing neoplasms in these two groups.

VA's Environmental Epidemiology Service has completed a mortality study of Persian Gulf veterans. The mortality study investigated deaths through September 1993 in Persian Gulf veterans and a comparison group, consisting of a stratified random sample of all active duty, reserve and National Guard members who served in the military between September 1990 and May 1991 but who did not serve in the Persian Gulf theater of operations. Preliminary results of that investigation reveal no difference in cause-specific mortality related to neoplasms in Persian Gulf War veterans. However, since development of neoplastic disease following exposure to carcinogens often has a long latency period, VA will continue to monitor the health of Persian Gulf War veterans and update its mortality study at five year intervals.

The Department of Veterans Affairs and the Persian Gulf Veterans Coordinating Board have led the coordination efforts among the agencies. We have listened to and addressed the recommendations of outside advisory and oversight committees while collaborating our efforts to an unprecedented extent with DoD and HHS. This collaboration demonstrates the Administration's commitment to compensating and meeting the clinical needs of our Gulf War veterans.

Mr. Chairman, this completes my testimony. Dr. Murphy and I will now be happy to answer any questions that you or other members of the Subcommittee might have.

PERSIAN GULF VETERANS COORDINATING BOARD FACT SHEET

PERSIAN GULF VETERANS' HEALTH PROBLEMS

JUNE 1996

The Persian Gulf Veterans Coordinating Board was established in January 1994 to work to resolve the health concerns of Persian Gulf veterans, including active duty personnel and reservists with Gulf service. The board, headed by the Secretaries of the Departments of Defense (DoD), Veterans Affairs (VA), and Health and Human Services (HHS), is coordinating government efforts related to research, clinical issues and disability compensation.

BACKGROUND

Some 697,000 active duty service members and activated National Guard and Reserve unit members served in the Persian Gulf theater of operations during Operations Desert Storm and Desert Shield. The majority of troops were deployed to the Gulf theater of operations before the air war began on January 16, 1991, and more than half of the deployed troops were withdrawn from the area by the first week of May 1991. However, an additional 250,000 individuals have been deployed over the ensuing five years, with 12,250 U.S. military members currently serving in the Gulf region.

Responding to concerns about the health problems of Persian Gulf War veterans, in 1992 VA created the Persian Gulf Registry Program for all veterans who served in the Persian Gulf, inviting them to come to VA for a free medical examination. In addition, DoD has established the comprehensive clinical evaluation program (CCEP), to provide care and systematically evaluate Persian Gulf veterans and their family members. DoD, VA and HHS are investigating possible causes of Persian Gulf veterans' health problems, including various chemical exposure combinations, leishmaniasis, health effects of oil well fires, petrochemical exposure, possible exposure to chemical/biological warfare agents, effects of vaccines and medications, and exposure to depleted uranium. The three departments are engaged in more than 80 federally supported Persian Gulf-related research and evaluation projects, including studies of general health and environmental effects. This includes a newly announced group of grants to a dozen non-federal researchers, federal agencies and academic institutions examining a variety of health issues in Gulf veterans or studies of specific risk factors or illnesses. In May 1995, President Clinton formed an independent advisory committee to review the research agenda as well as other government activities related to the health of Persian Gulf veterans.

VA HEALTH CARE—PERSIAN GULF REGISTRY

VA's Persian Gulf Registry Program offers a free, complete physical examination with basic laboratory studies to every Persian Gulf veteran. A centralized registry of participants who have had these examinations is maintained to enable VA to keep them informed through periodic newsletters. This clinical database also provides a mechanism to catalog prominent symptoms, reported exposures and diagnoses. The 59,000 Persian Gulf veterans who have taken advantage of the physical examination program become part of a larger Persian Gulf Registry of 220,000 that includes Gulf veterans who have used a variety of other VA health services, have filed a disability benefits claim, or whose survivors filed a claim for death benefits. VA has named a physician at every VA medical center to coordinate the special examination program. In June 1994, VA expanded the basic examination protocol, which elicits information about symptoms and exposures, and directs baseline laboratory studies, including blood count, urinalysis, and a set of blood chemistries. In addition to this core laboratory work, for every veteran taking the Persian Gulf program examination, physicians may order additional tests and specialty consults as symptoms dictate. If a veteran's symptoms remain unexplained, VA provides an expanded assessment protocol, standardized in collaboration with DoD, for use in evaluation of unexplained illnesses.

In addition to the Registry program, VA provides medical care to Persian Gulf veterans for illnesses possibly related to exposure to toxic substances or environmental hazards. Any Persian Gulf veteran who VA determines might possibly have an illness resulting from exposure to a toxic substance or environmental hazard in the Persian Gulf theater of operations has special eligibility for hospital and outpatient care. They have a higher eligibility for treatment than other nonservice-connected veterans. For Gulf veterans with unexplained symptoms, the local VA physicians also may refer veterans to one of VA's four Persian Gulf Referral Centers for additional specialty consultations. They are located at VA medical centers in Washington, D.C.; Birmingham, Ala.; Houston; and Los Angeles. Also, VA is inviting spouses and children of Persian Gulf War veterans to take advantage of special health examinations being scheduled through VA's national Persian Gulf Helpline. The free exams, administered by contractors of 33 VA medical centers, are available only to spouses and children of veterans who served in the Persian Gulf War and who have received a Persian Gulf Registry examination. VA estimates that the $2 million authorized by Congress for this program will provide physical examinations for approximately 4,500 individuals. The program does not provide follow-up, treatment or compensation for the veteran's spouses or children.

VA offers a toll-free information line at 800–PGW–VETS (800–749–8387) where operators are trained to help veterans with questions about care and benefits and schedule the spouse and child examinations described above. Information also is

being disseminated 24 hours a day through a national electronic bulletin board at 800–US1–VETS (800–871–8387) or (FTP/Telnet to VAONLINE.VA.GOV by Internet) as well as through a Persian Gulf Veterans' Illnesses page on VA's World Wide Web site at http:t/www.va.gov/health/environ/persgulf.htm.

DOD'S COMPREHENSIVE CLINICAL EVALUATION PROGRAM

DoD, in collaboration with VA, developed the "Comprehensive Clinical Evaluation Program" in June 1994 to provide an in depth medical evaluation to all eligible beneficiaries who have health concerns following service in the Persian Gulf. All service members eligible for health care at DoD medical facilities, active, ready reserves or retired, who participated in Operation Desert Shield and Desert Storm, and their family members, are eligible for the program. To register, individuals should call the DoD hotline (800–796–9699) for Persian Gulf veterans. In April 1996, DoD issued its fourth report, *Comprehensive Clinical Evaluation Program For Gulf War Veterans—Report on 18,598 Participants:* the majority of CCEP participants have clear diagnoses which include a variety of common conditions for which they are receiving treatment and responding favorably; and, a small number of patients have symptoms which are commonly seen in civilian medical practice, such as fatigue, headache and sleep disturbances. The report concluded that based upon the CCEP experience to date, there is no clinical evidence for a single or unique syndrome among Gulf War veterans. However, a mild illness or a syndrome affecting a proportion of veterans at risk might not be detectable in such a case series. The results of the CCEP are consistent with the conclusions of a National Institutes of Health Technology Assessment Workshop Panel that no single disease or syndrome is apparent, but rather multiple illnesses with overlapping symptoms and causes.

A specialized care center established at Walter Reed Army Medical Center in Washington, D.C., provides therapeutic care for some CCEP participants. The center uses multidisciplinary teams to provide intensive programs directed at improving the functional status of patients experiencing disabling symptoms. An additional specialized care center is located at Wilford Hall Medical Center in San Antonio, Texas. This center provides treatment for Persian Gulf returnees with chronic pain and other health concerns.

RESEARCH ACTIVITIES

The federal government has steadily expanded research into the illnesses reported by Gulf War veterans, including a new portfolio of 12 studies that include both non-federal researchers, federal agencies and academic institutions. The compendium of new projects is in addition to some 70 federal research projects and other studies detailed in the May 1996 third annual *Report to Congress: Research on Persian Gulf Veterans' Illnesses.* The new $7.3 million initiative results from a nationwide request for protocols that brought a broad response of 111 scientific proposals. The proposed investigations were reviewed by independent panels of experts and graded for scientific merit and for program relevance to key questions surrounding health issues of Gulf veterans.

A blueprint to these fundamental questions was published by the Persian Gulf Veterans Coordinating Board in August 1995 as *A Working Plan for Research on Persian Gulf Veterans' Illnesses.* The plan identifies major research questions and gaps in current knowledge, and required research that will close the gaps between what is known and what is needed. Among the 19 key research questions listed in the plan, the one identified as most important is the determination of whether Persian Gulf veterans are experiencing a greater prevalence of illnesses in comparison with an appropriate control population. Eight controlled scientific studies are being funded to address that question.

Additional research goals include identifying possible risk factors for any excess illness or death, as well as funding appropriate diagnostic tools, treatment methods, and prevention strategies for any conditions found. The annual research plan will coordinate federally sponsored research to ensure all the relevant research issues are targeted and unnecessary duplication is avoided.

Persian Gulf veterans have expressed concern about birth defects in their children. While there are no current data supporting an increased rate of birth defects in the children of Persian Gulf War veterans, this is an important research question and deserves extremely careful review. A study conducted by the Mississippi State Department of Health in conjunction with the Centers for Disease Control and Prevention (CDC) showed no increase in birth defects or illnesses among children born to Persian Gulf veterans in two National Guard units. In addition, preliminary results of DoD epidemiologic research demonstrated no increase in the overall rate of birth defects among children born after active duty servicemembers returned from

the Gulf compared to children of a control group of active duty service members who did not serve in the Gulf. Ongoing DoD, VA and CDC studies are examining the issue of birth defects, reproductive health, and family health status.

RESEARCH STUDIES AND EVALUATIONS

• A panel of nongovernment experts brought together at a National Institutes of Health-sponsored workshop in April 1994 examined data and heard from both veterans and scientists. The panel concluded that no single cause or biological explanation for the reported symptoms could be identified and indicated that it was impossible at that time to establish a single case definition for the health problems of Gulf veterans.

• VA and DoD have contracted with the National Academy of Sciences to review existing scientific and other information on the health consequences of Gulf operations. An interim report was issued Jan. 4, 1995, and a final report is expected in late 1996.

• The Naval Medical Research Center in San Diego, in collaboration with VA investigators, has begun epidemiological studies comparing Gulf veterans and control-group veterans (who served elsewhere) to detect differences in illnesses, hospitalizations, and birth outcomes in large cohorts of active duty service members.

• VA has initiated a mail survey of a random sample of 15,000 Persian Gulf veterans and active duty members with Gulf service to compare their health status with an equal-sized group not deployed to the Gulf. Information on the health status of family members also will be included, including birth outcomes and illnesses in the children born to veterans in the survey. A health examination will be offered to a representative sample to help evaluate participants' symptoms.

• CDC, in collaboration with the Iowa Department of Public Health and the University of Iowa, is conducting a telephone survey of approximately 4,000 active and retired military personnel from Iowa to compare the health status of veterans who served in the Gulf with that of veterans who served during the Gulf War but were deployed elsewhere.

• CDC also is studying a group of Air National Guard Persian Gulf War veterans in the state of Pennsylvania for any pattern of unusual illnesses. In the June 16, 1995, *Morbidity and Mortality Weekly Report,* the CDC said preliminary findings indicate that some chronic symptoms were reported more commonly by Persian Gulf War veterans than by nondeployed Persian Gulf War-era service personnel. However, standardized physical examinations and reviews of laboratory test results did not reveal consistent abnormalities. The study is continuing to examine risk factors for symptoms.

• VA has analyzed cause-of-death data gathered from death certificates for its Mortality Follow up Study of Persian Gulf Veterans, comparing Gulf-deployed veteran non-combat deaths with a control group of troops never deployed to the Gulf. As has been observed after other wars, veterans of the Persian Gulf War have experienced a higher incidence of death due to accidents. When this contributing factor is excluded, Persian Gulf veterans have not experienced a higher mortality rate due to disease-related causes. Both the Persian Gulf and non-deployed control group veterans had a lower death rate than Americans their age in general. A final report has been submitted for publication in a scientific journal.

• In October 1994, VA established three environmental hazards research centers with an initial focus on the possible health effects of environmental exposures of Persian Gulf veterans. The centers are located at VA hospitals in Boston; East Orange, N.J.; and Portland, Ore. The centers are being funded for five years with a total annual budget of approximately $1.5 million and an additional $300,000 for equipment costs in the first year of operation. A total of 14 individual protocols are scheduled on a variety of interdisciplinary projects.

• The Baltimore VA Medical Center is following the health status of individuals who retained embedded fragments of depleted uranium from injuries sustained during the Persian Gulf War.

• The Birmingham VA Medical Center is conducting a pilot clinical program that includes an extensive battery of neurological tests aimed at detecting the kind of dysfunction that would be expected after exposure to nerve agents.

• DoD will study the effects of chemical/environmental exposures.

• DoD is continuing its work as a world leader in developing a less invasive test for viscerotropic leishmaniasis that may provide for broader diagnostic screening in the future.

• DoD is developing a geographic information system (GIS), or troop location registry. The GIS will allow military unit locations during Operation Desert Storm to be compared with air quality measurements, reported SCUD attacks, chemical/bio-

logical weapon detection reports, weather reports, and other factors. Additionally, this will be a valuable tool for future epidemiologic studies.

• Both VA and DoD are continuing to examine the role of stress from deployment and post-traumatic stress disorder, with a goal of developing intervention strategies.

COMPENSATION

Realizing that research will take time to find answers to Persian Gulf veterans' health questions, the Clinton Administration supported legislation, enacted in 1994, to give VA authority to award compensation benefits to chronically disabled Persian Gulf War veterans with undiagnosed illnesses. Under a final regulation published Feb. 3, 1995, VA has begun paying compensation to Persian Gulf veterans suffering from chronic disabilities resulting from undiagnosed illnesses that became manifest during service in the Southwest Asia theater or within two years thereafter. Some 23,776 veterans with Persian Gulf service currently are receiving VA compensation or pension benefits for chronic disabilities, injuries or diagnosed illnesses of all kinds.

Mr. SHAYS. Before calling on Mr. Buyer, I do want to ask a basic question because I'm beginning to wonder if we're on the same wavelength.

Mr. Joseph, do you believe that there are Gulf war illnesses?

Dr. JOSEPH. Do you believe that there are Gulf war illnesses?

Mr. SHAYS. Yes.

Dr. JOSEPH. Absolutely.

Mr. SHAYS. OK.

Dr. JOSEPH. But I do not believe, Mr. Chairman, and I believe that——

Mr. SHAYS. Move the mic down just a little.

Dr. JOSEPH. Oh, we're having trouble with the mic, I guess.

Mr. SHAYS. If you'd just lower it down, that would be appreciated. If it's under your chin, it seems to pick up better.

Dr. JOSEPH. How is that?

Mr. SHAYS. That's better. Thank you. The question is do you believe that there are Gulf war illnesses? And the answer is absolutely?

Dr. JOSEPH. Absolutely. But what I do not believe is that, one, there is any single or unique illness that explains a large majority, preponderance or even large fraction of the illnesses experienced by people who returned from the Gulf, nor do I believe that we have evidence to date of an illness that is unique or not explainable by our current medical knowledge to date.

Mr. SHAYS. I'm sorry, what to date?

Dr. JOSEPH. To date.

Mr. SHAYS. OK. Mr. Hickman.

Mr. HICKMAN. I believe that there are, certainly, Persian Gulf veterans who are ill. We have granted service connection for over 25,000 at this point in time. We have granted service connection for over 500 veterans who have undiagnosed illnesses.

Mr. SHAYS. Well, it leads to other questions, but at this time I'm going to ask Mr. Buyer to take the floor.

Mr. BUYER. Thank you, Mr. Chairman. Actually, your opening was pretty good. It was pretty good because therein lies—I have to go back to the history of this.

What we saw quickly, when some reservists in Indiana first came forward with some Gulf war illnesses, first you have to ask how did this come forward.

It was interesting that it was the wives. The wives had these family support networks while soldiers were away during the Gulf war.

And then, when the soldiers came home from the Gulf war, friendships that developed because of the war they stayed in touch with each other.

So Jane would call Mary and say, "How is John doing?" "Oh, gosh, John isn't doing very well at all." And pretty soon they started putting all this together that something has happened to their husbands; something has happened to their wives.

And it came through the family support network. That's how all this came about. And then, when the first medical teams were sent out to the 123d Arcom in Indianapolis, IN, is when many of us who have some knowledge of the issue became hesitant, hesitant with regard to the medical institutions.

It was, kind of, brushed aside, saying Post-Traumatic Stress Disorder. While there can be physical ailments from Post-Traumatic Stress Disorder, many of us became concerned that medicine within the medical institutions were overeager to pigeon hole with a diagnosis.

That is why we have a very lively debate between Dr. Joseph and myself and some others with regard to your opening question.

He is confident, speaking as the medical institution of the U.S. military, that all of this can be defined within present medical knowledge.

And I'm one that says I think that what you have to practice is medical ignorance. If, in fact, you have something in front of you, you should stop and seek the greater understanding.

And that's why we're funding a lot of the medical research that's out there. So I think your opening was very good.

I've read the transcript from this press conference that was held by Mr. Bacon and Dr. Joseph. I read through this twice. My interpretation is that it was a hastily put-together press conference.

The comment was made that no stone will be left unturned. My reaction by reading this is who kicked the stone? I got the sense that information must have been leaked or got out to someone else's hands, and we'd better do a press conference to show that we're doing it.

Here is one thing where I cringe, because Joe Kennedy and Lane Evans and I and others who have been involved in this issue, this is not political issue at all.

And when I see this press release from the Office of the President of the United States and I see the politicalization of this particular issue as if here are all our energies, and here is how it's being devoted. Please do not politicize the Persian Gulf war illness issue.

If you want to politicize this one, I'm coming down hard. Veterans, when they go serve their country, and you know this, Dr. Joseph, nobody ever asks them if they're a Democrat or ever asks them if they're a Republican.

So be very hesitant if the White House seeks to politicize this issue in a popular Presidential season. That's my only request of you.

[The press release follows:]

06/24/96 08:55 ☎202 456 9180 NSC Hon. Steve Buyer, 326 002

THE WHITE HOUSE

Office of the Press Secretary

For Immediate Release June 21, 1996

STATEMENT BY THE PRESIDENT

In March 1995, I announced my intention to leave no stone unturned in our efforts to determine the causes of the illnesses being experienced by veterans of the Gulf War and to provide effective medical care to those who are ill. Since that time, we have been pursuing a wide range of initiatives on Gulf War illnesses, including re-examining intelligence and operational records for evidence of possible exposure to chemical or biological weapons.

As part of this ongoing effort, the Department of Defense, based partly on information brought to its attention by the United Nations Special Commission, has confirmed that, shortly after the war, U.S. troops destroyed an Iraqi ammunition bunker that contained chemical weapons. Chemical detectors were used by U.S. troops both before and during the destruction operation. While we have no evidence today that Americans were exposed to chemical weapons during the operation, this is a very important issue which we will continue to investigate thoroughly.

The release of this new information reflects my commitment to unraveling the Gulf War illnesses problem. We will continue to work closely with the Presidential Advisory Committee on Gulf War Veterans' Illnesses to ensure that we are doing everything possible to address the health consequences of service in the Persian Gulf. We will also continue to make new information on this important issue available to veterans and their families.

# # #

Mr. BUYER. Would you answer this question for me? Are my instincts correct or not correct? Was this information that you had for over a month, did you have a sense that it was leaked into the press' hands, and you had to call a press conference?

Dr. JOSEPH. No.

Mr. BUYER. OK.

Dr. JOSEPH. Let me amplify that answer, if I may, Mr. Buyer. In a certain way, the development of that information could be seen as a success story.

I hesitate to use that word because I don't think we can claim many successes on this issue before. But, in fact, what happened was that information which became available back in 1991 and in the context of that time was not seized upon would not have been rediscovered had we not had the declassification and the Persian Gulf investigating team efforts and the Presidential Advisory Committee all working.

That information was resurfaced over the past few months, and it took some time to dig out what we knew about it. And as I've said in my testimony and as, perhaps, appears to you as hasty in Friday's press conference, it's still a very incomplete story and an incomplete fabric.

We felt it was very important, as soon as we had enough of that information together, to understand that we believe that there was a high probability, not certainly, but a high probability that U.S. forces were exposed to chemical agents in that detonation back in March 1991, to put that information out.

Mr. BUYER. All right. Let me share some history——

Dr. JOSEPH. And we did that.

Mr. SHAYS. Let me just say that I'm more than willing to let my colleagues ask questions and let you ask questions for more than 5 minutes. We're going to keep going back and forth.

If the gentleman doesn't mind, I'd like the gentleman to continue.

Mr. BUYER. Thank you. Some history here. On November 10, 1993, the Pentagon issued a press release on the check chemical agent detections——

Mr. SHAYS. I'm sorry. We're just going to hit the clock. We'll allow 10 minutes.

Mr. BUYER [continuing]. And stated that we have no independent verification of the detection. And the same release indicated that the U.S. team concluded that the checks did not detect agents.

But May 25, 1994, your boss, the Under Secretary of Defense Ed Dorn, testified before the Senate Banking Committee and stated that "No chemical or biological weapons were found in the Kuwaiti theater of operations. The international community agrees with these conclusions."

On May 1, 1996, MG Ronald Blanks stated before the Presidential panel on the Gulf war that, "Clearly, there is some evidence of low level exposure to chemical agents."

You were quoted in USA Today as stating that there was no plausible evidence of exposure. On June 21, then, Mr. Macon, at the press conference that you also attended, stated that, "Iraq declared Kamisiyah as a chemical weapons storage site shortly after

the Gulf war and the UNISCOM first visited the site in October 1991."

There are some real inconsistencies here that bother me. At the same press conference, Mr. Bacon stated that "U.S. troops had inspected the bunker with chemical detectors prior to its destruction and found no evidence of chemical agents. The detectors in use during the destruction also did not confirm the presence of chemical agents."

What I've noticed, having read this, is that you're relying upon two things—correct me if I'm wrong, because I want to be very accurate—that of the Iraqis themselves saying that, yes, there were chemical agents that were weaponinized, and No. 2 that you detected some form of a chemical inside a shell, you didn't, but that the inspectionsite detected a chemical inside one of the shells that could lead to this potential saying that, in fact, that's what's used.

Dr. JOSEPH. Sarin, Mr. Buyer.

Mr. BUYER. Well, Sarin is the agent. The lining inside the shell.

Dr. JOSEPH. Just the polyethylene lining.

Mr. BUYER. Polyethylene lining. Are those the two pieces of evidence that you're relying on now to say yes, in fact, that there were munitions there that were destroyed that had a chemical agent?

Dr. JOSEPH. Those are not the complete evidence that makes us believe that certainly when the UNISCOM inspection took place in October 1991 that there were chemical munitions and makes us believe it was highly probable that those munitions were probably there back in March when our people were there.

Mr. BUYER. Are you, then, very concerned that our chemical detections did not pick up a chemical agent back in 1991? If, in fact, your testimony is it's highly probable that chemical agents were there, then we have a problem with our detection equipment. I mean, that's what it would lead me to believe.

Dr. JOSEPH. Let me say to that, one, not necessarily. No. 2, I'm not the technically competent person to answer that question about with the quality of the detection equipment.

But it's not at all inconceivable that intact ordinance in March 1991 would not have given a positive result.

Mr. BUYER. OK. Let me move quickly to some of your medical research. You're aware of my trip to the United Kingdom, and the medical team has also visited here since my visit with the Minister of Defense, Nicholas Sommes.

What type of coordination is the United States going to do with our ally, the United Kingdom, in our medical research?

Dr. JOSEPH. We've had, really, a close collaborative relationship with the Ministry of Defense for at least 2, 2½ years now in terms of shared information about our findings on both sides, visits of their parliamentary committees here—I think this was their third visit. They are just here last week—and our visits, including my visit over there.

In addition, as you I'm sure know, because you had the piece of paper there, I noticed, during your opening statement, among the research projects that we will be funding in this current round is an epidemiologic study of Gulf war illnesses in British veterans that will be funded to a British institution.

Mr. BUYER. All right. Thank you. I'll have other questions.

Mr. SHAYS. Yes. We have about 5 minutes. Do you want to start and then come back, or do you want to go?

Mr. FATTAH. I defer to you, Mr. Chairman.

Mr. SHAYS. OK. Why don't we let you answer all your questions at one time, and then we can come back. So if you don't care, I will call us at recess. We're just going to go vote and come back. Thank you.

[Recess.]

Mr. SHAYS. Dr. Joseph, I feel there is a big disconnect at this hearing. I will also share to you I am probably more nervous than I've ever been at any hearing because I am nagged by some things that just don't jive and the implications I think are serious.

I don't want to be unfair to you. I don't want to be unfair to anyone who comes and testifies, but it seems to me a little disingenuous to say that you decided to have a press conference at 4 o'clock on Friday because you wanted this information out.

Four o'clock Friday is usually when you don't want people to have the information. Congress has left. The press has gone home for the weekend. That's the time to have the bad news story.

Because you are under oath, I want to ask you how long you had this information?

Dr. JOSEPH. I will answer your question. First of all, I am not sure whether you're accusing me of being disingenuous, but I'm not being.

Second of all, I think if you want to talk about the rhythm and the timing of press conferences, you probably would be much better talking to the Assistant Secretary for Public Affairs.

Now let me answer your question, Mr. Chairman. This information was developed over the period of, I don't know, some weeks or months starting back—and I can't remember the exact date. I can get it for you, if you wish—when the person who heads the investigating team who reports to me came and said, "We think there may be some information relating to chemical weapons that might have been in a bunker someplace around Bosrah."

And between that point and the point where we had—and I reemphasize—the incomplete but clear enough information that we released on Friday was a period of trying to corroborate, see what more this was.

You have to remember this was back through the fog of 4 to 5 years, millions of pieces of information, et cetera.

So I don't think it was disingenuous. I think it was important to have that information out. We did it in the way that we thought best and most responsible.

Mr. SHAYS. Dr. Joseph, there is not a Member of Congress who wasn't briefed and didn't know that the Iraqis had both chemical and biological agents, and there is not a Member of Congress who didn't know that these agents were throughout Iraq.

We bombed, we destroyed 100 bunkers, 100 depots, and it seems fairly logical to me that somewhere in those 100 depots there would have been some chemical weapons.

My question to you is when did you know there was a chemical weapon in any of these bunkers?

Dr. JOSEPH. When did I know that there was a chemical weapon in the bunkers?

Mr. SHAYS. Yes.

Dr. JOSEPH. Several days before the press conference.

Mr. SHAYS. How many days before?

Dr. JOSEPH. I can't tell you exactly.

Mr. SHAYS. No, no, no. You can.

Dr. JOSEPH. No. I can't tell you exactly, Mr. Chairman.

Mr. SHAYS. Why can't you? This is a big issue. This is an issue about our men and women who were exposed to chemical and possibly biological agents, and you're telling me it's a forgettable event?

Dr. JOSEPH. That is not at all what I've said, Mr. Chairman.

Mr. SHAYS. I want to know when, and I want to know who told you.

Dr. JOSEPH. I knew with a high probability that we now accept that there were chemical agents in that bunker at that site several days before the press conference.

Now, I can't tell you whether that was 2 days or 4 days or 3 days but several days——

Mr. SHAYS. The same week?

Dr. JOSEPH. Pardon?

Mr. SHAYS. The same week?

Dr. JOSEPH. I believe that same week.

Mr. SHAYS. Who told you?

Dr. JOSEPH. I believe that the first person who told me that was the head of the investigating team.

Mr. SHAYS. And who was that?

Dr. JOSEPH. Col. Ed Conisberg. I believe he was the first.

Mr. SHAYS. Did you ask him when he knew about it?

Dr. JOSEPH. Well, as I've tried to explain to you several times, this is an evolving piece of information. He had some suspicion that there may have been agents in that bunker back months before, several months before, but there was a process of trying to validate that and corroborate it and find out what the information was.

Mr. SHAYS. What was involved with validating? What did you have to do to validate?

Dr. JOSEPH. Well, one, he would try to have to go back and see—remember, as I said——

Mr. SHAYS. This information was——

Dr. JOSEPH. I'm trying to answer your question, Mr. Chairman.

Mr. SHAYS. But I want to preface it. This information was in our hands in 1991?

Dr. JOSEPH. This information was in the hands of the U.S. Government in 1991, that's correct.

Mr. SHAYS. The U.S. Government is kind of nebulous to me. It was in the hands of the DOD?

Dr. JOSEPH. It was in the hands of the DOD in 1991, that's right.

Mr. SHAYS. OK. Who had that information?

Dr. JOSEPH. I can't tell you that. I don't know who had the information.

Mr. SHAYS. OK.

Dr. JOSEPH. Of course, most of the people who had access to that information, whether military or civilian, back in 1991 are no longer in the Pentagon.

Mr. SHAYS. The sad thing is some people may not even be alive today because we have waited so long to come to grips with this issue.

Dr. JOSEPH. I don't think there is any evidence for that statement, Mr. Chairman.

Mr. SHAYS. You don't?

Dr. JOSEPH. No, I don't.

Mr. SHAYS. Well, maybe you need to talk with some of the veterans I've talked with.

Dr. JOSEPH. Well, I've talked to a lot of veterans, Mr. Chairman.

Mr. SHAYS. So your testimony before us is you don't remember exactly when you found out. Who told you again?

Dr. JOSEPH. My testimony exactly was that I believe that I first became aware that there was a significant probability, high probability, acceptable probability that there were weapons in that bunker and in that complex during that week, sometime during that week.

Mr. SHAYS. When did you have a low probability, when were you told there might be a low probability that there might be chemicals or biological agents?

Dr. JOSEPH. The investigation team was looking at hundreds of issues related to Persian Gulf illnesses for months now.

And I believe the first time that they talked about this issue totally unconfirmed at that point was probably back in the late fall. Again, I couldn't tell you exactly.

Mr. SHAYS. So in the late fall, there was a concern that at this site there may have been low level chemical agents, and it was only confirmed that there were low level——

Dr. JOSEPH. I think I and others in the department, sure.

Mr. SHAYS. Pardon me?

Dr. JOSEPH. I and others in the department. I'll repeat again the reason that this has surfaced is because beginning in 1995 the dual track of declassifying this mountain of material that was in the department's files and other agencies' files and putting a special investigation team together to look at particular issues that might be fruitful began. That's the reason we know this now.

Mr. SHAYS. One of the people who testified before our committee was a gentleman named Brian Martin. He was in the Army's 37th Engineering Battalion, and he testified before this committee.

Let me ask you this question, if you don't test for the use of chemicals, is it significant that you haven't found chemicals?

Dr. JOSEPH. If we don't test where for the use of chemicals, Mr. Chairman?

Mr. SHAYS. In the battlefield.

Dr. JOSEPH. There was testing for chemicals on the initial U.S. inspection of those bunkers. I've heard Sgt. Martin's testimony. I saw him on TV yesterday morning, and I know he says opposite.

Mr. SHAYS. Sgt. Martin may be dying. So I don't think he has any real interest to, kind of, beat around the bush. I spoke with him on the phone today, and he said he would swear under oath that there was no testing done before they blew up these bunkers, during it or after. There was none. They were packed in the truck.

So when you tell me that no test disclosed it, if no tests were done, what's the significance of no test disclosing it?

Dr. JOSEPH. It's not my purpose here to demean Sgt. Martin, but neither you nor I, Mr. Chairman, was there. Sgt. Martin was.

Mr. SHAYS. Correct.

Dr. JOSEPH. It's perfectly possible, given his job and where he was, that he might not know whether there was testing.

Mr. SHAYS. OK.

Dr. JOSEPH. If I may finish, Mr. Chairman, what our investigative team has done in the last, I guess, week or 10 days has gone back and talked to the commanding officer of that unit at the time, has gone back and talked to the NBC officer on the EOD team, has gone back and talked to a number of members of that EOD team.

Mr. SHAYS. What did that talk result in?

Dr. JOSEPH. It resulted in their information that the site was tested when the EOD and NBC teams went in. That's their memory.

Mr. SHAYS. Was the site tested when the soldiers were there blowing it up?

Dr. JOSEPH. The soldiers were not there blowing it up, Mr. Chairman. The way this worked was that initially the NBC team and EOD people went in in mop gear, inspected the bunkers, tested for agents, did not find any.

Then, they went on through the area without mop gear laying the explosives. Then, the engineering battalion moved off to a position about 3 miles, I think north of the site, and over a series of hours, I believe, the bunkers were blown.

Mr. SHAYS. There were a number of bunkers blown. You're saying that they tested the sites. And you're under oath. You have knowledge that they did, in fact, test the sites?

Dr. JOSEPH. I don't have personal knowledge.

Mr. SHAYS. Well, are you, under oath, are you telling us——

Dr. JOSEPH. That my information is that the individuals I've described to you who were contacted described their testing of the sites before any explosion, any demolition was done, in which case all tests were negative.

During the demolitions, there were repeated testing in sequence between the series of demolitions. At one point in that series——

Mr. SHAYS. Mr.—I'm sorry.

Dr. JOSEPH. At one point in that series one test gave a positive result. It was, I believe, immediately repeated and showed negative. That was the only deviation from all the negative results. That's the information I have, and that's what I'm testifying to.

Mr. SHAYS. Do you have any records of these tests, printouts?

Dr. JOSEPH. I don't. I wouldn't have those records. They're, perhaps, operational records that we could get from the Army that would have them.

Mr. SHAYS. We'll get back.

Dr. JOSEPH. And we'd be happy to reply on the record to that.

Mr. SHAYS. All right. I will have Mr. Fattah ask questions. For the record, Mr. Martin was the driver for the commanding officer.

Dr. JOSEPH. That's correct.

Mr. SHAYS. And he said to me he would swear on a bible with God as his witness that the testing equipment that they had was packed up and never used, period. Mr. Fattah.

Mr. FATTAH. Mr. Chairman, let me thank you for the opportunity to ask a few questions.

Mr. SHAYS. As many as you want.

Mr. FATTAH. Let me first state to my colleague who is, unfortunately, not a member of the committee, and I appreciate his concern, but when he accuses, seemingly, the White House of trying to politicize something that no one has tried to politicize, as best as I can determine, without any foundation, I think it's at least inappropriate historically in this committee for us to make unfounded allegations. So I just want to attempt to set the record straight.

Dr. Joseph, let me see if I can walk through this. You have, through your testimony, laid out seemingly a very comprehensive approach to trying to address issues related to those veterans of our country who served in the Gulf and make sure that we are doing everything that we can do to determine the state of their health and to make sure that they appropriately have the measured care that's needed.

Are you aware of any recommendations from the congressional hearings that have taken place so far or from veterans groups or others that reasonably should be being implemented that are not being implemented at this time?

Dr. JOSEPH. Well, I shouldn't speak for the VA. I'm not aware of anything that Congress has asked DOD to do that we have not done.

I'm sure everybody would like some of the research answers quicker. So would we, but it doesn't work that way. Life isn't that way.

But I think in terms of both the diagnosis and the care and the research and looking to try and find instances such as the one we're discussing today, I mean, would really anybody have it that if we found that out and didn't make it public that that would be a better approach?

I mean, our whole approach here with the Gulf war illnesses has been to try and understand what went on and to make that information public. We've done that with the clinical information, and we've done it with the other information. That's why we're here today.

Mr. FATTAH. Now, let's me ask you a more detailed question. Seemingly, in this search for answers here, there seems to be a suggestion that perhaps among the troops who went that some of the problems are more common among reservists in terms of some of the tumors that have shown up, noncancerous tumors. Is that correct?

Dr. JOSEPH. I don't believe so, Mr. Fattah. In the 20,000 person evaluation, you'll see analysis of the clinical information by reserve, active duty, by service, by unit, et cetera.

I think very early on in this issue, back in about 1993, 1994, there was a popular belief that the reservists had a higher prevalence of illnesses than the active duty. I don't believe that has been borne out.

Now, again, that's where the Geographic Indicator Study is going to be so valuable, because we'll be able to go down to the unit level for every day and for every place and run those kinds of issues out.

But I don't believe that's an issue that——

Mr. FATTAH. Did you say that that would be on line as of around July 15?

Dr. JOSEPH. That will be on line on July 15. We have some preliminary runs, but there are some units that are not yet—some of the Army units are not yet entered. We have all the Air Force and the Navy units in there.

Mr. FATTAH. Let's see if we can lay out a time line here in terms of the registry that was put into place and the authorization for the VA to take additional action.

I guess I should ask Mr. Hickman this. The overall Persian Gulf registry as of February or so, was that around 180,000? Is that correct?

Mr. HICKMAN. Let me ask Dr. Murphy to answer that.

Dr. MURPHY. Maybe we should clarify terms. The legislation actually defines a health registry be set up but also defines a larger registry of Persian Gulf veterans that would include those that come in for the health examination, those that come into the VA for any kind of health care in-patient or out-patient plus anybody who comes and applies for benefits.

As of April 1996, I believe there are almost 190,000 individuals who have come to VA for some kind of care or benefits.

Mr. FATTAH. Now, Mr. Hickman, are you aware of any actions that the Congress has requested through legislation or others, major veterans organizations that they will like to see be done in terms of issues related to Gulf war veterans and illnesses related thereto that the VA is not following up on at this point?

Mr. HICKMAN. Mr. Fattah, I'm not aware of any. Let's see if Dr. Murphy is aware of any.

Dr. MURPHY. There are some actions that were requested and are yet incomplete, but they've all at least had some action taken at this point.

Mr. FATTAH. Because the best as I can understand at the moment is that people perceive that all that can be done is being done to move us forward on these issues, and I'm just trying to delineate and make sure in the record we would clarify that.

Now, are you getting all the support that you need—let me ask both Dr. Joseph and Mr. Hickman—from the administration and from the highest levels in the administration on these matters?

Dr. JOSEPH. Well, I think that, as Mr. Buyer said, this really has been an issue where both from the Congress and from the administration there has been a desire to work this issue as hard and as thoroughly as possible, get the information out.

We have had all the support both in terms of resources and directives to get the various tasks done from both the Congress and the administration. There is nothing else that I need that I don't have.

Mr. FATTAH. OK. Mr. Hickman.

Mr. HICKMAN. I think the establishment of the Coordinating Board involving VA, DOD and HHS certainly signifies a cooperative attitude among those three departments. I'm not aware of any lack of cooperation from anyone at this point.

Mr. FATTAH. Let me ask you about this collaborative effort, because I do think that it is very healthy to see these various bureaucracies working together.

I did note that you did not have, and maybe you do have it either formally or informally tied into the Center for Disease Control and the National Institutes of Health, are there other entities in the government that perhaps have resources that could be useful?

Dr. MURPHY. Well, actually, HHS is a partner in the tri-service Coordinating Board. It's DOD, VA and HHS, and part of HHS is, as you know, the National Institutes of Health and CDC.

CDC has been a very active partner in this. Dr. Joseph and Dr. Kizer, through the Department of Defense and Department of Veterans Affairs in conjunction with the Pennsylvania State Health Department requested CDC to go up to Pennsylvania last year to do a cluster investigation on a group of Persian Gulf veterans, and that has furthered our knowledge, our scientific knowledge, on this issue. So they've been active and very helpful in our work.

Mr. FATTAH. OK. Let me thank you for those answers, and I'll turn it back over to the chairman.

Mr. SHAYS. Mr. Buyer. Dr. Murphy, if you're answering questions, if you'd just move the mike a little closer. It doesn't quite pick up. That's better.

Dr. MURPHY. Sorry.

Mr. BUYER. I just want to begin, and thank you, Mr. Chairman, for participating in this hearing. You're right. I don't know the customs and the practices of the membership of this body, but I do know that in all my years as a practicing lawyer I don't make unfounded allegations or unfunded obligations.

Mr. FATTAH. If the gentleman would yield, the point I made is that you made an allegation in your opening about the White House politicizing it because the White House stationery was on a release which is——

Mr. BUYER. Well, I'll share this with the gentleman. He can read it during my questioning, and then he can tell me, since the President is so low in numbers of veterans, given his record, then I can——

Mr. SHAYS. Here is what we're going to do here. Because this is——

Mr. FATTAH. If you want to attack the President, which seems to be like——

Mr. SHAYS. I'm going to ask both——

Mr. FATTAH [continuing]. The sport around here in Washington, you can do it in some other forum.

Mr. SHAYS. I'm going to ask both gentleman to suspend. Mr. Buyer, you are a guest here. You happen to be, obviously, the most knowledgeable person, and we're eager to have your questions on this hearing, and please feel free. Your point is well taken.

Mr. BUYER. Thank you. One thing, I want to thank Dr. Murphy, your testimony with regard to the 190,000. I think it's important for people to realize that of the 696,000 service men and women that were in the Gulf war, 190,000 have been seen in our VA hospitals for one reason or another, and over 27,000 signed up for your program.

Of that, over 20,000 I think participated in the program. So now we're talking about over 200,000—pardon?

Dr. MURPHY. I apologize. The CCEP participants are included in that 190,000.

Mr. BUYER. So would that be total number?

Dr. MURPHY. That's total number.

Mr. BUYER. Total number, including yours, Dr. Joseph, and the VA is about 190,000?

Dr. MURPHY. Yes. I apologize. That's my mistake in not including them.

Mr. BUYER. That's fine. It's pretty significant in and by its number. Would you agree?

Ms. MURPHY. Yes.

Mr. BUYER. I mean, when you look at only 696,000 of us, 190,000. But now, what I think is difficult and very challenging for you and I think what America, hopefully, and my comrades who served there should realize how difficult it is for you to try to separate between those of whom have some form of causal link that we presently don't understand and some form of illnesses for which they would have come down with had they never served in the Gulf war in the first place.

Would you agree that that is, in fact, your medical challenge?

Dr. JOSEPH. Absolutely, and getting a broader understanding of that issue. I think clearly, from what we know so far—you know I'm cautious about final pronouncements, but from what we know so far, I think it's quite clear that that second group is a small minority of people who were veterans of the Gulf and who now have symptoms and illnesses.

Mr. BUYER. Hopefully, you realize by now, Dr. Joseph, you upset many veterans out there within the community across America when you held that press conference about the results and you said that there is no Gulf war syndrome.

I can agree with you. There is no Gulf war syndrome, but it's difficult to get them to understand that it's multi-faceted; there are many forms of illnesses, and you're not discounting the fact that the illnesses are real. Is that correct?

Dr. JOSEPH. That's absolutely correct, Mr. Buyer.

Mr. BUYER. OK. I want to be helpful to you and be also fair with you. Also, is it correct that this is a clinical review; it is not a research program based on science?

Dr. JOSEPH. That's what we've said.

Mr. BUYER. All right. OK.

Dr. JOSEPH. Excuse me, sir. It is based on science, but it's only the science that it is. It's a clinical study——

Mr. BUYER. Science based on your clinical review. It's not a research program.

Dr. JOSEPH. Correct.

Mr. BUYER. So the conclusions that are drawn from such a thing have to be recognized in that light?

Dr. JOSEPH. In that light, sir.

Mr. BUYER. Good. Thank you. I have waited for a long time to get that understanding across. Thank you. The other thing I wanted to touch on here is with regard to the VA.

I have had an opportunity to review an internal document at the C&P service at central office that details several points on how the VA is not doing a good job handling the claims.

The document I'm sure, Mr. Hickman, which you know about, it lists failure to follow the "duty to assist principle, failure to use the registry."

It also brings out the use of "propended rating decisions, failure to notify veterans of changes in laws and regulations, failure to follow standard adjudication practices, a frustration with the inability to get evidence because of the DOD's lack of record-sharing and privilege information doctrines and the 2-year presumptive limitation that leads to a denial of the claim before review."

Are you familiar with this internal memorandum?

Mr. HICKMAN. Yes, I am.

Mr. BUYER. Would you please discuss it?

Mr. HICKMAN. I would characterize it not as an internal memorandum. It was written by a member of the staff when I was C&P director as thoughts as he was going through and his staff was going through a review process.

So he was jotting down thoughts to be used later, not as a memorandum per se. So with having said that, I am aware of it.

We have conducted several reviews within the Service, basically, because it has been a year since the regulation was published implementing Public Law 103–446, on undiagnosed conditions. We thought it was time to take a look at how we were doing. We had initiated several reviews, and this was one of them. From this review, we have modified our development procedures, in that we are now asking veterans about lay evidence which would help us in determining whether the condition is chronic or not.

What I mean by that is the fact is it evidence maybe from the employer regarding their work record? Are they missing work or not? Information from spouses or others which would reflect on their appearance.

These factors, under the regulation, will allow us to, perhaps, if a diagnosis cannot be determined by a physician, perhaps we can grant service connection for undiagnosed illnesses based upon lay type of evidence and statements.

So that is happening today, and we're in the process of going back and looking at those cases we have previously decided, approximately 10,000, trying to analyze them again as well as try to characterize probably more correctly, if I can use that phrase, as to reasons for denial if they remain denied.

Mr. BUYER. Of your 500 claims, disability claims for unknown diagnosed illnesses, is that how many have been approved?

Mr. HICKMAN. Over 500, yes.

Mr. BUYER. Five hundred. And Dr. Joseph, how many on active duty have you approved disability for unknown diagnosed illnesses?

Dr. JOSEPH. I can't tell you that, Mr. Buyer, because that would really be Fred Pang, Assistant Secretary for Force Management Policy, but we will respond for the record on that point. I just can't give you that information.

Mr. BUYER. OK. I'd appreciate it if you'd do that.

Dr. JOSEPH. We will do that.

Mr. BUYER. They're very helpful to me because I wrote that law. So I'd like to see, in fact, if it's being followed and, in fact, hopefully, that there is some good communication and coordination.

That's the purpose of the chairman's hearing. Let me ask you this: Is DOD talking with VA with regard to these case files?

If you've got an individual, Sgt. Vaughn, boy there is one we all know about, Sgt. Vaughn still hasn't been given his disability. That's just amazing to me.

But when he gets moved from active duty to VA, are you two talking?

Mr. HICKMAN. When an individual leaves active duty, there is not an automatic contact between VA and DOD on a specific individual.

Mr. BUYER. So unknown diagnosed illness cases are treated no differently than someone who got hit by a car?

Mr. HICKMAN. To my knowledge, there has not been a communication on a specific undiagnosed illness case.

Mr. BUYER. OK.

Mr. HICKMAN. We do have conversations with individuals at the Department of Defense regarding the compensation of veterans and what they are doing through their PEB and MEB boards. From that, we would have a dialog on individuals if they decided there was one with an undiagnosed illness.

That would be passed over. Normally, that's not done, but these are special circumstances. Therefore, special rules apply.

Mr. BUYER. Here is my concern, Mr. Chairman, on this. And I'll be eager to see what the number is, Dr. Joseph. Because you, with all your sincerity and your belief think and believe that this can be solved within the present knowledge of medicine.

And if, in fact, that's true, then there is this sense within the medical institutions that we must not have cases of unknown diagnosed illnesses. Is that perception wrong and inaccurate?

Dr. JOSEPH. I believe it is. If I may respond to that, Mr. Buyer. If I have given you or others that impression, it's the wrong impression that I've given.

Mr. BUYER. All right.

Dr. JOSEPH. I don't believe that at all we can say that some of the most salient issues here can all be solved "within the present knowledge of medicine." That's why every time I talk about this I say "our understanding to date," or "our clinical data to date," and why I say we must keep going and keep looking.

What I say is that we have not identified anything to date that creates a pattern or a presumption outside our current knowledge of medicine.

That's quite different from saying that it will or can all be explored inside. I don't believe there really is any difference between you and my position on this, sir.

Mr. BUYER. Thank you.

Mr. SHAYS. Let me start first with your statement, Dr. Joseph.

Would you explain to me the significance of, "To date, there has been no evidence found that soldiers located in this area complained of or presented any symptoms characteristic of acute exposure to chemical agents"?

Dr. JOSEPH. Yes.

Mr. SHAYS. What do you mean by that?

Dr. JOSEPH. What I mean by that is one of the things the investigation team has been doing is going back to medical personnel who were in the area at the time and trying to ascertain first through talking to medical personnel and then we're into a phase of going back and looking at the medical records from units in the area at the time and trying to ascertain whether there were any medical concerns raised about acute symptoms that might be compatible with exposure to nerve agents.

And to date, to date, we have not found any indication of illnesses or symptoms on the battlefield, so to speak related to that.

Mr. SHAYS. When do the symptoms have to occur for you to call them acute?

Dr. JOSEPH. With these agents, within a short period of actual exposure to the compound. I mean, this would be within minutes to half an hour but really within minutes of exposure.

As I said in my testimony, the best current medical knowledge, and I want to come back to that point in a moment, the best current medical knowledge is that with these nerve agents, if there is not acute illness, we do not see chronic or delayed effects.

Now, we have an independent expert advisory board called the Armed Forces Epidemiology Board. I ask them to look at this question, go back through the existing literature and look at it scientifically and come back to me with a report on whether there is any significant thought to the contrary in the medical literature, and I'll have that in about 2 weeks.

But I'm quite confident of that statement. The Institute of Medicine, as a matter of fact, did a major report several years ago on the issue of chronic and delayed effects, and their published conclusion was the same.

So going back to my interchange with Mr. Buyer, that's the best medical knowledge that we're working with at present. That's what I say in my testimony.

Mr. SHAYS. Are you familiar with the Stockholm International Peace Research Institute Report entitled, "Delayed Toxic Effects of Chemical Warfare Agents"?

Dr. JOSEPH. No, I'm not.

Mr. SHAYS. You haven't seen it? You haven't heard of it?

Dr. JOSEPH. No.

Mr. SHAYS. Mr. Hickman, have you heard of that report?

Mr. HICKMAN. I'm not aware of it.

Mr. SHAYS. Is it the testimony of you, Mr. Hickman, that we have all the records of our returning Gulf war veterans, medical records? That's what you seem to imply in the beginning, and it confused me. I must have misunderstood you.

Mr. HICKMAN. We certainly have all the records in which the Department of Defense has furnished. If there are other records, I'm not aware of them, but we certainly have the records, generally speaking, in which——

Mr. SHAYS. I don't know how to translate that.

Mr. HICKMAN. Basically, the process is——

Mr. SHAYS. We have over 290,000 U.S. soldiers. How many records do you have?

Mr. HICKMAN. We have in our possession probably, since 1994, when we started getting records directly from the Department of Defense, the Army first followed by the other services, approximately 600,000 records at our St. Louis facility.

Mr. SHAYS. How many?

Mr. HICKMAN. Six hundred thousand. As an individual leaves service, if he files a claim for service connection, those records will go directly to the regional office processing a claim. If he delays and waits a year or 2 years to file, when he does file a claim, those records will automatically be sent from the St. Louis facility to the regional office.

Mr. SHAYS. So we have 300,000 records of soldiers who served that you don't have in your possession; is that correct?

Mr. HICKMAN. Well, we have certainly some individuals who are still on active duty.

Mr. SHAYS. So those on active duty you don't have?

Mr. HICKMAN. Those who still remain on active duty.

Mr. SHAYS. Of those who are not on active duty, do you have all of the records of everyone who has served?

Mr. HICKMAN. To the best of my knowledge, if the process has worked, Mr. Chairman, we would have them.

Mr. SHAYS. Is it your testimony, and I'd ask both of you, that soldiers were given physicals before they went in and that they were given physicals when they left?

Dr. JOSEPH. The policy of the Department at that time was not for physical examination before deployment nor after deployment.

A current health assessment was what was required, and probably, in most cases, certainly in many cases, that did not involve a new physical.

If an active duty soldier had had a medical examination, I believe the actual standard is 5 years in the chart, but I'll check that and get back to you. He wouldn't have a new physical exam.

Mr. SHAYS. It isn't our practice when someone leaves the theater of war to have a physical?

Dr. JOSEPH. That is correct. It is not our practice.

Mr. SHAYS. Do you think that's a good practice?

Dr. JOSEPH. I think a health assessment is important. Whether it requires a physical examination, and exactly what you mean by a physical examination I'm not sure, Mr. Chairman, is another story.

What we're doing in Bosnia and what will be the new policy now is for a health assessment, and then where that health assessment indicates a problem, to go on to a further medical workup, physical exam, laboratory, et cetera. We're also now drawing blood and saving serum specimens.

Mr. SHAYS. I get the sense from both of you that if you can't prove that they had a particular illness, they, basically, don't have the illness.

Dr. JOSEPH. I don't know why you would get that sense.

Mr. SHAYS. Well, because I've had three hearings, and I've been listening to what you say. Now, maybe I'm saying it to give you an opportunity to respond.

But you said the lack of records, Dr. Joseph, is your most serious problem.

Dr. JOSEPH. Correct.

Mr. SHAYS. Well, that's pretty significant. A lack of records is a very serious problem.

Dr. JOSEPH. That's correct. And we're trying to rectify that problem.

Mr. SHAYS. Right. But if you can't prove that chemicals were used because you don't do a test to see if chemicals were used, then you can't prove chemicals were used, and it's kind of an obvious result.

The obvious result is you don't have a problem. No chemicals were used. It has been since 1991, and it was just Friday of this past week that the Department of Defense has finally acknowledged that chemicals may have affected our troops.

And you're telling me that in the fall you had a low degree of knowledge, and then you had a high degree of knowledge that this is the case.

I said it before, there is not a Member of Congress who wasn't briefed that chemicals were there. There wasn't a Member in Congress who didn't know that the gas masks were of questionable valuable in terms of their ability to be used properly and in terms of the kind of quality that were used in Europe.

And so it would seem to me that if we had someone like Brian Martin who felt very deeply that he had chemical problems that even if you had a low degree of knowledge in the fall that somehow we would be taking decisive action to assume that they did.

The question I'm asking both of you, and I'll start with you, Mr. Hickman, is if, in fact, they were affected by chemical or biological agents, isn't the sooner we act the better, and isn't the longer we wait going to result in sicker people and people who don't live?

Mr. HICKMAN. I think if things are documented sooner, that makes life much easier for all of us.

Mr. SHAYS. OK.

Mr. HICKMAN. However, in order to be service connected for something, an individual must have a current condition, and the difficulty with Persian Gulf veterans was that we were not able to tie their current condition back to service.

Therefore, Congress passed Public Law 103–446, which gave us some leeway for individuals who we could not tie their conditions back to service. We had to find other means by which we could try to service connect individuals.

We are still working through that process, and we have service connected some. We're trying to improve that process to this date, trying to gather further evidence, especially lay evidence from veterans so that we can do something if they are chronically ill.

Mr. SHAYS. Are you satisfied with the health records that you've received from DOD? Do they give you the information you need to help our veterans?

Mr. HICKMAN. Basically, Mr. Chairman, I am satisfied.

Mr. SHAYS. OK. What did they give you that you find helpful?

Mr. HICKMAN. Certainly, incidents in service in which a veteran has gone on sick call, entrance examinations, separation examinations, these types of things, which would indicate a physical problem, or medical problem while in service. Those are beneficial.

Mr. SHAYS. Does it tell you how many shots they received?

Mr. HICKMAN. Some records will indicate that he had shots, maybe not how many shots.

Mr. SHAYS. Well, doesn't that matter to you?

Mr. HICKMAN. It could matter. It could matter.

Mr. SHAYS. Mr. Fattah.

Mr. FATTAH. Mr. Chairman. Going to Dr. Joseph, going to this more immediate issue that has been raised by the press release, as I understand it, the U.N. inspection team, as part of their——

Mr. SHAYS. I'm going to give you the last word on this, and that's going to be hard for Mr. Buyer, but he's going to have to bite his tongue. You have the last word on the press release, and then we're going to be done with the press release.

Mr. FATTAH. This is my first comment on the press release. Anyway, you found that there was some liners that would be used if, in fact, there were chemicals in a warhead in this bunker but that there was no traces of chemicals found at all.

So that the working assumption is that there were, perhaps chemicals, but you've still not been able to nail this down. Is that accurate, from what I've been reading?

Dr. JOSEPH. No, Mr. Fattah. I think that's not completely accurate. The UNISCOM investigation in October found not only evidence of a type of weapons which would be used for chemicals, but they also confirmed the presence of chemicals at that site in October.

Mr. FATTAH. This is Sarin?

Dr. JOSEPH. Yes. That's correct, sir.

Mr. FATTAH. OK. Now, if this chemical, if our troops would have been exposed to it, there would have been, as you described it, a more acute reaction at that point in time, within minutes?

Dr. JOSEPH. That's the best of our knowledge. That's what we believe what would have happened. But of course, that was 6 months, or however long it is from March to October, that was 6 months earlier from the time that the actual detection of those weapons, those exploded weapons and the agent itself was found.

You see, that's the issue, Mr. Fattah. I think there is really no basis for questioning that in October 1991 there were chemicals munitions and agent on the scene.

It is highly probable that those weapons and those agents were there back in March when our people blew the site. We cannot be certain of that fact, but we think it's highly probable.

And if indeed they were there and if instead, in that demolition, our troops were exposed to significant concentrations of the agent, we would expect by all that we know scientifically that there would have been acute effects at the time, and to the best of my knowledge——

Mr. FATTAH. That would have been the 3-mile radius?

Dr. JOSEPH. Yes, sir, or any other groups of troops who might have actually been exposed to fallout. Now, that's why we've gone back and looked, in the first instance, as to whether we can find any records or recollections of acute illness or symptoms at the time, and to date, we have found none.

Mr. FATTAH. All right. Thank you very much. Thank you, Mr. Chairman.

Dr. JOSEPH. That might mean that there was no agent there. That might mean that the agent was vaporized in the explosion. That might mean that the concentration that was there that went up in the air was too low to do anything when it came down. It might mean it went in an opposite direction, if it was there.

Mr. FATTAH. We don't know yet.

Dr. JOSEPH. That's correct.

Mr. FATTAH. All right. Thank you, Dr. Joseph. Thank you, Mr. Chairman.

Mr. SHAYS. Thank you, Mr. Fattah. You have three issues, and then I have some more questions.

Mr. BUYER. Thank you, Mr. Chairman. Real quick, on the ID's, Dr. Joseph, I know this is kind a sidelight to this hearing, let me compliment you.

I received a briefing on those dog tag ID's and how it works out. I was very intrigued by it because having that medical record and being able to take that ID right off of him and insert is pretty important, especially in moments of triage and how you need some of that background information.

Dr. JOSEPH. Absolutely.

Mr. BUYER. When did you get them into the field in Bosnia?

Dr. JOSEPH. They're not in the field yet, Mr. Buyer. This is still in R&D. We're testing them in the United States currently.

Mr. BUYER. Thank you. Because when I received a brief in February, the problem was getting the funding to get it out there, to get them to Bosnia.

Dr. JOSEPH. The question is how do they work, and how can we make sure that they're right and what information to put on them. I mean, you realize, as some might not, that a 5-inch thick dog-eared medical record with lab slips falling out the side and illegible handwriting on it is difficult to follow a member of the 82d Airborne who is moving 40 miles a day in the desert in the middle of combat.

So though it's easy to say it's a serious problem, the answer is not so easy, if you have to do it without data technology.

Mr. BUYER. Well, I would appreciate if you would keep me informed or those of us on the Personnel Subcommittee.

Dr. JOSEPH. I'd be happy to.

Mr. BUYER. You have an interest there. OK. With regard to this announcement about the chemical munitions, I have learned over this issue over the last 3½ years that it seems that whether it's chemical or biological munitions, that's what always gets the headlines. That's what always gets the glitz.

There is another incident out there that's not talked about, and that's the Al Nasirryah, when the war started on January 15 and the United States Air Force blew up the chemical plant along the Euphrates River in Al Nasirryah.

Are you familiar with the U.N. inspection team and their findings at that chemical plant and the release?

Dr. JOSEPH. I'm really not familiar with the details of those findings. I have some familiarity with the studies by the Army on the air plume, et cetera, which again did not indicate, at our best knowledge at the time, exposure. I'll hold the rest of my response.

Mr. BUYER. That's all right. Just hopefully, then, in this assessment that you're doing that you're looking at this one. I know there is questions about how much was there and what was there. I'm still curious on that one.

As a matter of fact, in preparing for this hearing, I was looking at the remarks from a hearing we held on March 15, 1994 with Secretary Dorn.

This issue has been around for a while. If you would look into that one, I'll do some followup with you, OK?

Dr. JOSEPH. I think, Mr. Buyer, despite what some would think, what we're trying to say is that, one, our statements have been based on our best knowledge at the time.

Two, we have been, I think, probably an unprecedented effort in the Department through the declassification, through the investigation stream, through the clinical studies to try and probe whether our best knowledge at the time is the right knowledge.

And three, when we find something that changes that view, as we now have found in the incident under discussion, we go back and scrub everything again.

And obviously, one of the things we're doing in these weeks is going back and looking at other, all other possible sites that we have knowledge of and seeing if a fresh look at that changes our best possible knowledge at the time.

I mean, you can't have it both ways. You can't fault us for doing it and not doing it.

Mr. BUYER. When you said you have to go back and scrub, you're absolutely right. I mean, I was out there in the cornfields of Indiana. I did my town meetings over the weekend, and therefore people out there that are bringing up again the credibility of the Pentagon.

So you're absolutely right. You cannot say consistently in all these hearings no chemical munitions in theater and then all of a sudden come out and say, "Oh, except here we detected one." Then it brings up the question of the credibility of the Pentagon. Would you agree?

Dr. JOSEPH. Well, I think if we said, "Here we detected one," end of story, it would raise credibility questions in my mind as well.

Mr. BUYER. Absolutely.

Dr. JOSEPH. We are not saying that most definitively, but I think that's the importance of making that announcement and making that information public.

Mr. BUYER. All right. The last thing I have, Mr. Chairman, Dr. Murphy, you've heard this one from me for a long time now, "cocktail mix inoculations."

Now, I noticed that you have funded a grant here at the University of Florida. You've got to help me here, Doctor, on one of these.

Mr. SHAYS. Are you sure you want to get into this?

Mr. BUYER. Permetherin.

Dr. JOSEPH. Permetherin.

Mr. BUYER. What is that?

Dr. JOSEPH. That's an insecticide in which uniforms can be soaked and——

Mr. BUYER. That's right. So when they said DEET was also included in the uniforms, it was—no?

Dr. JOSEPH. DEET is what you put on your skin.

Mr. BUYER. That's what's rubbed on.

Dr. JOSEPH. That's right. Permetherin is what you put on your uniform.

Mr. BUYER. OK. I'm familiar with some ongoing studies looking at the cocktail mix to include also the DEET. I'm anxious to see some cocktail mix of inoculations. I'm anxious to see that, and if I don't see it for the United States, then we're going to get the United Kingdom to do it, or I'm going to go out and get Mr. Perot to do it, and then we're going to back-fund it.

I'm going to do that. It seems as though I've had to get Mr. Perot to do some other research, and when he comes out, and we have to then back-fund it with government research.

If I have to get Mr. Perot to push the envelope of science, I'll do that, but here is where my concern is, Dr. Joseph, and this is my conversation with Nicholas Sommes.

We would be very naive to think that the United States and the United Kingdom would not find itself an ally in a future conflict. We would be naive to think that.

So at a moment of the peace now, we should take advantage of the peace to understand the science. And when, in fact, we have soldiers from the United Kingdom and soldiers from the United States that have problems, you have to begin to look at common denominators.

The French don't have the health-related problems. They didn't have the inoculations. From the United Kingdom, their inoculations were far more extensive than ours.

And actually, they're eager to move on some medical research or the cocktail mix of inoculations because they've had some problems of drugs that were licensed in their society, and they see the direct correlations in health and birth defects in their country.

I'm not saying that our cocktail mix is part of the birth defect problems. That causation is very difficult. But I'm very anxious because we understand the science from World War II and Korea and Vietnam, when we give them the shots, and we send our soldiers overseas.

But then, on top of that, when we give them two shots of anthrax, botulism, nerve agent pills, change their diets, put them under stress, put them in the desert, what impact does that have upon human physiology?

If we don't understand that today, we're in trouble in future conflicts.

Dr. JOSEPH. I would like to make Monday response. It's a little indirect. Again, when we really get down to it, you and I disagree on very little.

I think it's important for us to remember, and you were there, that at the time the issue was protecting our people against chemical and biological weapons that we knew he had and he knew we knew he had.

And I think it's important not to let the wisdom of hindsight obscure the fact that protecting the people in the Gulf, in the case of some of the inoculations, licensed, commercially available agents, and in the case of pyridoxamine, what we had reason to believe was an important productive was the right decision to make.

I wasn't here. If I was involved with that a second time, I would hope to make the same decision. Immunized against anthrax. I would not hesitate to take pyridoxamine any day you wish to do it.

And the importance of that was protecting our people at the time in the Gulf, and sometimes that guests lost sight of, Mr. Buyer.

Mr. BUYER. Dr. Joseph, I do not question the wisdom of the decision in the face of known chemical or biological weapons that would be used against American soldiers.

I did not question the wisdom of the decision at the time. I do recognize, though, that if we do not take advantages of the peace to understand the science, it will be very difficult to get soldiers to line up to take these shots in the future.

Dr. JOSEPH. Agreed, sir.

Mr. BUYER. And that's what makes me uncomfortable, because I am somewhat an intelligent man, and I'm not so sure I'm going to stand up and take those shots again, because I know what has happened to my health.

And I'm very uncomfortable that if we don't take advantage of saving soldiers in the future, and I guess we have a fear that we may have done something to our own. That concludes my questions.

Mr. SHAYS. Dr. Murphy, you wanted to respond?

Dr. MURPHY. Yes. There are some epidemiologic studies that will help address those questions, both the CDC study in Iowa and some of the epidemiologic work that is going on in VA's Environmental Hazards Research Centers and also the VA's National Persian Gulf Survey ask about exposures to vaccinations.

They also ask about multiple other exposures. So we'll be able to look at various combinations of self-reported exposures.

Mr. BUYER. That's multiple chemical sensitivities?

Dr. MURPHY. No.

Mr. BUYER. Other forms of exposures of what?

Dr. MURPHY. Multiple exposures in combination, combinations of vaccines, pyridostigmine, bromide, pesticides, et cetera.

The limitation of those studies is going to be verification of the vaccinations and verification of the actual other exposures.

The data I think will still be limited, but it will give us an initial assessment of whether those are risk factors for the development of illnesses in Persian Gulf veterans.

And I think it is a first step toward the answers that we all want to see on that question. And then, if there is a suggestion that vaccines may play a role in Persian Gulf veterans' illnesses, further studies can be funded at that point.

Mr. BUYER. OK. Thank you, Mr. Chairman. I appreciate the opportunity to testify, and don't let any moss grow on the stones.

Mr. SHAYS. That we won't. Let me just say I will have you out of here in a few minutes. I just have one round left of questioning here.

I asked a question that you seemed almost incredulous, and that was did you think that some Gulf war veterans became severely sick because of their duty in the Persian Gulf. And your answer was yes, and I asked it in terms of some deaths, and I think your answer was yes in both cases. Is that correct?

Dr. JOSEPH. That's not the way I remember the question, but I would say yes to that question.

Mr. SHAYS. To both as well?

Dr. JOSEPH. Sure.

Mr. SHAYS. Do you think that there are Gulf war veterans today who are sick and may decide it is a result of their service?

Dr. JOSEPH. I'm not sure how to respond to that question because I'm not sure exactly where you're coming from with it.

Let me give you an example. I'm not trying to be——

Mr. SHAYS. I'm not trying to be cute either. So you take your time. There is a logic to my question.

Dr. JOSEPH. Let me give you an example. There is a disease called leishmaniasis. It's a parasitic disease. It's found in that part of the world that is not present in the United States.

We had 30 or 32 cases, if memory serves me, confirmed of visceral internal organ leishmaniasis among 700,000 people who went to the desert.

None of those people, by any stretch of the imagination, would have leishmaniasis had they not been in the desert. It's certainly possible that some of them could succumb to that disease.

So in that sense, the answer to your question is yes. If the thrust of your question, however, is is there a mystery illness that we do not understand or are deliberately ignoring that might be responsible for the deaths of people who served in the Gulf, the answer is certainly no with respect to the deliberate ignoring of it.

And I just don't have any evidence that to date leads me to answer yes to that question. That's intended to be a responsive reply. I hope it is.

Mr. SHAYS. A high level of chemicals would result in an acute response, is that correct?

Dr. JOSEPH. Chemical agent?

Mr. SHAYS. Yes.

Dr. JOSEPH. Nerve gas? Absolutely, sir.

Mr. SHAYS. Would exposure to a low level of chemicals lead to chronic illness? And Mr. Hickman, I'm also asking you, too, as well.

Dr. Joseph. What I tried to say several times is that the best current medical knowledge is that if you do not get enough of an exposure to have acute response, if the level is so low or the exposure is so brief, you will not develop delayed or chronic symptoms.

That is the best current medical understanding, and as I said in my testimony, we're going to validate that and do research on it.

Mr. SHAYS. This is the "but" for me. Mr. Hickman, what's your feeling about that issue?

Mr. HICKMAN. I'll let Dr. Murphy answer that.

Mr. SHAYS. Dr. Murphy.

Dr. MURPHY. I would agree with Dr. Joseph's statement, but I refer to that by saying the current state of medical knowledge needs to be expanded, and I think both VA and DOD agree we need to fund some research.

Mr. SHAYS. Well, the problem is that some people may be dying while we do the research. Is it your testimony that there is no credible medical research either here or abroad that documents that low level radiation can lead to chronic illness, and the chronic illness could lead to death?

Dr. JOSEPH. Radiations?

Mr. SHAYS. Exposure to chemicals. I'm sorry.

Dr. JOSEPH. I can't speak to the fact whether there is no credible evidence——

Mr. SHAYS. You have no knowledge of——

Dr. JOSEPH [continuing]. Of anything in the literature, but what I have said and I'll say again is that the best and accepted medical knowledge, and I'd refer you again to the Institute of Medicine Report and the CDC's——

Mr. SHAYS. I'm asking do you have any knowledge of any credible medical research that says that low level chemical exposure can lead to chronic illness, and that illness could lead to death? I think that's a simple question. And the answer should be yes or no.

Dr. JOSEPH. I have no personal knowledge of such credible evidence.

Mr. SHAYS. Dr. Murphy.

Dr. MURPHY. Could you clarify the question for me? Are you talking about organophosphate nerve agents?

Mr. SHAYS. I'm talking about testing that doesn't show up in our equipment because it's not at the particular level that shows up on our equipment but is, in fact, high enough to cause illness.

Dr. JOSEPH. With nerve agent.

Mr. SHAYS. Pardon me?

Dr. JOSEPH. With nerve agent.

Mr. SHAYS. Yes.

Dr. JOSEPH. I don't have any knowledge.

Mr. SHAYS. Dr. Murphy.

Dr. MURPHY. I'm not aware of any literature that suggests that that is true. However, as I stated, I think more research needs to be done to be sure that our knowledge is——

Mr. SHAYS. I thought you all were doing a study now on this issue. Am I wrong on that?

Dr. JOSEPH. We are not currently——

Mr. SHAYS. Aren't you studying low level—I'm sorry?

Dr. JOSEPH. That's pyridoxamine.

Mr. SHAYS. Pardon me?

Dr. JOSEPH. That's pyridoxamine. We don't have any research going currently—Fran, you would know better than I—on nerve agents.

Mr. SHAYS. So if, in fact, low level turns out to be a problem, we're not even getting into that.

Dr. JOSEPH. No. That's not what I said. In my testimony, I said that we will now be doing that. We have not done that.

Mr. SHAYS. Well, that's why I asked the question. I'm not playing games here. I just thought I remembered you saying——

Dr. JOSEPH. And the answer that I gave you before I'll give you again. There is a real problem——

Mr. SHAYS. Let me just interrupt you a second. I am not playing games with you. I am trying to be very faithful about my questions.

I am not pretending that I am an expert. I have tried to listen. I thought you said you were doing that. Now, that's why I'm asking the question.

Dr. JOSEPH. I don't believe I said we're doing that. I said that in light of the Kamisiyah knowledge now, we are going to be fund-

ing additional research that will be in the area of low level chemical agent exposure.

Mr. SHAYS. When you think of someone like Brian Martin, who was right there, and you know he's not well, what goes through your mind, that he just has to wait until we do these studies and other people like him?

Dr. JOSEPH. I don't think. Mr. Chairman, I need to defend, I will, if you wish, my concern or empathy or my medical actions for people like Brian Martin.

Mr. SHAYS. No, no. I want you to defend it because I don't understand the response. That's my problem. When someone is so sick and we know that he was exposed to chemical agents, I'm thinking, it's low level exposure, but maybe you're not.

I don't know what you're thinking. I'm trying to understand. What goes through your mind, and what should go through my mind, that I should tell him he has to wait 3 or 4 more years or 5 more years, and maybe we'll determine that maybe he was right when he said it 8 years ago?

Dr. JOSEPH. I think what might go through your mind, Mr. Chairman, is the effort that has been mounted by hundreds of physicians and nurses to diagnose and treat what now amounts to 20,000 patients.

That is unprecedented. That effort shows some level of concern. Now, if Brian Martin or any other individual has a problem that we don't understand, and given the best effort that we can make between the DOD and VA in diagnosing and caring for that problem——

Mr. SHAYS. Well, he was, basically, told——

Dr. JOSEPH. I can't give you the answer that I don't have, Mr. Chairman.

Mr. SHAYS. He was told he wasn't exposed to chemicals. I mean, that was the denial.

Dr. JOSEPH. I can't speak to that.

Dr. MURPHY. Maybe I can help on this issue. Any Gulf veteran can come to the VA and get a Persian Gulf Registry health examination, and whether or not we can verify exposures, we'll provide medical evaluations, diagnosis and appropriate treatment.

In addition, for difficult cases, of which Mr. Martin is an example, the veteran can go to one of four regional referral centers in the VA. And, in fact, he was evaluated at the D.C. Referral Center by the staff there.

In addition, if a disability is found, compensation can be applied for.

Mr. SHAYS. He has a disability, and that's being covered. The problem is he would like to be healed, if he could, and that's the problem.

And imagine what he felt like, imagine what he felt like. What he heard was DOD saying, "Well, we have no evidence of chemicals being used in this area," and then disclosing on Friday that they did.

Now, I say it again there wasn't a Member of Congress that didn't know that if you had chemical and biological agents they were in Iraq, and they were everywhere.

So now he says, "Oh, that's great. We have finally agreed that in one bunker there were these agents." And I really believe that we're going to find more and more and more and more.

And the reason I believe it is, is because I had briefings that said they were there before the war, and we also had tests. When they blew them up, they wanted to know which way the plumes would go.

We knew there were chemicals there, and we said, "Well, are the plumes going to go this way, or are they going to come toward our troops?"

In fact, the troops were right there, 3 miles away but, basically, right there. So I'm just having a hard time with that.

The last line of questioning deals with the pyridoxamine bromide. I'll call it PB, because I mispronounce it every time I say it.

The bottom line is that research indicates that PB could interact dangerously with Sarin; is that correct?

Dr. JOSEPH. I don't believe that that is—I don't want to use the word "proven." I don't believe that that is scientifically credible at the present time.

Mr. SHAYS. Not scientifically credible or simply not proven to be? Is this research just sitting there floating around?

Dr. JOSEPH. Well, it's not sitting there floating around. A lot of people are very interested in that question, but I don't believe that we have knowledge of what the answer to that question is.

I think part of this is where we don't have answers we don't have answers, Mr. Chairman.

Mr. SHAYS. The indication from the Friday report was that Sarin was in the bunkers that were bombed in Kamisiyah?

Dr. JOSEPH. Yes, sir.

Mr. SHAYS. Is it possible that some of these soldiers have experienced exacerbated effects because they were taking the drug?

Dr. JOSEPH. You mean pyridostigmine?

Mr. SHAYS. Yes.

Dr. JOSEPH. I think it's possible. Myself, I don't think it's very likely, but I don't think we know. I also don't know currently, and that's one of the things that the investigating team will be looking at, whether the 37th or other troops in the area were or were not taking pyridostigmine.

I can't give you the answer to that currently. We will know that.

Mr. BUYER. Will the gentleman yield?

Mr. SHAYS. Yes.

Mr. BUYER. Dr. Murphy, don't you recall testimony by some of the veterans who came forward, Veterans Affairs Committee who had taken that particular drug? I think the nurse, Carol Pickew is one in particular. There were several whom had health related problems because of just taking that particular pill themselves.

Dr. MURPHY. They attributed their health problems to pyridostigmine bromide.

Mr. BUYER. Right. And when I was in the United Kingdom, hear I am before about 20 Gulf war veterans who also took—they called them "NAPP pills," and they took these things.

It was such an eery feeling. I could have sworn I was listening to American soldiers as I listened to all their health related problems.

Dr. JOSEPH. But also, there are thousands, primarily women, including a good friend of mine, who are alive today because they've been taking pyridoxamine bromine chronically for years, if not decades in 10 times the dose that troops took in the Gulf. So it is not at all a career picture.

Mr. SHAYS. There were about 100 bunkers at Kamisiyah. Do you have any knowledge of chemicals in any of the other bunkers?

Dr. JOSEPH. I've given you all the information I currently have, myself and other spokesmen from the Department. That's all the information we currently have.

Mr. SHAYS. That there is only one bunker?

Dr. JOSEPH. That's the only bunker that we have knowledge of.

Mr. SHAYS. Do you have any potential information that some of these other bunkers may have had chemicals?

Dr. JOSEPH. I don't know about other bunkers. I can remember what Ken Bacon said in the Friday hearing, but there was indication, which we have no reason to dispute, that mustard was also onsite, and I believe that was in either a pit or a storage area outside of bunkers.

But aside from that, aside from what I've just said, I have no knowledge of other weapons, other agents onsite.

Mr. SHAYS. Your own study shows that PB could interact—I'm assuming this is your study—could interact dangerously with Sarin.

Dr. JOSEPH. No, sir.

Mr. SHAYS. You have no study that says that?

Dr. JOSEPH. No. I don't know anybody's study of PB with Sarin. One of the things, if I may just take a moment here, Sarin is an extremely difficult issue to research. That's part of the problem.

Mr. SHAYS. Research out of Duke University released in April shows that PB interacts dangerously with insecticides when given to chickens.

Dr. JOSEPH. By odd routes. They fed the DEET to the chickens or injected the DEET into the chickens. This is a listening way from anything that would be put on the table and said, "We have credible evidence that in humans this level of pyridoxamine and this anthrax vaccination makes a difference."

I'm sorry, Mr. Buyer, you have to do science that way.

Mr. BUYER. Oh, I know. What I was smiling about is I remember saccharine. They took saccharine off the shelves because they said, "Well, we injected it into rats, and they died."

Well, my gosh, you feed that to a human at those levels—that's why I was smiling.

Mr. SHAYS. When the Pentagon received a waiver of informed consent from the FDA to distribute PB to our forces, the Pentagon gave assurances if PB was given to the troops they would be informed that they were given the drug. Were they given that information?

Dr. JOSEPH. I think it has been amply demonstrated in a variety of testimony that in the fog of war at that time back in 1990 that the level of both getting and recording informed consent was far less than perfect, far less than perfect.

Mr. SHAYS. So the bottom line is they were not?

Dr. JOSEPH. Well, I think some were, some weren't. Some records were kept. Some records were not kept.

Mr. SHAYS. But the challenge is, and I know that we're trying to get——

Dr. JOSEPH. And that's a continuing challenge for the future.

Mr. SHAYS. We're trying to get our men and women there, and I understand that. But they're under orders, and they've got to follow orders.

It seems to me that if the FDA had made that requirement there is just simply no excuse. It should have been followed. Do you think it was a mistake to give PB to our soldiers?

Dr. JOSEPH. Absolutely not, sir.

Mr. SHAYS. OK.

Mr. BUYER. Mr. Chairman?

Mr. SHAYS. Yes.

Mr. BUYER. Do you discredit the research that was done at Duke University, then, with regard to the chickens and the DEET?

Dr. JOSEPH. I don't discredit it. I see it for what it is, as a preliminary indicator that needs to be followed further but shouldn't be taken more of than it is. It's a long way short.

Mr. BUYER. The only other thing I had was do you plan on, in this era now of open or full disclosure, are you going to disclose about this chemical plant that the Air Force bombed on January 17, 1991, in Al Nasirryah along the Euphrates River? Are you going to public disclose how much was there, what all happened?

Dr. JOSEPH. I can't answer that because I don't know what there is to disclose. I don't know what information there is, what is declassified and what is not.

Mr. SHAYS. I truly am coming to close here. I just want to verify some numbers. You say you have, Mr. Hickman—is it doctor or mister? I'm sorry.

Mr. HICKMAN. Mister.

Mr. SHAYS. Mr. Hickman, you say you have approximately 600,000 records of soldiers, men and women who fought in the Persian Gulf, approximately?

Mr. HICKMAN. We have approximately 600,000 veterans who have been released from active duty beginning with the Army in 1994. It would be a combination of those who served in the Persian Gulf and those who served outside of Persian Gulf.

Mr. SHAYS. I feel like I'm playing games. I just made an assumption, when I asked you earlier, about the 600,000, that they were the ones that we're talking about. Why would I care to know about the ones that weren't in the Persian Gulf?

How many from the Persian Gulf do you have?

Mr. HICKMAN. I would not know exactly in the Persian Gulf era. Generally speaking, Mr. Chairman, when an individual is released from active duty today, if he served in the Persian Gulf era, those records would go to our St. Louis facility.

Mr. SHAYS. That's not helpful. What's helpful to know is how many Persian Gulf veterans' records do you have?

Mr. HICKMAN. I will find out for you, sir.

Mr. SHAYS. And the implication from my question early on I felt you were saying 600, because I then used simple math and said there are about 300, therefore, that the Army has.

How many do we still have on military active duty who were in the Persian Gulf?

Dr. MURPHY. I think about 40 to 50 percent, but I have to get a clearer number of that.

Mr. SHAYS. Could both of you furnish—what we're trying to have a determination is whether you're tracking the men and women who served and looking at their health records and giving them special attention, we're trying to determine if you, Mr. Hickman and Dr. Murphy, are keeping track of all of those who are now out.

I guess I left the impression from my earlier questions that you had 600,000 and the Army had 300,000 and therefore 900,000 approximately of the 900,000 plus were at least being focused on by our government.

It strikes me that there are a lot of soldiers being lost through the cracks, and I'd like to have a determination of how many. That was one of the bases for having this hearing. I would have thought that you would have been able to tell us that.

What I have learned is that we didn't always give a physical when they went to the Persian Gulf. We didn't always give a physical when they left.

What I've learned is that you have some records, Lord knows how many you have and don't have. What I know is that maybe 40 to 50 percent of our soldiers are still on active duty. So you have their records.

And what I know and what eats at me is that I have been briefed countless times about the amount of chemicals that were in Iraq, and we have come to an agreement about only one bunker.

That is a no-brainer to me, because I don't believe that just one bunker contained chemical or biological agent. I just don't believe it.

And I feel that there is this sense that until it's proven we assume there weren't chemicals, and if we assume there weren't, then we're just going to allow our men and women to slowly deteriorate until some day we have scientific fact to prove it.

And then I have the sense that you have a number, who knows what—I know if Mr. Schwarzkopf, Gen. Schwarzkopf, thought that he had men and women that were in danger—he wasn't sure that they were in danger? No. He's going to wait.

He's going to wait until he has scientific fact that they may be in danger. No, he's going to wait. Or is he going to go and he's going to try to protect them and save them? And I use that same analogy. While we wait to have scientific evidence, goodbye.

I'm happy to have you all make a last comment, but that's how I feel about this issue. Dr. Murphy, do you have any comments you'd like to say?

Dr. MURPHY. Yes. I think I would like to respond to that. I don't think the VA is in the position of waiting. I think we've been very active, in fact proactive on this issue.

Our programs were set up in 1992, shortly after Persian Gulf veterans returned from the theater of operations. We've had health care programs evaluating them, and the protocols used for those evaluations have always included evaluations that would pick up the kind of neurological and other skin conditions that might result from, respectively, exposure to nerve agents or to mustard gas.

You suggest that because we're not admitting exposures to chemical agents that we're somehow withholding therapy from these individuals.

In fact, even if we knew that there were low level chemicals, there isn't any specific treatment that would resolve those problems that I know of at this point, and maybe Dr. Joseph would like to comment on that.

However, there are symptomatic treatments that might help with the kinds of conditions that we've identified in Persian Gulf veterans to date, and those treatments are being delivered through priority care that was established by Congress. Persian Gulf veterans are getting medical care.

More than 155,000 Persian Gulf veterans have received outpatient care in the VA. More than 15,000 have been admitted to VA medical centers. We have an active research program.

We'll soon have a research program that focuses on whether low level exposure to chemical warfare agents which did not result in symptoms at the time of exposure could result in chronic health effects.

Mr. SHAYS. You say you have that?

Dr. MURPHY. We will have it soon. It's being developed. In addition, we've developed specific compensation programs with the help of Congress and Public Law 103–446.

It allows us to address not only known diagnoses in Persian Gulf veterans but undiagnosed illness until the medical science can catch up.

So I really take exception to the fact that you are suggesting that something is being withheld. We have moved forward, despite the lack of knowledge, in the Department of Veterans Affairs.

Mr. SHAYS. Mr. Hickman.

Mr. HICKMAN. Just a brief comment, Mr. Chairman. The fact is that although sometimes examinations are not conducted as an individual leaves service, certainly an individual who comes to the Persian Gulf Registry will be examined.

If they file a claim for service connection or compensation, we do followup examinations with them trying to determine their current status and thereby, from that, try to determine whether the condition is service connected or not.

Many veterans file multiple issues in their claim. They just don't file for one thing. They file for multiple things. So we have to do at times special examinations regarding each of those issues. We do do a thorough job in trying to determine their current status.

Mr. SHAYS. Thank you. Dr. Joseph, you literally have the last word, and whatever you say I'm not going to be tempted to respond. You have the last word.

Dr. JOSEPH. Well, I would say that knowingly or not, Mr. Chairman, the first part of your statement just utterly flies in the face of the unprecedented efforts to diagnose, to understand the problems and, most important, to provide care to our people that the VA and the DOD have done.

And the second part of your statement, the sort of don't just stand there, do something, is not only bad science, which you criticized or disparaged at several points but also very poor medicine.

It's important to do what you know you should do. It's equally important in medicine not to do what you don't know whether you should do or not. Thank you.

Mr. SHAYS. Thank you. I'd like to request that someone on each of your staffs stay to listen to the witnesses that will be following. You don't have to yourselves, but if someone else would.

And you have been very patient with this committee, and we have our disagreements, but I appreciate you being here, and thank you very much.

Dr. JOSEPH. Thank you.

Mr. SHAYS. Our second panel and our last panel is Ms. Diane Dulka, the surviving spouse of a Persian Gulf war veteran. Her husband's name was Joe Dulka.

And we have Dr. William Marcus, a toxicologist. If both would come, I would like to swear you in.

[Witnesses sworn.]

Mr. SHAYS. Thank you very much. If you'd be seated. Mr. Dulka, it's wonderful to have you here, Dr. Marcus. Thank you for your patience.

It is late, but your testimony is very valued, and you have as much time as you need to make your statement. Mrs. Dulka, I called you first, and I'd like you to testify first.

STATEMENTS OF DIANE DULKA, SURVIVING SPOUSE OF GULF WAR VETERAN JOE DULKA; AND WILLIAM MARCUS, TOXICOLOGIST

Mrs. DULKA. Thank you. I'd like to apologize for my voice.

Mr. SHAYS. Because of that, you're really going to need to pull that mic closer. The one mic with the bigger head is the one that amplifies. So just make sure you turn it a little closer to you. Take your time.

Mrs. DULKA. OK. I would like to thank the committee for inviting me to speak today. I have come here on behalf of all of the Gulf war veterans.

For those of you who don't know me, I'm a Gulf war widow and the mother of a disabled Gulf war child. My husband, Sgt. Joseph Dulka, Jr., died of pancreatic cancer at the age of 37. My son was born 10 months after my husband's return from the Gulf with cleft lip and palate.

For the past 2 years, I've been fighting with the VA for survivor's benefits. I have been denied three times. According to the statement of the case, I did not prove service connection.

I have enclosed some copies of the material that I have presented. Now, as of Friday they were supposed to give me another decision, and they have decided to prolong it until Wednesday after I have testified, for some unknown reason.

Mr. SHAYS. Let me ask you this: How long have you made this petition? How long is your application?

Mrs. DULKA. Two years.

Mr. SHAYS. Two years?

Mrs. DULKA. Yes. Now, during the past 2-year period, I have met and spoken to hundreds of veterans and their families. The diagnoses may be different, but the outcomes are the same.

Most of them have been denied benefits or were awarded a 10 percent disability rating. As with my claim, parts of the file turn up missing or, in many instances, military medical records mysteriously disappear.

According to claims processes, the VA is to help provide all necessary information and material to prove your case. In the past 2 years, I have never found the VA to be helpful in providing me any material to prove my case.

Anything I have gotten I have gotten at my own expense. Most of the veterans that I talked to received the same treatment.

Denny Williams of the Hartford Courant ran a story on May 25. In this story, he revealed that Science Applications International Corporation was ordered by President Clinton to re-evaluate its own data on weather patterns during the Gulf war to determine if chemical fallout was dropped on our troops.

It has also been discovered that John M. Deutch, CIA Director, was the director of Science Applications International Corporation during the Gulf war, and William J. Perry, Secretary of Defense, was on the company's board during the war.

Their 1993 and 1994 disclosure statements show over $900,000 in income from these positions at Science Applications International.

Now, this whole picture reeks of conspiracy. No. 1, what possible reason could President Clinton have for asking the same company, who he obviously believes was in error the first time, to re-evaluate its own information?

And why is the CIA involved in weather patterns? Mr. Deutch and Mr. Perry reek of deceit and deception, and I wonder how much money the people are paying for this circus of events.

The VA for the past 2 years has been requested to produce statistics on cancer rates and deaths among Gulf war veterans. These requests have come from many sources, including myself.

Either no reply was ever offered or a response of no such data exists. This has been a constant problem.

The Presidential Gulf war committee has reported having the same problem with getting accurate data from the VA. Congressman Shays' office recently received copies of statistics released after their request.

The VA has made them as difficult to read and interpret as possible. I have seen other sets of statistics that clearly show high rates of cancer among our Gulf war veterans that clearly show dramatic increases as the years progress.

There are clearly two sets of statistics, one for the VA's purpose and another with what the DOD has instructed the VA to release. Once again the VA reeks of conspiracy and deception.

This was the case for the Vietnam veterans, and the evidence clearly shows the VA has not improved in the past 20 years.

During April 1996 Presidential Gulf war hearings, Sgt. George Grass presented testimony of his accounts of chemical detection by his NBC Fox vehicle. He explained how often and where these events occurred.

He produced pictures of chemical weapons found in bunkers left by Iraqi soldiers. I have provided copies of his testimony. My husband was in the areas of these exposures. He was constantly ex-

posed to toxic levels of lindane by the DOD's own admission. Lindane is a known cancer-causing agent.

My husband's pancreatic cancer started in the tail of the pancreas, and studies have proven that this type of cancer is chemically induced. Still, the VA and the DOD deny exposures to chemicals during the war. Of course, I wrote this before Friday's admissions.

Mr. SHAYS. This was submitted before?

Mrs. DULKA. Friday's press release. I wasn't aware that they were going to do that on Friday, and I did write this prior to that.

Mr. SHAYS. Thank you.

Mrs. DULKA. Out of the 690,000 Americans who served, more than 90,000 have reported very similar illnesses. Since the DOD and the VA cannot seem to report a true and accurate number of deaths, we'll use the figure 4-to-5,000.

That figure seems a little bit more accurate. If the VA and the DOD would like to prove this figure wrong, they will need to provide evidence to backup what they say, such as providing the name examine complete status on all 690,000 Americans who served. See the VA needs to be held to the same ludicrous standards that it holds its Gulf war veterans to.

Now, 5½ years have passed since the Gulf war. Indisputable evidence of chemical exposure from our own equipment and by foreign chemical detection equipment, weather studies compiled by James Tuite have proven chemical exposure from fallout of bombed Iraqi chemical plants.

The Association of Birth Defects in Florida has shown high clusters of berth defects among our Gulf war veteran children, conspiracy within the VA and the company investigating weather patterns during the war, unreleased statistical information which the VA has but is unwilling to produce and, when forced to do so, it is inaccurate and so abstracted as almost impossible to understand, finally, denial of 95 percent of all Gulf war undiagnosed illness claims.

Now, one would think after all of that evidence that there would be no question that these veterans are sick and have died as a result of their service in the Gulf. What will it take before this issue is resolved?

Now, I feel the only way we can ever get true statistics from the VA and the DOD is for Congress to call for an immediate GAO study and subpoena the computer tapes and original data runs.

The Inspector General needs to launch an immediate investigation into the coverups at the DOD. Perhaps today's hearings can jump start Congress into taking some long-awaited action.

You see, these veterans don't care about political correctness or anyone's political aspirations. They, as well as myself, are only concerned with their health and their family's future.

My husband died after the first denial letter came from the VA. He went to his grave feeling deserted by his country and knowing his family would not be taken care of by the government he so proudly served.

I refuse to watch another veteran die feeling this way. If these hearings cannot produce action, we will continue down yet another path until we get these veterans the help that they need.

I would also like to comment on Mr. Joseph, his testimony earlier, which really infuriated me. When you asked, Mr. Shays, or you commented that other lives had been affected by the fact that they had covered this information of chemicals up for the past 5½ years, he said, "Oh, no. I don't think it has had any effect."

What he didn't understand was that a lot of these Gulf war veterans would not have reproduced children had they known that there was chemical exposure.

A lot of the veterans I have spoken to produced children on the belief of what the DOD had told them, that there was no chemical exposure, and had they known, a lot of the children that are disabled now would not be here.

And also, the doctors that are treating these people, if they know that there is a chemical problem, they treat them a lot differently.

My husband's doctor himself, if he had known there was a chemical exposure, he would have looked for pancreatic cancer much sooner. Because he was too young to have it, they did not look for it, but if he had known that there was a chemical exposure, he would have looked for that immediately and, possibly, he could have saved his life.

So Mr. Joseph's comments are ridiculous. Thank you.

[The attachments to Mrs. Dulka's prepared statement follow:]

24 April 96

I GySgt George J. Grass USMC do make the following statement:

Upon my arrival in SWA, I was assigned as the NBC Fox Recon Vehicle Commander (Serial #5604) for 1st Marine Division, Task Force Ripper.

CWO Cottrell was the NBC Officer for Task Force Ripper, but due to the mission and other "circumstances", I was attached to 3d Tank Battalion which was the lead element of Ripper. The NBC Officer at 3d Tank Battalion was CWO Biendenbender.

My overall mission was to provide the Task Force with a Recon and Survey of the battlefield in case of any NBC attack and report that information through my chain of command which began with CWO Biedenbender and CWO Cottrell.

Approximately 24-48 hours prior to the breaching operations, all the Fox vehicles were sent to the Northern DSC for a final operations and functions test. These tests included checking and verifying the Mobile Mass Spectrometer for accuracy. The civilian technicians from General Dynamics performed these checks and determined that all the Fox vehicles assigned to 1st Marine Division were fully functional and accurate.

During operations at both minefield breaches, I was tasked with checking all eight (8) lanes for any possible chemical contamination that may have been present. At the morning meeting at 3d Tanks COC on 22 Feb 91, the intelligence brief was "Recon reports back that from grid coordinates QS 756771 to QS 754773 there have been observed to be numerous Viscella 69 mines with a high probability of chemicals". As my Fox vehicle drove through each lane we monitored for both liquid and vapor contamination. The probe used to "sniff" for any contamination detected small traces of Nerve Agent in the air. The computer system notified us that the amount of chemical agent vapor in the air was not significant enough to produce any casualties. As a result, it was impossible for the Mass Spectrometer to run a complete check on the agent except by visually observing the agent and spectrum on the computer screen. These minute readings continued on the screen for the duration of each lane surveyed. Once my Fox vehicle departed the first minefield breach, those readings went away. I do not remember the type of Nerve Agent detected. I told CWO Biedenbender and CWO Cottrell face to face what had been detected and they both agreed that since we had no solid proof, there was nothing we could do about it. Several Marines worked to complete the lanes while wearing only MOPP level 2 and no gas mask while we detected these readings. No further chemical agents were detected as we checked the lanes of the second minefield breach.

After the Task Force had arrived and taken Al-Jaber airfield, I was positioned somewhere on the Northern side with elements of 3d Tank Bn monitoring for any chemical agent vapor contamination in the air. The following day the smoke from the oil fires made daylight hours look completely black. The Mass Spectrometer was programmed with a sample of the oil fire vapors and labeled as unknown #1. When the thick smoke was present, there was <u>always</u> a slight reading on the screen. These slight readings were the same regardless of the concentration or location of the vehicle. Because these readings became common place whenever the thick smoke rolled in, it was easily recognizable when compared to an actual chemical agent appearing on the monitor. As the Mass Spectrometer was monitoring for chemical agent vapor contamination with the usual readings from the oil fires, the alarm went off and the monitor showed a lethal vapor concentration of the chemical agent S-MUSTARD. The vapor was in the air for several minutes which is more than enough time for the Mass Spectrometer to analyze the vapor. A complete chemical spectrum was run and printed out as evidence of the contamination. Upon hearing the alarm and observing a lethal vapor concentration of

S-MUSTARD in the air, I called "GAS" over the Battalion Net. After the proper chain of command was notified of the positive chemical agent, my Fox vehicle conducted an area recon and survey to determine the limits of the contamination. While performing the survey, the **S-MUSTARD** readings went away and the only reading appearing on the monitor were the typical readings from the oil fire vapors. As we paused above Al-Jaber airfield, the winds were blowing 10-15 mph. The detection of the positive **S-MUSTARD** reading was reported through 3d Tanks net COC by CWO Biedenbender and myself to the 1st Marine Division NBC Officer, CWO Bauer. Division stated that our readings were false and that the readings were produced by the burning oil fire vapors. We explained to him that we already knew what the oil fire vapors looked like on the monitor and the **S-MUSTARD** was clearly different and distinct with the words **S-MUSTARD** printed across the screen. Division then said that it had to be a false reading from the fuel from the M60 tanks, Amtracs, etc. that were around the Fox vehicle. Again I explained to him that the Mass Spectrometer has a sample already programmed into its data base and any fuel vapor comes up as its chemical name and the words "FAT, OIL, WAX". Division still insisted that we had false readings and abruptly signed off the net. CWO Biedenbender instructed me to keep a printed copy as proof of our detection in case we needed it later.

After Task Force Ripper left Al-Jaber airfield heading toward Kuwait City, several chemical attacks were reported throughout the Task Force from positive readings by personnel using Chemical Agent Monitors (CAM). My Fox vehicle was called to survey the area and verify/check for any possible vapor or ground contamination present. All surveys performed by my Fox vehicle were negative when called for these attacks although the CAM's had two-three bar positive readings.

The next time my Fox vehicle had positive readings was from an Ammunition storage area located just outside of Kuwait City.

On 28 Feb 91, I was now part of Task Force Rippers main reporting to CWO Cottrell. During the intelligence brief that morning, they stated the Iraqi's had established the 3d Armored Corps Ammunition Supply Point (ASP) just outside of Kuwait City and that sources (EPW's) have stated there were chemical weapons stored there somewhere. I was informed that my task was to survey the entire ASP and locate any chemical weapons that may be stored there. CWO Cottrell directed me to call back nonchalantly as finding some "HONEY". My Fox vehicle set out and began conducting a survey of the area. While monitoring for chemical agent vapors in an ammo storage area next to 1st Bn 5th Marines pause, the alarm on the computer was set off with a full distinct spectrum across the monitor and a lethal vapor concentration of **S-MUSTARD**. We drove the Fox vehicle closer to the dug in bunkers and fully visible were the skull and cross bones either on yellow tape with red lettering or stenciled to the boxes or some had a small sign with the skull and cross bones painted on it. On top of the boxes were artillery shells. A full and complete spectrum was taken and printed. I notified CWO Cottrell of the "HONEY" and he instructed me to return to Rippers Main but to be aware that some VIP's and the media were there. As we continued driving through the ammo storage area, the alarm sounded again. The chemical agent **HT-MUSTARD** with a lethal dose came up across the monitor. A full spectrum was completed and a copy printed as proof of detection. Before driving out of that area, the alarm sounded once more showing a positive reading of **BENZENE BROMIDE**. Again a full spectrum was completed and printed as evidence of vapor contamination. The positive readings of **S-MUSTARD**, **HT-MUSTARD**, and **BENZENE BROMIDE** were all within 100 yards of each other near grid coordinates QT 766395. All ammunition was either from Holland, Jordan, or the United States.

Completing the Technical Escort course several months prior to deployment to SWA, being a former Ammunition technician for 6 years and the NCOIC of an offensive chemical unit at

MWWU-LANT, I observed several signs of possible chemical weapon storage. There were blue, red, and green colored fire extinguishers with each grouped in its own specific area. Also this particular storage area had bung and open top 55 gallon drums that were painted all blue, red and blue, green or white and green. Each set of drums were grouped according to its color and whether the color of the drums were solid or striped. No other area of the entire 3d Armored Corps ASP that my Fox vehicle checked was designed and set up like that area. My regimental S-2 was notified.

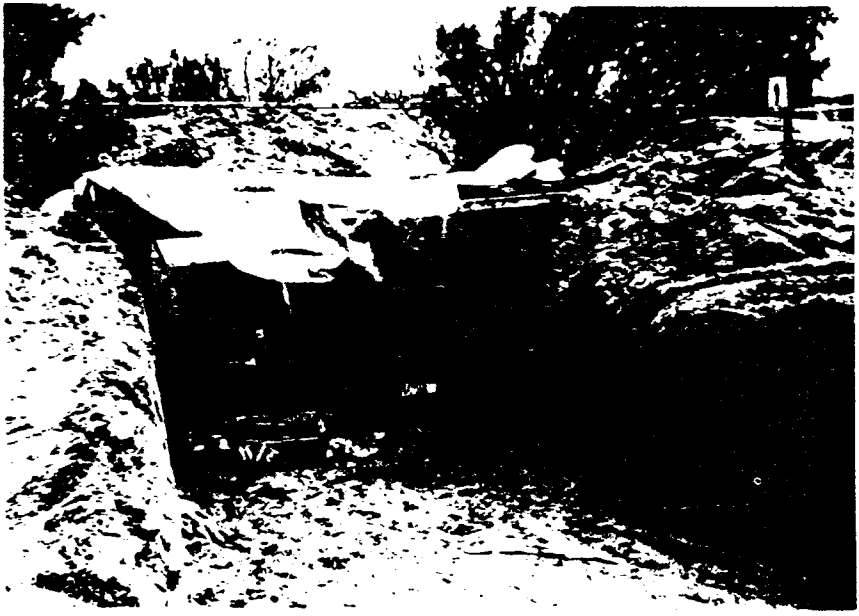
Upon arrival at Ripper's COC, myself, CWO Cottrell and other officers were taken into a CP tent. I explained to all of them about the **S-MUSTARD** detection at Al-Jaber airfield and of the **S-MUSTARD**, **HT-MUSTARD**, and **BENZENE BROMIDE** detected at the ASP. I showed them the comparison between both **S-MUSTARD** detection tickets and they all agreed that Division must be notified. As I was standing there, one of the officers contacted Division. When he hung up the radio, it was determined that I would meet an EOD team at 0700 at Division HQ located at the Kuwait International Airport and escort them to the ammo storage area the next morning. I gave my superior officers all of the printed out Mass Spectrometer spectrum tickets taken from positive readings from Al-Jaber airfield and the ASP. I never saw the tickets I had given them again. My Fox vehicle arrived a little late due to the directions and destruction blocking some of the roads. At approximately 0800, I spoke to CWO Bauer at Division and he informed me that the team had been held back at Al-Jaber airfield and would arrive around 1400. Two other Fox vehicles were kept at Division. Since I still had thousands of ammo bunkers to survey, and the area was about a 45 minute drive away, I asked CWO Bauer if I could have the other two Fox vehicles assist me on my survey since both crews obviously had no mission. CWO Bauer emphatically told me that those two Fox vehicles were not moving and refused to listen to reason.

When the EOD team finally arrived, I escorted them to where the chemical weapons were detected. Upon arrival, the EOD Team donned full protective equipment and entered the area. They worked in the area for approximately one hour. Upon completion of their mission, they deconned themselves and verbally acknowledged the presence of chemical weapons in the storage area, but stated that their main concern was to catalogue lot numbers to see if those lot numbers had come into the country after sanctions were imposed on Iraq. We escorted the EOD team back to Division and never heard from them again. Task Force Ripper and my Fox vehicle departed Kuwait the next day.

Since returning from the Persian Gulf War, I have spoken to almost every Fox vehicle commander from both 1st and 2d Marine Division and every one of them has verbally acknowledged the positive identification of chemical agents in the area of operation.

GEORGE J. GRASS
GYSGT USMC

MINES



Department of Veterans Affairs	POA AMVETS	PAGE 1 DATE OF RATING October 5, 1995	
RATING DECISION	NAME OF VETERAN J E DULKA	SOCIAL SECURITY NUMBER 048-52-4231	VA FILE NUMBER XC 048 52 4231

ISSUE:

Service connection for the cause of death.

EVIDENCE:

Request for medical opinion dated 5/25/95 , Medical opinion from Assistant Chief Medical Director for Public Health and Environmental Hazards dated 09/08/95.

DECISION:

Service connection for the cause of death is denied.

REASONS AND BASES:

The death of a veteran will be considered as having been due to a service-connected disability when the evidence establishes that such disability was either the primary or contributory cause of death. The cause of death is recorded as: Pancreatic Cancer. Service connection for the cause of the veteran's death is denied since evidence fails to show that it was related to military service.

In accordance with the Director of Compensation and Pension Services the Department of Vetera's Affairs was directed to obtain a medical opinion regarding the risk of the development of pancreatic carcinoma due to exposures to solvents and petroleum compounds on a long-term basis.

Medical opinion dated September 8, 1995 states that it is not possible for the examiner to estimate the likelihood that the veteran's pancreatic cancer was related to exposure to chemicals during service in the Persian Gulf. That is , while we can state that such exposure is a possible cause, we cannot state that it is likely or approximately as likely as not that the pancreatic cancer can be related to such exposure.

HEARING DATED MARCH 28, 1996
HARTFORD, CT
RE: CASE XC 048-52-4231
JOSEPH E. DULKA JR.

Gentleman.

Statement of the case dated October 10, 1995 and the rating decision of November 9, 1994. The VA has claimed that the Veteran showed no evidence of chemical exposure during his tour in Saudi Arabia. Enclosed is a lab work up performed by Immunosciences Inc. It lists the abnormalities of Mr. Dulka's blood work. Upon speaking to Dr. Vojdani, Immunaligist at the lab, he specifically indicated that such a high result of F Gamma Glutamyl Transfer definitely indicated a chemical exposure. Dr. Vojdani can be reached at 301-657-1077.

Upon learning this information, I sent for Mr. Dulka's pathology reports and Dr. William Marcus, Senior Science Advisor, Maryland University, stated that according to the pathology reports, (enclosed), Mr. Dulka's pancreatic cancer was started in the tail of the pancrease. Therefore current research indicates that this type of cancer to be chemically induced.

Referring back to the rating decision it states that Mr. Dulka did not develop cancer during the presumptive period of one year following service. The presumptive period for Desert Storm Veterans is 2 years following service. Mr. Dulka was diagnosed 3 years from service. Pancreatic cancer has no symptoms until its final stages. By the time this cancer was discovered, the tumor was the size of a baseball and obstructing his intestinal track. Due to the size of this tumor upon discovery it is safe to say that it had been growing for quite some time. You are using a *quote* from Dr. John Polio, "the tumor was there for several months prior to symptoms," I have enclosed a copy. Dr. Polio although an excellent physician, is a gastroenterologist, not a cancer specialist. According to the cancer center of St. Francis Hospital and Medical Center, Hartford, CT, the tumor is estimated to have been present at least 6 months to 2 years prior to intestinal symptoms. Mr. Dulka first reported symptoms in November, 1993. Dr. Polio reported that Mr. Dulka reported symptoms at least one month prior to that first visit in November, 1993. As I stated earlier, the tumor was there at least 6 months prior to October when the first symptoms were reported.. Therefore, the tumor was there in May, 1993 which still meets the 2 year presumptive clause. (see 38 USCA Sec. 1113(b))

During Mr. Dulka's tour, his M.P. unit was instructed to delouse Iraq P.O.W.s with powdered benzene sprayed from preasurized pump cans. There is a dispute with the VA about the substance used. The VA states that lindane was used. Lindane is a form of benzene, therefore benzene is still an issue here. Although lindane is an approved substance by the FDA. The FDA is very specific about its proper use. The M.P. unit was not instructed on its proper use. The unit sprayed this substance in closed tents with no masks or ventilation. Therefore, the M.P.s were exposed to toxic levels of this substance on a daily basis. Short toxic exposure to benzene has been known to produce cancer as little as 4 months after exposure. Enclosed are copies of pages from Benzene Carcinogenicity by Dr. Askoy, which show the duration of cancer development after exposure.

It is stated that Mr. Dulka reported a weight loss of 15 pounds while in service in Saudi Arabia. He had still not been able to regain that loss after returning to normal routine. This is an abnormal event. Mr. Dulka should have been able to recover that weight loss within a few months of his return. In October, 1992 he had a blood work up done, which showed his liver enzyme was at a higher than normal level. This indicates that his body had already begun to malfunction. I have enclosed a copy.

I think that with all the evidence presented here today that is is clear that Mr. Dulka was exposed to toxic amounts of benzene and other carcinogins during his tour in Saudi Arabia. It is also very clear that his pancreatic cancer was caused by exposures in the Gulf. I do expect a reversal of the prior decisions immediately and do fully expect benefits to be awarded retroactively to Mr. Dulka with DIC to his widow and 2 dependent children.

I would also like to add that Mr. Dulka's son born 10 months after his return from the Gulf was born with facial deformaties and has undergone 2 surgery's and still has another one or possibly two more to go. This family has been through hell, I think Mr. Dulka has served his country in the highest degree by giving his life for his country. It is time his family is compensated for the loss they have suffered and the benefits that were promised this Veteran when he signed up for duty.

Thank You,

Diane G. Dulka

Diane G. Dulka

Enclosures

May 17. 1996

Re: Hearing dated March 28. 1996
Additional Information
Case XC 048-52-4231
Joseph E. Dulka Jr.

In my previous testimony. I stated that Dr. William Marcus was with the Maryland University. I was mistaken, Dr. Marcus is the Senior Science Advisor with the EPA, Environmental Protection Agency. I have received his report, and I am submitting it as evidence in this case. Also enclosed is a copy of the February 19. 1993 Report from the U.S. Department of Health & Human Services on the Toxicological Profile on Alpha, Beta, Gamma, and Delta-Hexachlorocyclohexane or lindane.

I would like to thank your office for giving me an extension to submit this added information. Unfortunately, when you have to depend upon others for your information, they are not always at your access as one would like. I do appreciate your patience in this matter.
The following is a list of material Dr. Marcus used to produce this affidavit:

1. Pancreatitis By Herman T. Blumenthal, Ph.D., M.D., J.G. Probstein, M.D., R.M. Zollinger, M.D.
Charles C. Thomas Publisher Springfield Illinois
2. Journal of Surgical Oncology 7:143-149(1975) Chemical Carcinogenesis and the Pancreas
3. HPB Surgery, 1990 Vol. 2, PP51-55 Long Term Survival after Resection of Ductal Carcinoma in the Body and Tail of Pancreas
4. Dept Of Surgery, The Johns Hopkins Medical Institutions, Baltimore, MD Improved Hospital Morbidity, Mortality, and Survival after the Whipple Procedure.
5. American Journal of Industrial Medicine 10-371-381 (1986) Texaco Mortality Study
6. Epidemiology Research Unit, Hospital Hotel-Dieu De Montreal Oct 16, 1990 Tobacco, Alcohol, and coffee and Cancer of the Pancreas
7. American Journal of Industrial Medicine 18:565-576 (1990) Occupation and Pancreatic Cancer Risk in Louisiana
8. Review of Surgery Volume 28 No. 3 May June 1971
9. HPB Surgery, 1990, Vol. 2, pp. 57-67 Pancreatic Resection for Carcinoma of the Pancreas and the Periampullary Region. A Twenty - Year Experience
10. Journal of Surgical Oncology 7:167-174(1975) Carcinoma of the Exocrine Pancreas:
11. Cancer Mortality Among Chemists. National Cancer Institute,
12. Industrial Medical Association June 30. 1967
13. JNCL Vol. 76 No 1 January 1986 Pancreas Cancer and Smoking. Beverage Consumption. and Past Medical History

14. University of North Carolina, Chapel Hill Mortality Among Rubber Workers.
15. The American Journal of Surgery Vol. 164 July 1992 Carcinoma of the Body and Tail of the Pancreas
16. British Journal of Industrial Medicine 1986;43:775-778 Occupational factors and pancreatic cancer
17. United Automobile Workers 0096-1736 88 3009 706$02.00 0 Mortality among bearing plant workers exposed to metal working fluids and abrasives.
18. British Journal of Industrial Medicine 1990;47:425-428 Occupational risk factors for cancer of the pancreas: a case-control study.
19. British Journal of Industrial Medicine 1991;48:583-587 Occupational exposure and cancer of the pancreas: a review.
20. Environmental Health Perspectives Vol. 20 pp. 105-112. 1977 Environmental Factors and Diseases of the pancreas
21. Toxicology and Applied Pharmacology 101, 543-554 1989 Toxicology of the Pancreas
22. J Chron Dis 1971, Vol. 23, pp. 685-690 Great Britain The rising incidence of Cancer of the Pancreas Further Epidemiologic Studies.
23. International Journal of Epidemiology Vol. 14, No. 3 Proportionate Mortality Among Male Corn Wet Milling Workers.
24. Cancer Letters, 55(1990) 121-128 Comparative histopathological findings in the Pancreas of cigarette smokers and non-smokers
25. Trade Surgery Vol. 97 Jan 1995 28-35 The surgical treatment of Pancreatic carcinoma
26. Institute for Pharmacological Research, Italy Medical History, Diet and Pancreatic Cancer
27. Institute for Health Care in Developing Countries, University of Nijmegen, The Netherlands Pancreatic Cancer a decade of case control studies.

I have enclosed some copies of the more relevant information in these resource materials. If you would like a complete copy of all of these articles, please let me know. The report that is being submitted by Dr. Marcus has passed through the District Court of Jefferson County, Texas 58th Judicial District and has been submitted as evidence along with all the back up material I have listed above.
This will close the record of this case, I again thank you for your patience in this matter.

Sincerely,

Diane Gates Dulka

Diane Gates Dulka

Enclosures

Mr. SHAYS. Thank you, Mrs. Dulka. Dr. Marcus, would you just give us a little information about who you are and why you come to this hearing, what you bring to this hearing before you testify?

Mr. MARCUS. Mr. Chairman and members of the committee, I wish to thank you for the opportunity to contribute to the work of the committee looking into the work of the tragedy that occurred during the Persian Gulf war.

My name is William Marcus. I hold a master's and a doctorate degree in the field of pharmacology. I did my post doctoral work in the field of teratology.

I have been a board certified toxicologist since 1980. I am here today as a private citizen on excused leave from my position with the U.S. EPA. My opinions and conclusions are entirely my own based on my scientific training, experience and expertise as a toxicologist, and not those of, nor influenced by, my employer.

None of the supporting documents which I submit provide or refer to are privileged or internal documents. If I should inadvertently used word "we" or "they" rather than "I," it does not imply or suggest that I am speaking for the EPA or any of its management or policies. I am speaking only for myself.

In addition, I have engaged in some private consulting on my own personal time and have taken every precaution to ensure that there is no conflict of interest or appearance of conflict of interest.

Based on my analysis of the data provided to me, I believe those who served in the Gulf conflict are indeed at increased risk of developing, suffering from and dying from health hazards caused by extended chemical exposure.

Those military personnel employed in the Persian Gulf were subject to at least three types of chemical exposures. The first and most well known is the combination of pryidostigmine, DEET, and organopesticides.

The second is respirable spent uranium. The third is the products of combustion from burning of oil fields. In a recently published article, scientists at Duke University have shown that chickens exposed to a combination of pryidostigmine, DEET and organophosphate pesticides exhibited synergistic toxic responses that are at least 1,000 times higher than expected.

My preliminary review has many drawbacks because of the time constraints and the unavailability of required data. In order to overcome these, I made educated estimates of the breakdown in the age groups and the appropriate percentages of the number of troops per age category per of year exposure in the Gulf.

This procedure enabled me to determine the incidence rate of cancer by year for several different types of cancer. Using these estimates, I also calculated age-specific incidence by age category.

Because the percentage of women who actually served in the Gulf was very small, I did not take them into account. However, this should not be taken to mean that they are not at increased risk due to their exposure. They are.

In the calculations performed by the National Cancer Institute to determine instance rates for the U.S. general population, the general population is approximately half male and half female. This was not the case in the Persian Gulf.

What became apparent was that the trends of cancer in those males chemically exposed either overtook or exceeded the rates of the same cancers found in the general U.S. male population.

These particular cancers were selected first by me because statistics for them in the general population were known and were published by the NCI in the SEER report.

And second, because time was short and I was unable to do an in-depth analysis of each and every type of cancer in the reports, I did not have either the time or the data to determine whether there were increases in rare forms of cancer.

The types of cancer which I believe to have increased rates due to chemical exposures in the Gulf include the following: multiple myeloma, cancer of the brain and the nervous system, pancreatic cancer, testicular cancer and cancers of the pluripotential stem cells; that is acute in chronic leukemias.

While I believe meaningful conclusions can be drawn from these data, the data were incomplete. In order to obtain a complete picture of the health risks of the Gulf veterans, a study should be undertaken which accounts for the well-being and/or cancer incidence of each and every individual who served there, survivors and deceased.

Such an undertaking would be costly due to the labor intensive nature of the enterprise. Those studies in which I worked for EPA produced highly significant results.

An undertaking of this nature should be conducted by an unbiased and possibly nongovernmental team that have been guaranteed unfettered access to both the VA and military files as well as the ability to compel cooperation.

A protocol for the study should be devised by the team and examined and critically reviewed by a panel of experts under the aegis of the American Public Health Association or other universally recognized professional society.

In addition to a study of the veterans exposed, I also believe future environmental law must also be considered. It is my personal opinion that future environmental laws must take into account the adverse effects that exposure to burning oil fields and refinery explosions have on exposed people and the environment.

Such laws could be satisfactorily enforced by the U.S. EPA under one or more of the environmental statutes, the Toxic Substances Control Act, Safe Drinking Water Act, Clean Air Act, Solid Waste Disposal Act and Water Pollution Control Act or CERCLA, the Comprehensive Environmental Compensation and Liability Act and their interaction with FEMA.

The possibility of similar types of disasters occurring in the U.S. should start a prospective regulatory process in order that the Federal Government is ready with a deliberate and rapid coordinated response.

Considerable long-term environmental concerns make this a national and international issue. The problem could occur at any time if there is an explosion or a fire in petroleum refineries, or oil wells.

While these remarks have been fairly general, I have been much more detailed and specific in the written report, which I have submitted, including many graphs.

I would be happy to elaborate on any points which you require or request. Thank you for asking me to participate in these hearings on adverse health effects suffered by our gallant troops who served in the Persian Gulf war.

I hope my work has been of assistance to you all. And I want to add that the reason I am here is that I have a very strong feeling that those who are willing to step forward and protect me, my way of life and my family's way of life deserve what I can give them to my very utmost.

[The prepared statement of Mr. Marcus follows:]

PREPARED STATEMENT OF WILLIAM L. MARCUS, PH.D., D.A.B.T.

Mr. Chairmen members of the committee, I wish to thank you for the opportunity to contribute to the work of the committee looking into the tragedy that occurred during the Persian Gulf War.

I have a Masters and Ph.D. in Pharmacology, specialized in Toxicology, and post-doctoral training in teratology.. I have been Board Certified in Toxicology since 1980. I have been given an excused absence, from EPA my employer while testifying as a private citizen. My opinions are entirely my own, based on my scientific training, experience, and expertise as a toxicologist, and not those of, nor influenced by, my employer. Any supporting documents which I submit or provide are accessible to the public and are not privileged or internal documents. Inadvertently using the words "we" or "they" rather than "I", does not imply that I am speaking at anytime for the U.S. EPA.

In order to evaluate, compare and determine the risks of malignant and benign neoplasms of United States military personnel deployed in the Persian Gulf the following data are needed. Incidence of each type of cancer for both Persian Gulf (cohort 1) and non-Persian Gulf (cohort 2) veterans by:

I. Complete ISDN, at least three and as many as five digits in length (See attachment 1, for examples), for cohorts.

II. By every ISDN by year for cohorts starting with 1991 through present.

III. By every ISDN for cohorts reported for each year by sex and race.

IV. The percentage of Persian Gulf veterans that availed themselves of the VA hospital facilities versus those who sought and obtained health care elsewhere.

V. The percentage of Persian Gulf veterans that used the VA clinics and were not admitted to a VA hospital facility.

VI. The percentage of regular military Persian War Veterans who used military hospital facilities versus National Guard and volunteer Persian War Veterans who used VA hospital facilities: for the purposes of comparison an assumption of 20% has been used in my calculations.

All of these cohorts should be compared to the U.S. population by age, sex, and race. This will provide a measure of the "healthy worker effect".

All persons who served in the Persian Gulf during the Persian Gulf War should be contacted and their health status determined. Those who claim to currently have cancer or the surviving next of kin of this cohort who claim that cancer was or contributed to the proximate cause of death need to be interviewed, death certificates examined to verify cause(s) of death and if possible treating physician contacted to certify actual (histologically determined the type of cancer) cause(s) of death. A study of this nature is costly, because of the labor intensive nature of such an enterprise. While working in the Office of Toxic Substances in the latter half of the 1970's I supervised three such studies (arsenic emissions, arsenic manufacture for pesticidal use and vinyl chloride). All of them produced highly significant results.

The military personnel deployed during the Persian Gulf War were subject to at least three types of chemical exposures. The first and most well known is the combination of pyridostigmine, DEET, and pesticides; the second is respirable spent uranium (U238); and the third is the products of combustion from the burning oil fields. In a recently published article Duke scientists have shown in chickens that the combination of pyridostigmine, DEET, and pesticides causes a synergistic toxic responses that is at least 1,000 times higher than expected. Uranium 238 is much like lead, extremely toxic to the kidneys. The products of combustion from a burning oil field are too numerous to enumerate. There are polyaromatic hydrocarbons (known potent carcinogens), benzene, benzo-a-pyrene, carbon disulfide, add infinitum.

My preliminary review has many drawbacks because of time constraints and the unavailability of required data. In order to overcome these I made educated esti-

mates. Since the median age of our troops deployed during the Persian Gulf War was 27 years of age, I estimated that 60% of the troops were less than 25 years old, 20% between 25 and 34 years old, 10% between 35 and 49 years old, 7% between 50 and 59, and 3% remainder. Since the number of troops was largest in the two lowest age-specific categories these data should be weighted when drawing the graphical representation. Semi-logarithmic paper was used to plot nearly all the graphs. Most biological phenomenon occur in this fashion.

Based on these estimates I took the appropriate percentage to determine the number of troops in each age category of the troops deployed by year. This procedure enabled me to determine the incidence rate of cancer by year for several cancers. Using these estimates I also calculated the age-specific incidence by age category. Since the percentage of women who actually served in the Persian Gulf War was very small I did not take them into account. The U.S. general population when combining males and females uses approximately half of each. This was not the case as found during the Persian Gulf War.

These incidence-rates and age-specific incidence rates were compared to the incidence rates reported by the National Cancer Institute[1] both graphically as well as determining increases or decreases in the rates of age-specific incidences of individual cancers.

What became immediately apparent was the trends of cancer in the exposed either exceeding and/or overtaking the same cancer(s) as found in the male U.S. general population.

The "healthy worker effect"—a much healthier group of people are selected for their skills and as the result of health screening for the purposes of gainful employment. They are over 16, free of debilitating diseases and work for their living. In this case the members of the cohort (military troops) are healthier because they must pass more stringent health requirements, be capable of vigorous physical exertion for long periods, and are for the most part between the ages of 18 and 34. When the cancer rate of this cohort exceeds the general population on an age-specific basis something is very wrong.

The particular cancers were selected because of the NCI published statistics in the SEER report. The time allotted was very short and I therefore could not do an in-depth analysis of every type of cancer in the reports. I was not able determine if there were increases in rare forms of cancer.

Multiple myeloma (graphs 1 and 1a) demonstrates that this type of cancer had a dramatic increase when compared to males in the general U.S. population (U.S Males). The rate increased dramatically when compared by year or by age specific category. Age specific category analysis showed that beginning in 1992 multiple myeloma in Persian Gulf War Veterans (PGWV) ranged from 3.1 to 6.3 times greater than the comparable group in the general U.S. population. Our troops have between a 3 and 6 times increased risk of multiple myeloma.

Cancer of the brain and the nervous system (graphs 2 and 2a) demonstrates that this type of cancer had a dramatic increase when compared to males in the general U.S. population. The rate increased dramatically when compared by year or by age specific category. Age specific category analysis was less than U.S. Males- 0.9 who were 25 or less years old. The 25 to 34 year old category of age specific-rate exceeded the U.S. Males by 7.1 times; 35 to 44 year olds by 14.7 times. When looking at brain cancer by year the slope of the rate of incidence per 100,000 rose very steeply between 1991 and 1992 and than slowed but still exceeded the U.S. Males.

Pancreatic cancer rates are very high (-10.2) because after 50 years of age the rate jumps to 21, 60–32, 70–65, 80–95.6 etc. However the increase is much like the other curves but never passes the U.S. Males (graph 3). However the age-specific rates sharply surpass (graph 3a) the age-specific rate for U.S. Males.

Testicular cancer age-specific rates are very high among the Persian Gulf War veterans ranging from 2.4 to 3.8 higher than U.S. Males (graph 4a). The rate of incidence increases using nearly the same slope as all the other cancers surveyed. See graphs for bladder (5), thyroid (6), and stomach (7) cancer.

Cancers of the pluripotential stem cell (graphs 8–11) all increased at the same rates as the other cancers as well as kidney cancer (graph 12). All showing higher risks to our troops.

Two secondary malignant cancers were looked at, those of lung and brain. These were chosen because they are often the site of malignancy and are a good measure of the total body burden of malignant cancers. People who have secondary cancers

[1]NCI. 1996. Seer Cancer Statistics Review 1973–1992. Eds. Kosary, CL, Ries, LAC, Miller, BA, Hankey, BF, Harras, A. And Edwards BK. U.S. Dept. Of Health and Human Service, National Institutes of Health, National Cancer Institute, Bethesda, MD 20892–9903. NIH Publication No. 96–2789.

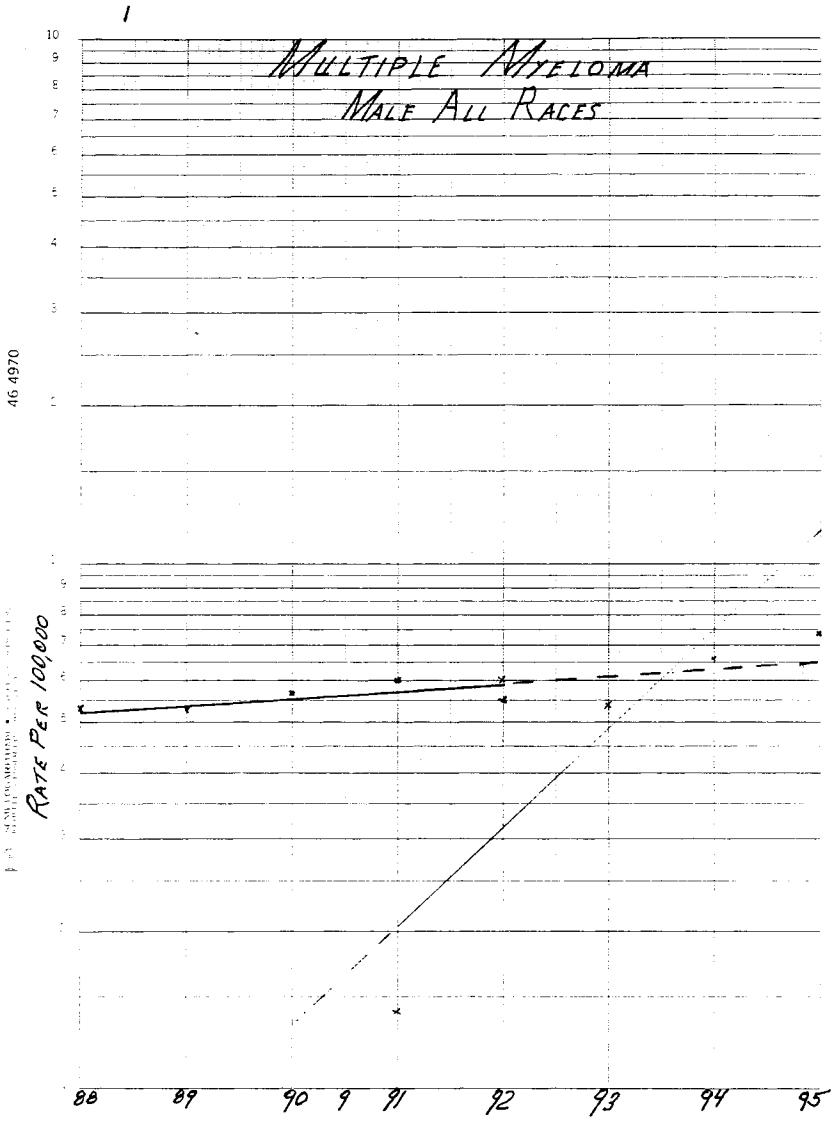
of these organs usually expire in a year or less. I plotted a second order (logarithmic-log log plot) to measure the rate of acceleration of cancers. This graph 13 demonstrates that there is a steady increase in the total body burden of cancer with time. I used the number of cases by year as a crude measure. These curves were superimposable (identical slopes) demonstrating that both the secondary brain and lung cancers are measuring the same disease process.

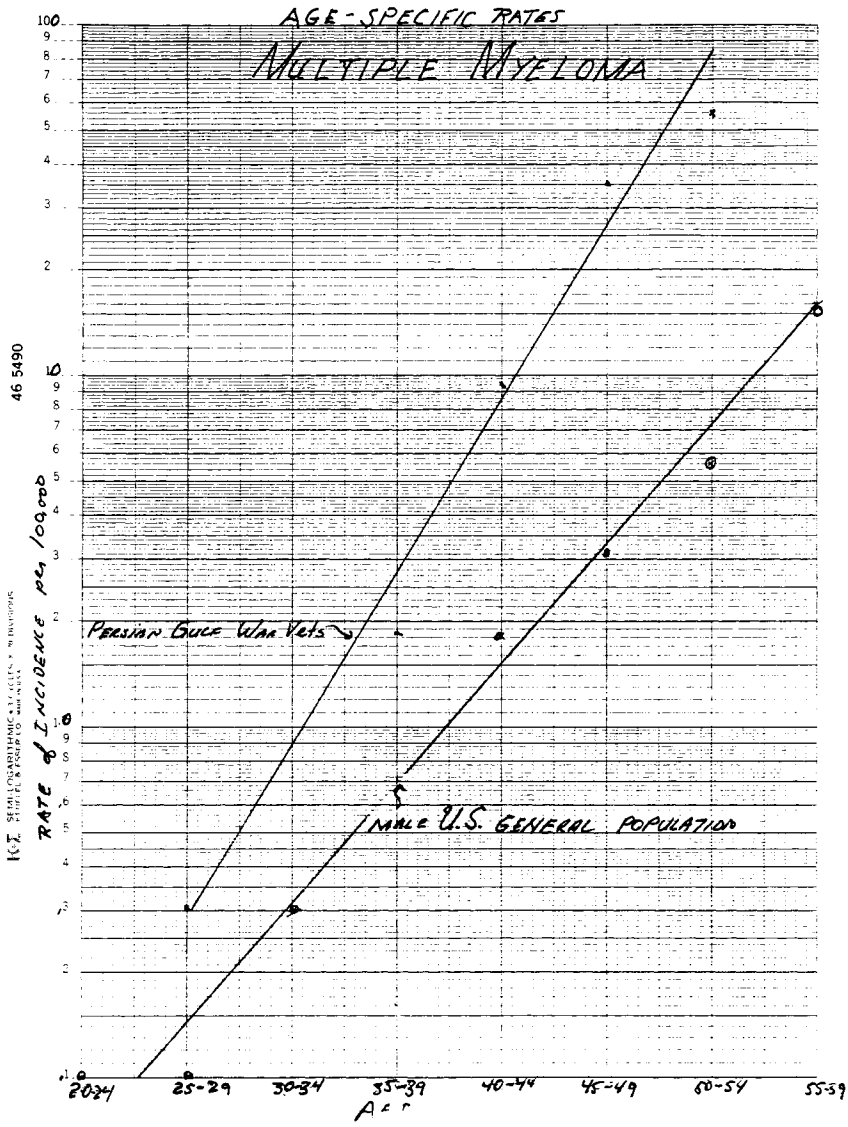
In my opinion, these brave soldiers who went to battle for the United States, to protect our freedoms and those of the American public are war casualties just as if they had been wounded in combat. Their injuries are life threatening and in many cases inflict great pain and suffering before death. The above analysis though preliminary must be reexamined at a more leisurely pace to better understand which cancers were merely coaxed to appear earlier than they otherwise would and which were induced *de novo*. I would appreciate the opportunity to reexamine my calculations and consult with people far more knowledgeable about more standard approaches.

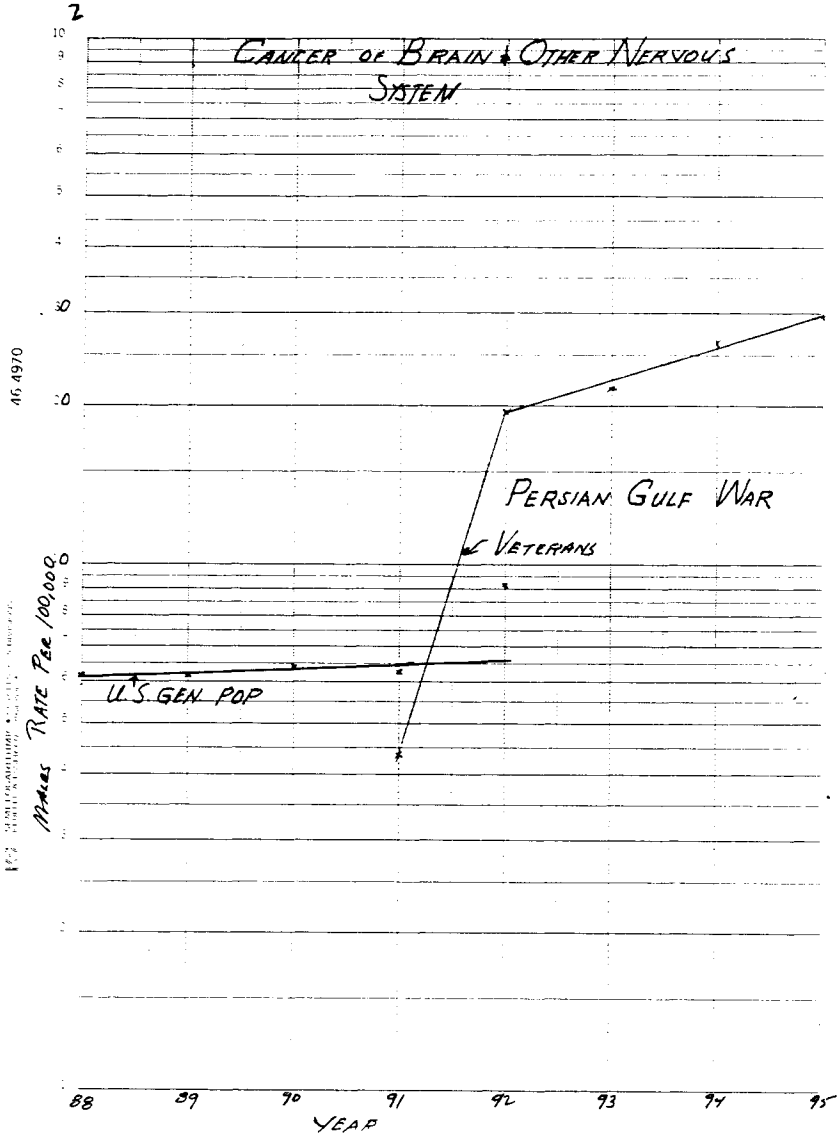
Since tragedies to individuals and communities occur as the result of oil well fires, future environmental law must take into account the adverse health effects that exposure to burning oil wells, burning oil fields and refinery explosions produce on people and the environment. This could be satisfactorily regulated by the USEPA under one or more of the existing environmental statutes; Toxic Substances Control Act; Safe Drinking Water Act; Clean Air Act; Solid Waste Disposal Act; Water Pollution Control Act or Clean Water Act; Comprehensive Environmental Response, Compensation, and Liability Act and their interaction with FEMA. The chance of similar types of disasters any place in the U.S. should start a prospective regulatory process so that the Government is ready with a deliberate, and rapid coordinated response. Considerable long term environmental concerns make this a national and international issue.

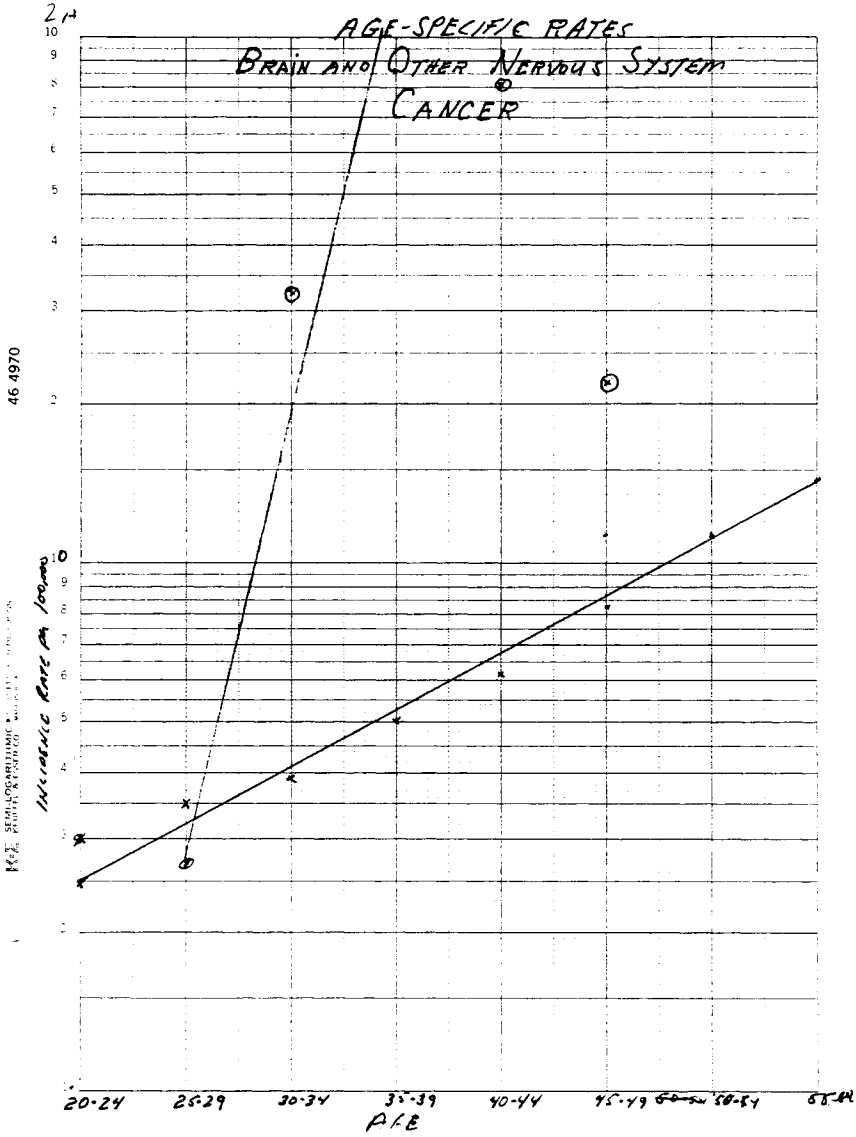
The above suggested study should be conducted by an independent non-governmental team who have been guaranteed unfettered access to VA and military files, along with the ability to compel cooperation. The actual protocol should be devised by the team, examined and critically reviewed by a panel of experts under the aegis of the APHA or other such universally recognized professional society. The board members all have to be independent non-U.S. government employees, internationally recognized experts in their fields and, known to be non-biased for or against the U.S. government in this matter.

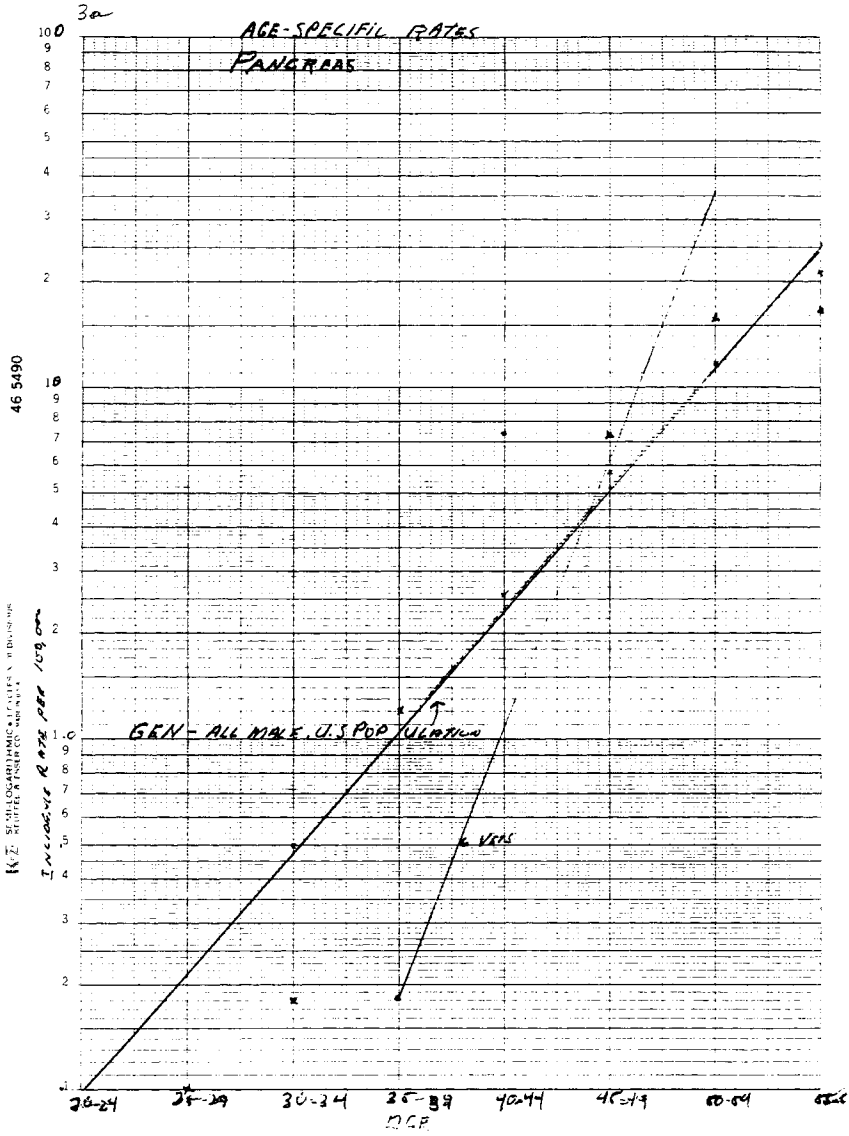
Thank you for accepting my technical report on cancers in troops from the Persian Gulf War. I hope my work has been of some assistance to you all.

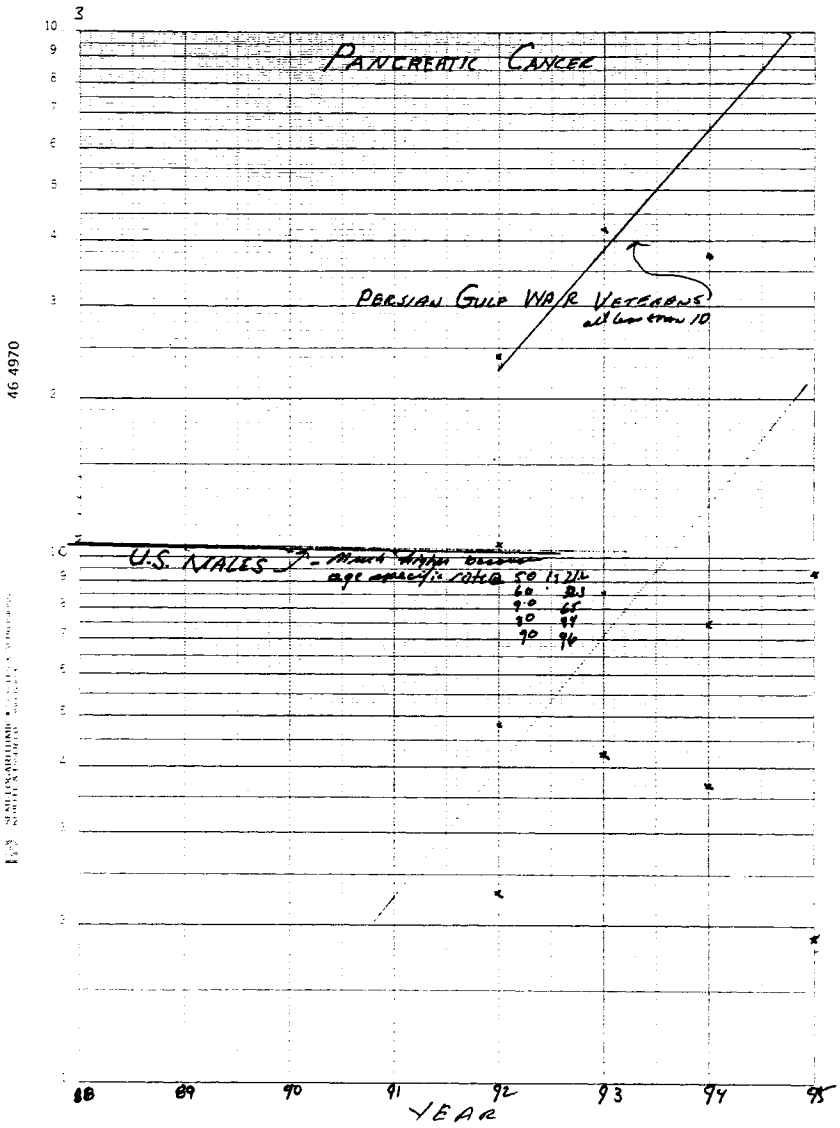

MULTIPLE MYELOMA
MALE ALL RACES
RATE PER 100,000
10
9
8
7
6
5
4
3
2
1
88
89
90
9
91
92
93
94
95
46 4970

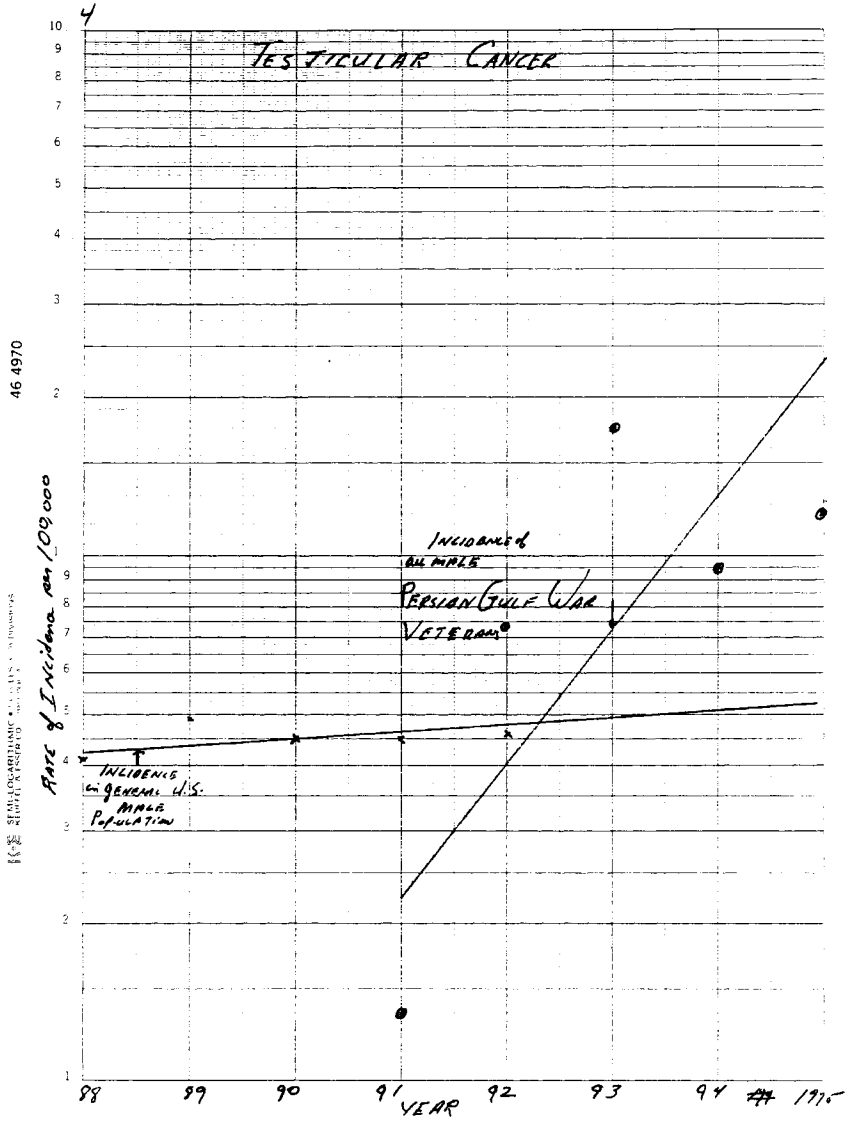

AGE-SPECIFIC RATES
MULTIPLE MYELOMA
RATE of INCIDENCE per 100,000
PERSIAN GULF WAR VETS
MALE U.S. GENERAL POPULATION
20-24
25-29
30-34
35-39
40-44
45-49
50-54
55-59
AGE
46 5490

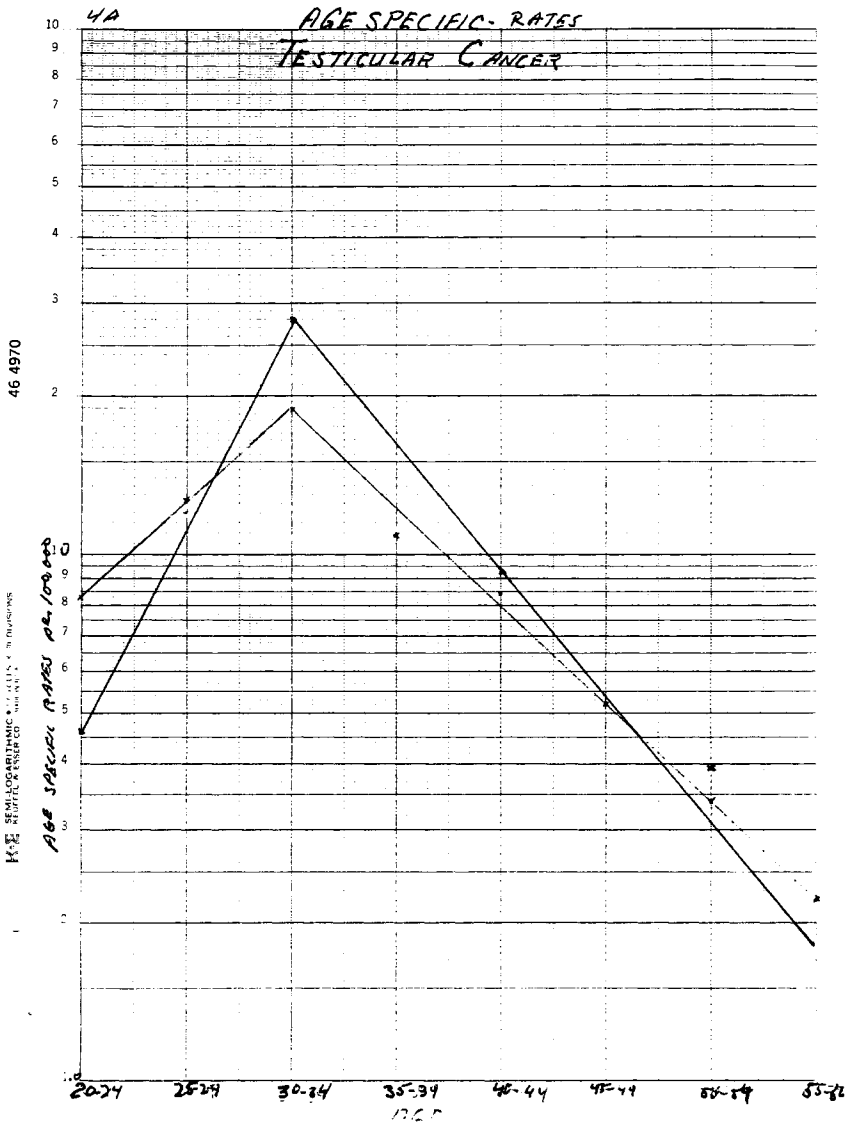

2
CANCER OF BRAIN & OTHER NERVOUS SYSTEM
PERSIAN GULF WAR
VETERANS
U.S. GEN POP
MALES RATE PER 100,000
YEAR
88
89
90
91
92
93
94
95
46 4970

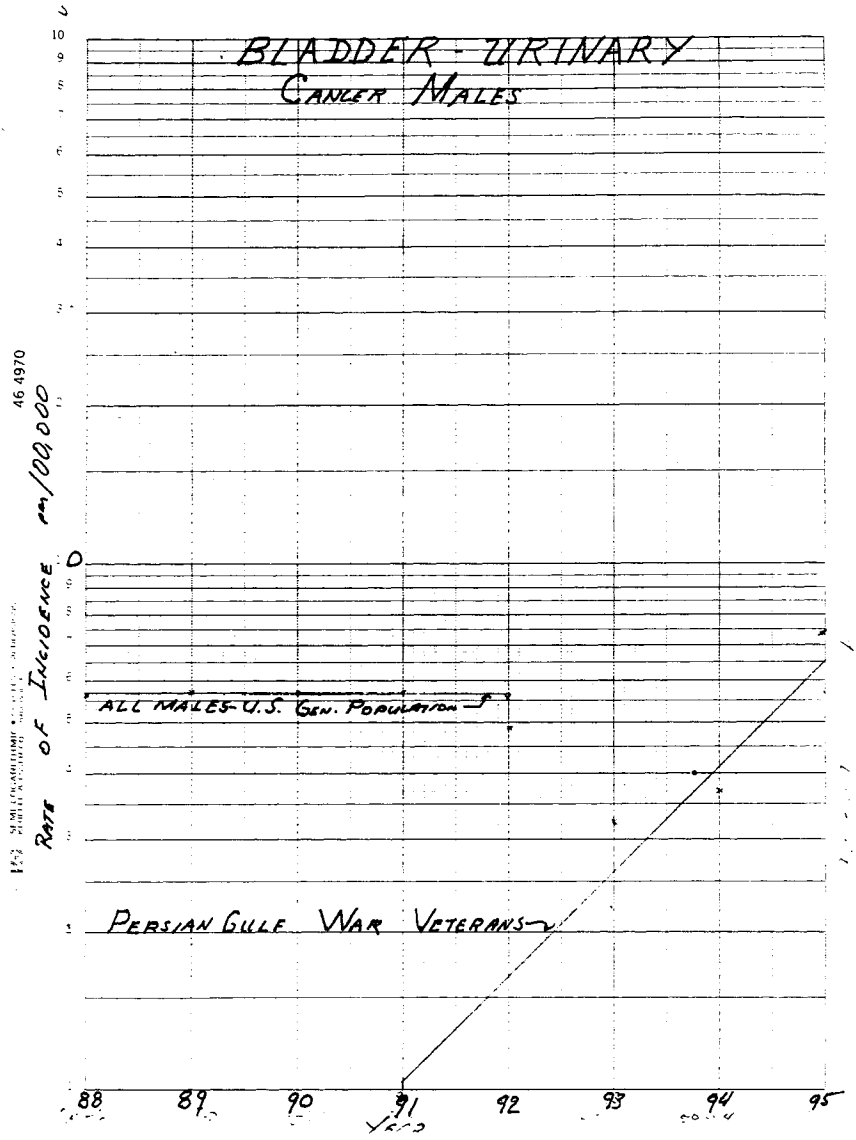

AGE-SPECIFIC RATES
BRAIN AND OTHER NERVOUS SYSTEM
CANCER
INCIDENCE RATE PER 100,000
AGE
20-24
25-29
30-34
35-39
40-44
45-49
50-54
55-59
46 4970

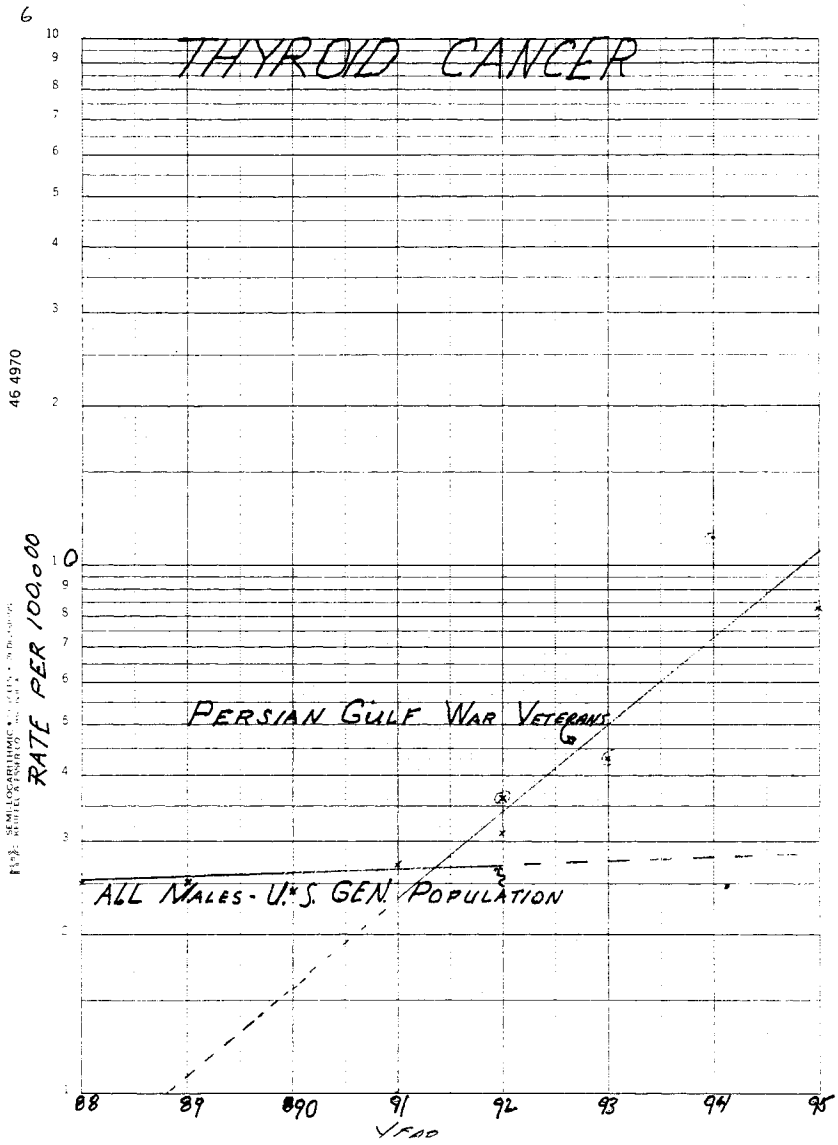

3a
AGE-SPECIFIC RATES
PANCREAS
GEN - ALL MALE U.S. POPULATION
VETS
INCIDENCE RATE PER 100,000
MCP
20-24
25-29
30-34
35-39
40-44
45-49
50-54
46 5490

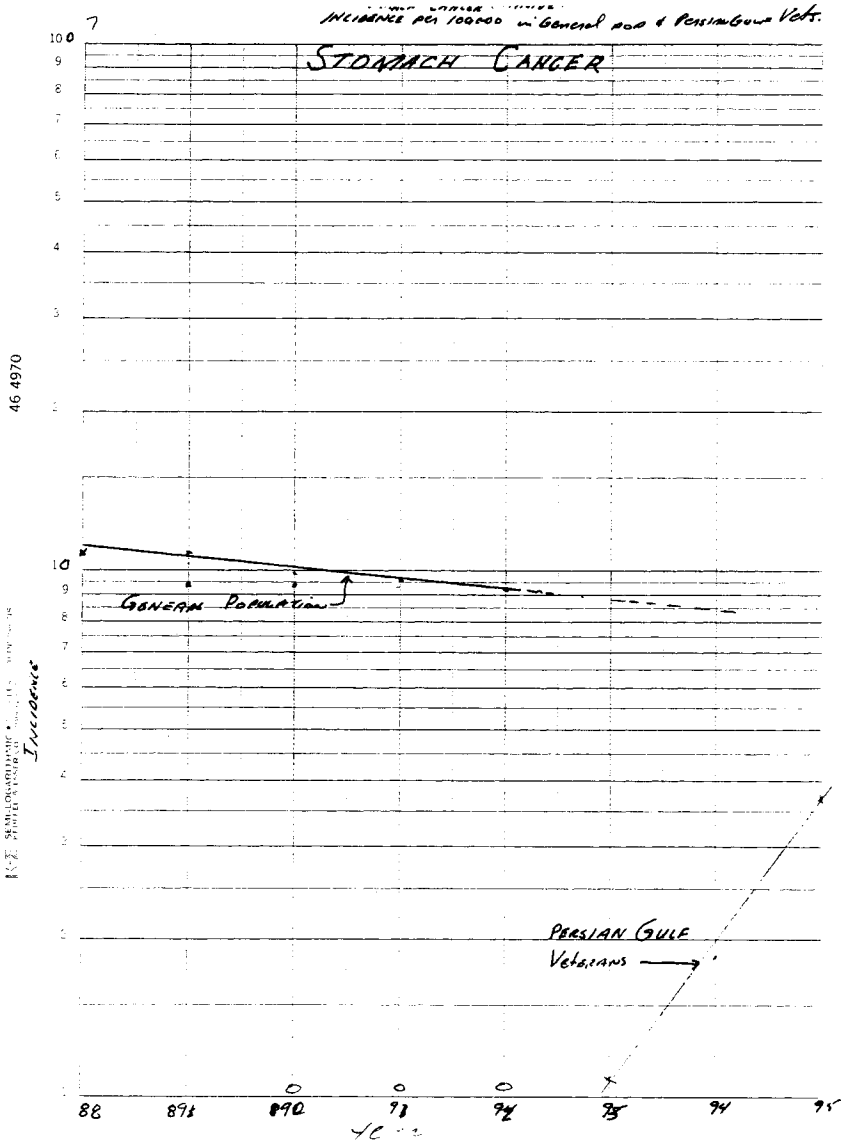

PANCREATIC CANCER
PERSIAN GULF WAR VETERANS
all less than 10
U.S. MALES
age specific rate @ 50 1.2/2
60 3.3
70 65
80 94
90 96
88
89
90
91
92
93
94
95
YEAR
46 4970


4
TESTICULAR CANCER
RATE of Incidence per 100,000
INCIDENCE of ALL MALE PERSIAN GULF WAR VETERANS
INCIDENCE in GENERAL U.S. MALE POPULATION
88
89
90
91
92
93
94
YEAR
46 4970

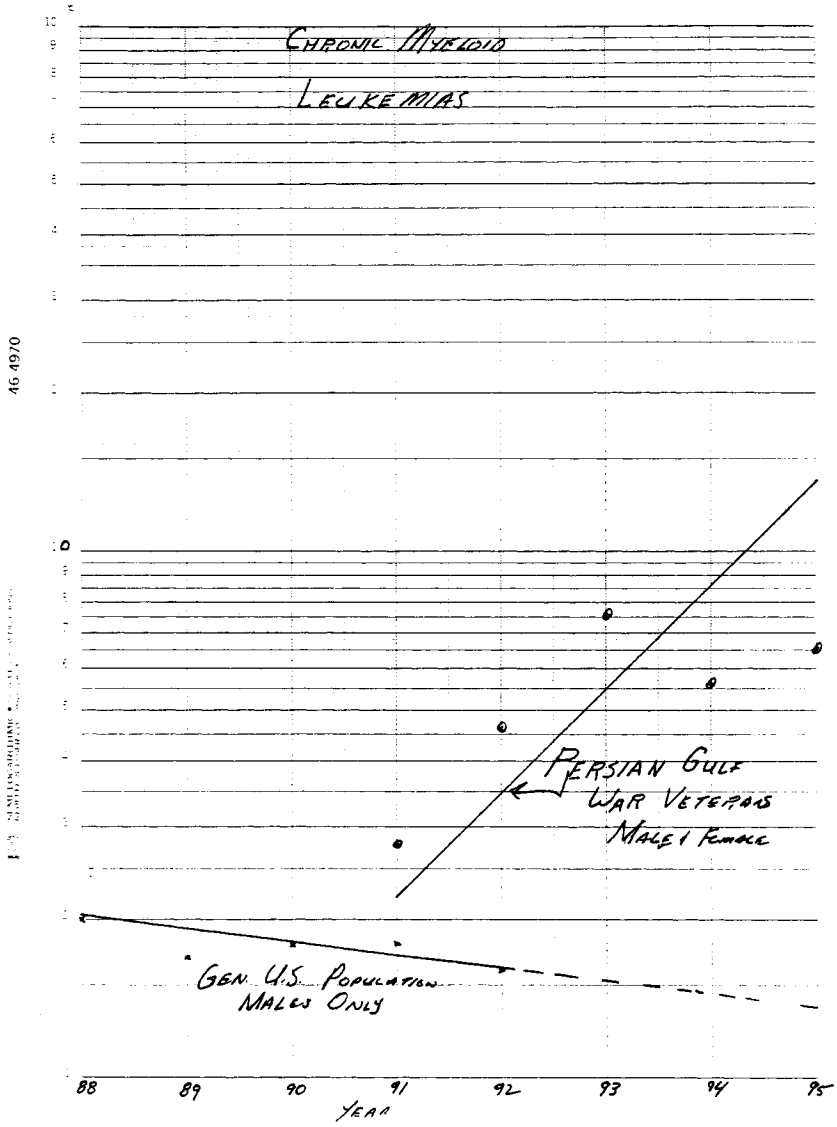

4A
AGE SPECIFIC- RATES
TESTICULAR CANCER
AGE SPECIFIC RATES PER 100,000
10
9
8
7
6
5
4
3
2
1.0
20-24
25-29
30-34
35-39
40-44
45-49
50-54
55-62
46 4970
SEMI-LOGARITHMIC
KEUFFEL & ESSER CO.


BLADDER - URINARY
CANCER MALES
RATE OF INCIDENCE PER 100,000
ALL MALES-U.S. GEN. POPULATION
PERSIAN GULF WAR VETERANS
88
89
90
91
92
93
94
95
YEARS


6
THYROID CANCER
46 4970
RATE PER 100,000
PERSIAN GULF WAR VETERANS
ALL MALES - U.S. GEN. POPULATION
88
89
890
91
92
93
94
95
YEAR


Incidence per 100000 in General pop & Persian Gulf Vets.
STOMACH CANCER
General Population
Persian Gulf Veterans
Incidence
88
89
90
91
92
93
94
95

46 4970


CHRONIC MYELOID
LEUKEMIAS
PERSIAN GULF
WAR VETERANS
MALE & FEMALE
GEN. U.S. POPULATION
MALES ONLY
88
89
90
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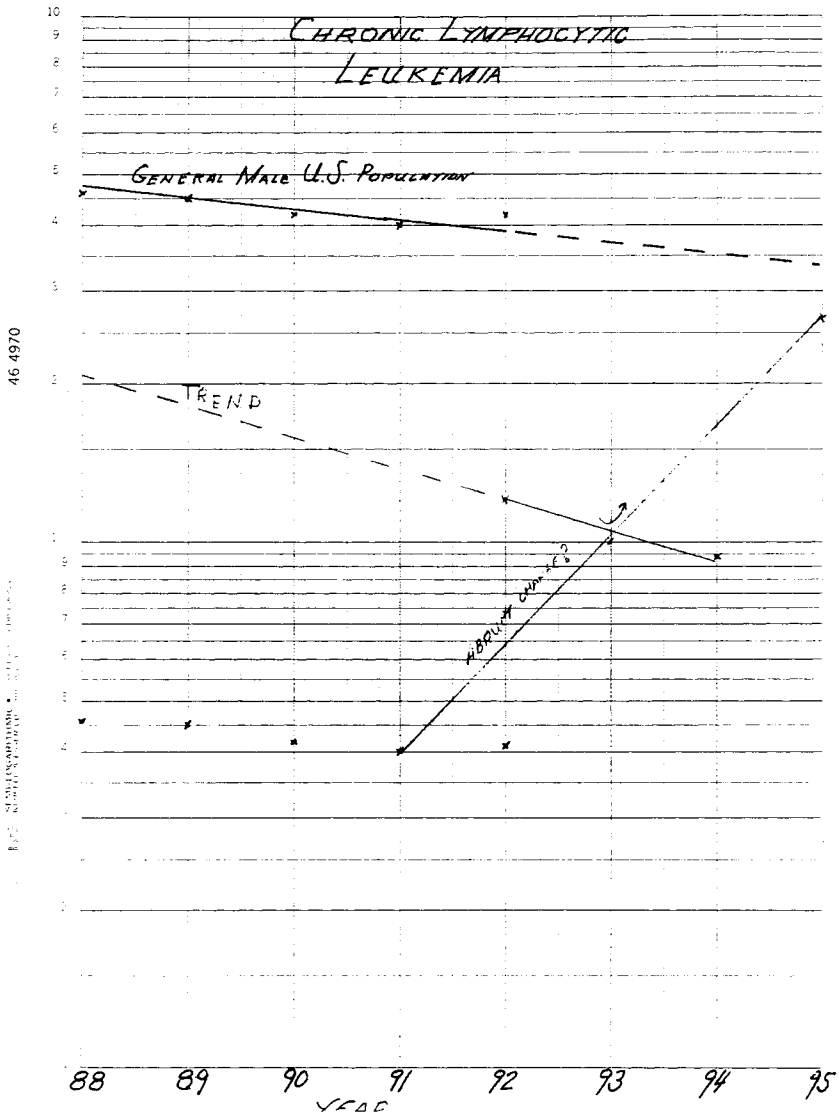
92
93
94
95
YEAR


CHRONIC LYMPHOCYTIC
LEUKEMIA
GENERAL MALE U.S. POPULATION
TREND
ABRUPT CHANGE?
88
89
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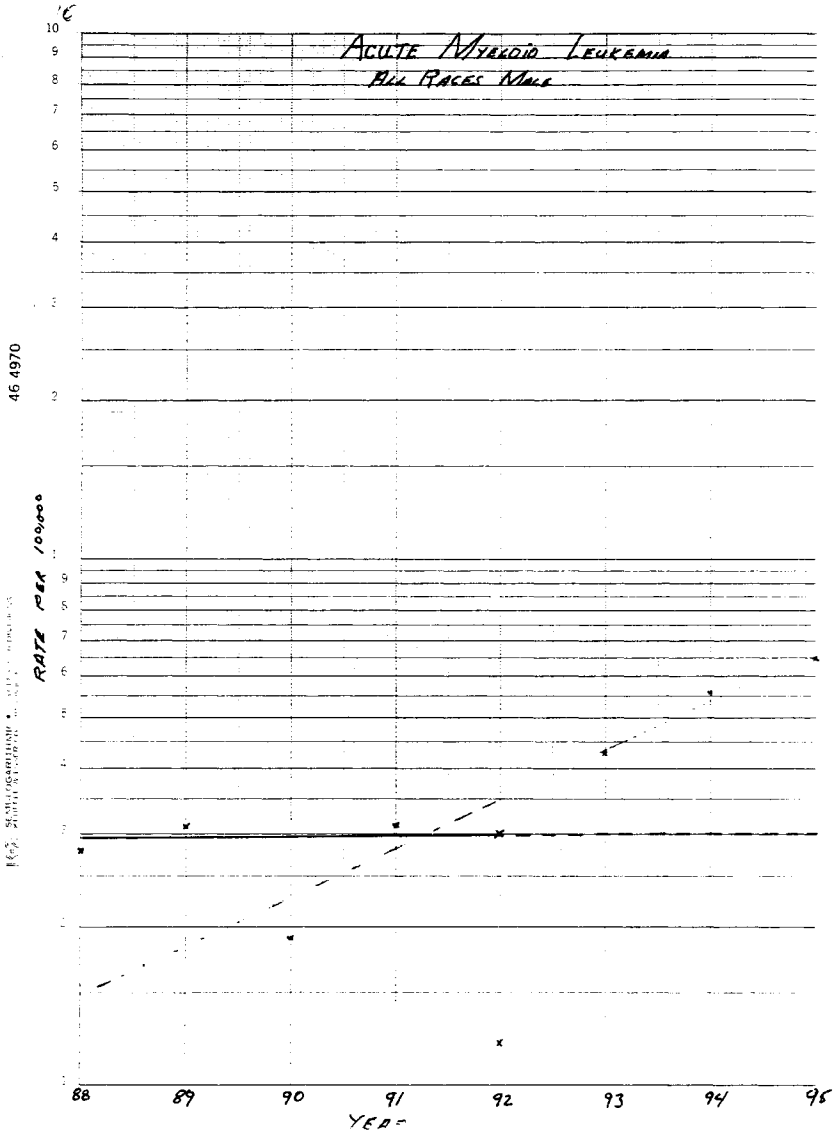
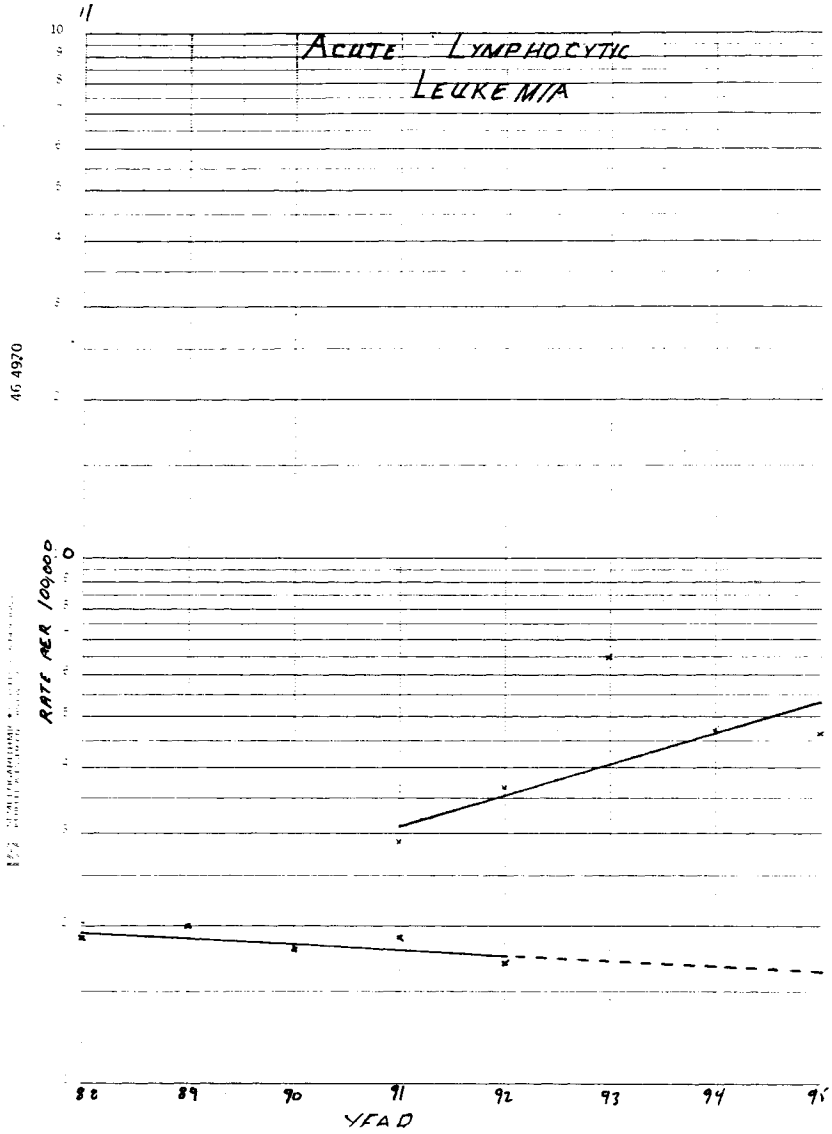
YEAR
46 4970


ACUTE MYELOID LEUKEMIA
ALL RACES MALE
RATE PER 100000
YEAR
88
89
90
91
92
93
94
95
46 4970


11
ACUTE LYMPHOCYTIC
LEUKEMIA
RATE PER 100,000
YEAR
88
89
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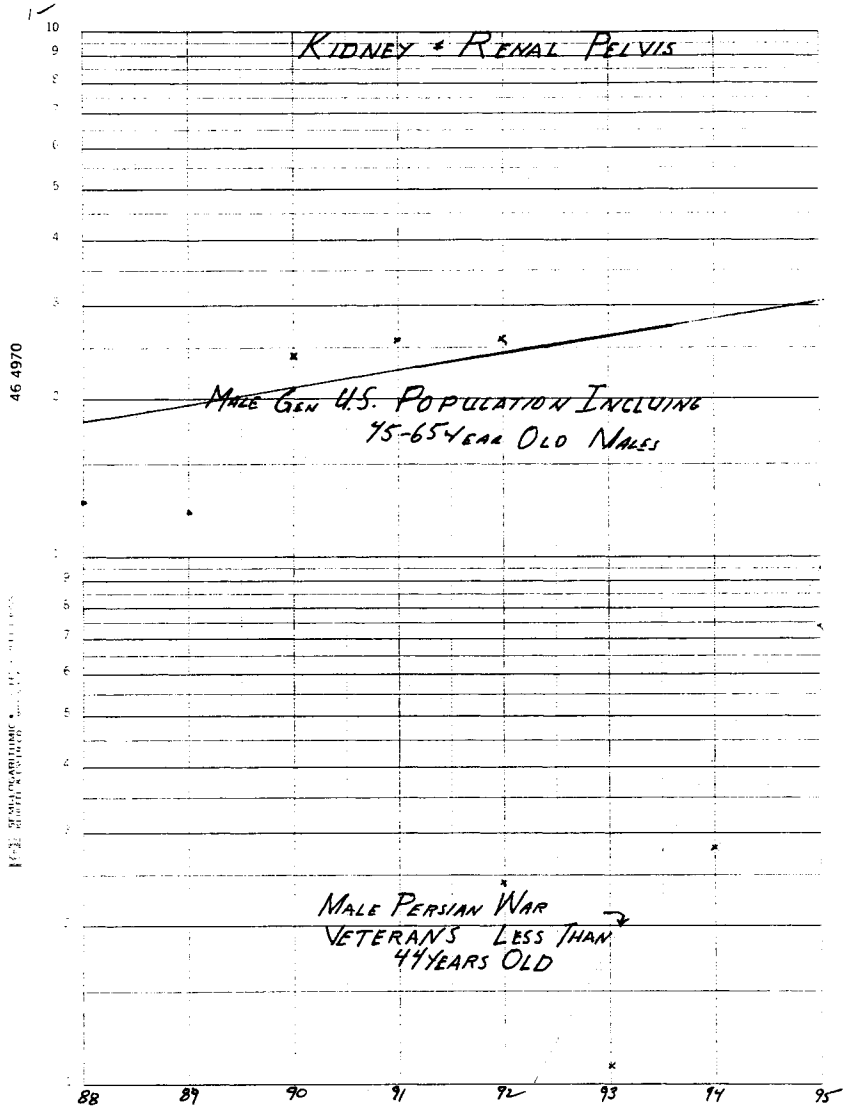
94
95


KIDNEY + RENAL PELVIS
MALE GEN U.S. POPULATION INCLUDING 45-65 YEAR OLD MALES
MALE PERSIAN WAR VETERANS LESS THAN 44 YEARS OLD
10
9
8
7
6
5
4
3
2
1
88
89
90
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92
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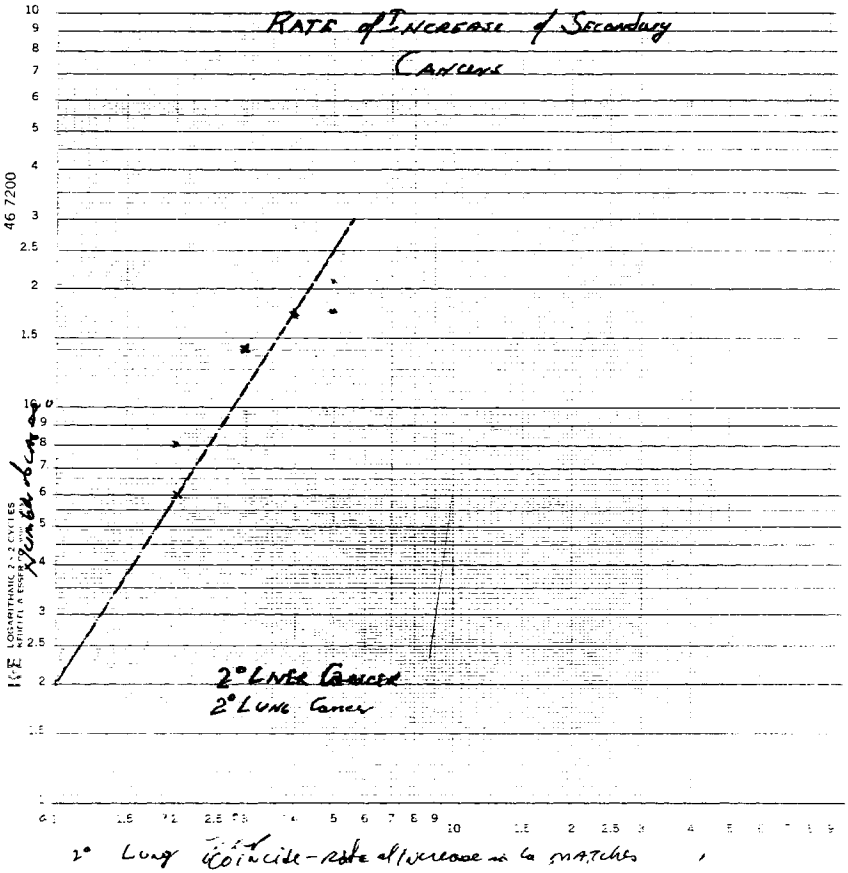
94
95

46 4970


RATE of INCREASE of SECONDARY CANCERS
2° LIVER CANCER
2° LUNG CANCER
46 7200
LOGARITHMIC 2 x 2 CYCLES
KEUFFEL & ESSER CO.
2° Lung coincide - rate of increase in the matches

Mr. SHAYS. Thank you, Mr. Marcus. I'm going to call Mr. Buyer in a second. I don't quite understand why you got on the tangent of talking about laws in this country. Just tell me offhand why you went in that direction.

Mr. MARCUS. I did that because some of the people that provided me data need to be protected, and if I show that there may be a connection with environmental laws, they will come under the whistle-blowing statutes in each and every one of those laws and therefore have some protection from either adverse effects administered by their agency in the form of firing, in the form of discrimination or in the form of reassignments.

Mr. SHAYS. OK. Thank you. Mr. Buyer.

Mr. BUYER. I have several, one by opening comment. Ma'am, I think you play a great honor to your husband's legacy by being here ask testifying and taking up the issue in his absence.

Mrs. DULKA. Thank you.

Mr. BUYER. But I think his spirit is with you. In your testimony, you gave a very strong allegation with regard to the Secretary of Defense, Dr. Perry, and having served on a past board. Can you expand on that a little bit more? I mean, this is the first time I heard this.

Mrs. DULKA. It was reported in the Hartford Courant by Denny Williams. There is a copy of it in my testimony. William Perry was serving on the board during the war. He's now the Secretary of Defense. And also John Deutch——

Mr. BUYER. On the board of what?

Mrs. DULKA. The board of Science Applications International Corporation, on their board.

Mr. BUYER. OK.

Mrs. DULKA. Also John Deutch, who is the Director now of the CIA was also on their—excuse me, was their Director at that time.

Now, President Clinton has ordered the CIA to go back and restudy, and they have chosen their own corporation, which they both served on, to restudy the information. It makes no sense.

Mr. SHAYS. If I could?

Mr. BUYER. Yes. Go ahead.

Mr. SHAYS. Just to put some focus on this and also put some caution as well, it's alleged that this organization was the organization which determined where if these chemical bunkers were blown up, the smoke plumes would go, would they come back over our troops or not.

And it was determined, based on their study, that the plumes would not come over our troops, and therefore, there was a reasonable confidence level that we could destroy these bunkers without the chemicals affecting our troops.

The question is did what we anticipate and expect actually happen. And it is alleged that the very firm that did the initial study is doing the one to see if they were right or not.

Mrs. DULKA. Exactly.

Mr. SHAYS. That's the allegation. I gather, from someone like you who has encountered one roadblock after another, the impropriety of this is something that seems quite obvious to you, if, in fact, it happened, the same firm investigating what they did.

And given what you've gone through in your life—you lost your husband. Your child had a physical disability—as a result of what you believe in your heart of hearts was your husband's service. That's the context I think in which that statement was made.

Mr. BUYER. I do know that earlier, several years ago, when I spoke with the DOD when the Air Force blew up this chemical plant in Al Nasirryah along the Euphrates River that it was, "Mr. Buyer, don't worry about it. The winds were blowing to Iran."

Mrs. DULKA. Right.

Mr. BUYER. And I've never forgotten that because I was located at the enemy prisoner of war camp that was close to the tri-border mark of Saudi Arabia, Kuwait and Iraq.

Mrs. DULKA. That's where my husband was.

Mr. BUYER. At the prisoner of war camp?

Mrs. DULKA. He was an MP.

Mr. BUYER. With the 301st?

Mrs. DULKA. Yes, 143d MP Company.

Mr. BUYER. Wow.

Mrs. DULKA. Yeah.

Mr. BUYER. All right. Tell me your husband's name again.

Mrs. DULKA. Joseph Dulka, Jr., sergeant. He was a staff sergeant. He also sprayed the POWs with lindane. Do you remember that procedure?

Mr. BUYER. Yes. He was at the 301st camp?

Mrs. DULKA. Yes. Yes.

Mr. BUYER. You're from Michigan?

Mrs. DULKA. Connecticut.

Mr. BUYER. You're from Connecticut?

Mrs. DULKA. The 143rd was from Connecticut.

Mr. BUYER. But the headquarters was out of Michigan, wasn't it, of the 301st? Wow. It's a small world here.

Mrs. DULKA. Isn't it, though.

Mr. BUYER. Well, I'm sure your husband told you, then, at the prisoner of war camp where we were, they estimate we took in the 40,000 Iraqis, but we were under total darkness.

And the oil fires and everything was very far from us. Let me just show here to the chairman real quick just about where we were located. The oil fires were in Kuwait and along this area here.

Mr. SHAYS. How many miles would that have been?

Mr. BUYER. From the first oil fire, it could be 35, 40 miles from us. If, in fact, the winds always blew toward Iran, why were we in total darkness if we're 35 miles to the west?

In the Persian Gulf, the winds swirl. So as the oil fires—I wish I had a map. If all the oil fires were here in Kuwait, then we wouldn't be in total darkness.

We're back located here. Your husband and I are here. Why are we in total darkness if the winds blow toward Iran?

Mrs. DULKA. Yes. I have several pictures of the total darkness. Yes.

Mr. BUYER. Yes. It's at noon, and I couldn't even see you.

Mrs. DULKA. Amazing, isn't it?

Mr. BUYER. So when they say, "Don't worry, the winds blow toward Iran," that's why I'm so concerned about we blew up this

huge chemical plant, and the Air Force doesn't want to talk about it.

Mrs. DULKA. Right. And now we have asked the same chemical company to look at their data again.

Mr. BUYER. Yes. I'm not familiar with that. I'm also very concerned about your allegation and these ties.

Mrs. DULKA. I don't like it at all.

Mr. BUYER. Not only Mr. Deutch but also that the Secretary of Defense have doing contracts with a company for whom they had done business with is a very serious——

Mr. SHAYS. Well, first off, we don't know.

Mr. BUYER. We don't know, but——

Mr. SHAYS. We sent a letter in that regard to them voicing that concern.

Mr. BUYER. Good.

Mr. SHAYS. It's something that the committee will look into and I'm sure Mr. Buyer will.

Mr. BUYER. Thank you. I yield back to you. Thank you.

Mr. SHAYS. It's an interesting way, maybe, to end this hearing, but when you have veterans who tell you obvious facts and then we have the scientists who tell us that things haven't been proved yet, what I hear you saying is that the fields which were north of you and the incredible smoke from the fires of these oil fields, if the prevailing winds, as they suggested, were going to go north, then you shouldn't have been in darkness.

Mr. BUYER. That's right.

Mr. SHAYS. You're a veteran, and you're thinking the obvious, but that's the challenge we in Congress have, and that's why we have gotten into this.

Mrs. Dulka, I have met with many—and I don't like to think of people as victims—but you're a victim, but you are fighting back.

I've met with many people who have been abused like you have, but I haven't met someone quite as determined as you. I am convinced that if the committee doesn't get to the bottom of this you will.

Mrs. DULKA. Oh, yes. There is no question about that.

Mr. SHAYS. You're from Connecticut and even though you're not from the Fourth Congressional District, you might as well be.

Mr. BUYER. Can I ask a question? I remember when the prisoners were brought in and matriculated, many of them have been in the desert for 6 months without a shower.

Mrs. DULKA. Yes. Yes.

Mr. BUYER. You wrinkle your face. You should have smelled them.

Mrs. DULKA. I have letters, daily letters.

Mr. BUYER. I mean, I hadn't had a shower in 4 months, but they were 6 months. So we smelled the same.

Mrs. DULKA. We're really not going to go there, are we.

Mr. BUYER. But I remember in huge lines they were brought in, and they were fumigated.

Mrs. DULKA. Deloused is the term.

Mr. BUYER. Yes.

Mrs. DULKA. Yes.

Mr. BUYER. Did your husband do that?

Mrs. DULKA. Yes, he did.

Mr. BUYER. He was one of the delousers?

Mrs. DULKA. With the spray, with the spray cans.

Mr. BUYER. He was a sprayer?

Mrs. DULKA. Yes, with the lindane in the pressurized cans, yes.

Mr. BUYER. Well, we have people here from the VA whose ears should perk up, I hope, that would look into that type of thing. I don't know enough about the science of that type of chemical and people that actually are doing the spraying.

I do know that we have soldiers, Mr. Chairman, whom did spray painting operations at the port in Dakran when a lot of our equipment came out of the prepositioned sites in Europe. They're all painted green and are now brought to Dakran, and they're quickly painted with cart paint.

And sometimes, in the time of the essence of war, safety is not looked to like it should be, and some of those soldiers have now come down with health related problems with regard to that cart paint which contains some carcinogens.

Mrs. DULKA. Now, see, I don't want you to misunderstand why I've come here. The reason I have come here and the reason I bring up the things like the lindane and I think the reason that you bring up the thing with the paint is not because you're trying to criticize the way that things were done at that time.

The criticism lies with how they're handling it now and the compensation they're not issuing and the hard time that people are getting. That's my main concern.

They do need to correct the faults, don't get me wrong, but I don't think that's the reasoning behind these hearings.

Mr. BUYER. Well, see, I want to understand the science and take care of the people. That's why I wrote into the law compensation for undiagnosed illnesses.

I know what happened to the Agent Orange and Vietnam veterans. We should learn by that.

Mrs. DULKA. And with have not.

Mr. BUYER. Dr. Murphy is not my enemy. I mean, she has got some very tough things she has to work through. I think they're listening. I know they're listening, and we need to look into it.

Because I know if your husband was doing that spraying operation, we had 44,000 Iraqis, and I don't know how many thousand that he would have sprayed, and we're talking about in a self-contained environment.

There were tents that were put up in a long tunnel that had no opportunity for him to——

Mrs. DULKA. Breathe.

Mr. BUYER [continuing]. To breathe. I mean, I was there. I saw it.

Mrs. DULKA. Yes. I know. And they have denied this three times.

Mr. BUYER. And thousands, I mean, he just hit them with the hose.

Mrs. DULKA. Yes. Yes.

Mr. BUYER. I don't know what he took in and how long he did that.

Mr. SHAYS. But not in the open space?

Mr. BUYER. No. Self-contained, no windows, no nothing.

Mrs. DULKA. Enclosed tent with no masks, no protection whatsoever.

Mr. BUYER. I don't know the causal link between that drug and pancreatic cancer——

Mrs. DULKA. Oh, I do. I've provided the VA with all that information, and they still deny the claim, and it's not service related. They can't expose people to cancer, known cancer-causing agents and then deny their claims and say, "Well, we exposed you to cancer, but you didn't get it here." He was 37 years old. I'm sorry. That's not acceptable.

Mr. SHAYS. How long was he in the Persian Gulf?

Mrs. DULKA. Four months.

Mr. BUYER. I mean, that's just one of the real strong challenges. It's how do we get the causal link with sound science. And that's why I said you're doing your husband's legacy an honor.

And I think that while I don't question Dr. Joseph and his sincerity, I do believe he is one that thinks all the answers can be made on medical knowledge that's before us today.

If that were true, then he shouldn't be spelling millions of dollars on medical research. I believe more in the line of thinking that Dr. Murphy, that there are things out there that we don't understand that we have to look at.

I am very concerned, though, that the VA would say, "We're just going to deny this one," and then someday, hopefully, we'll look at the science.

And then we end up in another war, we do the same thing to our own soldiers. I mean, that's what bothers me at the time. Thank you, Mr. Chairman.

Mr. SHAYS. I thank the gentleman. Dr. Marcus, one of the challenges that we have is that the latency period of cancer. However, in this case, with Joe Dulka, there appears to be a pretty quick relationship.

How do we fit that in with all the data that the VA and DOD have to look at?

Mr. MARCUS. There are some ironies here. I do this work for EPA all the time. There are very few people who are expert in the areas of environmental chemicals and pesticides.

Mr. SHAYS. Would it be fair to say that it would be more likely that the experts would be in EPA than in another government agency?

Mr. MARCUS. Well, there are two areas of expertise. I'm surprised you haven't been talking to the chemical corps, who have a lot of answers to the questions you've asked.

Mr. SHAYS. OK.

Mr. MARCUS. But I'll specifically determine things about lindane. First of all, the situation as being described is that SSG Dulka was in a self-contained unit for which there was no fresh air, little circulation for hours of time in the heat.

Now, lindane is not applied as 100 percent lindane. It is diluted almost 98 percent with various kinds of what they call petroleum distillates. Those have a carcinogenicity of their own.

So there is no question that the levels at which he was exposed for the periods of time he was exposed are extremely high. I have not ever seen anything like that.

Normally, lindane in this country was called Kwell. It had been used on children in the form of shampoos to get rid of nits, so-called.

So we have a situation in the Gulf in which they detailed the people there to literally go into an exposure chamber and expose themselves to far greater amounts than the Iraqis ever were, since they only got sprayed and then left.

Mr. SHAYS. Let me ask you about the whole issue of latency period. Does it present an almost insurmountable problem?

Mr. MARCUS. I didn't quite get that.

Mr. SHAYS. The latency period. I will tell you something that just, kind of, rings in my ear and in my brain. I had some eye and throat doctors come and see me, and they said that 20 years after World War I the throat cancer rate went up like this. And again, it was a line that went just like this 20 years after World War II.

They called the culprit tobacco, which was given free to all our soldiers in both wars. The point is for 20 years everybody went along fine, and then 20 years later you had this high concentration.

So the question I'm raising is is it conceivable that we have a situation where the latency period is at a point where a lot of these soldiers may not see the effect for 5, 10, 15, 20 years? And if that's the case, how do we deal with that?

Mr. MARCUS. Well, the answer to your question is yes. The explanation is much more difficult. The latency period varies with the chemical one talks about.

Also, an even greater effect is the individual susceptibility. In several pieces of work done by a fine researcher in Turkey called Muzaffen Aksoy, he looked at people who were exposed identically to, in this case, it was benzene, and showed that members of one family died within 4 years of exposure, and the father of this family died of exactly the same kind of cancer but 16 years later, trying to illustrate the fact that there is individual susceptibility.

There appears to be in the Gulf, judging by the graphs I created, a common exposure to a tremendous amount of chemicals, because if it were one chemical, you'd expect very similar kinds of cancer to be occurring in people maybe over some timeframe but not in the numbers we're seeing in the different organ systems.

So they were exposed to a variety of chemicals, and they were really, really whacked for some period exceeding 3 months.

The only thing that occurred that's like that is when they burned those oil wells, they set the fields on fire. The reason that's significant is you cannot predict the chemicals that are produced when you do that.

It varies with almost the barometric pressure so that you were producing things like carbon disulfide. Carbon disulfide requires carbon, sulphur and heat.

It's an extremely toxic chemical that's widely used in commercial operations, a so-called commodity chemical. Three things occur dramatically.

One, and the first complaint is there is a personality change. Joe isn't Joe anymore, and what's more, he's much more violent and difficult to control than before he was exposed.

Second, there is a significant increase in cardiovascular disease because carbon disulfide causes coronary arteries to look as if they have been just totally coated with atherosclerotic disease.

The third thing that occurs is there are problems with vision, eyelids droop, and a lot of other kind of peripheral nervous system diseases.

From what I can tell of the people I've spoken to, they all know somebody like that. What I was able to determine by people who have done autopsies is yes, they did have coronary artery disease.

And the question I ask and never get a satisfactory response is but these were military men. They had to have undergone very vigorous training. Any sort of coronary artery disease of this nature would have shown up, surely, quite early on.

So they were not affected with coronary artery disease when they were exposed, and shortly afterwards they got it.

Mr. SHAYS. Let me just ask you about one other area. The issue of low level exposure to chemicals versus high level, acute versus chronic and so on, am I losing my mind here?

Are there any studies at all that show that low level exposure to certain chemicals can be harmful? I mean, is this just something that I'm absurd to even think of?

Mr. MARCUS. No. The International Agency for Research on Cancer, which is a part of the World Health Organization called IARC, publishes monographs on chemicals that cause problems, mostly cancer problems.

There is a monograph on pesticides, and organophosphate pesticides are not unlike war gases. They're modeled on war gases. They're just not as potent.

And in that issue, they described, that is, the IARC—and that's made up of people from all over the world, not just people in France or United States—they discussed Third World pesticide applications, which would be pretty much what you're talking about with the people in the Gulf who were exposed to low levels of, let's call it, Sarin.

What happens is well characterized. They get problems with peripheral nervous disease. That's the first one they complain about.

Second, they have problems with their vision. They have headaches. They have short-term memory loss. Their stomach and GI tract——

Mr. SHAYS. This is due to low level exposure?

Mr. MARCUS. Low level exposure. Oh, yes. We're not talking about high level, low level exposure.

Mr. SHAYS. What was your reaction when you heard the response of both the Department of Veterans Affairs and DOD talking about how they're going to begin a study of the low level exposure?

It sounds to me like you're aware of studies that have already been done.

Mr. MARCUS. Certainly. There have been many studies done. I think Congressman Buyer's remark——

Mr. SHAYS. I always call him Buyer. Am I wrong here? Is it Buyer or Buyer? I'd like to finally resolve this.

Mr. BUYER. I think next time I'm on the McNeil-Lehrer show, I'll take 30 seconds and explain to America it's Buyer. It came from Alsace-Lorraine along the Rhine. It used to be——

Mr. SHAYS. OK. I'm sorry I asked. I'm sorry. Because I got it wrong, too. Nobody was right. I thought I was going to win. I'm sorry, Dr. Marcus. That's the first time I've laughed all day today.

Mr. MARCUS. His observation that there should be studies done in peacetime and not when war comes to answer these questions is right on the mark.

We have the Walter Reed Army Research facility, dramatically large, full of wonderfully trained and very hard working people who should be doing this.

Mr. SHAYS. But the bottom line to your testimony which I find at least encouraging is that there are people in this world, maybe environmentalists, who recognize that low level exposure to chemicals can cause serious illness.

Mr. MARCUS. Oh, yes.

Mr. SHAYS. And the fact that it was not high level and you didn't see acute, you might see chronic, and maybe we don't have to reinvent the wheel, that we have places we can turn. Is that correct?

Mr. MARCUS. That's correct. I'd like to explain why you're right.

Mr. SHAYS. I wish you had said it sooner.

Mr. BUYER. He'll give you all kinds of time for this one.

Mr. MARCUS. Many of the chemicals you ask about are very fat soluble. So when people breathe them or eat them or, in the case of some of the chemicals in the Gulf, they penetrate the skin, they leave the bloodstream and go into the fat, fat depots.

You get in a situation in which a lot of material is built up in the fat. The fat has at least three different compartments. There is a very mobile compartment. There is one that's not so mobile, and there is one that stays for a long period of time.

When the exposure ends—they've left the Gulf. They come home—the material that got into the fat begins to leak out. So there is a continuous exposure via the bloodstream to low levels of these materials over long, long periods of time even though the initial exposure has gone.

So therefore, the idea of saying that they were exposed 3 months and they're finished with is not true.

Mr. SHAYS. Well, I'm going to remember this part of your testimony in particular. The gentleman from Indiana.

Mr. BUYER. That's an easy way out. I don't blame you. How you get Buyer out of Buyer, I want you to know that we had bureaucrats that couldn't spell back when my family immigrated, I guess, to America. How you get DeBuyer and turn it into Buyer, we struggle with it.

I think, though, Mr. Chairman, the testimony here really shows how the Gulf war illnesses are, in fact, multi-faceted. Some people looked at me like I was a little peculiar 3½ years ago, but it shows that.

When, in fact, you have a soldier that was involved in a delousing procedure, someone in the Air Force that is dying from a health related problem that was far, far away from you, from your husband, there is no causal link between the two.

You've got soldiers that were fuel handlers, someone that was handling the issues of depleted uranium and the rounds that went into tanks and all kinds of things.

You've got spray paint operations at the port. You've got the issue of the cocktail mix of inoculations. You've got the issue of insecticide, pesticides, the DEET, the spray-downs of the tents that they did, the issue of kerosene heaters that were used in the tents at night because it was cold in the desert.

And in those kerosene heaters, we use lead-based fuel in the tents. So now we're also breathing that. It just shows that the Gulf war illnesses is, in fact, multi-faceted.

We're not going to find a sole-source cause. It's very challenging for Gulf war veterans and their families out there.

I don't question the sincerity of some within the medical institutions at the VA or, in fact, that are in the military delivery system. There, in fact, are some institutional problems within health.

There was some laughter out there when I said, "Well, do I have to get Ross Perot to fund this one?" Mr. Perot is more than willing to fund medical research because it's outside the norm of institutional procedures.

And then, in fact, when they prove something, then, if necessary, if we have to back-fund it with government research, we're going to do that.

But we're going to push the envelope of science, and I appreciate your testimony today. I applaud the chairman for having this oversight hearing. It's extremely important not only to the veterans but also to the medical community because they also like the prod every once in a while because they understand what they have to deal with within the bureaucracies of government, which is a terrible beast sometimes.

Ma'am, I applaud you and thank you for your testimony. Thank you, sir.

Mr. MARCUS. I have one question to ask you. The National Institutes of Health have a system for gaining medical records, which they keep. Why are we doing that again? Why are the people in the VA and the Department of Defense reinventing medical records, how to get them to computers, how to get them out of computers and how to use them once they're in the computers and what data you need?

They've spent a fortune over there at NIH doing it. They've got it operational. There is no research required. You probably may have to add a few unusual records that they don't normally keep, but why are they doing it all over again? I don't understand that.

Second, it would appear that you need somebody with a tremendous amount of knowledge about medical records, about medical fraud and how to keep that from occurring.

You need somebody who is a certified fraud examiner with a medical degree who probably works for an Inspector General at the NIH, somebody like that who hasn't got an axe to grind, doesn't know anybody at the VA, doesn't know anybody at DOD, just give them the job and tell them to do it.

You've got a real problem with people maintaining their turf. I'm a long-time bureaucrat. I've been in the government 22 years, but my problem with my agency is I tell them what I think. Because I'm a toxicologist, they always think that they have to shoot me because the news is bad.

In this case, you've got a similar problem. Anybody who is going to come forward with the data that you want, that is going to tell you something you need to know they will shoot, and you've got to find some way to keep that from happening, otherwise, you'll never be able to perform your oversight functions in the way that you would like.

Mr. SHAYS. Thank you, Dr. Marcus. Mrs. Joseph Dulka, do you have anything you'd like to say?

Mrs. DULKA. I've covered it all.

Mr. SHAYS. You did. You did it wonderfully, and you did it succinctly, and God bless you, and thank you both for coming.

The record will remain open for 3 legislative days. Thank you all for coming.

[Whereupon, at 5:18 p.m., the subcommittee was adjourned.]

[The following attachments can be found in subcommittee files:]

ATTACHMENTS

1. 6/11/96 letter from the Subcommittee to VA Secretary Brown and DOD Secretary Perry requesting information on an RFP for weather mapping awarded to SAIC.
2. 4/19/96 letter from the Subcommittee to VA Secretary Brown requesting tumors data.
3. 5/30/96 letter from VA Secretary Brown responding to tumors data request.
4. Tumor data supplied by the VA in Response to the Subcommittee request.
5. 6/11/96 and 6/17/96 additional data supplied by VA as per the Subcommittee's request.

STATUS OF EFFORTS TO IDENTIFY PERSIAN GULF WAR SYNDROME, PART IV

THURSDAY, SEPTEMBER 19, 1996

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON HUMAN RESOURCES AND
INTERGOVERNMENTAL RELATIONS,
COMMITTEE ON GOVERNMENT REFORM AND OVERSIGHT,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:12 a.m., in room 2247, Rayburn House Office Building, Hon. Christopher Shays (chairman of the subcommittee) presiding.

Present: Representatives Shays, Morella, Davis, Towns, Sanders, Green and Fattah.

Staff present: Lawrence J. Halloran, staff director and counsel; Anne Marie Finley and Robert Newman, professional staff members; Thomas M. Costa, clerk; Cheryl Phelps, minority professional staff; and Jean Gosa, minority staff assistant.

Mr. SHAYS. I would like to call this hearing to order and acknowledge the presence of a quorum and our ranking member.

This is our fourth hearing on the illnesses being suffered by veterans of the Persian Gulf war. Since last March, when we began our oversight of the diagnosis and treatment of Gulf war veterans by the Department of Veterans Affairs, VA, we have learned much about the mysterious, often debilitating, maladies known as the Gulf war syndrome.

What have we learned?

We learned there is not one cause and not one illness.

We learned many sick veterans are being told "it is all in your head" by VA doctors, while logical, even obvious, theories of toxicological causation are discounted because the official Department of Defense, DOD, and Central Intelligence Agency, CIA, conclusions deny U.S. troops were exposed to any such toxins.

We learned United States troops detonated Iraqi chemical munitions stored in bunkers at Khamisiyah. As a result, it should now be presumed, according to the staff of the Presidential Advisory Committee on Persian Gulf War Veterans' Illnesses, that all U.S. troops within 25 kilometers of that area were exposed to chemical warfare agents.

Just yesterday, we learned DOD raised the number of troops potentially exposed at Khamisiyah to 5,000, based on information that more chemical weapons were destroyed in a pit area within the huge bunker complex. This is in addition to the several tons of chemical weapons agents cooked off and rained down on U.S.

troops during the course of a number of days when bunker 73 was detonated.

We also learned that the DOD's Persian Gulf War Veterans' Illness Investigation Team considers two chemical agent detections by Czech units during the first week of the air war credible. They conclude five other reported detonations of chemical nerve agents cannot be discounted. Apparently, they were trying.

Two weeks ago, we learned that the investigative staff of the Presidential Advisory Committee finds the Pentagon's denial as incredible as veterans have found them for 5 years.

On September 5, James Turner, the committee's chief investigator, testified: "To fulfill the government's obligation to tell the truth about chemical warfare agent exposures to veterans and the American public, DOD's investigations must be timely, thorough, independent, credible and public. This means devoting adequate resources, targeting investigative efforts appropriate, developing objective standards for evaluating possible low level exposures, and informing veterans and the American people of the results of the investigation."

In each of these areas, the Advisory Committee staff found DOD's efforts "short of the mark" and concluded: "Since the first concerns were raised about possible chemical warfare agent exposures, the Department of Defense's official position has remained essentially unchanged. That can be . . . summarized in three no[e]s. There was no use, there were no exposures and there was no presence. The inflexible reassertion of this position in the face of growing evidence that there were possible low level exposures, there were chemical weapons in the Kuwaiti theater of operations, and there were releases has served to gravely undermine the credibility of the Department of Defense's internal investigations."

This is a power indictment. It should cause all of us, particularly those in the VA charged to care for sick veterans, to reexamine any factual conclusions or treatment policies based on the Defense Department's version of what chemical exposures took place in the Gulf.

Finally, at our last hearing we learned that even when forced to concede U.S. troops were exposed to low levels of chemical agents and other toxins, DOD and VA officials still deny these exposures have any causal relationship to the symptoms of immunological and neurological damage being presented by Gulf war veterans.

Dr. Stephen Joseph, Assistant DOD Secretary for Health Affairs, told this subcommittee, "Chronic symptoms or physical manifestations do not later develop among persons exposed to low levels of chemical nerve agents who did not first exhibit acute symptoms of toxicity."

It is that proposition we will examine in detail today, for it now constitutes the Pentagon's last line of defense, the last barricade against the truth of chemical exposures and their lingering effects on Gulf war veterans.

Unfortunately, today, we will not have the benefit of testimony from the Department of Defense. After initially indicating a willingness to provide a witness, the Department declined our invitation, citing the unavailability of anyone capable of commenting on these issues. From my view, this tells me the coverup continues.

The Presidential Advisory Committee also respectfully declined our invitation to appear today, but offered to testify after the staff findings are adopted by the full Advisory Committee and their final report is complete.

Nevertheless, we are very fortunate to have expert witnesses before us today. Each is an expert who, on the strength of hard personal experience, professional training, or both, will help us find the truth about the effects of chemical exposures on the health of Gulf war veterans.

Our first panel, consisting of Gulf war veterans and their spouses, will describe those effects in very personal terms. They will also describe the toxic exposures so long denied, but now presumed, at least by the Presidential Advisory Committee staff, to have occurred.

Witnesses from the CIA, VA and the Environmental Protection Agency have been asked to discuss what we have learned about the probability and the effects of exposures to low level chemical toxins in the desert battlefields.

Our final panels will describe their work as investigators, clinicians and researchers to determine the causal mechanism connecting chemical exposures and the myriad of symptoms and illnesses experienced by Gulf war veterans.

We welcome all our witnesses and we appreciate their help in our ongoing inquiry. You can be sure this subcommittee, you can be absolutely sure, this subcommittee will pursue these issues until the denials and coverup give way to all the honest answers veterans obviously deserve.

And now I would like to call on my colleague, Mr. Towns, the ranking member, and a full partner in this process.

Mr. TOWNS. Thank you very much, Mr. Chairman.

Let me begin by thanking you for holding this hearing. Our purpose today is to determine whether U.S. forces on the ground during the Persian Gulf war were exposed to low levels of chemical agents which later manifested as chronic illnesses or symptoms.

This an important and emotional issue, particularly for the Gulf war veterans and their families struggling with unexplained illnesses, illnesses which may be the result of service to their country.

These men and women deserve timely, thorough and conclusive answers. We may not yet have those answers, but we should have the conviction to find them and the loyalty to support our veterans until we succeed.

For the past 5 years, the Department of Defense has publicly denied that U.S. troops were exposed to any chemical or biological warfare agents in the Persian Gulf. The Department of Defense has declined to appear today because their findings on additional chemical detections and fallouts are still incomplete. I understand their rationale, but I strongly disapprove of their apparent failure to expedite.

DOD's absence before this subcommittee may exacerbate the perception that they are withholding vital information. I look forward to seeing the outcome of the agency's efforts in this area.

We must be careful not to arbitrarily link DOD's acknowledgment of chemical detections and the probability that U.S. troops

were exposed to chemical warfare agents at low concentrations to the chronic health problems suffered by some Gulf war veterans.

Mr. Chairman, as of yet, the link cannot be scientifically or medically established. Nevertheless, these men and women are sick. There must be a cause and we need to find answers.

For the sake of our Gulf veterans as well as our current military objectives in the region, the emotional impact of this subject should not be underestimated, nor should it be exploited. Therefore, I hope that in our search for answers we are both reasonable and also responsible.

Toward this end, I welcome the views of all of today's witnesses and thank them for the time and the energy and their hard work in preparing for this hearing. I especially thank our veterans, both for their presence before the subcommittee and for their sacrifice that they have made to this country.

Speaking as an ROTC person, speaking as a veteran, and speaking as a legislator, I assure you that I am committed to resolving this matter.

Mr. Chairman, thank you again for holding this hearing and I yield back the balance of my time.

[The prepared statement of Hon. Edolphus Towns follows:]

PREPARED STATEMENT OF HON. EDOLPHUS TOWNS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

Mr. Chairman, our purpose today is to determine whether U.S. forces on the ground during the Persian Gulf war were exposed to low levels of chemical agents which later manifested as chronic illnesses or symptoms.

This is an important and emotional issue, particularly for our Gulf war veterans and their families struggling with unexplained illnesses—illnesses which may be the result of service to their country.

These men and women deserve timely, thorough, and conclusive answers. We may not yet have those answers—but we should have the conviction to find them, and the loyalty to support our veterans until we succeed.

For the past five years, the Department of Defense has publicly denied that U.S. troops were exposed to any chemical or biological warfare agents in the Persian Gulf. We know now that troops may have been exposed to low concentrations of chemical agents when the 37th engineering battalion detonated Iraqi chemical weapons storage bunker 73 at Khamisiyah; and also as a result of coalition bombing of Iraqi chemical plants.

But this is all we do know. We do not know for certain that low level chemical or biological exposures actually occurred, or that such exposures produce chronic disease or symptoms of any kind. We don't even know the extent of potential exposures.

The Department of Defense has declined to appear today because their findings on additional chemical detections and fallouts are still incomplete. I understand their rationale, but I strongly disapprove of their apparent failure to expedite. DOD's absence before this subcommittee may exacerbate the perception that they are withholding vital information. I look forward to seeing the outcomes of the agency's efforts in this area.

We must be careful not to arbitrarily link DOD's acknowledgment of chemical detections and the probability that U.S. troops were exposed to chemical warfare agents at low concentrations, to the chronic health problems suffered by some Gulf war veterans. Mr. Chairman, as of yet, this link cannot be scientifically or medically established. Nevertheless, these men and women are sick. There must be a cause.

For the sake of our Gulf veterans as well as our current military objectives in the region, the emotional impact of this subject should not be underestimated, nor should it be exploited. Therefore, I hope that in our search for answers we are both reasonable and responsible.

Toward this end, I welcome the views of all of today's witnesses, and thank them for their time and their hard work in preparing for this hearing. I especially thank our veterans, both for their presence before the subcommittee, and for their sacrifice to our country.

Speaking as a veteran as well as a legislator, I assure you that I am committed to resolving this matter.

Mr. SHAYS. I thank the gentleman.

Before calling on Mr. Davis, I would like to get some housekeeping out of the way and ask unanimous consent that all members of the subcommittee be permitted to place any opening statements in the record and that the record remain open for 3 days for that purpose. Without objection, so ordered.

I also ask unanimous consent that our witnesses be permitted to include their written statements in the record. Without objection, so ordered.

I would at this time call on Mr. Davis.

Mr. DAVIS. I will be brief, Mr. Chairman. I just want to thank you and Mr. Towns for continuing to pursue this matter. I am also pleased to be joined by Mr. Upton, who was here for our last round of hearings. He has taken a great interest in this. And Mr. Buyer, who is a Gulf war veteran. I appreciate their activities, as well as Mr. Sanders, who is sitting here as well.

This is really a bipartisan effort to get to the truth about the causes of the unexplained illnesses, really a statistically significant number of unexplained illnesses, that have resulted from our soldiers fighting over in the Gulf war.

The aim of this hearing today is full disclosure and straight answers, something we have not seemed to be getting by itself coming out of the Pentagon.

The men and women who served our country, who put their lives on the line, risked their lives for our country, deserve no less than to get full disclosure, straight answers and the facts. They fought for freedom, they defended our free society, they are entitled to the benefits of that, which is the truth of what happened.

I just congratulate this committee in moving ahead and getting more facts on the table and I think eventually of getting some resolution to this matter and I once again congratulate you, Chairman Shays and Mr. Towns, for continuing to hold these in the fight for truth.

Mr. SHAYS. I thank the gentleman.

Mr. Sanders.

Mr. SANDERS. Thank you very much, Mr. Chairman. I also want to praise you for your persistence in this very important issue.

It seems to me we are talking about two important issues. No. 1 is the obligation of the U.S. Congress and the Government to do everything that we can to understand what Persian Gulf syndrome is. If we have 50,000 people who are hurting who fought in the Persian Gulf, we have an obligation to try to understand the causation of those problems. But the second issue, I think equally important and I want to touch upon that in a moment, is to really understand what the Defense Department has been doing in terms of not being forthright with the truth.

As you know, I have requested of you, and I know this is a difficult time because Congress is going to be adjourning shortly, but I would hope, Mr. Chairman, that no matter which party is in control of Congress next year that we continue this pursuit and that, in addition to trying to get at the root cause of the Persian Gulf syndrome, we hold the Defense Department accountable and we

hold those officials accountable who have not been telling the people of this country the truth.

There is an enormous amount of paranoia that goes on in America about all—you know, we heard recently for example, some people are thinking that the Air Force blew up the TWA plane. Some of you may have heard that. Paranoia like that exists, it seems to me, when the government is not forthcoming and honest about what is going on, and we need to get to the root of this.

We must investigate why the information about possible U.S. troop exposure to nerve gas and chemical weapons known since 1991 was not made public and was not incorporated into the studies about Persian Gulf war syndrome. We must find out who is responsible for this very serious dereliction of duty and hold those people accountable. This cannot go on and on.

The story has unfolded slowly, but it is becoming clearer that the Department of Defense inadequately investigated and released evidence of possible exposure to the veterans and their health care specialists.

This abominable behavior that has significantly contributed to the veterans' suffering by unnecessarily questioning their complaints and perhaps even exacerbating their injuries by contributing to delayed or inaccurate diagnoses and treatments.

In other words, we are not specialists up here, we are not physicians, but if people were exposed to nerve gas, certainly our medical researchers would like to know that so that they could understand that problem with other problems. So we have not been fair to the medical researchers who are trying to get to the root cause of Persian Gulf syndrome. We cannot permit this kind of behavior by the country that these very troops risked their lives to protect.

Since 1991, DOD denied the possibility of Gulf war troop exposure to chemical and biological weapons until June 21 of this year and DOD still casts doubts on claims that these exposures may have contributed to the chronic symptoms that our Gulf war veterans are experiencing.

Several weeks ago, the chief investigator of the Presidential Advisory Committee reported that up to 1,100 United States troops were exposed to the deadly nerve gas Sarin when they blew up an Iraqi ammunition depot shortly after the Gulf war and that the Pentagon's investigation into this exposure has been "superficial." He recommends that an independent body continue the investigation rather than the Pentagon.

Given the fact that some 50,000 soldiers who served in the Persian Gulf have complained of various ailments associated with that war, it is totally unacceptable that for 5 years the Pentagon denied that they had any evidence that American troops were exposed to Iraqi chemical weapons and nerve gas which United States troops destroyed.

Once again, Mr. Chairman, I know that we are ending this session very shortly, but my sincere hope is that in a nonpartisan way we will continue this investigation and this work when Congress reconvenes.

Thank you very much for your hard work on this.

Mr. SHAYS. I thank the gentleman. I am absolutely certain that whoever is in charge of this committee will continue these hearings.

Mr. Green.

Mr. GREEN. Thank you, Mr. Chairman. I will submit a prepared statement.

I just want to thank you again, like a lot of Members, for drawing attention to this problem. We all have constituents who have expressed a concern and I am glad the Department of Defense on June 21 of this year acknowledged there was a problem. But, again, like my colleagues, 5 years is way too long.

We experienced this with Vietnam veterans and there is no reason why we should have waited this long to do this and I am just glad that our committee is continuing the effort. And I would hope that when Congress leaves this month or early next month that we will continue these hearings but that also the need for them will not be as traumatic as they have been this last year because the DOD and the folks in charge will be actually doing the job that we expect them to do.

Thank you, and I look forward to the witnesses today.

[The prepared statement of Hon. Gene Green follows:]

PREPARED STATEMENT OF HON. GENE GREEN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

Thank you, Mr. Chairman. I appreciate your continual interest in this issue because the men and women who served in the Gulf War as well as the families deserve to find out exactly what they were exposed to over there. With the admission this summer that our troops were exposed to low-level chemical gases, we enter a new phase of investigating the health problems our troops have been suffering.

We must find out whether low-level exposure to chemical gases could have, in fact, led to the kinds of symptoms that we are seeing in many of our veterans. It is also troubling that the Department of Defense now has to retract statements made earlier that there was no proof of chemical exposure.

While the Defense Department will not be joining us today, I am pleased that the Veterans Administration will be with us. With this in mind, I look forward to the testimony of today's witnesses.

Mr. SHAYS. I thank the gentleman. And with the committee's indulgence and, frankly, gratitude, I would like to point out that we will be calling on Mr. Upton to introduce one of the witnesses after the witnesses are sworn in, but I particularly want to recognize him and invite him to make a statement—Mr. Buyer, who is a Persian Gulf veteran, who took a lead role on this issue before this committee ever got into this issue, who knows this issue better than any of us, both from personal experience and from the work he has done, and we hope that you will be able to stay for some or all of the hearing, but we really welcome you and invite you to make a statement.

STATEMENT OF HON. STEVE BUYER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF INDIANA

Mr. BUYER. Thank you, Mr. Chairman. I have two other hearings going on and a markup, so I wanted to stop by, I wanted to stop by to thank you and to congratulate you. The Veterans Affairs Committee and the National Security Committee will not be able to do any followup hearings on what is going on, so the timeliness of your ongoing pursuit and inquiry, I stopped by to congratulate

you, Mr. Towns and Chairman Shays and other members of the committee, for taking an interest in this.

I have to also congratulate my good friend Joe Kennedy for all his work that he has also done. There have been several of us who have worked on the Veterans Affairs Committee on the issue, so it is not just me, Mr. Chairman.

One of the things I brought up, though, with Stephen Joseph, Dr. Joseph, just the other day in the Personnel Committee, how upset many of us are here in Congress——

Mr. SHAYS. This is the Assistant Secretary——

Mr. BUYER. Assistant Secretary for Health Affairs in the Department of Defense. How upset many of us are here in the Congress and the American people when for so long in direct answers to questions no chemical weapons in the theater of operations. That has been pretty much their standard line. And we will, the National Security Committee, we will jump in in this very soon when we come back in the 105th session, but I was going through some things here today, so with your indulgence, I want to share with the committee real quick something here.

This is by Secretary Deutch. Now, reflecting on individuals who have given testimony before us have said no chemical weapons, so this goes right to Mr. Sanders, what you were talking about. It came from Secretary Aspin at the time, it came from Dr. Perry, Dr. Ed Dorn, Dr. Stephen Joseph and John Deutch, who is now Director of the CIA. These are high level individuals of whom we must rely great trust upon.

In the last hearing, Mr. Chairman, you had a very good panel discussion about the explosions that occurred here. But, you know, these detections around the 17th and the 19th by the Czechoslovakians that the Department of Defense conducted these discussions by saying, well, they tried to discredit those detections by saying, well, we had thousands of detectors out there, sure, we had some positive alarms but there was nothing really massive here.

And I am going to read something real quick. Secretary Deutch——

Mr. SHAYS. I wonder if the gentleman could read into the mic, just for the transcriber, it would help.

Mr. BUYER. Secretary Deutch, real quick, and then I will let the panel, but to open up today, it is really important.

Secretary Deutch, and this was on November 10, 1993, OK? And this was in response to the Czechoslovakians' detections. Secretary Deutch, the question was asked of him, what about the attack on the chemical weapons depot in the area of operations? This was back in 1993. Under Secretary Deutch, his answer, "I have another picture I can show you of the attacks which took place during this time period. All the air attacks are hundreds of miles to the north. Here are all known air attacks in that region. They are very far north. The attacks are hundreds of miles north. If you had a big chemical release at one of these air attacks, there would have been a large cloud with high concentrations reaching down into Saudi Arabia. There would have been, undoubtedly been detections. During the war and after the war, there was a thorough search of all of the area and no place south of Bosera was there any location of chemicals of any type in that region."

Well, now we know that that is not factual.

Let me just share and enlighten everyone that is here, as I tried to share at the last hearing. This right here is at the tri-border mark. This was large concentration of American forces as we all lined up with coalition forces. Right here, the Czechoslovakian detections were only a few miles from where I was located and thousands of Americans. The oil fires at the time were over here in Kuwait, in this part of the area. The Department of Defense contends that they were not worried about when we blew up the chemical munitions plant in An Nasirryah and we blew up other facilities because the winds blow toward Iran.

Well, if the winds blow toward Iran, if I am located here and the oil fires are here, why am I in total darkness? Why was I in total darkness?

It was at noon and, Mr. Sanders, I could not see you.

Mr. SHAYS. How far away were you from the oil fields?

Mr. BUYER. I was probably—that would probably be a distance of 50 miles. In the opposite direction. Now, how could I be in total darkness if they say the winds blow that way? It is because the winds in that part of the area, they swirl.

So I all I want to do is provide an opening, to alert you about low level concentration. And your opening comment, Mr. Chairman, about being multifaceted, and I just want to caution my colleagues on this because I have dealt with this issue for the last 4 years. Please do not permit the glitz and the glamour of the headlines of chemical weapons to overtake that the Gulf war illnesses are multifaceted, so that we have soldiers that were in Riyadh and Dhahran, we have sailors in the Gulf that also have other problems, so in our pursuits of our medical science, it is with cocktail mixes of inoculations, depleted uranium rounds, airborne vectors that lay in the desert for a long time.

But I think what you are doing here, Mr. Chairman, in this committee is highly admirable. A lot of our laws out there on environmental compliance, OSHA standards, deal with low level in industrial places. So for the Department of Defense to tell this committee that low level concentrations, do not worry about it, I think what you are doing is the right thing and that is why I am here.

Thank you, Mr. Chairman.

Mr. SHAYS. I thank you very much.

We are going to have a vote shortly; actually, we have a vote now. I am going to ask the witnesses to stand, I will call on them, and then I am going to ask Mr. Upton to make an introductory remark and then we go for the vote and come back and take testimony from the witnesses.

With that, I would welcome Brian Martin, a Persian Gulf war veteran; Barry Kapplan, also a Persian Gulf war veteran; Nancy Kapplan, registered nurse, not in the Persian Gulf, correct? Nick Roberts, a Persian Gulf war veteran; and Denise Nichols, a Persian Gulf war veteran. Kimberly is accompanying her husband, but will not be testifying.

If we were to call on you, it would be helpful to have your testimony, so actually, if you wanted to just add emphasis to something your husband said, so I am going to actually ask if you would be sworn in, if you want to reply.

[Witnesses sworn.]

Mr. SHAYS. For the record, all of our witnesses have responded in the affirmative.

With that, Mr. Upton, I invite our witnesses to sit down and that should make me feel like I am in the Army, I can order you around here.

Mr. Upton, why do you not make your comments and then we will get to our vote?

STATEMENT OF HON. FRED UPTON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. UPTON. Well, thank you, Mr. Chairman. I would ask unanimous consent that an opening statement of introduction be put into the record, if I could.

Mr. SHAYS. Without objection, that will happen.

[The prepared statement of Hon. Fred Upton follows:]

PREPARED STATEMENT OF HON. FRED UPTON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. Chairman: Thank you for holding the hearing today on the role of low level chemical exposures in causing illnesses among Persian Gulf war veterans. Although I'm not a member of the committee, I'm pleased to join you and hear from some of our veterans who have been suffering for the last 5 years. I'm also looking forward to the testimony from health experts who have studied this issue.

I want to commend you for taking the lead in Congress on holding hearings on Gulf war syndrome. As you may recall, I was able to join you in March during your last gathering and had the opportunity to welcome a constituent of mine, Brian Martin. I'm pleased to once again welcome Brian to the subcommittee today.

Brian Martin first approached me about 4 years ago with the health problems which began after his service in the Gulf. My office was successful in finding copies of his military records so he could get medical treatment. But we did not close the case with Brian; in fact, that was just the beginning. Little did I know that over 4 years later, we would be struggling to get information from our own Department of Defense and still asking far too many questions about what happened to Brian and thousands of U.S. troops who served in the Gulf with honor and dedication.

In the 6 months since your last hearing, Mr. Chairman, some information has been disclosed regarding chemical detections in Iraq during the Gulf war and the exposure of our troops to these chemical agents. Why this took 5 years to get released is a question I keep asking. How many veterans could have been treated in the last 5 years if we knew all the facts we know now.

The conduct of the Defense Department in this area is very troubling. We need full disclosure and straight answers but this is easier said than done. I must note that it is not only Congress which is critical of the Department. Investigators for a Presidential Advisory Commission said the Pentagon's credibility had been "gravely undermined" by its investigation into whether U.S. troops were subjected to chemical agents during the Gulf war.

Mr. Chairman, the simple request of the men and women who served in the Gulf war is for their own government to give them all the information it has on the use or exposure to chemical weapons. They keep hearing that all the data has been released.

They may have seen the CIA Director, John Deutch, saying he knows of no "offensive" or "widespread" use of chemical weapons. Well, I would remark that for those veterans who may have been subjected to a "limited" attack, we need to have that type of report made public.

We also need to examine whether American troops received inadequate equipment such as ill-fitting masks or chemical detectors which issued so many false alarms that many soldiers did not pay any attention to them.

The road to hell is paved with good intentions and I must say, sadly, that many of our Gulf war vets have been suffering in hell for the past 5 years. I hope we can see some progress over the next few months and put an end to the stonewalling. Today's hearing should help put us on the right path.

Thank you.

Mr. UPTON. I would like to just make a few comments.

Probably of any veteran that I know I would have to say that Brian Martin has pursued this to the nth degree. He has been a friend, he has been my constituent, and he has been unfailing in his quest to find the answers to this question.

I regret the Department of Defense is not here today. Driving across the bridge coming in to work on WTOP, I heard on the news that they were admitting the fact that 4 or 5,000 Americans had been exposed to something that was different from the testimony in earlier months and years.

Mr. SHAYS. If I could correct the gentleman, it is 5,000 additional veterans exposed.

Mr. UPTON. Maybe the stonewalling is finally over. I used to work downtown for President Reagan. I would often go to lunch at that little park across the street, Lafayette Park, and the statement by Abraham Lincoln on the VA Department was always a telling one, that the VA is supposed to take care of the veteran, his widow, his orphan. They have not done a very good job.

Today we know a very sad chapter about POW's that were left in both Vietnam as well as hundreds and hundreds perhaps in North Korea. The question that I have to ask is where were those committee chairmen in this Congress back in the 1950's, 1960's, 1970's and 1980's who certainly had the capability but did not have the wherewithal to look into that sad chapter into the sins that were committed against the folks that served so admirably in our armed forces.

And I just have great praise for you and this committee for your work over this past session and into the next session, too, to try and come up with the answers and help those that did serve and that we stop putting this under the rug and find the answers to help those that really need that help.

Thank you.

Mr. SHAYS. Thank the gentleman.

We will be at recess. We will vote and return and then take testimony. Sorry to keep you all waiting.

[Recess.]

Mr. SHAYS. I would like to call this hearing to order and to suggest that we will literally go down the table and we will start with you, Mr. Martin.

STATEMENTS OF BRIAN MARTIN, PERSIAN GULF WAR VETERAN, ACCOMPANIED BY WIFE KIMBERLY, NILES, MI; BARRY KAPPLAN, PERSIAN GULF WAR VETERAN, SOUTHINGTON, CT; NANCY KAPPLAN, REGISTERED NURSE, SOUTHINGTON, CT; NICK ROBERTS, PERSIAN GULF WAR VETERAN, PORT ST. JOE BEACH, FL; DENISE NICHOLS, PERSIAN GULF WAR VETERAN AND REGISTERED NURSE, WHEAT RIDGE, CO

Mr. MARTIN. Thank you, Mr. Chairman, and honorable committee members, for asking me to testify before you again today. I would also like to thank Congressman Upton for his continuous support and leadership, not only for the veterans of his district, but for the veterans across this country.

As you know, my name is Brian Martin. I am 33 years old. I am a husband, a father of two, and a Gulf war veteran. I am also a

former member of the 37th Engineer Battalion, whose last mission of the 1991 war was to detonate and destroy an Iraqi ammunition depot called Khamisiyah—Tall Al Lahm to most of us—was where the huge ammunitions supply point was located in Iraq. There were 100 bunkers inside Khamisiyah and 43 warehouses located outside the depot's perimeter fence.

When our unit received the mission to move into Tall Al Lahm, our battalion commander separated the combat essentials and nonessentials for this mission. He sent the nonessentials back to Rhafja, Saudi Arabia, while the rest of us moved northeast to Khamisiyah. About 150 soldiers were used for this mission.

On March 4, 1991, we entered the depot area, placing C–4 and Russian C–3 explosives in and around 33 bunkers. We set time charges for detonation and then moved south 3 miles to what we considered a safe zone as we waited for the anticipated explosions.

From 3 miles away, we casually moved around taking pictures, recording videos and writing home. At no time whatsoever did we fear or have reason to fear chemical exposure. We were told by the 18th Airborne Corps that there were no chemicals in the area. No one in the 37th were chemical experts.

Seven minutes later, the destruction of Khamisiyah began. Getting excited as one could get, witnessing these awesome explosions was a remarkable sight. The explosions blew straight into the air and then would spread at the top. Many of us joked that this would be the closest thing to a nuclear mushroom cloud that we would see or ever hope to see. But our excitement quickly turned to fear when cook-offs from the explosion began showering down on us.

Several missiles landed underneath our trucks, spinning and taking off until blowing up. Men were running everywhere for cover. Hiding behind our vehicles for safety, we felt all hell had broken loose.

With the dangers of being killed by the cook-offs and the obvious giant clouds that were covering us, our battalion XO decided it was time to move us to a safer place to wait. The 307th Engineer Battalion from the 82d Airborne Division radioed to us, asking that we stop the detonation because of cook-offs penetrating their area, making it extremely dangerous to complete their missions at Tallil Air Field.

Tallil Airfield was over 12 miles away to the northwest, so our battalion XO decided we needed to move farther than 12 miles. Twenty miles later, he found an area that had no signs of cook-offs to the southwest. Our battalion moved into convoy formation and proceeded to vacate the area.

For the next 3 days, it rained harder than any of us had seen in the 6 months we were there. Our commanders joked about us putting something into the air to change the weather. The skies were dark gray and cloudy.

Since just before those days at Khamisiyah, I have suffered from symptoms and ailments that have altered everything about me and my family's lives. It started in early 1991 with blood in my vomit and stools, blurred vision, shaking and trembling like I was on a caffeine high. My muscles were weakening, my chest pounded like my heart was going to explode through my chest.

During physical training, I would vomit chem-lite-looking fluids every time I ran. An ambulance would pick me up, putting IV's in both arms and rushing me to WRMAC Community Hospital. My symptoms were simply written off as a stomach viral infection of an unknown origin. I was not allowed to advance in rank or transfer units due to my medical problems.

In December 1991, I put in for an early out from the military that I had loved so much. I was told not to have children or give blood for 1 year. My medical conditions were ignored.

Today, as I have for the past 5½ years, I suffer from the symptoms that render me disabled. In a deranged way, I guess I am lucky. I have some clearly defined diagnoses of multiple chemical sensitivity, inflammatory bowel disease with scarring of the colon and stomach due to chemical exposure, temporal lobe brain damage also with scarring due to chemical exposure. I have Reiter's syndrome, chronic fatigue syndrome and tinnitus. I have a lower back condition and abnormally high levels of pH alkaline in my semen. I have abnormally high platelets around my blood cells and recently I was tested for lupus and Alzheimer's disease.

From the first day I went into the VA hospital in Battle Creek, MI, my records stated that I was exposed to something of an environmental contaminant during my service in the Gulf war. Recently, I underwent removal and biopsies of moles. I have had spots burned off my forehead and a spot in the middle of my back is presently under observation. Surgery is being scheduled to remove three lumps that are in my thigh, stomach and rib cage.

Even more recently, the VA has removed me from the permanent and total disability list, which I have been on since March 1996, forcing me to undergo all the compensation and pension exams over again. From Louisville, KY, to Washington, DC, the VA computers claim that I am permanent and total. I have been approved for $30,000 life insurance from the VA, something that only a permanently disabled veteran receives, but one man, Bob Marks, who works for VA Adjudication Board in Michigan, claims that I am not permanent or total.

I was asked by the VA to apply for benefits for my family, something else a veteran cannot get unless he is permanent. When I argued this with Mr. Marks, he added a mental evaluation to my exams and said that chronic fatigue syndrome is a mental disorder and not a physical one.

The doctors that examined me in Battle Creek for these C&P exams all stated that this was a waste of time and money for us all. With the help of Congressman Upton's office and hopefully this committee, Mr. Marks will be kept at bay.

For the last 5½ years, I suffer from excruciating painful headaches, memory loss and severe diarrhea. My family lives with my bad mood swings like walking on eggshells. I can no longer eat or drink many of the things that I used to. If I smell perfumes, vapors or chemicals that do not agree with my smelling senses, I violently vomit. I get lost when I drive sometimes and forget where I am at sometimes.

I am an ex-paratrooper who needs a cane and a wheelchair to get around. My joints in my knees, hands, and knuckles swell, burn and hurt. My feet burn and swell if I spend any time on them at

all. I cannot sit or stand for prolonged periods of time. I am fatigued and feel worn out but yet I am an insomniac.

For all of this except the chemical injuries and so much more, the VA has rated me in 1994 at 100 percent plus special monthly compensation.

Then in 1996, I was added to the permanent and total, which is now being threatened. My rating is 100 percent for Reiter's syndrome, 50 percent for chronic fatigue syndrome, 30 percent for colitis, 10 percent for tinnitus and 10 percent for lower back condition. Nothing for chemical injuries or illnesses. Zeroes across the board for everything else.

Since the admission of Khamisiyah, I thought the VA would have taken me a little more serious. Instead, they are trying to take away my service-connected disability benefits, the only means of income my family has to pay our bills.

Instead of outreach or compassion, I received a police report the other day where the VAMC in Battle Creek, MI claims that they are going to press charges on me for cassette taping a doctor pushing my wife on VA property.

In conclusion, I would like to add that my wife and I look for the truth about our illnesses. My chemical injuries do exist. They have since 1991. They have existed for the same 5 years the Pentagon to the White House claimed that they knew nothing about Khamisiyah. They have existed for the same amount of time brave young veterans have died and scared young wives buried them.

They are existing and we veterans learned to adapt to them. Our pain has forced us to tap the resources of our spirits. My wife and I try to measure our intelligence not by what we know, but by the way we view things. Everything we have endured for the past 5 years has taught us the difference between an obvious coverup and corrupt disregard for human life.

The Veterans Affairs', simply put, gross incompetence can be exampled by the right hand not knowing what the left is doing, for using DOD's ghost documents and ridiculous memorandums as their medical care guidance. I have wondered how civilian doctors treat patients without the Pentagon sending them a memorandum.

It amazes me to sit back and listen to all the different excuses the Pentagon has for messing up Khamisiyah. Are they frantic because we were exposed to a terrible chemical and are ill from it or because they got caught denying it?

After reading the memorandum, attachment E, stating that certain documents should not be put on the Gulflink, I asked why would they want to hide documents from the press or general public that describe certain important events. They have made their own bed of coverup and after the VA tucks them in, they must lay in it.

These are the things that the DOD does to prove their intent to conceal proper information from the press, the veterans and you, the U.S. Congress.

I hope that these hearings and this committee can help veterans mold a new reality for the Department of Defense and the Department of Veterans Affairs, a wakeup call if you will. The support from the press, Congress and the American people is strong enough to convince these departments to listen to the veterans. If we are

too ill or do not live long enough to enjoy the freedoms we have as Americans, what good was fighting for them?

Thank you.

[The prepared statement of Mr. Martin follows:]

PREPARED STATEMENT OF BRIAN T. MARTIN, PERSIAN GULF WAR VETERAN, CO-PRESIDENT, INTERNATIONAL ADVOCACY FOR GULF WAR SYNDROME

APPRECIATION

Thank you Mr. Chairman and honorable committee members for asking me to testify before you again today. I would also like to thank Congressman Upton for his continuous support and leadership, not only for the veterans of his district but for all veterans across this great country.

INTRODUCTION

My name is Brian Martin, I am 33 years old. I am a husband, a father of two and a Gulf War veteran. I am also a former member of the 37th Engineer Battalion who's last mission of the 1991 war was to detonate and destroy an Iraqi ammunitions depot called Kamasiyah. Tall Al Lahm to most of us, was where the huge ammunitions supply point was located in Iraq. There were 100 huge bunkers inside Kamasiyah and 43 metal pole-barn warehouses located just outside the depot's perimeter fence. We received the orders for this mission March 1st, 1991 during the cease-fire.

KAMASIYAH

When our unit received the mission to move into Tall Al Lahm, our battalion commander separated the essential and non-essentials for the mission. He sent the non-essential back to Rhafja, Saudi Arabia while the rest of us (essentials) moved northeast to Kamasiyah. About 150 soldiers were used for this mission.

On March 3rd, 1991 we entered the bunker compound securing the area free of Iraqi civilians and rebels looking for ammunition to fight Saddam's republican guards. On March 4th, 1991, we re-entered the depot area, placing C–4 and Russian C–3 explosives in and around 33 bunkers, we set time charges for detonation, then moved SOUTH three miles to what we considered a "safe zone" as we waited for the anticipated explosions.

DETONATION

From three miles away, we casually moved around taking pictures, recording video's and writing home. At no time whatsoever did we fear or have reason to fear chemical exposure. We were told by the 18th Airborne Corps., that there were no chemicals in the area. We were then told by the E.O.D. (Explosive Ordinance Disposal) team to simply "Blow it". That to our knowledge was the only so called "experts" in the area. No one in the 37th was chemical experts. For the record, our commander's knew nothing about chemicals in those bunkers. Seven minutes later the destruction of Kamasiyah began.

DURING THE EXPLOSIONS

Getting excited as one could get, witnessing these awesome explosions was a remarkable sight. The explosions blew straight into the air, then would spread at the top. Many of us joked that this would be the closest thing to a nuclear mushroom we would ever see or hope to see. Our excitement quickly turned to fear when "cook offs" from the explosions began showering down on us. Several missiles landed underneath our trucks, spinning, and taking off until blowing up. Men were running everywhere for cover. Hiding behind our vehicles for safety we felt all hell had broken loose. With the dangers of being killed by the "cook offs" and the obvious giant clouds that were covering us. Our battalion XO (executive officer) decided it was time to move us to a safer place to wait.

The 307th Engineer Battalion, from the 82nd Airborne Division radioed to us asking that we stop the detonation because of "cook offs" penetrating their area, making it extremely dangerous to complete their missions at Tallil Airfield (Attachment A in my unit's OP logs). Tallil Airfield was over 12 miles away to the northwest, so our battalion XO decided we needed to move farther away then 12 miles. 20 miles later he found an area that had no signs of "cook offs" to the SOUTHWEST. Our battalion moved into convoy formation and proceeded to vacate the area.

For the next three days it rained harder than any of us had seen in the six months we were there. Our commander's joked about us "putting something in the air to change the weather." For the next five days it was too unsafe for us to return to Kamasiyah to finish destroying the remaining 67 bunkers. The skies were dark, gray and cloudy for those five days.

ILLNESSES SINCE

Since just before those days at Kamasiyah, I suffer from symptoms and ailments that have altered everything about me and my families lives. It started in early 1991 with blood in my vomit and stools, blurred vision, shaking and trembling like I was on a caffeine high. My muscles were weakening, my chest pounded like my heart was going to explode through my chest. On Fort Bragg, during PT (physical training) I would vomit chem-lite looking fluids every time I ran, an ambulance would pick me up, putting IV's in both arms rushing me to Womack Community Hospital. This happened EVERY morning after my return from the war. My symptoms were simply written off as a "stomach viral infection, of an unknown origin" I was not allowed to advance in rank or transfer units due to my medical problems.

In December 1991, I put in for a "early out" from the military that I had loved so much. I did not receive an exit exam nor did I know that I was suppose to. I was told not to have children or give blood for one year. My medical conditions was ignored.

THE PRESENT

Today, as I have for the past five and a half years suffer from the symptoms that render me disabled. In a deranged way I guess I'm lucky, I have some clearly defined diagnosis's from the VA of MULTIPLE CHEMICAL SENSITIVITY, INFLAMMATORY BOWEL DISEASE w/scarring of the COLON AND STOMACH due to chemical exposure, TEMPORAL LOBE BRAIN DAMAGE also w/scarring due to chemical exposure. I have REITER'S SYNDROME, CHRONIC FATIGUE SYNDROME, and TINNITUS. I have a lower back condition which is quite painful, and Abnormally high levels of pH/Alkaline in my semen. I have abnormally high platelets around my blood cells and recently, I began testing for LUPUS and Alzheimer's Disease. From the first day I went into the VA in Battle Creek, Michigan, my records state that I was exposed to something of a environmental contaminant (Attachment B) during my service in the Gulf War. Recently I underwent removal and biopsies of moles. I've had spots burned off my forehead with liquid nitrogen, and a spot in the middle of my back is presently under observation. Surgery is being scheduled to remove three lumps that are in my thigh, stomach and rib cage.

Even more recently, the VA has removed me from the permanent and total disabled list of which I've been on since March 1996, forcing me to undergo, all the Compensation and Pension (C&P) exams all over again. From Louisville, Kentucky to Washington, DC the VA computers claims I am P&T (Permanent and Total). I have been approved for $30,000 life insurance from the VA, something that only permanently disabled veterans receive. But one man Bob Marks who works for the VA adjudication board in Michigan, claims I am not permanent or total. I was asked by the VA to apply for benefits for my family, (Attachment C) something else a veteran can't get unless he's permanent. When I argued this with Mr. Marks, he added a mental evaluation to my exams and said that "Chronic Fatigue Syndrome is a mental disorder and not a physical one". The doctors that examined me in Battle Creek for these C&P exams all stated this was a "waste of time and money for us all". For the first time in a long time I agreed with the VA doctors. With the help of Congressman Upton's office and hopefully this committee, and the press, Mr. Marks will be kept at bay.

For the last five and a half years I suffer from excruciating painful headaches, memory loss, and severe diarrhea. My family lives with my bad mood swings like walking on egg shells. I can no longer eat or drink many of the things I used to. If I smell perfumes, vapors or chemicals that doesn't agree with my smelling senses, I violently vomit. I get lost when I drive sometimes and forget where I'm at sometimes. I am a ex-paratrooper who needs a cane and wheelchair to get around. My joints in my knees, hands and knuckles swell, burn and hurt. My feet burn and swell, if I spend anytime on them at all. My discharge summary from the VA (in 1993) states that I cannot sit or stand for prolong periods of time (Attachment D). I am fatigued and feel worn out all the time, but yet I am an insomniac. For all of this except the chemical injuries and so much more, the VA rated me in 1994 at 100% plus special monthly compensation, then in 1996 added the Permanent and Total, which is now being threatened.

My rating is 100% for Reiter's Syndrome, 50% for Chronic Fatigue Syndrome, 30% for Colitis, 10% for Tinnitus, and 10% for lower back condition. Nothing for chemical injuries or illnesses. Zero's across the board for everything else. Since the admission of Kamasiyah, I thought the VA would've taken me a little more serious, instead, they're trying to take away my service-connected disability benefits. The only means of income my family has to pay our bills, cloth our bodies and feed ourselves. Instead of compassion, I received a police incident report, where the VAMC in Battle Creek, Michigan claims they could press charges on me for cassette taping a doctor pushing my wife on VA property. Please help me figure that one out!

CONCLUSION

In conclusion I would like to add, that my wife and I have looked for the truth about our illnesses. We have always been honest and up front with the VA and the DoD. We have offered the video tape of Kamasiyah to anyone who wanted it. My chemical injuries do exist, they have since 1991. They've existed for the same five years and 110 days the Pentagon to the White House claimed they knew nothing about Kamasiyah. They've existed for the same amount of time brave young veterans have died and scared young wives bury them. Their existing and we veterans learn to adapt to them, our pain has forced us to tap the resources of our spirits. My wife and I measure our intelligence not by what we know, but by the way we view things. Everything we have endured for the past five and a half years has taught us the difference between a obvious down right cover up of corrupt disregard for human life, and the Veterans Affair's, simply put, gross incompetence. The right hand does not know what the left is doing and using DoD's ghost documents and ridiculous memorandums as their medical care guides is ludicrous. I've wondered how civilian doctors treat patients without the Pentagon sending them a memorandum explaining what couldn't have possibly happened to that patient. Medicine is indeed perplexing!

OBSERVATIONS

It amazes me to sit back and listen to all the different excuses the Pentagon has for messing up Kamasiyah. Are they in a frantic because we we're exposed to a terrible chemical and are ill from it? or because they got caught denying it? The Pentagon recently said they didn't know American troops were in the area, but yet a general from the 18th Airborne Corps, can order a 900 man battalion to do a mission labeled as the largest man made explosion of the war, and there's no paperwork on it? Stephen Joseph testified to the P.A.C., that they uncovered their own cover up. I don't suppose the 1994 and '95 UN reports on Kamasiyah and my video tape had anything to do with it. If I had given the Pentagon that video tape in March when they pressured me for it, I believe their admission on June 21st would've never happened. But if they are the gallant ones, is it because enough of us have died and are sick enough to convince them their experiments and blatant cover ups failed?

LTC. Jimmy Martin, who was with Stephen Joseph's Persian Gulf Illness Investigation Team, claimed there are "thousands of documents in boxes, that they don't have the manpower to look through." Give them to us, we will look at them, it's that important to all that suffer. Reading the memorandum (Attachment E) stating that certain documents shouldn't be put on the Gulflink, why would they want to hide documents from the press or general public that describes certain important events? They have made their own bed of cover up, after the VA tucks them in, they must lay in it. These are the things the DoD does to prove their intent to conceal proper information from the press, the veterans and you, the United States Congress.

I hope these hearings and this committee can help veterans mold a new reality for the Department of Defense and the Department of Veterans Affairs. A wake up call, if you will. The support from the press, Congress and the American people is strong enough to convince these departments to listen to the veterans. If we are to ill or don't live long enough to enjoy the freedoms we have as Americans, what good was fighting for them?

Thank You.

[The following attachments can be found in subcommittee files.]

Attachment A—37th Engineer Battalion's Operations Logs. From H-Hour to Kamasiyah.

Attachment B—Consult sheet from VAMC Battle Creek, MI. 10 Sep. 1992, VA Physician Determination: Condition the possible result of exposure to environmental contaminants.

Attachment C—Notice of Entitlement For Spouse and Children. 04–96. Medical benefits for dependants, when veteran is TOTAL and PERMANENT in nature.

Attachment D—Discharge Summary, Persian Gulf Referral Center, VAMC Washington, DC. 1 Dec. 1993.

Attachment E—Office of the Secretary of Defense's Paul F. Wallner, Staff Director for the Senior Level Oversight Panal, Persian Gulf War Veteran's Illnesses, March 3rd, 1995 memorandum: Identification and Processing of Sensitive Operational Records.

Mr. SHAYS. Thank you very much, Mr. Martin.

Mr. Kapplan.

Mr. KAPPLAN. Good morning. I am Barry Stewart Kapplan, Major——

Mr. SHAYS. Mr. Kapplan, if you could pull the mic fairly close to you, it would be helpful. The mic that projects your voice is the one on the stem.

Thank you. I am going to ask you to pull it even closer. Thank you.

Mr. KAPPLAN. Good morning. I am Barry Stewart Kapplan, Major, U.S. Army, Retired. I would like to thank you for this opportunity.

My dates of service in southwest Asia were 16 December 1990 through 19 May 1991. I was the support operations officer and a Blackhawk test pilot for the 9th company of the 227th Aviation Regiment of the 3d Armored Division, 7th Corps.

I understand that you are interested in hearing some of my experiences and perceptions from my service in the Gulf.

Basically, one of the first questions was what is wrong? It is real simple, sir. I cannot sleep, I cannot drive, I cannot run, I cannot fly Blackhawk helicopters no more. I cannot play sports with my four children. That is what is happening to Barry Kapplan right now.

Cause? I am not absolutely sure. Not sure at all. I do not know where it was or when it was, but I can tie a couple of specific dates and events.

I believe it was chemical-biological exposure. Too many animals and enemy remains that were devoid of any flies or insects. Plain and simple. It is not natural. However, our mess halls, all of our ration points, were full of flies, but why were those other two things not full of flies?

There were two major chem events in our area. One was a young private who was hit with some sort of chemical compound in a bunker within the 3d Armored Division area, a young soldier by the name of Fisher. He was awarded the Purple Heart for chemical wounds by General Funk. Plain and simple.

The second event was by a warrant officer within the 4th Squadron/7th Cavalry, CW3 Retired now Miguel Ramos. He claims to have seen chemical tipped weapons and shells within a bunker in the 4th Squadron/7th Cavalry area.

Where were we? Soldiers of the 9th of the 227th and 3d Armored Division did the full routine, sir. We were there from Dhahran to the desert southwest at KKMC, we were downwind of Hafir Al Batin, which was a major target for SCUD attacks. We were all through Iraq. Believe me, the 10th, 12th, 52d and Tawalkana Divisions were not happy to see us. Republican Guards do not like the 3d Armored Division.

Plain and simple, we lived for our last several weeks in Iraq, we lived on our last battlefield and we stayed there amongst all the

munitions, allied and enemy munitions, that were still on the ground in the area.

Yes, we had the smoke coming from the left, smoke coming from the right from the oil fires and we were downwind of the chemical munitions being blown up, approximately 30 to 40 kilometers downwind of this operation.

Mr. SHAYS. That is Khamisiyah?

Mr. KAPPLAN. Yes, sir. Yes, sir.

I can't tie it to a specific event and a specific date, I am not sure if it was a single exposure or a continual one. Mid to late April 1991, in the vicinity of Safwan, Iraq, where we were doing refugee retrograde actions for the fear that the Iraqis were going to kill the Shiites, building up to a fulminating event on 9 May, I was leading a convoy to KKMC, King Khalid Military City, from Kuwait. At that time, I had projectile vomiting, explosive diarrhea and nausea at that time. I was basically poured into the Saudi Arabian Military Hospital at King Khalid Military City, KKMC, and I stayed there for several days. Due to some negotiations, I was allowed to return with my unit back to Hanau, Germany.

Symptoms? Too many to list, sir. Too many to list. I have provided an enclosure that goes over the majority of them. However, they were coming in distinct cycles. Now, they are just part of everyday life.

Let us talk about the tests. I think the tests that I have undergone are probably more telling than the symptoms. Cardiac: echoes, stress test, bubble studies, ultrasounds, heart caths and cardiac biopsies. Gastro: multiple endoscopies, colonoscopies, flex sig, manometries, pH probes, liver biopsies. Dermatology and infectious disease: multiple skin biopsies, lymph node biopsies, multiple bone marrows. Ophthalmology: visual field tests, legal blindness tests. Neurology: spinal taps, EEG, sleep studies, sleep deprived EEG's.

There are some things going on, but I am not the only one. I am definitely not the only one. The treatment I have received at the VA hospital in Newington, CT has been nothing but exemplary. I am treated with respect. The doctors there, from my primary care doctor, Dr. Koss, all the way through the specialists I have seen, have provided myself and my wife nothing but excellence in care.

Diagnosis. I have provided your staff a diagnosis recap and basically what that does in my enclosure 2, explains what the Army found from 1991 to 1994. There are approximately 20 different diagnoses. The Department of Defense CCEP, Comprehensive Clinical Evaluation Program, reported one diagnosis for Barry Kapplan, and that was somatization disorder.

My retirement physical, which I have provided, also and is in the handouts, lists approximately 20 diagnoses, any where from chronic Q fever, hepatitis, myocarditis of the heart, just to name a few. That was in May 1995.

The VA hospital in Newington, for my first comp and pension exam agreed with the previous results from 1991–94, my Army retirement physical and added more. That was in July 1995 when I retired from the service.

July 1996, just a couple of months ago, once again, the VA hospital in Newington concurred with all previous diagnoses except for

one: the CCEP's somatoform disorder. A very visual, very graphic, bottom line. Something is not right.

I never give a bunch of problems without a fix and I would like to give you, sir, and give the other honorable members a couple of my ideas that may help out, at least from down here in the trenches.

You cannot give those folks back their lives or their health. You cannot put families back together that have broken up, and many have. There are many things we cannot correct. However, give immediate VA service connection to all veterans of Gulf war registries, even if it is for zero percent disability. Service connect those things. That will fix the medical and compensation issues.

Two, sick family members should be given an open enrollment opportunity for CHAMPUS and Tri-Care, military medical insurance plans, at the regular premium rates, just like my wife and I have to pay for our family. However, that will fix medical coverage finance problems for these family members who do not have the funds to do it.

Third, and this may perk up a couple of ears, being that I firmly believe that this is chem-bio warfare by a hostile force, is that we award the Purple Heart to Gulf war veterans, a Purple Heart just like we did during World War I for chemical wounds, for suspected chemical and biological warfare by a hostile force. That will completely fix once and for all the government recognition problem and the perception this is being mishandled like Agent Orange and now our atomic veteran problem.

Sir, that is all I have.

[The prepared statement of Mr. Kapplan follows:]

PREPARED STATEMENT OF BARRY KAPPLAN, PERSIAN GULF WAR VETERAN, SOUTHINGTON, CT

I entered active duty on 16 MAY 1980 as a Regular Army officer, and was physically fit to enter aviation service on 22 SEP 80. Since 1978, to include during my cadet training period, I had passed approximately 15 annual Army Flight physicals. These showed no cardiac, gastrointestinal, or other problems. Visits to areas out of the United States include: Juarez, Mexico; Germany; Canada; and Honduras. Family medical history includes father: Parkinson's Disease, mother Raynauds Syndrome, maternal and paternal grandmothers: diabetes.

On 16 Dec 1990, I was deployed from Hanau, Germany to Saudi Arabia as part of the 3rd Armored Division's advance party for Operation Desert Shield. We arrived in Dhahran and remained in the "Cement Plant" Staging Area until 28 Dec 1990. We moved to "Seaside" Staging Area and left on 1 Jan 1991 as the advance party for Tactical Assembly Area (TAA) Henry, 15 miles southeast of King Kalid Military City (KKMC), near the Iraqi border. One of the major benefits of leaving these troop support areas was the perception that we would not be poisoned by Iraqi agents. The hygiene of the contract food personnel and their political affiliation was a constant topic of discussion among both the officers and enlisted soldiers. Additionally, the cement dust in the "Cement Plant" staging area was becoming a factor in troop health, i.e., coughing, sputum, etc.

At TAA Henry, prior to the air war, suspected enemy agent activity increased in our area of operations. This included covert probes of our defenses and increased interest in the AH–64s that were the muscle of our brigade. However, the camels and Bedouins were most interested our brigade's OH–58Ds. It appeared that the camels were led to the helicopters by the supposed "nationals", by throwing small amounts of grain. Personal hygiene was a challenge during those "advance party" days. Water sources were not certified by US personnel and latrine facilities at most support centers were also used by Saudi Arabian sub-contract personnel. In this infantile state, we had to forage for our own food, similar to our civil war period soldiers. This basically meant trips to KKMC to trade for food and necessities, to include eating on the economy. On or about 16 JAN 91, SFC Joe Hughes and I were

sent to KKMC to retrieve personnel and equipment for the Combat Aviation Brigade and the 3AD. However, the most significant event during this visit was that KKMC was under a general alarm for attack by enemy agents with chemical/biological agents. We left the area as soon as possible after completing our mission. Upon return to our base camp, all personnel were in MOPP (NBC Masks on), due to a division level chemical detection. This attack was announced by MAJ John Wheatley, S3 9–227 AVN. However SFC Hughes and myself walked in unwarned and "undonned". There were several times that the "general alarm" went out, warning of SCUD attacks in the "TAA Henry" area during the air war. Upwind of us, Hafir Al Batin was the target of many Scuds, some of which were destroyed prior to impact. There were several times that CPT Mark Rakow and I were at the Theater Aviation Maintenance Point (TAMP) in KKMC when the Patriot Missiles were launched at Scuds. Several times the "all clear" for NBC masks took a lengthly time to be announced.

We remained at TAA Henry until 10 FEB 1991, when we moved to TAA Butts, approximately 16 miles southwest of Hafir Al Batin. We remained there until 23 FEB 91 when the 3rd Armored Division initiated movement to contact operations. This was a very intense period. On the morning of 23 FEB 91, CW4 Fish, SFC McMillan, and I were at HQ, VIIth Corps (FWD) acquiring aircraft parts at 7/159th AVIM. We went to the CORPS HHC mess tent to "tank up". There, we were directed to receive some shots. These shots turned out to be the anthrax series #1. We were told this was required due to a probable chemical attack by the Iraqi Army. This was annotated in my shot record, at my strong insistence, due to my flight status. The next day, as we crossed the berm/oil trenches we were directed to take our "PB" tablets, with the warning of dizziness, chest pains, sweats. The only effect for me was increased pulse and dizziness.

Throughout the ground war, I went through many areas of concern, i.e. where were all the bodies?, why were the dead animals not eaten by scavengers? This is important, being that I was with 4/7 CAV, the division cavalry of the 3AD, in front of the division. My function at that time was the Support Operations Officer, 9–227 Aviation Support Battalion, Division Support Command, 3rd Armored Division. I was detached with SFC Howerton, my driver, to find, secure, and deliver to the front lines desperately needed fuel and ammunition. It was during this period, that SFC Howerton and I lead several convoys through both marked and unmarked enemy minefields. Even though we were successful in our mission, it was not certain these areas were chemically cleared.

The word of the cease fire came on 28 FEB 1991. The division was still in contact with elements of the Republican Guard as we crossed east into northern Kuwait from Iraq. SFC Howerton, CW2 Horn, several others and I were the first Americans into the area known as TAA Victory (N29/57/06, E47/05/02). This was the sight of the last official battle of the war for the 3AD. It was necessary for CW2 Horn and I to clear this area prior to allowing our personnel to occupy and resume a degraded state of readiness. Essentially, we searched approximately 25 T60/70 series tanks and multiple bunkers, with one of us crawling inside while the other covered him. This area was littered with unexploded ordnance and several sets of remains. One of my responsibilities was the divisional Graves Registration Team, which had the mission of retrograding allied remains, but also burying hostile remains. My responsibility was to be present and to certify the remains and burial. Also during this period, I saw my first animal remains that were devoid of any insects. I instructed my personnel to stay clear of these carcasses, until we were able to burn them.

On approximately 9 MAR 91, I headed the advance party of the Combat Aviation Brigade in its occupation of TAA Camelot in Kuwait. Located at N29/37/00 E47/45/30, this area was a former Kuwaiti military site that was occupied by the Iraqi Army as a defensive area, missile site, and logistics base. During this period, we assumed part of the support of the refugee camp at Safwan, Iraq. Additionally, we used the landing strip there for deliveries of repair parts from Saudi Arabia. This entailed myself and other members of my unit to go there one to three times daily for these high priority shipments.

During APR 91, while at TAA Camelot I began to feel increasingly ill. I dismissed this as acclimatization to high temperatures. In late April, SFC Ben Alcantara became ill with skin rashes, fever, nausea. This was followed by MAJ Phil Denning with nausea, gastrointestinal, cardiac problems. On 8 May 91, after five months in theater, I had a violent nausea, vomiting, diarrhea attack. This came about during a convoy to KKMC and I was admitted to the Saudi Arabian Military Hospital there. It was diagnosed as possible food poisoning, however, the 9 other soldiers who ate with me that week did not have any problems. After 11 bags of IV solution and medications I was finally released on 12 MAY 91 for return with my unit to Germany, on 16 May 91. I was still ill through 28 May 91, when I was admitted to

the ICU, 97th US Hospital, with cardiac arrhythmias and to rule out a heart attack. I attempted to explain the diverse nature of my symptoms, but was told that it was just post traumatic stress. During this period I also experienced severely bleeding gums, cough with sputum production, shortness of breath, severe fatigue, diarrhea, hair loss, skin rashes/lesions, and abdominal discomfort. Through NOV 91, I underwent extensive workups at both Wiesbaden USAF Hospital and 97th US Hospital. On 20 DEC 92, I again had a severe cycle, this time involving a severe upper G.I. bleed, for which I was hospitalized and subsequently medevaced to Walter Reed Army Medical Center (WRAMC) on 6 JAN 92. During November and December 1991, it became apparent that others who were with me during the war were also manifesting bizarre symptoms. These individuals included: MAJ Phil Denning, CPT Mark Rakow, CW2 Warren Home, SFC Ben Alcantara, SFC Joe Hughes, SFC George Jefferson, SFC Bussel all assigned to 9–227 Aviation, 3AD.

My esophageal problems started just prior to the nausea vomiting and diarrhea attack in Kuwait. Documented by both 97th General Hospital and Walter Reed AMC were: Esophagitis, Esophageal Dismotility, Spastic Esophagus, Gastroesophageal Reflux Disease with Esophageal Sphincter pressure of zero. All of these were classified as severe. I never had these problems before, nor was anything documented on any of my flight physicals. This resulted in surgical correction of the sphincter by Nissan Fundaplication on 11 FEB 92. I tolerated the procedure well, except for current post surgical digestion difficulty. I was told of a surgical related diaphramitic hernia, however I was holding my own. I started my physical training program at the recommended time (90 days) after surgery, per discharge sheet of 19 MAR 92. Due to starting my PT program so soon after major surgery, I now have a permanent profile from pushups, situps, and lifting more than 20 lb., with PT at my own pace. This is because of irritation of the diaphragm by the scar mass herniating through it. As explained during a surgical consult at Weed Army Hospital, I am at about 80% of the best to be expected, which is far from my previous normal.

Prior to surgery at WRAMC, I had three titers drawn for Leishmaniasis, with the first being a strong positive at 1:64, the second and third were 1:8 and 1:4. The infectious disease service of Walter Reed still believed in a diagnosis of unspecified Leishmaniasis which resulted in a bone marrow aspiration. This is documented in my hospitalization (Jan–Mar 92) narrative summary. The parasite was not found at that time. However, a tropical disease still was not ruled out by the Infectious Disease Service, Naval Hospital-San Diego, per doctor's notes of 29 SEP 92. Still my symptoms and discomfort continued.

My symptoms initially occurred in cycles, which lasted from two-10 days with 7–21 days between each one, and seemed to begin with mid left upper abdominal pains. A listing of the progressive symptoms are at enclosure I.

In SEP / OCT 1992, I began to notice a change in the way I felt. I noticed more upper right "stomach to back pain", also headaches on an increasing frequency and intensity, enlarged lymphnodes, water weight gain, increased irritability, increased ring worm like patches, and red open blister like sores. The "weight gain" was a sizeable change from 197 to 232. Almost the inverse of my sizable weight loss just prior to and during my hospitalization in Saudi Arabia. My doctor attempted to send me to the Mayo Clinic, where they have sent service members with difficult to diagnose illnesses. After consultation with both FORSCOM and MEDCOM/Office of the Surgeon General the decision was made in mid-November, 1992 to return me to Walter Reed Army Medical Center. My physician at Weed Army Community Hospital also submitted a MED 16 report on me to the Office of the Surgeon General, thus enrolling me in the Department of the Army Desert Storm Syndrome Registry. I was admitted to Walter Reed on 1 Dec 92. Within the first days at WRAMC I started to go through a mild cycle, in which my face rash appeared, increased lower back to under the rib cage pain on mainly the right side started to occur. I also experienced my leg sweats from the knee down, which occurred when I was in the prone position.

During my initial consultation with the Infectious Disease service I was quizzed about my experiences during the war: where I was and who else was sick or maybe had similar symptoms. I again reported there were several unit members who had similar symptoms. The following are my notes from this stay at Walter Reed Army Medical Center (1 DEC 92–14 JAN 93):

a) Spleen 10cm vs. 6–8cm determined by ultra sound. Palpated several times by ID service, however no tip felt as in FEB/MAR 92.

b) Liver palpated and noticeably enlarged on physical exam. Abnormal liver function test (LFT) with elevated SGPT and SGOT. After several repeats of the LFT the Infectious Disease service in consultation with the Gastroenterology Service performed a liver biopsy. The bacteriology results indicated three or more organisms

present but none dominating. We have been unable to obtain a pathology report on this biopsy.

c) It was noted that my abnormal LFT increased with my symptoms.

d) Abnormally high cholesterol which was described as a possible result of an abnormal liver.

e) On the serum tests abnormal results on total protein 8.3, albumin fract 5.54, and ALPHA–2 GLOB 0.79.

f) My stools remained loose but formed through out this time period with only two episodes of explosive diarrhea. Ova and parasite tests were negative. However abnormal stools were visually noted.

g) The G.I. service performed flex-sig. and endoscope procedures with multiple biopsies of flat plate areas of nonspecific inflammation.

h) The psychiatric evaluations determined no disorders, this was concluded from examination and clinical evidence by Dr. Stasko.

i) Dr. Kent Kester, Research Fellow, ID Service, WRAMC would be following me as Dr. Alan McGill had previously. In a special narrative summary he explained the procedures performed and the requested return visit in approximately 6–9 months.

Many issues continued to surface from FEB 93 through NOV 93. Lymphnode biopsies, biopsies of the ring worm like patches, and consults to the Infectious Disease Service of the Balboa Naval Hospital seemed to be the norm, not the exception. Again it was time to go to WRAMC, this time in a medical TDY status. My primary physician was on emergency leave, so I saw another, who recommended a course of Tetracycline and Flagel. This treatment was started in FEB 94 and only temporarily relieved my symptoms.

I was notified that I was selected to go to the US Army Command and General Staff School in July, 94. However, I was also notified that all sick Gulf War soldiers were going to be "frozen" in place for evaluation and possible separation. My contact at Weed Army Hospital stated that the Naval Hospital at San Diego would not accept the lab results from Walter Reed, and that I would have to go through all of the tests again. I contacted my WRAMC physician who said that if I was at WRAMC for the evaluation they would not repeat any of the previous tests. By 30 JUN 94, my orders were changed and my family and I were en route to Walter Reed with change of station to FT Meade, MD., instead of the US Army Command and General Staff School.

I enrolled in the CCEP on 2 AUG 94, and became immediately concerned at the low priority given to the previously documented medical problems identified at WRAMC. Since JAN 92, I had been an inpatient twice at WRAMC (JAN, 1992 and DEC, 1992) with major surgery performed, was sent medical TDY to WRAMC (NOV, 1993), and was PCS'ed to FT Meade, MD to be followed by the Comprehensive Clinical Evaluation Program. Dr. Roy (Gulf War Illness Center) was very intent on repeating the Psychiatric portion. I was concerned, as this was previously found to be normal at WRAMC (Dr. Stasko, 8 DEC 92). However, significant previous medical findings were being ignored by Dr. Roy and Dr. Chung. These disregarded findings included:

a. Multiple positive "Q" fever titers (USAMRID, WRAIR, Mayo Clinic).

b. Increased cranial pressure with reactive lymphocytes present in the fluid. Included with this is left facial spins and needless sensations with similar sensations of the left arm and dizziness. Mayo Clinic requested another spinal tap to validate their findings, which Dr. Chung refused to pursue.

c. Cardiac findings (97th General and WRAMC) of symptomatic PVC, trigeminy, bigeminy, and enlarged left atrium were disregarded.

d. An extensive post-Gulf War history of Gastrointestinal problems (97th General, WRAMC). Status post Nissan—fundaplication. Dizziness after eating, abnormal bowel movements, GI pain, recurring reflex, gastritis, elevated LFT's and enlarged liver/spleen.

These medical issues were reported to Dr. Chung and Dr. Roy during my initial interview, and were included on my CCEP Phase I paperwork. I was dismayed in late September when COL Chung tried to convince my wife and I that I had a somatization disorder. Especially when the above issues had not been addressed. I contacted Dr. Roy in writing, reference his note and "diagnosis" of somatization disorder (19 SEP 94), with no reply. Dr. Chung referred us to Dr. Folensbee for a "more accurate" discussion. We were prepared for this meeting (25 OCT 94, 0800 hrs), to include researching the DSM III and DSM IV, reference somatization disorder and the new undifferentiated somatization disorder. Dr. Folensbee initiated the meeting by stating if I did not accept this diagnosis and treatment, that when I was out of the service I would not receive any compensation. After a long confrontational meeting, Dr. Folensbee could not support the diagnosis IAW the DSM IV, admitted he had not reviewed my previous medical history, and promised a more prepared dis-

cussion at the next follow-up. Several weeks later at the follow-up (7 NOV 94, 1100 hrs), the same situation repeated itself. Dr. Folensbee again did not carefully review the extensively documented medical history, which would have helped to query any psychiatric diagnosis. I closed the meeting when Dr. Folensbee became extremely agitated. His frustration appeared to be due to our intensive preparation for the meeting, our ability to refute each of his points by using the DSM IV, and his continued lack of knowledge reference my medical history. We immediately went to see Dr. Chung, however he negotiated the situation by admitting to medical protocol problems and giving us consults to Cardiac and Gastroenterology. Thus, the cardiac, GI complaints and previous WRAMC lab findings were disregarded until after a Somatization Disorder Diagnosis was inaccurately documented and passed forward to Bethesda. Given the strong attempt to "railroad" this diagnosis through, I must suspect the validity of what is being reported to the board.

The cardiac and GI consults (NOV 94–MAY 95) both revalidated the abnormalities found earlier. Additionally, the cardiac service diagnosed me with "Myocarditis-Chronic, Related to Environmental Causes and issued me an extensive and permanent "P2" profile. Gastritis was again found along with abnormal appearing esophageal tissue. The positive "Q" fever titers were not addressed until after my return to care by my WRAMC Infectious Disease physician. The increased cranial pressure and neurological symptoms still have not been re-evaluated by the military.

In late March 1995, my wife asked Dr. Chung about the chances of a medical retirement for me. Dr. Chung stated "the only thing I will support is a 10% psychiatric discharge". Thus, with the documentation provided by the other services at WRAMC and my primary care physicians, I submitted for a Waiver to Requirements of the Voluntary Early Retirement Program Due to Compassionate Medical Reasons. This was due to the extensive time spent away from my assigned unit, being at WRAMC for appointments for myself and my sick family members. Of note: I have not been on "sick call" since May 1991. The DA DCSPER approved the Early Retirement as an Exception to Policy on 21 MAY 95 and I retired effective 1 JUL 95.

My VA medical examination was scheduled for a half hour on 31 JUL 95, but lasted over 2 hours. The VA doctor was dumbfounded at the documentation on my "retirement physical" and the fact that I was not medically retired. The Compensation and Pension exam concurred with the retirement physical by my NON–CCEP doctor at WRAMC, and documented additional medical problems. By 1 SEP 95, I was rated at 80% service connected disabled.

A major cycle started early the first week of SEP 1995. This event Divas documented (6 SEP 95) at the Navy Hospital, Groton, CT as including Congestive heart failure, generalized edema, enlarged liver and enlarged spleen. I received a consult for a Cardiologist and proceeded to the Newington VA hospital. Since the initial visit to Newington the following problems have been documented:

Cardiology: cardiomyopathy, enlarged left atrium/ventricle, hypertension.

Neurological Service: Additional evidence of neurological symptoms, optic nerve damage, Dix-Hall-Pike test failure.

Optomology Service: confirmed Neurologic finding of optic nerve swelling and discoloration, constriction of left eye peripheral vision (visual field loss), additional new diagnosis of Optic Neuritis.

Gastroenterology Service: performs "EGD" scope procedure and reconfirms, by pathology (29 FEB 96), *"Barrett's Esophagus" and severe gastritis.*

By 23 OCT 95, I was increased to 100% service connected due to unemployability. On 31 JUL 96, I received a second Compensation and Pension exam as a requirement for increasing toward 100% Total and Permanent Disability.

Within the CCEP, the disregard of the documented medical issues identified by clinical evidence, seem to lead to questions on standards of care / standards of practice. Additionally, in retrospect, I am not sure what the mission or goals of the WRAMC CCEP were, and based on my experiences in the CCEP, the reporting methods must remain suspect.

During this odyssey, I have been seen by Cardiology, Gastroenterology, Internal Medicine, Endocrinology, Allergy, Surgery, Infectious Disease, Neurology, Opthamology and Nuclear Medicine services of 97th US Hospital-Frankfurt, Hanau Krankenhaus, Wiesbaden USAF Hospital, Walter Reed Army Medical Center, Naval Hospital-San Diego, Weed Army Hospital, Groton Navy Hospital, VA Hospital Newington, CT and the Mayo Clinic. However, I have not been to a single sickcall appointment. I have had multiple tests and observations documented that record most of these chronic symptoms.

It has been extremely difficult to coordinate a doctor's appointment or obtain specimens, when all of these symptoms are present. It has been a very frustrating hit or miss situation. These chronic medical problems have been approached both

individually and as part of a syndrome. No primary medical diagnosis has been made that explains this myriad of symptoms.

ENCL.:

1. Symptoms occurring since April 1991
2. Chronology of Major Medical Events Since 1991
3. Diagnosis Recap by Medical Activity
4. Retirement Physical, 18 MAY 95 (found in subcommittee files)
5. VA Compensation and Pension Exam, 31 JUL 95 (found in subcommittee files)

SUBJECT: SYMPTOMS OCCURRING SINCE APRIL 1991

GASTRO SYMPTOMS

Spleen—enlargement documented by WRAMC—Infectious Disease
Groin pain when glands enlarged
Diarrhea—explosive, not with other viral symptoms
Stool—loose but formed, associated with extreme gas, sample submitted at Weed Hospital
Dark urine
Appetite—swings erratically from zero to maximum

CARDIAC SYMPTOMS

Palpitations—extreme fatigue, chest pain felt during strong cycles
Arrhythmias—PVCs, Bigeminy, Trigeminy, Couplets with discomfort
Exercise intolerance/Fatigue/Shortness of breath on exertion

NEUROLOGICAL SYMPTOMS

Dizziness—not always associated with fatigue
Forgetfulness—completely out of previous character
Pins and needles skin sensations, face and arms—irregular
Vision problems
Sleep Apnea and abnormal sleep cycles

DERMATOLOGICAL SYMPTOMS

Rash Facial—still present after cortisone treatment
Skin Patch—Ring Worm like, unresponsive to treatment, note from 9 APR 92
Rash Body—small red blisters that come at the end of cycles
Hair falls out abnormally, comes in white

MISCELLANEOUS SYMPTOMS

Lymphnodes—enlarged nodes now being scared over, seen on biopsy
Nocturnal Temperatures (while awake)—documented by Walter Reed AMC
Nocturnal Sweats (while awake)—from knees to toes, documented by Walter Reed AMC
Internal pain lower back—non-muscular/skeletal
Bleeding gums—multiple dental exams reveals no disease
Hot flashes/flushing

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16 DEC 90		Arrived in Dhahran, Cement City
28 DEC 90		Moved to Sea Side City
2 JAN 91		Moved to Tactical Assembly Area Henry, 3AD Advanced
20 JAN 91		First PB tabs taken
22 FEB 91		VII Corps mtg., anthrax shots received
23 FEB 91		Crossed into Iraq
28 FEB 91	09 MAR 91	TAA Victory; N29/57/06E47/05/02 (Iraq)
16 MAR 91	08 MAY 91	TAA Camelot; N29/37/00E47/45/30 (Kuwait)
1 APR 91		Safwan Refugee Mission starts
Late APR 91		Start feeling ill, multiple visits to flight surgeon
08 MAY 91		Convoy to KKMC; very ill, KKMC Emergency Room

09 MAY 91	11 MAY 91	Inpatient KKMC; Gastroenteritis, severe N/V/D
12 MAY 91		0800 hr.—KKMC hospital Emergency Room
14 MAY 91		Final convoy to port
19 MAY 91		Return flight to Germany
20 MAY 91		Health Hazardous Duty Statement
28 MAY 91		Suspected heart attack, admitted 97th General Hospital
20 DEC 91		Second bleeding episode
06 JAN 92	19 MAR 92	"Medevaced" to WRAMC; Visit #1, SURGERY
15 APR 92		Discharge Summary, WRAMC
21 APR 92		Aviation service terminated
17 AUG 92		L4–5–S1 degenerative disk disease
22 OCT 92		Profile; P2; Gastroesophageal Reflux Disease
01 DEC 92	13 JAN 93	"Medevaced" to WRAMC; Visit #2
13 DEC 92	13 JAN 93	Family medevaced to WRAMC
09 JAN 93		Dr. Kester Letter, Hospital Summary
21 NOV 93	09 DEC 93	WRAMC; Visit #3
12 MAY 94		Memo, Weed Hospital, PAD, ref. GWI diagnosis
13 MAY 94		Memo to Surgeon General Army; REF GWI of family
10 JUN 94		Dr. Harvey Memo; GWI and support retirement
02 AUG 94		CCEP Enrollment
19 SEP 94		Dr. Roy (CCEP) "diagnosis" of somatization disorder
03 JAN 95		NON–CCEP diagnosis—Barrett's Esophagus
23 MAR 95		Dr. Chung (CCEP) "only a 10% psychiatric discharge"
06 APR 95		Dr. Kester Memo; GWI and support retirement
21 APR 95		NON–CCEP diagnosis; Myocarditis—Chronic
18 MAY 95		WRAMC; Retirement Physical, 20 diagnosed problems
31 JUL 95		VA Medical Exam #1, Newington, CT
6 SEP 95		Major event documented, Groton Navy Hospital
23 OCT 95		100% disability rating by VA
31 JUL 96		VA Medical Exam #2, Newington, CT

BARRY S. KAPPLAN: DIAGNOSIS RECAP

	Army 1991–94	CCEP Aug 94	Retirement May 95	VA Jul 95	VA Jul 96
Leishmanisis	X				
Q fever	X		X	X	X
Esophageal dismotility	X		X	X	X
Gastritis	X		X	X	X
Joint disease	X		X	X	X
Chemical hepatitis			X		
Reflux disease	X		X	X	X
Degenerative arthritis	X		X	X	X
Optic neuritis					X
Pseudo cerbrial tumor					X
Left atrial enlargement	X		X	X	X

BARRY S. KAPPLAN: DIAGNOSIS RECAP—Continued

	Army 1991–94	CCEP Aug 94	Retirement May 95	VA Jul 95	VA Jul 96
Somatization disorder	.....	X	.....	.....	.....
Sleep apnea	.....	.....	X	.....	.....
Dermatology condition	X	.....	X	X	X
Chronic fatigue syndrome	X	.....	X	X	X

Mr. SHAYS. Thank you very much, Mr. Kapplan.

Mrs. Kapplan.

Mrs. KAPPLAN. My name is Nancy Kapplan, and I am the wife of a Gulf war veteran. We have four children who were all born prior to Desert Storm. Our oldest son, Jacob, is 12. Our twins, David and Ariel, are 9 and our youngest, Taryn, is 7.

We have come to speak to you today about the damage that my husband's service in the Gulf has wrecked on our health, our security and our dreams for the future. I have given you a chronology of the medical issues that have plagued our lives since the day I opened my husband's duffle bag in our small apartment in Germany.

Within 3 weeks of handling——

Mr. SHAYS. Mrs. Kapplan, I am really sorry to interrupt you. I just want to make sure we are all hearing you, and it is a little difficult.

Mrs. KAPPLAN. That is fine. Within 3 weeks of handling the wet, soiled clothing, the two boys and I were diagnosed with asthma. Within the next 3 months, my husband was hospitalized in Saudi Arabia and again in Frankfurt, Germany. Our daughter Taryn was also hospitalized for 6 weeks after I stored my husband's bags in her room. She was 21 months old at the time. She had toxic shock, gangrene and necrotizing fascitis.

Over the last 5 years, Barry has been MEDIVACed to Walter Reed Army Medical Center twice. Our entire family was MEDIVACed there once and finally my husband's orders were canceled for his next assignment and we were transferred to Fort Meade at the recommendation of the Infectious Disease Department at Walter Reed, so that we could participate in the government Comprehensive Clinical Evaluation Program there.

Despite extensive, documented abnormal results and tests, the CCEP diagnosed us both with somatoform disorder in October 1994. Barry was evaluated by cardiology at Walter Reed in March 1995 and was diagnosed with chronic myocarditis related to environmental causes.

The physician at Beaumont, which is in El Paso, sent me documentation of other biopsy reports that he had done that showed damage to the heart muscle from a toxic substance that the pathologist had been unable to identify.

At that time, my husband received a P–2 profile preventing him from being redeployed to the Gulf. He was still on active duty. On his retirement physical, as he said, his primary care physician documented 20 significant problems. They included sleep apnea, increased intracranial pressure, chemical hepatitis, chronic Q fever,

positive Leishmania titers, degenerative arthritis, Barrett's esophagus, and those are just a few.

Despite these debilitating conditions, the head of the CCEP, Dr. Raymond Chung, stated that he would support a 10-percent psychiatric discharge for my husband and it was only through a waiver to the early retirement requirements for compassionate medical reasons that we were able to retire in July 1995.

Compensation and pension exams at our local VA hospital support the health problems related to chemical exposures. In addition to many problems my husband suffered prior to his retirement, we have recently been told that he has pseudo-tumor cerebri. That is a problem like you have a tumor but there is no tumor. This has caused damage to his optic nerves, loss of peripheral vision, dizziness, numbness and tingling of face and arms, difficulty with short-term memory and a slow progressive deterioration in his cognitive function.

He had a spinal tap at the Mayo Clinic in 1994. We brought the information that we had from the Mayo Clinic that showed abnormal test results to the Comprehensive Clinical Evaluation Program. We requested at that time that his neurological evaluation include a spinal tap and we were told that the results were not clinically significant. When this was followed up in the VA hospital in February 1996, they did indeed at that time diagnose him with pseudo-tumor. They do not know what caused it, they do not know—the treatment that he is on right now, which is diuretics, is not affecting it.

I feel that if they had evaluated him during the CCEP that perhaps he would not have lost his peripheral vision and perhaps the short-term memory loss and cognitive dysfunction would be less if they had attempted some type of treatment.

Our family continues to be plagued with numerous infections requiring long-term use of antibiotics. Just this winter alone, we have dealt with strep infections not responsive to antibiotic therapy, abscesses of the retrophyarangeal areas, pneumonia, cellulitis and viral illnesses requiring hospitalization for IV hydration. It is obvious to me that there was a significant insult to our immune system which has precipitated these medical problems.

I truly believe Barry was exposed to chemical and/or biological agents which destroyed his health and the health of his fellow soldiers. I also feel the children and I were exposed to the agents when we handled his soiled clothing.

Our daughter Taryn is a direct casualty of the war. As an infant, she slept in the very room I stored his returning clothes and military items in. She has felt the effects of Gulf war illnesses as surely as any soldier. She continues to deal with her chronic abdominal pain on a daily basis and is very brave and has a stoic outlook.

Despite the reams of medical records listing these medical problems, there have been no answers regarding the probable causes of these issues. Even after meeting with Stephen Joseph, Susan Bailey, John Deutch and Mrs. Clinton at the request of Dr. Chung, I continue to feel betrayed by the Department of Defense. Through their continued lies, coverups and disinformation campaign, they are perpetrating a fraud on the American people and discrediting the soldiers and their families.

The cost of their coverup is borne by the very men and women who have fought for their country, their families and their friends and the loss is too hard to bear. They count their losses in friends, in children, wives, husbands, hopes and dreams.

Where are General Schwartzkopf, General Powell and the other commanders who have a moral obligation to their soldiers? I feel that accountability in this issue is very important and that the DOD, Dr. Joseph, the people in the VA, need to be held accountable for what they are reporting. I think that the disinformation campaign the DOD is doing has discredited the soldiers.

I have a whole bunch more to say, but my time is up.

[The prepared statement of Mrs. Kapplan follows:]

PREPARED STATEMENT OF NANCY KAPPLAN, REGISTERED NURSE, SOUTHINGTON, CT

My name is Nancy Kapplan and I am the wife of a Gulf War veteran. My husband was deployed to the Gulf with the 3rd Armored Division in mid-December 1990. He took civilian clothing as he was designated a purchasing agent for his unit. Before the onset of the ground war, in February of 1991, he sent his civilian clothing and personal items home. At the time we were stationed in Hanau, FRG which is relatively close to Rhein Main Air Base. Because of the proximity to the airbase and a close rapport in the unit, I was notified that his bags had arrived in a very timely manner. I received them within twenty-four hours of his shipping them home. The bags were wet and the clothing was stained when I opened and sorted them in our stairwell apartment. The children were with me and handled the clothing prior to washing.

In early March I noticed Jacob and David, our two sons, wheezing and having a productive cough. I brought them into the clinic where they were diagnosed with asthma. I was also experiencing shortness of breath, a productive cough, and chest discomfort. I was also diagnosed with asthma. I was surprised as we had no family history of asthma. As a nurse I was aware that there were environmental triggers for allergy induced asthma, however this was our second full year in Germany and we had no prior problems. I was also surprised that three of us had received the same diagnosis within a short time.

In the beginning of April 1991, Barry was told that due to the 3rd Armored Division being deactivated, he was to start mailing his unneeded personal effects home. Similar to the pre-ground war mailings, these items got home very rapidly. I stored these boxes and footlockers in our daughter Taryn's room. The twins were still too young, but Jacob was very interested in playing with Daddy's "Army stuff". The children and I sorted, shook out, and washed each piece of his gear and the war souvenirs he sent home.

Barry returned home on 19 May 1991, after his hospitalization in Saudi Arabia. He was a shadow of the man who deployed in December. He had lost sixty pounds. He was extremely short of breath, unable to climb a flight of stairs without resting. He had a productive cough and the sputum was very dark. He also had severe pain in the left subscapular area. Chest pain and paroxysmal coughing were recurrent symptoms. At night he would sweat so much the sheets would be soaked by morning. His gums bled profusely and when he spoke you could see blood oozing down his teeth. Whenever he ate, he had explosive diarrhea, at times mucousy and blood-tinged. His face was so ruddy, he looked as if he had sunburn.

Within two weeks of his return he was hospitalized for a ventricular arrhythmia and to rule out a myocardial infarct. He was discharged after a heart attack was ruled out. The flight surgeon, Major Kari Hodges, ignored his complaints. After an evaluation at Wiesbaden Air Force Hospital which documented his new onset arrhythmia and extreme hypertension, we were told it was a preexisting condition. When we disputed this based on Barry's multiple annual flight physicals we were told it was either withdrawal from caffeine and nicotine or P.T.S.D.

Further follow-up at the 97th General Hospital (Frankfort, FRG) indicated an esophageal dysmotility problem and he was placed on Procardia to alleviate some of his reflux problems and the premature ventricular contractions of his heart.

In December of 1991 Barry was hospitalized for an upper G.I. bleed. Because of the continuing symptoms, and the worsening problems with reflex Barry was airevaced to Walter Reed Army Medical Center (WRAMC) for further evaluation. At that time he was hospitalized for three months, received an extensive evaluation and a Nissan Fundaplication done.

Five weeks after Barry came home our daughter, Taryn, became ill. We initially thought it was just a case of chicken pox, as our other children were in various stages of the disease. She developed black blood-blister like pustules on the right side of her body. She ran fevers of 104.5 to 105.2, which did not respond to Tylenol and tepid baths. She eventually developed significant swelling of the right side of her face and body. The swelling was completely unilateral and did not extend left of midline. After six visits to the clinic she was finally admitted to the 97th General Hospital under the care of Dr. Ralph Ergas. At the time of her admission her condition was so unstable he told me he was unsure she would survive the afternoon. Over the next three days her condition appeared to stabilize on large doses of antibiotics and antiviral medication. On Tuesday, her fifth hospital day, she remained critically ill. Dermatology and surgical specialists were consulted as well as Dr. Bill Raszka, an infectious disease fellow at WRAMC. After surgical debridment and a change in her antibiotics her condition slowly improved. Her discharge diagnoses were gangrene, necrotizing fascitis, and toxic shock syndrome.

We were reassigned to Ft. Irwin, CA. Taryn was having continued complaints of abdominal pain and discomfort. I noticed she was having soft, fluffy stools that were foul smelling. She slept on three or four pillows and would awaken often at night. During meals she would leave the table to have a bowel movement. She also complained of leg pain and appeared to tire very easily. These symptoms were very similar to my husbands.

In October of 1992 I developed severe chest pain during inspiration and was seen at the emergency room at Ft. Irwin. I was diagnosed with pleurisy and also noted to have some scarring on my lung. I was treated prophylacticly with INH for a positive conversion in my TB skin test in high school and now changes in my chest x-ray.

On 1 December 1992, my husband was medevaced to WRAMC for his second inpatient evaluation for "Gulf War Syndrome". Due to the overwhelming similarities in symptoms, Walter Reed Infectious Disease consulted with Weed Army Hospital, Ft. Irwin, CA and the entire family was medevaced to WRAMC for evaluation. This was an almost unheard of action by WRAMC. The USO, Ft. Myer, VA donated an apartment for our family during the month long evaluation. The children were seen and examined by Dr. Raszka. Taryn and Jacob were evaluated more extensively based on their symptoms. Taryn was seen by Dr. James Noel, a pediatric gastroenterology fellow. He recommended calorie counts, stool samples and at a later date, a possible endoscopy.

Upon our return we followed up with our pediatrician, Dr. Malone. Calorie counts done by the dietitian showed a caloric intake of between 600 and 800 calories a day. When supplemental feedings were attempted her abdominal pain became worse. In May of 1993 we were referred to Loma Linda Medical Center for additional testing. Taryn was diagnosed with esophagitis, gastritis, chronic nonspecific inflammation of the colon and failure to thrive. These G.I. diagnoses are consistent with the diagnoses Barry received during his initial evaluation at WRAMC. Jacob was also seen at Loma Linda and diagnosed with Chronic Fatigue Syndrome.

In August of 1993 Taryn again developed a high fever and difficulty swallowing. She was admitted to Weed Army Hospital with a diagnose of sepsis. She was discharged after a week of antibiotics. Her weight gain continued to be poor and her nonspecific complaints continued. She was started on Periactin to increase her appetite with some success.

Ariel was seen for cellulitus of the umbilicus in January of 1994. She has since had cellulitus two more times. Pseudomonas, an organism found in debilitated patients, was cultured out of her wounds.

Dr. Saunders, a flight surgeon at Weed Army Hospital evaluated me in April of 1994 for complaints of excessive fatigue, enlarged lymph nodes, right upper quadrant pain and a palpable spleen. He suspected mononucleosis, however the blood tests were negative and no further follow-up was done.

Barry and Taryn were further evaluated in May 1994. Barry was seen at the Mayo Clinic where an enlarged left atrium was reconfirmed, an elevated intracranial pressure reading was noted along with an increased number of lymphocytes in the fluid. His fever titers remained elevated and were again reported to the CDC.

Taryn was seen at the Children's Hospital of Dallas where the findings from Loma Linda were reconfirmed. They also noted a decrease in one of her immunoglobulin subclasses.

We were transferred to Ft. Meade at the recommendation of the Infectious Disease Service at WRAMC in July of 1994. In August of 1994 Barry began the Comprehensive Clinical Evaluation Program. In our discussion with Dr. Raymond Chung, we agreed with his decision not to repeat the extensive medical testing that

had already been done. He stated, "That would be a waste of money." We understood that this data would be included in the CCEP record. Throughout August Barry was evaluated by Neurology, Pulmonary, Dermatology, and the Sleep Study Center at WRAMC. These were all closed consults, meaning that each specialist would complete an independent evaluation and provide recommendations based on their findings. We were told by Dr. Chung, in one of our initial meetings, that he and Dr. Michael Roy would review the evaluations and, based on the total picture, would identify pertinent medical problems and outline a plan of care.

As Barry and I spoke with Dr Chung about the numerous medical issues our family had been dealing with, he expressed concern for the children. At his recommendation we enrolled the children in the CCEP program. He stated that any problems I was experiencing were most likely related to stress, however it would be prudent for me to be evaluated at this time also. I was also evaluated by Neurology, Pulmonary, Psychiatry, Gastroenterology and Neuropsychology.

Dr. Cheyne, of G.I., did a complete evaluation and identified esophagitis, gastritis, and an H. Pylori infection for which Barry and I have both been treated. Taryn, Barry, and I have similar G.I. diagnoses. Our other children have similar symptoms but have not been evaluated at this time.

My rheumatology evaluation identified a polygammopathy, an elevated sedimentation rate, chronic anemia, lymphadenopathy, and, subsequent bone marrow biopsies show nonspecific abnormalities. The abnormalities may be consistent with chronic infections but no causative agent has been isolated.

Taryn's journey through the CCEP was pretty much self directed. Dr. Poley would follow-up on the recommendations of the specialists, if I asked him to. Otherwise it was "do it yourself" medicine. Rheumatology identified a mild myopathy in her legs. Immunology was unable to explain why she had a poor response to a vaccination given to challenge her immune system. She was vaccinated with a Pneumovax vaccine, However her body only mounted a response to one of the fifteen pneumonia's she should have been protected against. The G.I. work-up under the direction of Dr. Pineros and Dr. Noel was suspect. They stated she was fine and her biopsies reviewed from both prior endoscopies were normal. Please note the AFIP report enclosed. We have had another endoscopy performed at the Children's Medical Center here in Connecticut that continues to show esophagitis and nonspecific gastritis. She continues with the same cyclical complaints and at seven years old weighs thirty-nine pounds.

As of June 1995, WRAMC has diagnosed Barry with Barretts esophagus, a precancerous condition of the esophagus, and chronic myocarditis related to environmental causes. His neurological problems were not evaluated despite recommendations from the Mayo clinic for a repeat spinal tap. This was deemed unnecessary by Dr. Chung. His retirement physical addressed twenty problems, to include sleep apnea, chemical hepatitis, chronic Q-fever and the problems noted above.

The CCEP and Dr. Chung reported a diagnosis of somatoform disorder to the CCEP reviewer committee.

Although Dr. Chung stated he could only support a ten percent psychiatric discharge we were granted a waiver to the early retirement requirements for compassionate medical reasons. My husband is one hundred percent disabled by the V.A. Further evaluations at the V.A. hospital have documented increased intracranial pressure-cause unknown. He has damage to his optic nerves and is losing his peripheral vision. He continues to have numbness and tingling in his face and upper extremities. His short term memory is poor and his cognitive function is slowly deteriorating. This is in addition to the already documented cardiac, gastrointestinal, dermatology, and infectious disease issues we are already dealing with.

This first year of retirement has brought further confirmation of the medical issues facing our family. Another endoscopy for Taryn revealed continued esophagitis, gastritis and gastro-esophageal reflux disease. She is currently being treated with Pepcid and Bentyl with little relief of her symptoms. Ariel has had pneumonia and numerous strep infections this winter. Jacob and David have also had multiple strep infections, while Jacob developed retro-pharyageal abscesses. Because of the breakthrough infections while on antibiotics, the entire family was placed on antibiotics for six weeks.

Barry has had follow-up studies at the V.A. which reconfirmed Barrett's esophagus, esophagitis, gastritis and reflux disease. The neurologist has performed another spinal tap based on the recommendation of the Mayo clinic studies. His neurological deficits are directly related to the increase in intracranial pressure. Treatment with diuretics is not working and there is discussion of therapeutic spinal taps to relieve the pressure.

My repeat lab work and bone marrow biopsies remain abnormal but nonspecific. The oncologist feels my symptoms and abnormal test results could be consistent with some type of chronic infection.

We still have no definitive answers and continue to fight these problems in the dark. The DOD needs to release all the information they have on the exposures the soldiers had. It is only at that point that the medical community will no longer have to hunt for the needle in the hay stack that GWI has become.

SUBJECT: CHRONOLOGY OF MEDICAL EVENTS SINCE JANUARY 1991

FEB 1991—Received Barry's Class A Agent clothes and other items.
MAR 1991—David, Jacob, and I are diagnosed with asthma.
APR 91—Received Barry's shipments from Iraq and Kuwait.
19 MAY 91—Barry comes home sick.
28 MAY 91—Barry, 97th General Hospital, Cardiac distress.
28 JUN 91—Taryn, 97th General Hospital, Toxic Shock Syndrome, Gangrene and Necrotizing Fascitis.
21 DEC 91—Barry, 97th General Hospital, Severe Upper G.I. Bleed.
6 JAN 92—Barry, Medevaced to WRAMC.
11 FEB 92—Barry, WRAMC, Nissan fundaplication.
19 MAR 92—Barry is discharged from WRAMC.
1 DEC 92—Barry medevaced to WRAMC.
13 DEC 92—Family is medevaced to WRAMC for an evaluation.
JUL 93—Taryn and Jacob, Loma Linda Medical Center, CA.
AUG 93—Taryn is admitted to the hospital for sepsis.
JAN 94—Ariel is diagnosed with cellulitus of the umbilicus.
APR 94—Nancy, enlarged spleen, mononucleosis is ruled out.
MAY 94—Taryn, Children's Hospital of Dallas, validate Loma Linda findings.
MAY 94—Barry, Mayo Clinic, enlarged left atrium, abnormal intracranial pressure.
2 AUG 94—We begin the Comprehensive Clinical Evaluation Program.
OCT 94—Ariel again has cellulitus, this time of the right thigh.
NOV 94—Taryn is hospitalized for rehydration and viral illness.
JAN 95—Taryn is hospitalized for rehydration and viral illness.
MAY 95—Taryn, WRAMC, Continued Evaluation: unidentifiable organisms in stomach biopsies, abdominal pain, fluffy stools, lethargy, abnormal immunoglobulin subclasses.

Nancy, WRAMC, Continued Evaluation: granuloma—right lung, abnormal bone marrow values, chronic anemia, a polygammopathy, an elevated sedimentation rate, exercise induced asthma, and chronic inflammation of the vulva.

Jacob and David have allergies and asthma. Jacob has recurring abdominal pain. David also has chronic sinus problems.

Ariel's evaluation has been cursory.

DEPARTMENT OF DEFENSE
ARMED FORCES INSTITUTE OF PATHOLOGY
WASHINGTON, DC 20306-6000

REPLY TO ATTENTION OF

PATIENT IDENTIFICATION		PLEASE USE AFIP ACCESSION NUMBER IN ALL CORRESPONDENCE
AFIP ACCESSION NUMBER	CHECK DIGIT	SEQUENCE
2483298-2		00
NAME		SSAN
KAPPLAN, TARYN		206526668
91-2276 S		
SURGICAL/AUTOPSY PATH ACCESSION #'S		
PLEASE INFORM US OF ANY PATIENT IDENTIFICATION ERRORS		

NSI/ml

Jorge L. Ribas, LTC, VC, USAR
Ward 64, Bldg 2, WRAMC
Gulf War Health Center
Washington, DC 20307-5001

DATE 21 February 1995

CONSULTATION REPORT ON CONTRIBUTOR MATERIAL

AFIP DIAGNOSIS:

93-MS-4733
1. No lesions in biopsies of the duodenum, and the rectum.
2. Esophageal biopsy: Eosinophilic leucocytes in mucosa.
3. Colon, transverse: Lymphoid hyperplasia, mild.
4. Colon, descending: Mild increase in chronic inflammatory cells.

SP-94-02503
1. No lesions in biopsies of: Esophagus, duodenum, ileum, colon, proximal transverse colon, splenic flexure of colon, and sigmoid colon.
2. Stomach, antrum: Small focal mucosal lymphoid follicles.
3. Cecum: Mild increase in chronic inflammatory cells.

Also noted in the muscle of the gastric biopsies are small round structures about 2 micra in diameter, found also in the overlying mucus. Further elucidation of their identify will require special stains and possibly EM studies.

Follow-up studies are suggested regarding the bacteria found in the wall of the colon.

This case was seen in consultation with the Department of Gastro-intestinal Pathology and the Department of Infectious and Parasitic Disease Pathology.

NELSON S. IREY, M.D.
Chairman,
Department of Environmental & Toxicologic Pathology

AFIP F/L 61
15 May 87

DEPARTMENT OF DEFENSE
ARMED FORCES INSTITUTE OF PATHOLOGY
WASHINGTON, DC 20306-6000

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PLEASE INFORM US OF ANY PATIENT IDENTIFICATION ERRORS		

NSI/ml

Jorge L. Ribas, LTC, VC, USAR
Administrator, Gulf War Health Center
Ward 64, Bldg 2, WRAMC
Washington, DC 20307

DATE: 9 May 1995

CONSULTATION REPORT ON CONTRIBUTOR MATERIAL

AFIP DIAGNOSIS:

93-MS-4733 SP-94-02503 See previous report, dated 21 February, 1995.

The nature of the "small round structures" in the muscle of the stomach biopsy that were described in this initial report cannot be further studied because the paraffin block has been exhausted.

Regarding the specimen (S91-2276), this consists of mature adipose and fibrous tissue. No epidermis or dermis is included in this specimen. Therefore no viral etiology can be confirmed or denied. The fresh hemorrhage and inflammation seen in this material are focal, minimal, and non-diagnostic.

NELSON S. TREY, M.D.
Chairman,
Department of Environmental &
Toxicologic Pathology

AFIP F/L 61
15 May 87

Mr. SHAYS. Let me just say, I was asking a question when you made one comment, I just want to—you have how many children?

Mrs. KAPPLAN. I have four children.

Mr. SHAYS. And the health condition of the four children, describe each.

Mrs. KAPPLAN. My son Jacob is plagued by chronic infections. He had abscesses in the back of his throat just this past winter alone.

My son David and Jacob were diagnosed with asthma, as I was, after handling my husband's soiled clothes.

My daughter Ariel has chronic skin infections. She has had pneumonia and strep throat this past winter.

My youngest child Taryn seems to be the one that is most significantly affected. She is 7 years old. She weighs 39 pounds. She has failure to thrive. She has chronic esophagitis and gastritis, as well as chronic abdominal pain.

Her immune system does not respond appropriately. When she receives vaccinations, she does not mount a response to them.

Mr. SHAYS. And she was in the room where——

Mrs. KAPPLAN. Where I stored his baggage.

Mr. SHAYS. She was healthy before that?

Mrs. KAPPLAN. She was perfectly healthy before that.

Mr. SHAYS. Thank you.

Mr. Roberts.

Mr. ROBERTS. Thank you. My name is Nick Roberts. I served with Naval Mobile Construction Battalion 24. I was assigned to the Air Detachment just a few miles south of the Port of Al Jabayal, Saudi Arabia.

On January 20, 1991, I was awakened by a loud explosion. Running to the bunker, I heard a second explosion and noticed a large fireball toward the port.

Once in my assigned bunker, I put on my gas mask. We all sat there for approximately 20 minutes and then the all clear was given. We left the bunker and went outside. I estimate that half of the unit returned to their tents and the other half remained outside talking. I was one of the men outside talking.

Within just a few minutes, my arms, neck and face were stinging. My lips felt numb and I had strange taste in my mouth like copper penny or perhaps a metallic taste better describes it.

Some say a mist came over the camp. I do not remember a mist, but more of a fog.

Just about the time we all concluded that we had been hit with something, chemical alarms began sounding. Alarms were going off everywhere. Marines camped nearby began to yell, "Go back to your bunkers. We have all been gassed."

Once back in the bunker, we were ordered to MOPP level four. Radio transmissions were coming in, "Confirmed gas attack. I repeat, confirmed gas attack. All stations go to MOPP level four."

Soon afterwards, decon teams were called out and our chemical officer found two positive readings for lewisite and mustard gas.

We stayed at MOPP level four for about 1 hour and then we were given the all clear once again. Afterwards, many of us went to the water tank and washed ourselves down to stop the stinging.

My first symptoms were redness of the skin and welts on my chest by afternoon. The cause of my symptoms is chemical expo-

sure, not to mention the overall exposure from fallout due to intensive bombing to chemical and biological plants, radiation fallout from thousands of deleted uranium rounds used by the United States, exposure to vaccines, nerve gas pills and months of breathing smoke from more than 300 oil well fires.

Gulf war veterans are suffering from chemical poisoning. It's just that some veterans were exposed to more chemicals then the others.

To top off January 20, 1991, our commander explained that what we had witnessed were sonic booms. Sonic booms do not sting your skin or make your lips go numb. In addition, on January 21, 1991, our gas mask filters and chemical suits were exchanged for new ones.

As the days and weeks followed, my symptoms began to grow in number: rashes and small blister-like bumps appeared, fevers, night sweats, flue like symptoms, just to mention a few. After about a month, my lymph glands were swollen and my joints hurt. It was like having the flu around the clock with extra symptoms.

Once home, we asked for medical help. We were promised medical care and testing. That never came about. After 1 year, we were turned over to the Department of Veterans Affairs. The Navy simply said that they were not set up to take care of our medical needs.

I began going to the VA in Tuskegee, AL. I made several trips and each time tubes of blood were drawn and pictures were taken of my rashes and infected leg. I had chest x rays and they took hair samples, skin samples, and other samples.

After my visits, one doctor wanted to have a biopsy done due to the persistent swollen lymph glands. The surgeon denied the doctor's request and told me I was fine. I never got any medication from the VA, nor was I ever diagnosed by the VA.

I sought private medical help at this point. Within 6 to 8 weeks of testing and a biopsy of my lymph gland, I was diagnosed with non-Hodgkin's lymphoma, cancer, in stage three. I was started on chemotherapy 2 days later. So far, I have had three series of chemotherapy, each lasting 6 months.

The symptoms that I have been suffering from now include dizzy spells, loss of balance, ringing ears, fevers which are now every night, spells where I fall down, fatigue, joint pain and mainly at night severe leg cramps.

I have been rated at 100 percent service-connect, total and permanent, for lymphoma cancer. The VA has paid for my chemotherapy treatments thus far. However, after my last treatment, I received a phone call from the Tuskegee VA that from now on I would have to seek medical treatment from the VA hospitals or pay my own medical bills.

In a comparison made by former Chief Larry Perry of Battalion 24, by the end of 1993, 399 men out of 758 had been put out of the service because they were medically unfit and medically retired. I will forward this to the committee and ask that it be placed on the record.

One other point of interest I would like to make is that I along with many others from Battalion 24 have undergone intensive testing which was privately funded for the past 3 years. We hope that

we will have the results within the next 3 to 4 weeks. This study will help me and others who claim they were exposed in the Al Jabayal area on January 20, 1991.

I would like to thank the committee for allowing me to present my oral and written statement for the record.

Thank you.

[The prepared statement of Mr. Roberts follows:]

PREPARED STATEMENT OF NICK ROBERTS, PERSIAN GULF WAR VETERAN

My name is Nick Roberts. I served with Naval Mobile Construction Battalion 24. I was a Petty Officer 2nd Class and held a rate of builder. I was assigned to the Air-Detachment at King Abdul Aziz Stadium just a few miles south of the Port of Al Jabayl, Saudi Arabia.

On January 20, 1991, I was awakened by a loud explosion. Running to the bunker, I heard a second explosion and noticed a large fireball toward the Port.

Once in my assigned bunker, I put my gas mask on. We all sat there for approximately 20 minutes and then the all clear was given. We left the bunker and went outside. I estimate that half of the unit returned to their tents and the other half remained outside talking. To the best of my knowledge there were 112 men assigned to the Air-Detachment.

I was one of the men outside talking. Within just a few minutes, my arms, neck and face were stinging, my lips felt numb and I had a strange taste in my mouth, like a copper penny, or perhaps, a metallic taste better describes it.

Some say a mist came over the camp. I do not remember a mist, but more of a fog.

Just about the time we all concluded we had been hit with something, chemical alarms began sounding. Alarms were going off everywhere. Marines camped nearby began to yell, "Go back to your bunkers. We have been gassed."

Once inside the bunker, we were ordered to mopp level four. Radio transmissions were coming in, "Confirmed gas attack. I repeat, confirmed gas attack. All stations go to full mopp level four."

We stayed at mopp four about one hour and then we were given the all clear once again. Afterwards, many of us went to the water tank and washed ourselves down to stop the stinging.

My first symptoms were redness of the skin and welts on my chest that afternoon.

The cause of my symptoms is very obvious. I stand by my charge, as I have from the very beginning, of chemical exposure, not to mention the overall exposure from fall out due to intensive bombing to chemical and biological plants, radiation fall out from thousands of depleted uranium rounds used by the United States, exposure to vaccines and nerve gas pills, and months of breathing smoke from more than 300 oil well fires. I do not see how you could call it anything else.

Gulf War veterans are suffering chemical poisoning. It is just that some veterans were exposed to more chemicals than others.

To top off January 20, 1991, our commander explained that what we had witnessed were sonic booms. I did not buy it then and still do not. Sonic booms do not sting your skin or make your lips go numb. In addition, on January 21, 1991, our gas mask filters and chemical suits were exchanged for new ones.

As the days and weeks followed my symptoms began to grow in number; rashes and small blister like bumps appeared, fever, night sweats, and flu like symptoms, just to mention a few. After about a month my lymph glands were swollen and my joints hurt. You just got used to it. It is like having the flu around the clock with extra symptoms.

The camp medic handed out Motrin for the pain and fever, antibiotic cream for the rashes and sores.

Once home, we asked for medical help. We were promised medical care and testing. That never came about. After one year, we were turned over to the Department of Veterans Affairs (VA). The Navy simply said they were not set up to take care of our medical needs.

I began going to the VA in Tuskegee, Alabama. I made several trips and each time seven or eight tubes of blood were drawn and pictures were taken of my rashes and infected leg. I had two chest X-rays and they took hair samples, toe and finger nail clippings, skin samples, saliva, urine, and stool samples.

After my visits, one doctor wanted to have a biopsy done due to persistent swollen lymph glands. I made another trip to see the surgeon. He denied the doctor's request and told me I was fine.

I never got any medication from the VA, nor was I ever diagnosed by the VA.

I sought private medical help at this point. Within six to eight weeks of testing and a biopsy of my lymph gland, I was diagnosed with non-Hodgkin's lymphoma, a cancer, in stage three. I was started on chemotherapy two days later. So far I have had three series of chemotherapy, each lasting six months. A test next week will tell if more is needed.

The symptoms that I have been suffering from include dizzy spells, loss of balance, ringing ears, fevers which are now every night, spells where I fall down, fatigue, joint pain and mainly at night, severe leg cramps.

After trying to get medical help from the Navy and the VA for nearly 1 1/2 years and failing, I have gotten medical help from private doctors. I would have died like many others if I had waited for help from the VA.

I have been rated at 100% service connected disability, total and permanent, for lymphoma cancer. I do admit the VA has paid for my chemotherapy treatments thus far. However, shortly after my last treatment, I received a phone call from the Tuskegee VA that from now on I would have to seek medical treatment from VA hospitals or pay my own medical bills.

Put the veterans first.

Let me give you an update on cancers Persian Gulf veterans are suffering from. On November 10, 1993, I testified about chemical exposure and the many cancers that were popping up. At the time, I only had approximately 174 cancers on my list.

Here are some numbers I think that need to be looked at. The committee very likely has this information already. The following information comes from a confidential source.

GULF WAR VETERANS' DEATHS FROM CANCER

Year	No. of deaths
1991	46
1992	231
1993	441
1994	596
Total	1,314

GULF WAR VETERANS WITH CANCER

Year	No. with cancer
1991	51
1992	250
1993	454
1994	610
1995	680
Total	2,045

That is 3,359 cancers within the VA system, and I think these numbers are even higher.

I spoke with Brian Martin, a fellow sick veteran, and he informed me that he has been in contact with Dr. Francis Murphy. Dr. Murphy explained to him that there was no secret to the 6,397 cancers within the VA system and that 4,500 were unique. I think this committee should follow up on this issue as strongly as possible.

Based on these numbers, I won't even try to estimate how many Gulf War veterans have died from cancer or now have and suffer from cancer, unaware of the connection with their service in the Gulf.

I find it interesting that the military started down sizing soon after the Gulf War.

A comparison was made by former Chief Larry Perry of Battalion 24. By the end of 1993, 399 men out of 758 had been put out of the service because they were medically unfit, medically retired. I will forward this to the committee and ask that it be placed on the record.

One other point of interest I would like to make is that I along with many others from Battalion 24 have undergone intensive testing which is privately funded for the past three years. Hopefully, we will have the results within the next three-four weeks. This study will help me and others who claim they were exposed in the Al Jabayl area on January 20, 1991.

This committee and other committees before you have heard hundreds, if not thousands of statements in the past five years. I ask you, who do you believe, the Department of Defense or the veterans? I will place my money and trust with the veterans when the real truth is sought.

I would like to thank the committee for allowing me to present my oral and written statement for the record. Thank you.

Mr. SHAYS. You all take our breath away.

Ms. Nichols.

Ms. NICHOLS. Good morning, Representatives Shays and Towns and other committee members, staff and attendees. I am Denise Nichols, a Desert Storm veteran and nurse, who is a flight nurse in the U.S. Air Force Reserves. I served active and reserve and am a retired major who was activated for the war and served at Riyadh, KKMC and Log Base Charlie. I have a Master's degree in medical/surgical nursing with a specialty in cardiovascular nursing. I have 20 years experience in medical/surgical nursing from staff nursing to critical care to being a clinical specialist to teaching nursing.

I have diverted from the material I have already provided in my written testimony about my personal situation. It is there for you in the written record. I am here today to share with you my nursing observations that I made while serving in theater.

The question and comment has repeatedly been made by the DOD that there was no acute symptomatology indicating neurotoxin exposure. I beg to differ. In my opinion, there was very clearly symptoms of organophosphate neurotoxin exposure that occurred and began in theater.

In my written testimony, I have described a description in chronological order of symptoms that I observed in people around me where I was. The symptoms were there but you had to know what you were seeing. That was difficult for medical personnel experiencing the same neurotoxin exposure who were not told or provided the flow of intelligence reports that might have triggered us to recognize these subtle but very clear neurological symptoms. It is also clear that we were trained for the lethal dose, not the incapacitating low level dose.

Although it is only logical to look at the neurological symptoms since we were dealing with neurotoxin organophosphate substances, the changes in behavior, mentation, clouded mental functioning, changes in the basic senses of the body, changes in systems of the body that are all controlled by the brain and brain stem. These include musculoskeletal complaints, thought processing and intellectual functioning, cardiac, gastrointestinal, urinary and hormonal control of the body. The other symptoms and diseases we are seeing are clearly a dysfunctional immune system problem overlaying and complicating the neurological damage by activation of viruses.

Each of the viruses that we know about in medical science can be connected to other diseases. That is why you are getting a complex picture of diseases.

This is exactly the combination of acute symptoms that presented in our troops in the Gulf and afterwards. It is indeed interesting that unexplained, unexplored deaths occurred in such significant numbers to some of the healthiest Americans during this very short war.

It is also interesting to reflect on the categories of troops aeronautically evacuated from the theater. These categories of injuries included musculoskeletal injuries, female veterans experiencing large amounts of menstrual bleeding disorders, and accidental judgment type injuries. With exposures to neurotoxin, the most likely injuries we would and did see were indeed present.

An example of the injuries includes combat veterans playing with unexploded ordnance. They took cluster bombs, picked them up and brought them into their tent and there was an accident involving that. That is not clear judgment in a combat situation. We were trained better than that. There were weird occurrences in this very short war.

The evidence of acute symptoms was there all along in the DOD's own realm the whole time during and after the war.

Yes, it is in our head, it is in our brain stem and in our brain with viral activation. The crime here is withholding of vital information that relates to the health of the veteran, portions of the civilian population and possibly even Members of Congress and the administration.

Why do I say this?

Our pilots have been treated no differently than any of the rest of us. They were given their normal flight physicals every year, but detailed neurological examination that would have shown these problems has not occurred and my fear is when we are all on airplanes flying around this countryside.

It needs to be addressed now. It cannot be put off, not until January, and the DOD needs to come forward with the truth.

The crime continues with the withholding of medically prudent care. Medicine is the practice of an art. It is not reasonable to raise it to the level of a legal case.

We need to compensate the veterans who laid their lives in harm's way. We are indeed victims, prisoners of the failed system. We have taken significant casualties due to medical mismanagement and hiding from the truth, from the very system that we were once proud to serve.

We were not and I doubt never will be equipped and able to fight effectively in a chemical war. Where do you evacuate troops to in an environment that is huge toxic environment? I mean, where do you evacuate them to? Where is the clean area to decontaminate patients and equipment? Obviously we forgot a very basic military tenet used in our training, the KISS principle.

It is unbelievable that this has been allowed to continue for 6 years. We are now at risk of having casualties that I term the friend collateral casualties. These are the wives, husbands, children, parents and families that we left safe at home when we went to war, the civil reserve air fleet personnel and civil service personnel and their families who dealt with our returned equipment and supplies.

The DOD made some crucial errors in bringing home equipment that was soaked with oil containing neurotoxins. The wives were then exposed by simply washing the veteran's clothing.

A clear vector of a deadly toxin was brought home and the CDC has not been totally informed nor activated to investigate this veteran and public health problem.

The blood of our own soldiers is on the hands of the DOD. They study what they want to study and they waste money leading you in the wrong direction, sir. They have an old cronies network and it sure seems to be in play now.

There are so many culprits in this disaster. They must atone for their errors and ignorance. We need aggressive, assertive leadership to handle this nightmare.

We, the veterans, are ready once again to help solve the problems that others have created. We all need to come to the planning table very quickly and strategize quick, effective actions to limit further exposures and injury.

We need to heal the fracture that has occurred in the command structure. We have lost confidence and trust.

Veterans were mistreated. They were labeled malingerers and they were disciplined. What emotional trauma on top of physical injury. That needs to be corrected.

The veterans will not accept anything but the truth and nothing but the truth. We will not accept psychosomatic diagnoses. We will not accept PTSD. We want the truth. We are bright, we are intelligent, we are some of the best you have ever seen.

The veterans their families who have suffered so much need immediate medical care and financial care to avoid further devastation on this Nation's honor. They have been inappropriately treated and emotionally traumatized by the system.

We are due an apology and hasty rectification. All we ever asked for was the contract that we agreed to serve under to be honored. If you cannot honor that contract honestly and completely, then no other American troops should ever be sent into harm's way again.

We refuse to be used or abused any further. We will not be treated as guinea pigs that it seems has happened in the past with the radiation veterans and the Agent Orange veterans.

We stand tall, not only for ourselves, but for the Vietnam veterans that reached out to help us, the newest group of veterans; for the Americans that have supported us; and, most of all, for the current and future forces that are at risk now.

Please learn the lessons now so our lives would not have been lost in vain and please never, never let this happen again.

[The prepared statement of Ms. Nichols follows:]

PREPARED STATEMENT OF DENISE NICHOLS, PERSIAN GULF WAR VETERAN AND REGISTERED NURSE, WHEAT RIDGE, CO

Good morning Representatives, committee staffers and others at this hearing. I am Denise Nichols, a retired USAF R major, who served as a flight nurse, assigned to the 1611 AES (P). We served as the personnel for the mobile aeromedical evacuation staging facility located at its most forward location at Log Base Charlie. I wish to discuss indications that I as a trained medical staff member saw of low level neurotoxin exposure in the Gulf War Conflict.

We were in Rhyiad, experiencing SCUD attacks, 9 days at KKMC, and then moved forward to Log Base Charlie until after the cease fire. We then returned to KKMC, and came back stateside on May 4, 1991.

Our first exposure occurred shortly after the first SCUDS were fired into Israel. At this time we were at the airfield in Rhyiad. Our bus had departed from the field when the first SCUDS landed in Israel. The radio was reporting that those SCUDS contained nerve gas. As the bus was leaving the facility at the airport, a SCUD was intercepted by a Patriot missile right over our heads. We were inside bus, with windows down, and in MOPP level 3 (protective suits and boots). I do remember being in MOPP Level 4 when the alarm came in when the SCUDS went into Israel, but we had received an all clear, and had removed masks and gloves.

We were loading equipment from palates to trucks, distributing bottled water to troops, and performing other tasks. We were exiting the runway area when the encounter overhead occurred. There was no audible alarm, and no notification over the radio at any time. No one went into full protective posture. I was aware that it was incoming and had been intercepted, but through innocence did not mask, and did not order others to mask, lacking any alarm notification. In hindsight I wonder why I did not.

PRE DEPLOYMENT FACTORS

We had refresher NBC training more than once during the 6 month buildup period, but we were never trained to deal with situations in which there were no alarms, nor were we trained to deal with low levels of neurotoxin.

We were given boosters of Polio and given Immunoglobulin shots. The medical personnel received Hepatitis inoculations, and we received Anthrax shots on arrival in Theater. No one had issued, nor to my knowledge had considered, the impact of the pre combat vaccinations on the troops' immune systems. It is well known that immunizations and vaccinations destabilize the immune system for several months afterward.

Upon activation we were involved in numerous mobilization activities, including dental screening. The Reserve and National Guard members had to have dental procedures done at this point in order to bring them up to the physical standards for wartime deployment, as they had not had these procedures earlier. I had tried to get pre deployment dental care done at Lowry Air Force Base, and had been refused. I have known that dental procedures or any other procedures to the head would stimulate the immune system. Therefore, I sought a civilian dentist/reservist to do my own needed dental work in December, and had tried to have as many immunizations done as early as possible.

Other deficiencies that I noted was the lack of vitamin supplementation to meet the nutritional needs of the troops under a situation of physiological stress. Other deficiencies included lack of decontamination facilities for personnel and equipment in theater, and lack of alarm systems that were audible in Eskon Village in the high rise buildings, lack of alarm system monitors and detection equipment to take to our forward location. There was also a shortage of MOPP gear, because our personnel were required to turn in assigned MOPP suits, as there were not enough to go around for the other troops.

NURSING OBSERVATIONS MADE IN THEATER

Observations at Rhyiad

The troops suddenly developed respiratory complaints, muscle aches and pains, low grad fevers and nasal irritation/discharge. When taken to the Army medical treatment facility at Eskon, they were told that they either had "Saudi Flu" or were allergic to the charcoal in their MOPP gear. The other problems I observed were subtle changes in mentation, emotional reactions, and behavioral abnormalities. Lethargy was commonly seen, as well as irritability, interpersonal conflict among the troops, and a tendency for individuals to isolate.

I was concerned about and puzzled by these problems, but did not at that time put these observations together, as I later did, that they were clearly signs and symptoms of neurological dysfunction. These are signs of neurological dysfunction similar to those of brain injury, for example patients being monitored post concussion.

Some examples of the things I observed in regard to abnormal behaviors among troops and officers are:

1. I was given a message for a higher rank officer to be transmitted to another Major. When I found this Major, she was in her bunk, sleeping in the early afternoon. When told that I had a message from AAEC, the individual said that "I do not want to receive this message".

2. This Major was also giving away medical equipment from her MASF to other MASFs. This equipment had been packed at Kelly Air Force Base Supplemented by each OIC and NCOIC, with items identified by them for anticipated medical needs of our unit. Her behavior was abnormal in terms of standard operating procedures, and also showed dysfunction in her ability to apply reason to her clinical responsibilities.

I noted passive-aggressive behavior patterns as well as overt inappropriate aggression among US Armed Forces Personnel had begun to develop at this point, and these behaviors continued in many personnel to be present throughout the war and afterwards. Loss of control over temper, loss of ability to reason, loss of problem solving abilities were all present in the personnel. I noted personnel leaving their

MOPP gear by their bunk, going to midnight chow, and then panicking when a SCUD attack occurred while they were without their protective gear.

I also noticed altered communication patterns and difficulty in communication. People had trouble understanding what was being said to them. They had trouble expressing themselves. Also, there was clear deterioration in the ability of personnel to work together because of the emergence of primitive emotional states such as jealousy.

Following the administration of Anthrax shots, we saw an immune response in many personnel. Some had severe reactions, including swollen and hot injection sites, pain in the extremity, and low grade fevers. Later, we saw exaggerated responses to insect bites.

Our group exposures likely consisted at least in part of the SCUD attacks that occurred in Rhyiad during those first nine days. I distinctly remember, after one SCUD attack having to evacuate the building after a bomb alert. We had received the all clear, but were still in protective suits and boots. It was late at night. There was a strange light mist, which seemed strange in a desert environment. This was the first time I noticed a strange smell, which reminded me of freshly mowed grass.

Observations at KKMC

About a week later at KKMC, I noted the onset in many personnel of diarrhea and difficulties with urinary urgency, and bowel control/incontinence. Musculoskeletal complaints began to appear with greater frequency. There was further inappropriate military communication.

Junior officers demonstrated rude and disrespectful behavior to equal higher ranking officers. One particular nursing officer was unable to discuss a situation and to resolve the situation appropriately, but instead got angry, started to yelling at another officer in front of enlisted officer. In one command center NCOs and senior officers began arguing. Upon leaving KKMC a senior officer decided to not pursue the acquisition of appropriate sanitary facilities required for medical safety, to take forward to Log Base Charlie.

Observations at Log Base Charlie

At this time there was a noticeable increase in vehicular accidents. In retrospect this increase in the vehicular accident rate could have been due to loss of depth perception, concentration deficits, and impaired judgment when driving. These are all possible consequences of organophosphate neurotoxin exposure. There were more symptoms of urinary urgency among the troops. Skin lesions, rashes, and subcutaneous nodules of unknown origin began to appear.

Interpersonal tensions had intensified to the point that they were universal among the MASF personnel. Outside observers noted this as well as myself.

Unexplained deaths began to occur. One example at Log Base Charlie was of an Alabama National Guardsman experienced a stroke or heart attack. A flight nurse and medical technician attempted CPR, unsuccessfully. They assisted in evacuation to the Army hospital (Alabama National Guard Facility). Another soldier, a younger man, was found dead in his bunk, without any obvious reason I have compiled a list of a number of unexplained deaths in theater. This list will be provided.

It seems reasonable at this time to assess these signs, symptoms and deaths that occurred in theater to indicate that low levels of neurotoxin were present in theater. One must remember that the command structure and medical personnel who were there were exposed to the same neurotoxin. This would have reduced their objectivity. If information was known regarding the presence of neurotoxin in the theater, the medical personnel would still not have been able to connect this information with what we were observing, because we were affected as well, including our own logic and reasoning functions.

Observations on Return to KKMC

On return to KKMC the staff was experiencing hoarseness, and we were experiencing productive cough with dark sputum. Our eyes were demonstrating light sensitivity, there was ear and nasal irritation. There were more frequent and more pronounced difficulties with insomnia and sleep pattern, and there were even more difficulties with interpersonal interaction. Logical judgment and decision making was deteriorating, and this was even noticed by the affected individuals.

Observations Upon Return Stateside

Upon our return home, one of our female radio operators physically assaulted her husband. Violence was common, and there was an increase in divorce among the troops. We withdrew from our normal activities, as a way of decreasing stimulation that we could not handle. We became noise sensitive. Despite all attempt to return

to a normal circadian rhythm, sleep disturbances increased and have persisted to this day.

We have noticed hair loss, intermittent visual blurring, exaggerated light sensitivity, muscle aches, occasional vertigo, rashes that come and go, and continued pulmonary distress. Further instances of decreased ability to control irritability, fatigue, low grade fever, pruritus, metallic taste in the mouth, ringing in the ears (probably from ototoxicity) decrease in taste sensation, loss of appetite, eating when we have to, with disruption of the normal meal pattern. Olfactory hallucinations have persisted. We have developed persistent headaches and clumsiness, with walking disturbance. We have developed a tendency toward disorientation, and a tendency to get lost while driving, even in a familiar location.

Memory problems have progressed as time has passed. Paraesthesias and involuntary twitching of the lower extremities are a frequent occurrence. There is commonly gingivitis and other gum disorders, as well as an increase crumbling fillings, accelerated tooth decay, and excessive sensitivity to dental anesthesia.

There has been a decrease in Red Blood Cell count, bouts of infection, abnormalities in menstrual cycle, decreased libido, and palpitations. There is a slow progression of difficulties with language, word finding, sentence construction. They have developed difficulty in forming and retrieving words.

Symptoms appear to be exacerbated by cleaning fluids, pesticides, and bleach. Food intolerance problems have developed. When veterans experience these sensitives, especially to chlorine, they break out in rashes, become increasingly illogical, exasperated and moody, develop facial flushing. They have developed nausea and vomiting, and facial flushing. Treatment with IV's and Oxygen appear to reverse some of these symptoms.

Within a month to two months of return home, I developed what I though was a severe viral infection, with the highest fever, chills, and muscle aches/pains that I have ever experienced. I have had recurrences of these symptoms, accompanied by vertigo and headaches.

In interviewing other veterans, I have found reports of similar problems. It is interesting to note, in dealing with 800–1000 veterans, over the telephone, in person, and through computer network, that the symptoms are so uniform and in their appearance, their timing, and their character. For all of us, the symptoms appear to progress over time, in a cyclical manner.

I personally know veterans that have experienced thyroid, cardiac, urinary and musculoskeletal problems, I have interviewed veterans that have developed cancers, some with multiple cancers in multiple systems. I have come across female veterans with multiple menstrual problems, who have had multiple miscarriages. I have come across male veterans who wives with cervical problems, miscarriages, children born with birth defects, and who have wives and other family members who were previously healthy.

I know of one unit from Boiser City, Louisiana, who have four young males with cardiac pace makers. I have reports from a unit in Florida, who deployed 100 personnel, that have had seven individuals with cancer, three having died of that cancer. I know of one veteran who has already had a cardiac transplant, and a second veteran who was worked up for cardiac transplant. I have had communication to the effect that at least two veterans have lost kidneys, and that two more have had circulation problems in their arms. Thoracic outlet syndrome was performed on the latter two, with no beneficial effect.

Two female veterans in their 20's have had a total hysterectomy for severe menstrual problems. Out of the first 150 veterans that I have had contact with in Colorado and Wyoming, there were four leukemia cases, two of whom have since died. Out of this group of 150 there was an additional death from brain cancer. One female veteran, 31 year of age required emergency angioplasty, and now has significant circulation problems in the lower extremities. Another male veteran is currently being evaluated for significant cardiac disease and yet another veteran died of myocardial infarction involving complete closure of 3 coronary arteries.

Further, I have had one active duty pilot with a diagnosis of ALS, another pilot who has already died of ALS, and a Marine Major with ALS. I have knowledge of 5–7 veterans who have committed violent acts, but have no memory of what they did. I have one veteran who was diagnosed as having suddenly developed a personality disorder, despite a lifetime of achievement with two college degrees and having graduated 8th in his class. He is now unemployed and was homeless until I found a place for him.

I am following a number of veterans in Germany, one of which was evaluated at Walter Reed Medical Center, but was given no diagnosis, who has upon going to a German Neurologist been quickly diagnosed as suffering from neurotoxin exposure.

This is a partial summary of my activities and encounters with veterans. My activities have included phone and personal consultation, referral to physicians, emotional support, around the clock hot line referral, organizing veterans activities relative to the Gulf War. I have served as a networker for our physicians and medical researchers. I have encouraged Senator Campbell to hold Veterans' Affairs Oversight Subcommittee Senate meetings in Colorado, which took place in July 7, 1994.

The Colorado State Hearings, held hearings in 1995 were at least in part because of my efforts, as was the Presidential Advisory Committee on Gulf War Veterans' Illnesses that occurred this year.

My Own Personal Health

My symptoms began in theater, but I disregarded them and have denied them. I began to realize that I have developed a number of Illnesses beginning in 1993. I have been diagnosed as having thyroid dysfunction, cervical abnormalities, new onset decrease in red blood cell count. My T–4/T–8 lymphocyte ratio is 3.5, very high, indicating a potential for immune disease. I am positive for EBV Epstein Barr infection, for CMV infections, yeast infection, urinary infection and accelerating dental problems, including the need for crowns, root canals, and gum surgery. I am unable to have sexual orgasms. This began in 1993, and has progressed to the point where it is a total problem.

My own daughter, along with the child of another Colorado Veteran have been diagnosed with congenital cataracts, which she did not have before my return from the gulf. She has developed rashes on her cheek where I have kissed her, and has developed respiratory problems, and other related symptoms.

It is my observation that there is little action in terms addressing these medical problems, family problems, employment problems, and overwhelming financial problems related to their service in the Gulf. I have seen promising research being denied funding due to political implications. I have witnessed repeated and multiple delays in dealing with this problem. I am astonished that this has not become National priority; with sick veterans, and potentially impaired pilots going unexamined for the signs of Neurotoxin Illness and untreated for what is really wrong with them.

We are in a crisis or national health issues, with sick veterans, sick families, unstable stores of neurotoxic gas in various parts of the country. This situation requires a crisis response. We need a full open and hones investigation by the American Congress.

Mr. SHAYS. Thank you, Ms. Nichols.

It is the intention of the chair to call on a number of my colleagues in this order. I am going to call on Mr. Towns and Mr. Sanders and then I will probably come to Mrs. Morella and the Republican side of the aisle and then I will call on Mr. Green and Mr. Barrett and I may jump in and Mr. Fattah. We will go in that order.

Mr. Towns, you have the floor.

Mr. TOWNS. Thank you very much, Mr. Chairman.

Let me begin by saying I have been really, really, really touched by the information that has come forward and I must say in a very loud and clear voice that I am disappointed that DOD did not come and participate in this hearing, because I think that this is a very important hearing and I think that we need to look for answers and I think that working together that we can find some answers.

Let me just sort of move very quickly to you, Mr. Roberts. I want to make certain that I understood you very clearly. You said 399 out of the 758 in your outfit were discharged? Was that for medical reasons, were you saying? Did I understand you correctly?

Mr. ROBERTS. Yes, sir.

Mr. TOWNS. That was for medical reasons.

Mr. ROBERTS. Yes. Medical. Well, we were being threatened when we started getting media attention and the more left, the louder we got, the more this started to be put out medically unfit, we could not do our physical training, like myself, they threatened

to put me out because I could not do the physical fitness test, so I just went ahead and got out. I was too sick to argue with them at that time.

I have seen the study and I have seen how it was done. It was compared with muster sheets from the battalion and then the current muster sheet at 1993, end of 1993.

Mr. TOWNS. So out of the 758, 399 were separated for medical reasons.

Mr. ROBERTS. That is what I read. That is the way I understood it and took off the report. And like I said, I will send the report to you and you can take it from there.

Mr. TOWNS. Mr. Chairman, I would like that to be a part of the record as well.

Brian, how long were you in the service?

Mr. MARTIN. I was in just under 4 years, sir. I became ill and I could no longer jump. I was a paratrooper. I was having a hard time with my physical training and, like I said in my testimony, every time I would run, I would violently vomit and an ambulance would have to come get me and take me to the hospital. There was just—the Army would not let me advance, they would not let me change units, they just berated me and it was just time that I leave.

Mr. TOWNS. And you had no symptoms of abnormal kind of physical conditions prior to going into the military?

Mr. MARTIN. No, sir. Growing up, I had 7 years of karate, 2 years of boxing, I was into sports. I was very healthy, very physically fit. Airborne school was a breeze. Basic training, I won the AUSA award for soldier of the cycle. In AIT, I won high PT awards. I was 26 years old when I joined the service and I could out-do any of the 18-year-olds. Airborne school was no problem. I loved it. I loved jumping out of airplanes. The more physical the Army could be or, as we were taught, it is better to sweat in peacetime than bleed in war, and I trained hard. And when I came home, I could no longer train. So I was worthless to the military and it was either I get out, try to get out on an honorable, or be kicked out. So I chose the early out.

Mr. TOWNS. Do you have children?

Mr. MARTIN. Yes, sir. I do. Have two. I have a 6-year-old daughter and a 4-year-old son. Our 6-year-old daughter is perfectly healthy. Our 4-year-old son almost died at birth. He had a freakish umbilical cord that just had a lot of problems. To this day, as a matter of fact, Tuesday was his first day of school at 4 years old because our school district feels that with his problems they should bring him to the school a couple of years early and assign a teacher to him individually to work with him so he will be prepared to join normal students when it is his time.

Mr. TOWNS. Thank you.

Mr. Kapplan, you gave us a couple of suggestions, but I would like to just reverse roles for a moment. Assume that you are a Member of Congress. What do you suggest that we should do, as Members of Congress? I know you gave us three suggestions, but the point is do you have any other things that you feel that we should do as Members of Congress now that we have certain information?

Mr. KAPPLAN. Well, yes, sir. As far as some of the questions about the reliability of our chemical detection equipment, I would like to know as a member, Barry Kapplan, Member of Congress from Southington, CT, I would like to know what are the military specifications of the MA chemical alarm and the Fox chemical detection vehicle and if the contractors did not meet those specifications, because DOD is claiming these false alarms, I think action should be taken against those contractors in accordance with the Federal Acquisition Regulations. But that would require a GAO investigation, as you well know. That is No. 1.

There are several others like that, but if we take hard hitting looks at some of these claims by DOD, I think that utilizing established Federal regulations and law we should be able to deal with each one of those hand in hand.

Mr. TOWNS. Thank you.

Ms. Nichols, you sort of alluded to the fact that you feel there is a coverup.

Ms. NICHOLS. I try to be polite at all times; sometimes it is difficult. It is very obvious that there were neurological symptoms in the theater. We were under the same exposure and maybe that is why it was not picked up and it has taken me this long to finally get a clear enough mind functioning out of a neurologically damaged foggy brain. So I do not know if I would—I hate to use the terminology except for the way I said it in my testimony is that there is data out there, very apparently there. I believe they knew about it. I believe they knew full well. And I do not understand why they have done this to us at all.

Mr. TOWNS. Are you concerned that CDC is not actively involved?

Ms. NICHOLS. Yes, I am, sir. My child has been, her health has been changed since I came back from the war. All we can do is closely monitor her for changes and whatever I find out about the testing that we need from the medical researchers and doctors that independently have stepped forward to great expense to themselves, as I find that information out, I try to share it with other vets and I try to get my daughter tested with the same things I am going through.

I feel that it is being passed along—when you look at it medically, you have got to look for vectors, what came back from theater. I think that we also have to develop, and Dr. Baumzweiger and Dr. Howard Ernovitz could probably explain it much more succinctly than I can, but we have had an immune system activation, aggressive lymphocytes that may be passed on to those that are genetically similar to us that would be most susceptible through close family contact if continued development.

My mother and my aunt met me when I came home. My mother's health has changed. She was not there that long, but here I came off the plane and hugged, were close to some degree. She is elderly. Her immune system was not strong at that point in her life. She has had a bad immune system. Her health has changed. My aunt who came with her had the strangest death and I cannot discount in my own mind with my own training that it was not somehow connected.

Mr. TOWNS. Let me again thank all of you for your testimony and to say to you that I have been touched by you and this member will

continue to push and to work to try and get some answers. And, of course, regardless to what happens with this committee the next time around, you can be assured that this is something that as long as I am around in Congress, that we will continue to push. So I want to thank all of you for your answers and the information that you have brought forth.

And I gather from your comments that you are saying that there is a lot of other folks out there that have similar problems and I sort of get that feeling from you as you are testifying.

Ms. NICHOLS. Mr. Towns, this is just a sample of downloaded messages from veterans, just a sample divided by category, cardiac, neurological problems, various overlapping situations. Just a small sampling.

Mr. Jim Tuite has tremendous amounts of data because of the survey he did through Senator Riegle's office. There is a huge amount of suffering. We do not know the total number. When I visit Washington, I go to the wall and I see a wall with 58,000 names on it and I wonder how big our wall is going to have to be. We have number games going on. There was mention of 191,000 in the VA newsletter, 80 percent maybe symptomatic. We cannot see ourselves trying to get the information to get straight data. We get straight data and it looks a different way.

Mr. TOWNS. Lyndon Johnson would say there is something rotten in the cotton.

Ms. NICHOLS. Yes.

Mr. SHAYS. Thank you, Mr. Towns.

Mr. Sanders.

Mr. SANDERS. Thank you, Mr. Chairman.

I want to thank all of the veterans——

Mr. SHAYS. You know what I would like to request? If you could move your mic toward the middle there, move it toward you and you can speak to both of them.

Mr. SANDERS. Thank you.

I just want to thank you and express my appreciation to all of the people up here for your persistence and your courage in pursuing the issue.

I think as Ms. Nichols said, we understand that you are not here just for yourself, but you are here to make sure that this does not happen again and I think Ms. Nichols is right in saying that we cannot do better by our veterans, we should not be sending people off in harm's way again.

Let me start off by asking Mrs. Kapplan and Ms. Nichols and anyone else who wants to respond, Mrs. Kapplan, you talked about how your children were exposed to contaminants in your husband's clothing or equipment that he brought back.

Ms. KAPPLAN. Yes.

Mr. SANDERS. And that your children then became casualties of the war quite as much as people who were over there and Ms. Nichols as well.

Are you aware of other families where similar type problems developed where children or other family members were exposed to toxins in clothing or equipment back home?

Mrs. KAPPLAN. Yes, sir. My husband was with a group of other men, six to eight of them, that he was in intimate contact with and

did a lot of work with and six of them are sick. Very sick. And one of them, Sergeant Alfentera, has a little girl who is probably about 9 now who has the same symptoms that my daughter has, the same GI problems. And he stored his gear in her playroom.

When we lived in Germany, we lived in a very, very small stairwell, if you will, a small apartment with not a big storage area. And with the drawdown of the 3d Armored Division, our soldiers' clothes came home via mail. They were not put onto equipment because the equipment came back to the States and so they had their things sent via the airplanes. And I do know that she does have a lot of the same GI problems that my daughter has.

Mr. SANDERS. Ms. Nichols, did you want to respond?

Ms. NICHOLS. Yes, I do. I think I mentioned in my testimony, I have a lot of data. I have had trouble keeping up with it all and keep functioning and have any kind of life besides this. It has swallowed me up. I am waiting for it to give me back my life.

My child had perfectly good health when I left for war. She now has what they call a congenital cataract in her eye. It was not there before and I have very good doctors, I guarantee, a nurse with 20 years and a Master's degree is going to screen and use the very best.

I found another veteran in southern Colorado, his child is about the same age as mine, having that symptom. My concern is for her vision and for her health. This is widespread.

Jim Tuite can reference the study he did through Senator Riegle's banking committee report. It is out there. I guess we were hesitant to talk about it. I know I talked to Mr. Tuite many times about the fears that we have to go through in coming forward and how people might overreact in the public. So we were very concerned about that. But other individuals' family members are sick. We have a sister of a veteran in California.

The other thing that is important to remember is our equipment that came back was not decontaminated. We had the people at Sharp Army Depot that never went into theater that handled our equipment, they started getting symptoms.

Mr. SANDERS. Are you aware of any study done by the DOD or the VA about people becoming sick as a result of exposure to clothing or equipment?

Ms. NICHOLS. No, sir.

Mr. SANDERS. Is anybody aware of that?

Mrs. MARTIN. Actually, I was tested and not treated at Walter Reed WRMAC Community Hospital. The DOD seems to think that we are ignorant. My husband and I have investigated this for 5 years. We have doctors here in our home State where we are from that have tested, they have no conclusive answer to what is wrong, all they can say is that this is due and possibly due to the Persian Gulf syndrome.

Now, when you take all of the medical records that were tested upon, x rays, ultrasounds, blood tests, take them to a sophisticated DOD hospital and the physicians there look at it and ignore it, they decide this is not important, this is not happening to you, this is all in your head, I am sorry, this is not in my head, this is not in the veteran's head, this is not in anybody's head except for the DOD's head.

This is gross incompetence knowing that there are children that are being born every single day from Persian Gulf families who are dying of liver dysfunctions, who are very hyper, who have temperatures of anywhere from 99 to 105, who have brain tumors, who have brain swelling, who have massive heart attacks within a matter of 24 hours of seeing a physician. A 12-month-old baby just does not go in and get an all clear signal from their physician and within a matter of 24 hours collapses over and dies of a massive heart attack. I am sorry.

These children are supposed to be the future, something that everyone can look upon when we get old. They are supposed to be able to take care of us. Now, how do you expect them to take care of us when they are being born with these dysfunctions and there are no answers, trying to say that this is just—I guess you could say in a room like this, let us just say we all have the same problem, would you say that is a—what is the word I am looking for——

Mr. SANDERS. A coincidence?

Mrs. MARTIN. Yes. Thank you. A coincidence. I am sorry. It is not a coincidence.

Mr. SANDERS. I was particularly interested in Mrs. Kapplan's statement. Here you have exposure to what you believe is toxicity.

Mrs. KAPPLAN. Yes, sir.

Mr. SANDERS. And the children suddenly become ill. That seems to be a pretty clear cause and effect and I was wondering if others had seen it even that directly.

Mrs. KAPPLAN. Yes.

Mr. SANDERS. Mrs. Martin.

Mrs. MARTIN. Actually, I will not state the name of this child that I met at Walter Reed. She was 14 months old. At that age, you are to be walking and crawling, somewhat talking. This child started to walk and within a matter of days of getting down the pattern of walking, something crippled her to where she could not even walk. She had to lay on the ground and pull herself like this, cannot even move her legs, cannot even stand up, cannot even say mommy or daddy. Something is not right.

Mr. MARTIN. She has the same rashes that her father had. Or has. She has just like the same attention disorder that her father has. Like our son, the exact same rashes, hyperactivity. A lot of problems.

I do not know what causes the high alkaline levels or pH levels in my semen, but my wife has testified and we have gone on national television talking about the burning semen and the shooting fire.

My wife has been so sick and still is that Walter Reed seeing her, the Secretary of the Army last year, Toga West, gave her a year's free medical care because her conditions were so severe and there were only two or three people that knew that she was not a Persian Gulf veteran. She was diagnosed with somatization disorder also.

Mr. SANDERS. Let me just, if I can, Mr. Chairman, ask one more brief question.

Mr. SHAYS. The gentleman may proceed.

Mr. SANDERS. It just touches on what Mr. Martin indicated.

In your opinions, how good has the VA treatment been for the concerns that you and others have had?

Mr. MARTIN. Sir, when I testified in March to this committee, I said then that I was getting compensated for squeaky wheel syndrome. My connection with Senator Riegle, Congressman Upton, the national media, I feel the VA has been pressured into treating me right.

I could tell you horror stories. I have a cassette tape from my answering machine that I am going to submit to this committee so you could listen to 1 day's messages of families being turned down. There is a lady in this audience today, Diane Dulca, whose husband died of pancreatic cancer. Four times she has been denied her benefits because the VA just will not put a service connection to it.

We could tell you this all day long, all of us could. All of us talk to veterans all day long. People in this room have talked to veterans. But it is funny how we see a different thing than the VA does or the DOD does. And I do not care about their scientific study compared to our humanitarian reasons.

The truth is there. They just need to listen to us. They do not need to listen to what the DOD sends them by mail. Khamisiyah, they have denied that. Has the VA done anything? I have called. There is a doctor that is going to be on your next panel that diagnosed me with my chemical injuries. I have called her and asked her, OK, now that they have said that I may have been exposed to Sarin what are you going to do? I was told nothing. There is nothing that can be done. Whatever was in me could have dissipated by now. I am still sick, why has that not dissipated?

So it is just a constant banging your head against the wall with these people.

Ms. NICHOLS. Sir, it seems like on the VA issue, it seems like we have had to educate the VA. We are having to come forward with the information. I take information down to the VA hospital in Denver all the time and share information with them and go, OK, guys, come on here is the information, what do I need to, provide educational level training for you in neurotoxin exposures? This is what we need. I bring them in information from the independent researchers. So the care has not been good at all.

I would like to add that this cannot go on. This cannot go on. I have put recommendations out when we did congressional briefings and when we have been up here on the Hill so many times over the last several months and we cannot wait any longer. We are starting to almost take more collateral friendly casualties.

So I would encourage you all that after the election day you look and find a way to continue this in November after the election. We cannot wait. And we need a Christmas gift, we need to be able to give some hope to our families for Christmas.

Mr. SHAYS. Mr. Sanders, are you finished?

Mr. SANDERS. Yes, I am. Thank you very much.

Mr. SHAYS. Thank you.

Mrs. Morella.

Mrs. MORELLA. Thank you. I thank you, Mr. Chairman, for having this series of hearings.

I want to thank the panelists because you have shown great courage in coming before us and going through horrendous situa-

tions probably over and over again. Your moving personal experiences do not only encourage, motivate, but require that after the election that we do get back to the issue in terms of what is our role as overseeing government.

I may be repeating a few of the things that have been stated, but I see here that we did not hear, our chairman did not hear that DOD was not going to come until we got a fax message at 10:24——

Mr. SHAYS. No, I need to clarify that. That is the explanation which we will submit for the record. They told us 2 days ago that they would not be here.

Mrs. MORELLA. That they would not be here. So now the explanation——

Mr. SHAYS. We had arranged——

Mrs. MORELLA. But even——

Mr. SHAYS. Just for the record, we had arranged our panels to accommodate them, but then they decided to withdraw.

Mrs. MORELLA. And then the Presidential Advisory Commission also could not make it because they did not feel equipped, I guess, to respond to the situation.

I also have read or heard that they say they have—I think in this letter, too, an ongoing investigation that DOD is performing on possible chemical exposures and they are going to be completing that program, I guess, that investigation, soon.

This picks up on a question I heard, I think it was Mr. Sanders who asked, have you been part of this investigation? Do you know a lot of people who have been? Do you think there is a cross-section? What is your reaction to this so-called DOD investigation?

Mr. MARTIN. Ma'am, when Dr. Stephen Joseph claimed that they were doing a thorough investigation of members of the 37th Engineer Battalion that was at Khamisiyah, I personally called Stephen Joseph's office and told them I am Brian Martin, I made the videotape of Khamisiyah, I was there, I am sick, what does he want to know?

I was told to call the Persian Gulf hotline. I said, no, I am not calling a hotline, I want to talk to Stephen Joseph or somebody that wants to ask me questions, let us hear it.

Then I was told to write down my concerns on paper and mail it to them and I said this is your investigation? I said this is nuts. And I was told, well, you know, accept it or just forget it.

The only time that I feel anybody investigated me was after I testified to this committee in March, Lt. Col. Jimmy Martin approached me outside of the restroom door——

Mrs. MARTIN. Demanding——

Mr. MARTIN. Demanding—yes. I mean, he came off like my friend, you know, my brother's name is Brian Martin and la-la-la, civilian clothes, and when I asked him if he was a Persian Gulf veteran, he says, well, no, actually, my name is Lt. Col. Jimmy Martin, I am with the Persian Gulf Illness Investigation Team.

Mrs. MARTIN. They wanted the tape.

Mr. MARTIN. They want my videotape. By the time I got home, there was four more messages on my answering machine. For 3½ months I held these people off on that videotape until I finally made them file a FOIA, a Freedom of Information Act, request to

me for it because I was sick of their games. And this is what they call an investigation.

Here I am, I have given myself to them, I said I will answer anything you want. I was the commander's driver. I know everything that happened there. But so far, no good. No questions.

Mrs. MORELLA. I appreciate that response.

I just wondered if the Kapplans or Mr. Roberts or Ms. Nichols would like to briefly comment on what you know about this thorough investigation.

Ms. NICHOLS. Mrs. Morella, I want to comment one thing. I was here at the Presidential Advisory Committee that met here on the 4th and 5th and it was real interesting to note that the DOD and the CIA were taking credit for exposing the Khamisiyah bunker incident when we all know that is because of Brian Martin and his tape. And yet they take credit for it and pat themselves on the back at a Presidential Advisory Committee.

Now, my question to you is if they change the truth that way and all the other changes of truth, why do we not quit wasting time with them and move forward without them? Because they are obviously not dealing with the ground truth of what happened and we could go around for years waiting for them to break down and that is inappropriate.

The research studies have been done. It is interesting that none of us, I am sure we are all out there in the public, none of us, I have not gotten one of the questionnaires from the VA on their 15,000 matched response. We sure were not in that group.

Mrs. MORELLA. You of all people, I mean——

Ms. NICHOLS. I mean, we are out there in the public and we are not involved in one of their little sample cases?

Mrs. MORELLA. Would you also respond, Mrs. Kapplan?

Mrs. KAPPLAN. Yes. We spoke with Dr. Joseph when we were part of the CCEP program at the request of Dr. Chung and at that time we talked about the soldiers in my husband's unit, 9th of the 227th, who were ill, and they assured us at that time that they would do an epidemiologic study of the unit because there was such overwhelming evidence that something was going on.

There was, as far as I know, never any followthrough, we never received any information on that, and the people that we know of who are ill have never been contacted.

As far as the PGW investigation out of Dr. Joseph's office, when I heard about it I called them. I wound up speaking with two different people there. One man, a lieutenant colonel, was basically, oh, gee, this is just a terrible situation, what can we do, and I am thinking this is not a proper response, and the other person I talked to, I wanted to know what areas they were going to look at as far as chemical areas, possible chemical exposures and locations, so that I could see if any of my husband's positions, which he documented through the war, were in any of the areas they were going to look at. And he told me basically that was basically secret and he could not tell me anything. But the bottom line response was that they were going to handle the investigation by reviewing all of the old reports.

Now, all of the old reports have not told us anything, so I am not sure that this is going to be a fruitful study.

Ms. NICHOLS. Mrs. Morella, on that question, again, I have a real concern with the numbers they are reporting and I have heard this from congressional staff members when I have gone around to meet with them and try to push people along, you know, we need help out here. And I was asked by one of the staff members who happens to be a Gulf war vet, why do you think they are doing this? I gave some answer at the time. It hit me when I got home. Maybe it is so big, maybe the numbers are so huge, that they do not know what to do.

Mrs. MORELLA. It just sounds as though by omission and not following through that they began a study where they have already lost some credibility and that is rather frightening.

I have Barry Kapplan's diagnosis recap here and I notice that CCEP asked only one question and that had to do with—what do they call it, somatization disorder.

Would the rest of you like to comment? I notice that the Army retirement, VA, others, other areas have been checked off. Is this a kind of stark omission, would you say, in terms of——

Mr. KAPPLAN. Well, the other panel members do not have the privilege or—disprivilege of having my little quickie chart, ma'am, but you are absolutely right. From 1991 to 1994, I was diagnosed with those items by the Army at Walter Reed and also at Navy Balboa Hospital. I show up with the CCEP in August 1994, everything else previously was disregarded as clinically insignificant.

Now, clinically insignificant that I am split from stem to stern, I have had a thing called an Nissan fundoplication, where you rebuild your esophageal sphincter, in other words, the little gate——

Mrs. MORELLA. Boy, you have all become medical experts.

Mr. KAPPLAN. Oh, yes, ma'am. Yes, ma'am. In other words, I will put it the way that my daughter says it, daddy's got a big boo-boo and a zipper, all right? That is what I have from here to here. But that was clinically insignificant.

Thus, the information chain pushed forward the somatization disorder up through the chain of command and that is what is being reported by Dr. Joseph. When Dr. Joseph says somatization disorder, psychological, all right? He is talking about a very narrow focused diagnosis on Barry Kapplan.

Mrs. KAPPLAN. I also have to respond because as part of the CCEP program I also went there. The first thing that I was told by the head of the program was that I was probably just under stress. I went for my exams, urine, blood, chest x ray, and went to see the physician and he said, oh, geez, you know, you have some abnormals here. Well, the abnormals include esophagitis, gastritis. The abnormals include a polygammapathy, which means that my body is basically fighting something but they do not know what it is. I have an abnormal bone marrow, which my oncologist recently said could be some type of chronic infection but they cannot identify it. And I came away from the CCEP with a somatoform disorder diagnosis.

Mr. KAPPLAN. Now, these are not things that you can dream up. I mean, these are lab results.

Mr. SHAYS. If the gentle lady will allow, just to ask for her to yield.

I just want to, for the record, establish this document. This is a document that you are providing us that shows basically 14 ailments that were confirmed by more than one test, but then when you went before the CCEP, the only ailment they had down was somatization.

Mr. KAPPLAN. That is absolutely correct, sir. Now, I have provided the Army retirement physical along with my two VA comp and pension exams, copies that I have provided to your staff, I believe they are in the packet, verbatim off of those three documents.

Mr. SHAYS. Those documents will back up this.

Mr. KAPPLAN. Yes, sir.

Mr. SHAYS. Thank you.

Thank you for yielding.

Mrs. MORELLA. I know that I have taken up—I have really stretched my time. I just wondered maybe in conjunction with an answer to someone else about whether any doctor at VA or DOD had asked you whether you had any new intolerance, sensitivities, allergies to substances since the Gulf war. Maybe I could get a yes or no answer. No?

Ms. NICHOLS. I do, ma'am, and I can address that on the intolerance. We have had Desert Storm veteran meetings and we have had people get sick. One of them was at Dallas. We had six people that had to go to the hospital. We researched, found out that they had—we were in a holidome and we had the meeting rooms way at the other end, they put the chlorine or the chemical treatment in the pool and they turned on the bubblers and as the vapors came down, people started getting sick. They broke out in their rashes, they started flushing in their face. They respond pretty well when you put them on oxygen and IV, but when they went down, and Mr. Jim Tuite, Betty Zuspen and I were at the hospital one night at 2 a.m., at Dallas waiting for some of the troops to recover on oxygen and IV, we got into a discussion that we ought to videotape one of these times that a vet goes down, compare it with the tapes and studies the military has done, some of us saw training films with neurotoxins in rats and whatever and they spasm and all, because it is very, very similar. I mean, it is the same thing. And have a videotape on TV to say who do you believe, the veteran or your government.

Mrs. MORELLA. I thank the panel and defer back to the chairman.

Mr. Martin, it looks like you have a final shot.

Mr. MARTIN. What was I going to tell you, ma'am, and anybody on this committee is more than welcome to do this, my wife over the past 3 years has developed seven spots on her skull where the bone matter is disappearing, like an overripened melon, it caves in and has flat spots. She has numerous lumps in her breasts that we have told the VA about over and over again. She has had gynecological problems where when she was at Walter Reed they discovered that one of her ovaries had detached and reattached under her belly button. They had to detach it again and redo it and in the process they gave us a videotape of 9 minutes of a 1 hour and 45 minute long procedure. And it showed them popping a cyst. Well, then we were told that it was a cyst that they lanced. We were told

that they popped the cyst and then the next day we were told that she was in 3 years early pregnancy.

When she went to see the psychiatrist, the paid Sigmund Freud at Walter Reed, Colonel Sallensby——

Mr. SHAYS. You meant 3 months early pregnancy.

Mrs. MARTIN. No.

Mr. MARTIN. No. Three years. Three years early pregnancy. This is what is in her paperwork.

Mrs. MARTIN. I was told that I was stuck in a gestation period of a 3-year pregnancy. That was the exact words.

Mr. MARTIN. It gets better. After she seen Colonel Sallensby and we presented—because Ross Perot paid a lot of money for my wife to have x rays and various medical testing.

Mrs. MARTIN. Neurological testing.

Mr. MARTIN. When we presented this to Colonel Sallensby, he told her that she was sexually molested at the age of three by her father and that she was stressed. He wrote in her paperwork that my wife is concerned over an onslaught of media attention, she sees people on TV, and we laughed about it because we are the people on TV. My wife and I are the ones that do most of the national television shows on Gulf war syndrome. And when we explained it to him, he basically just said she needs help, get her out of here.

Mr. SHAYS. Mrs. Morella.

Mrs. MORELLA. No, I have finished. Thank you.

Mr. SHAYS. Mr. Fattah, thank you for your patience.

Mr. FATTAH. Thank you, Mr. Chairman.

Let me thank the panelists, both for their presentations and for their service to the country. This is a very timely issue, obviously, because the country has now dispatched other soldiers to the Gulf and to have this matter continue to be in front of us without any clear answers raises a whole host of questions, not just as it relates to your unfortunate circumstances related to illnesses, but more importantly with the Department of Defense's lack of follow-through. I think that I was almost convinced at the last hearing that they were doing everything that they could do. Their lack of presence today I think convinces me to the contrary.

I wanted to ask Mr. Martin, you were part of this effort to destroy these storage facilities, for lack of a better word.

Mr. MARTIN. Yes, sir.

Mr. FATTAH. Did your chemical detector ever activate?

Mr. MARTIN. There was 150 of us, sir, up there at Khamisiyah and after we set the time charges and moved back 3 miles, we spread out along the road about 1½ miles, by company. I was the commander's driver, headquarters company.

Mr. FATTAH. No, but did the chemical detector go off.

Mr. MARTIN. I never heard any. Now, members of Alpha Company of the 37th claim that they did.

Mr. FATTAH. They were part of the engineering battalion?

Mr. MARTIN. Yes, sir. Yes.

Mr. FATTAH. OK. Claimed what?

Mr. MARTIN. Bravo Company, Charlie Company and headquarters never heard any chemical alarms. A few members of Alpha Company of the 37th Engineering Battalion said that they

heard chemical alarms, went into MOPP gear for maybe 20 minutes or so, but the rest of us did not. Nobody warned us, nobody got on the radio.

In the videotape which I have submitted to the committee, you will see that we are walking around in short sleeved shirts, no masks. I have pictures here with my flack vest is sitting on my HUMV.

Mr. FATTAH. Let me try to get this. Now, when you received orders to go to this location and to destroy these in ground storage facilities——

Mr. MARTIN. Bunkers, ammunition bunkers.

Mr. FATTAH. Were they inspected prior to their destruction?

Mr. MARTIN. We went through about a dozen——

Mr. FATTAH. Was that part of the orders, to take a look inside?

Mr. MARTIN. Yes, it was. It was part of the orders. We had to chase the civilians out of the area that were trying to steal ammunition to fight Saddam's Republican Guard. Once we did that, then we went into what bunkers we could. There were only about 13 to 15 bunkers that we could actually go into because all the doors were——

Mr. FATTAH. Did you see inside of these bunkers? What did you see inside?

Mr. MARTIN. We saw 95 percent American ammunition in there. You will see the video.

Mr. FATTAH. So this was an ammunition dump.

Mr. MARTIN. Mmm-hmm.

Mr. FATTAH. So the question is, did you see any evidence of chemicals?

Mr. MARTIN. None of us were chemical experts, sir. We were told—there was two guys in a truck that came in from EOD, explosive ordnance disposal team, they looked around, they got out of the truck, kind of looked around and said blow it. That was it.

Now, I have heard stories, but without documentation I am not going to say a word about that. Everybody has a story. But what I saw with my own eyeballs, no member of the 37th Engineer Battalion is what you would call a chemical expert. There was combat engineers put into chemical NCO spots because we did not have chemical experts, so they would quickly train somebody and say, OK, you are the chemical NCO.

Mr. FATTAH. Let me just say in conclusion, because I know there is a vote that we have to leave to go to, but I think the frustration of the members and the chairman of the committee is that, we have reports from the CIA that said there was no chemical exposure, we have the Pentagon now and then admitting that there was some limited exposure. Now they have expanded the possibility that there may have been many more of our vets exposed potentially. It keeps kind of creeping out.

Now, you came home from the Gulf when?

Mr. MARTIN. I came home from the Gulf, March 8, 1991, because my best friend who was 24 years old died of a heart attack during the cease-fire. Me and nine other people were sent home for his funeral.

Mr. FATTAH. And you have been involved in this from day one.

Mr. MARTIN. Yes, sir.

Mr. FATTAH. From President Bush and General Powell, up through Clinton and Perry.

Mr. MARTIN. Yes, sir.

Mr. FATTAH. Your sense of whether we are making any progress on this issue is what?

Mr. MARTIN. I think as individual legislators, yes. My Congressman, Fred Upton, coming here today shows how much he supports what I do and what we all do. Congressman Shays, the aggressiveness he had on 60 Minutes when Dr. Stephen Joseph refused to answer the question. He said you will answer it. That is what we need. But we need that banded together as a whole committee.

And all I can answer about how I feel about the CIA, the President, and everybody else, one thing, who are you going to believe? We were there. We know what we saw. We know what we felt. We know how sick we are now. I do not care what they say. I was there. I am a witness. I am sick. I have been sick.

Mr. FATTAH. Let me thank you for your comments.

Let me thank the chairman and I yield back.

Mr. SHAYS. I thank the gentleman.

I am not sure if we have a motion to—I guess this is a motion to override, so it may just be one vote. As soon as our vote is over, we are going to come back. I have not had an opportunity to question any of the witnesses and I do want to and I am very sorry to have to keep you, to have to wait for the vote, but if you do not mind, it may take us 20 minutes.

Thank you. This committee is in recess.

[Recess.]

Mr. SHAYS. This hearing is called to order.

Mr. Green has not yet asked questions, and so we will go to him.

Mr. GREEN. Thank you, Mr. Chairman. And I apologize to our witnesses because of the schedule here between other meetings and votes on the floor and I know it is frustrating to witnesses, but I want you to know it shows no lack of concern or intensity or support for your issue. And I know a lot of questions have been asked.

Mr. Roberts, one of the questions I had when you were testifying was that the explosion that was reported to you being a sonic boom?

Mr. ROBERTS. Yes.

Mr. GREEN. Do you have any information at all, because I did not see it in your testimony, was it a SCUD that was blown up or was it—has anyone from the DOD given you any information or do you have any of that to share with us?

Mr. ROBERTS. No, sir. They have not given me anything. When I testified in 1993 here in Washington, I did say I thought it was SCUD's, but checking with the information I have now, those SCUD's came into Saudi Arabia, or I should say into the Al Jabayal area that night, but there were several aircraft that were shot down that night. And my honest opinion is I do believe that an aircraft came in and dropped their rounds and was shot down.

Mr. GREEN. An Iraqi aircraft?

Mr. ROBERTS. Yes, sir. That is my opinion, based on what I have, and putting together the pieces. First of all, there was no warning. That is one big problem right there. There was no warning, none whatsoever. And when SCUD's came in, you had from the time

they were launched sirens would go off, you had plenty of time for your warning.

Mr. GREEN. And could you tell us again the number in your unit that received some type of medical discharge from service?

Mr. ROBERTS. Three hundred ninety-nine out of 750, I think it was, I have not got it——

Mr. GREEN. So more than half of your unit that you were serving with on that evening received some type of medical discharge?

Mr. ROBERTS. Yes. Well, just plainly put out medically unfit, unfit for duty. Some got a medical discharge. Very few, I think, two. And the rest of them were medically retired or retired. So what is really interesting, though, by the end of 1993, of course, you know, we have pushed a lot since 1991 and have gotten a lot of media attention from this, by the time we finally pushed Congress to come in and do an investigation on our battalion, the Navy, like I said, pretty much—by the time the investigation team got there, had pulled in another 300, 400 new people, when they did the investigation, they kind of pushed the 399 out of the way. Did not look at that. And even my situation, I mean, I was not even counted. So when they did the study and reported back to the Congress, there were no medical problems, other than we all needed psychiatric help and this and that and the other.

Mr. GREEN. Well, you understand, our committee, I have some good friends that serve on National Security or Veterans Affairs and things like that and our committee typically does not——

I would be interested, Mr. Chairman, if we had the numbers compared to the other units concerning a medical discharge or if the percentages were anywhere near what yours were. And, again, I think we can find that out just using some comparative studies on other units that were serving not in your area but close to you.

Mr. SHAYS. If the gentleman would yield, we could ask the question of the next panelists.

Mr. GREEN. OK. Thank you, Mr. Chairman.

Thank you to each of you for being here.

Mr. SHAYS. Thank the gentleman.

Your testimony can stand on its own. It is very powerful and it is touching at times, it is infuriating. It makes you ask a lot of questions like how could this happen to you, how am I responsible, how are other people responsible. I voted to send you to the Persian Gulf and I did it because I was absolutely convinced, and still am, that there was a real national interest in not letting Saddam Hussein control directly 20 percent of the world's oil and indirectly another 30 to 40 percent.

And I always vowed since I was a Peace Corps volunteer when my peers were in Vietnam that if I were ever in public life and had to vote on a decision like sending someone to war I would be certain, one, that there was a national interest and, second, that you would have all the firepower available to win and win as quickly as possible with as few injuries as possible. So you can imagine the feelings I had.

I ended up seeing one of my colleagues who took my place as a State legislator, Chris Burnham, sent there. I had his parents call me up pleading that I not vote—pleading is a strong statement—

urging me caution that I not vote to send him to the Persian Gulf, and I had Chris Burnham say that is where we need to go.

You can imagine the rejoicing of the entire Nation that so few of our military were injured or killed and yet we grieved for each of those who were. But we have looked at numbers that could be in the thousands and thousands and so as I began to hear you all during the course of the last few years, it became evident to me that my rejoicing was a little too soon.

Now, I want to ask you, Mr. Martin, I am simply not clear when you left service. I am not clear as to what you mean when you say "I had put in for early out from the military that I had loved so much," and then you said, "I did not receive an exit exam nor did I know that I was supposed to. I was told not to have children or give blood for 1 year." I ask a big why?

First off, I want to understand, were you given a physical when you left?

Mr. MARTIN. No, sir. When I was out-processing, after I put in my paperwork to get out of the military earlier than what my actual get out date was, I went—I was told to go to a one-stop out-processing on Fort Bragg. You go there and they do everything in one building. There is no running around all over post. When it came time to see a doctor, a doctor looked in my eyes, he took my temperature and my blood pressure and told me to be on my way. That was it.

After I had gotten out of the service, let us see, it was about 2 years, I think it was, that I had been trying to prove that I was even in the service because there was no 201 file on me anywhere, Congressman Upton, he threatened the military as far as—he called St. Louis and said——

Mr. SHAYS. For the record, the 201 file is?

Mr. MARTIN. The 201 file is your personal file on your military service.

The Department of Defense had claimed that I was never in the service at all. There were no records of me anywhere. Congressman Upton threatened St. Louis and told them that he did not care if they were flooded at the time or not, find somebody with scuba gear.

Five days later, my records showed up, certified copies, in my mail box, in his mail box, and I believe certified copies started filtering in to Dr. Murphy's office at the Persian Gulf Referral Center when she was director there. And in it there was a piece of paper, and I could not find it to bring it to submit to you today, but I will get it to you as soon as I find it. It was a waiver for my ETS exam signed 1 year before my actual original date that I was supposed to get out of the service, not for my early out date. And it was signed by me and by a doctor but it was not my signature. I have never seen this handwriting before in my life, but it had my name on it.

And, like I said, it was dated 1 year exactly to the day that I was originally supposed to get out of the service, not the 11 months before when I gave my early out.

Mr. SHAYS. So your testimony is that the date of the physical or the waiver was when you were supposed to get out and that the signature on that document of waiver was not yours.

Mr. MARTIN. Well, part of that is right, sir. The date that was on the waiver was 1 year—it was a year, 1 year after the date on the document, I was actually supposed to get out of the service. But I put in for an early out 11 months before my original date.

Mr. SHAYS. So the date of the document did not jive with the date you were actually——

Mr. MARTIN. It did not jive at all. And, plus, the signature did not jive. I have a very weird kind of signature.

Mr. SHAYS. Your testimony is that that is not your signature.

Mr. MARTIN. That is correct, sir. It is not my signature. I have made it absolutely clear it is not my signature.

Mr. SHAYS. Did you ask, whoever had made the statement that you were told not to have children or give blood for 1 year, what was the reason why that statement was made?

Mr. MARTIN. That was pretty much standard operating procedures at Fort Bragg. They had made it clear—you know, they said whenever you go to a foreign country there could be problems, do not have babies or give blood. I do not know, I think they should have said 5 years or 10 or whatever because of the children that are born now.

Mr. SHAYS. In your statement on Khamisiyah, the cassette that you took showed the plumes going in the air.

Mr. MARTIN. Mmm-hmm.

Mr. SHAYS. Now, you did not take pictures of the actual shells that 60 Minutes had shown, which was a chemical on top of the shell that would suggest a chemical shell. The shell was on top of—the warhead, the chemical was on a shell that would have been used——

Mr. MARTIN. No, sir. I did not take those. Those were other members of the 37th. But I have a photograph right here, this is the front of my HUMV, there is a rocket right there that has the yellow chemical marking band on it. I just found this about 2 or 3 weeks ago in my photo album. And I would love to submit it for the record, but it is my only copy and I do not know where the negatives are. I mean, you can have it if I can find the negatives.

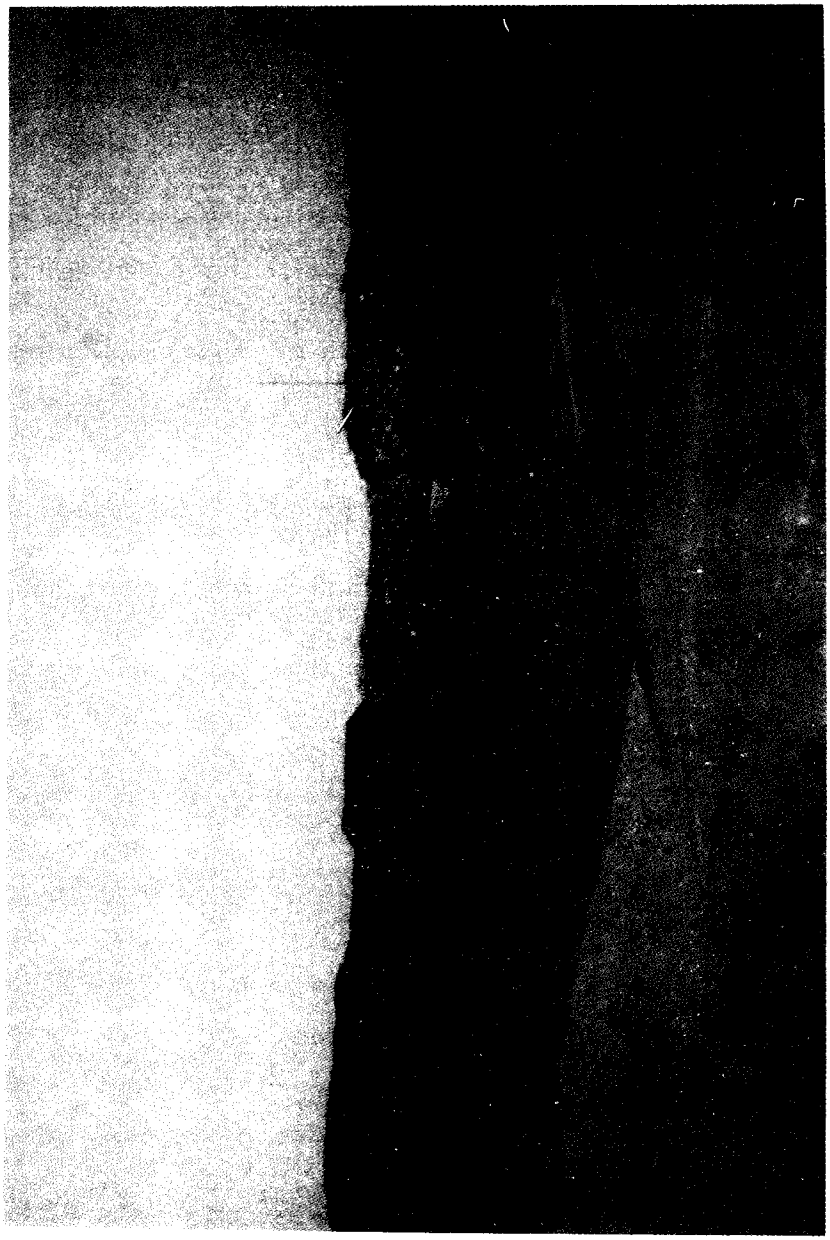
Mr. SHAYS. The video—well, that picture is very important.

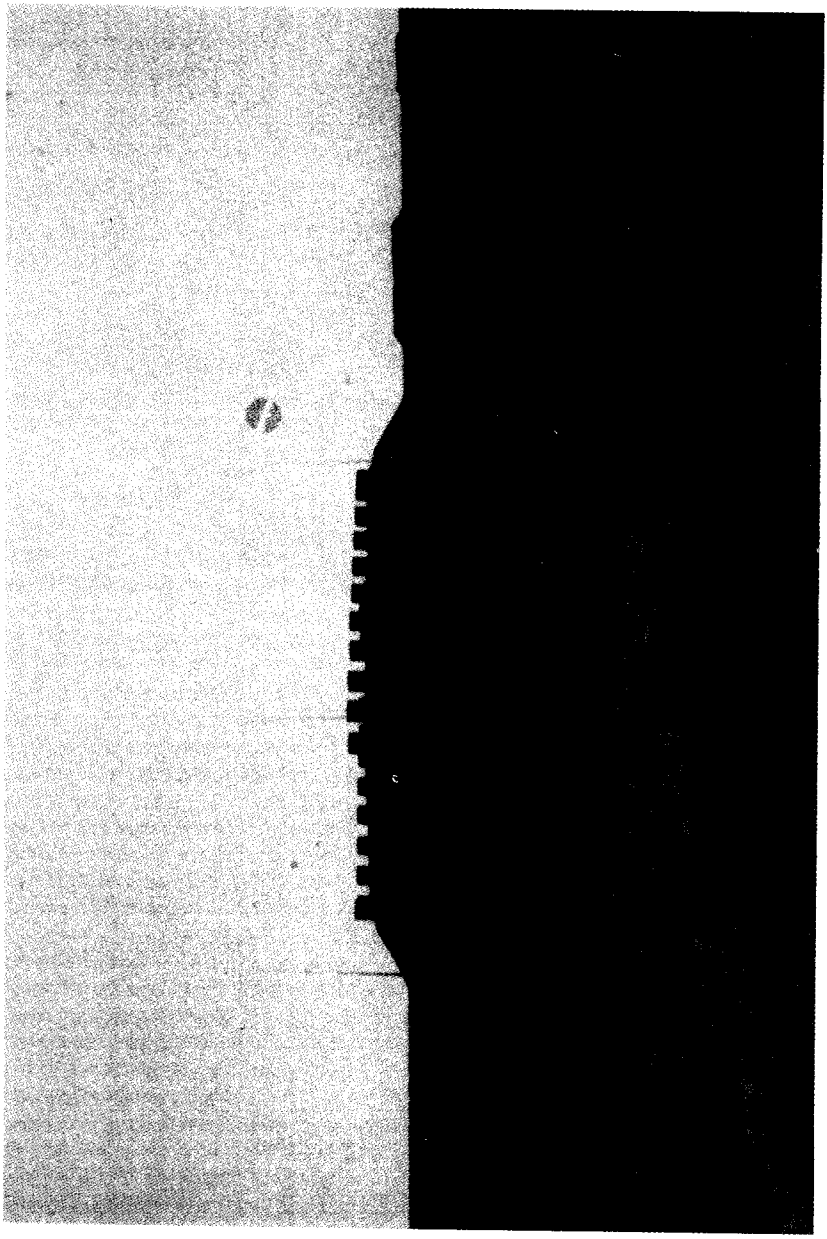
Mr. MARTIN. You can have it. I will find the negatives somewhere.

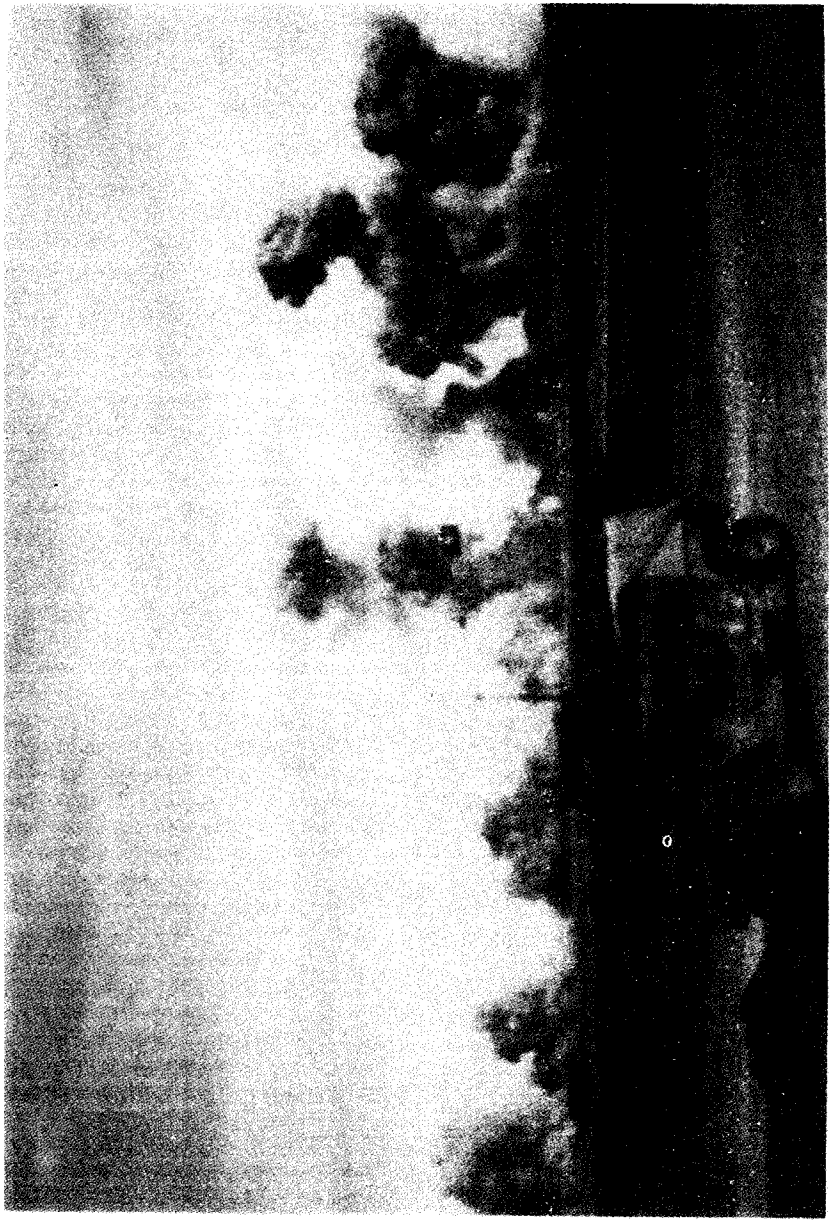
Mr. SHAYS. The picture is very important and it needs to be given to the appropriate authorities. We can give it to them and we need to make sure that there are copies made.

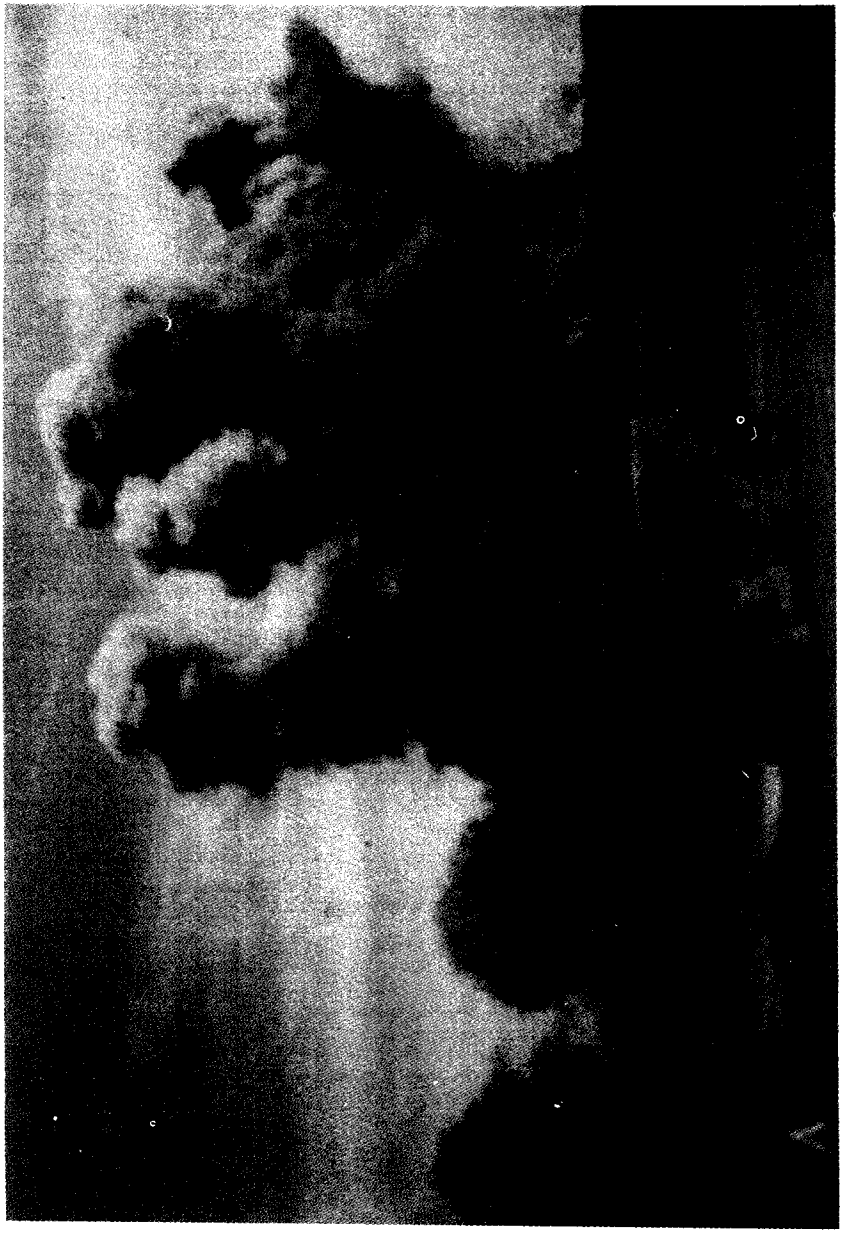
Mr. MARTIN. I can get copies of the other pictures, too.

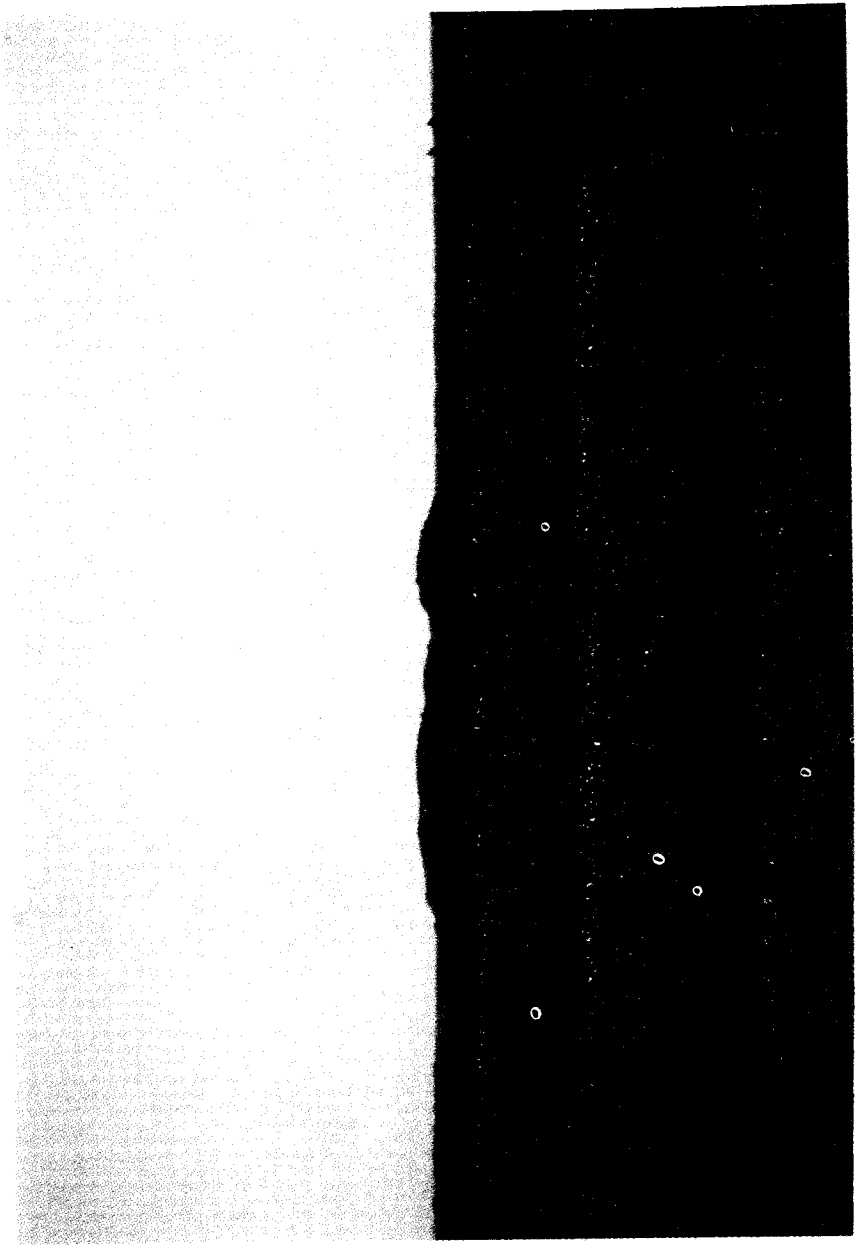
[The photographs referred to follow:]











Mr. SHAYS. I want to clarify one point. You were not reluctant to give the video to the DOD. My understanding is that you wanted them to meet with you so you could discuss with them the video and your challenges.

Mr. MARTIN. Well, in 1994, I gave the tape to the NIH. In 1993, I gave the original copy that I had to Dr. Murphy, which she took home to watch and I cannot say anything about that because she is not a chemical expert either. I have given over 200 copies of that tape away.

Mr. SHAYS. Who has the original?

Mr. MARTIN. The original is held by Maj. Michael Huber, who is in Fort Leavenworth right now. He had left his instruction position at West Point and is in transition and therefore I cannot find him and Colonel Konensburg claims he cannot find him either.

Mr. SHAYS. But your testimony is that Dr. Joseph—excuse me, you never spoke with him, but that the staff was not particularly eager to have you speak with Dr. Joseph.

Mr. MARTIN. The only thing that I was told, they called me on a Saturday and chewed me out. They said because of you we have to work Saturdays and Sundays now. And that was it. I said, well, what do you want to know from me? And the lady again said, I think her name was Rita. She said, well, can you write down your comments, your statements and your observations from Khamisiyah and mail it to us. And I told her no, I was tired of the game playing. I said as a matter of fact, if anybody else from the Department of Defense calls me, make sure it is Dr. Stephen Joseph or I refuse to talk to anybody. And I have not had another phone call since.

Mr. SHAYS. This is Khamisiyah?

Mr. MARTIN. Yes, sir.

Mr. SHAYS. OK. And how far away were you at the time?

Mr. MARTIN. Well, that is inside of Khamisiyah, that is the front of my HUMV.

Mr. SHAYS. OK. So these mounds are a few of the hundred bunkers?

Mr. MARTIN. Exactly. Exactly.

Mr. SHAYS. Your testimony is that when you went there, you could get into some of the bunkers, a few, and some of them were locked up. Were they locked up because American troops had locked them or because——

Mr. MARTIN. They were not locked up, sir. There were live mines in the doorway. That is why I know that all the bunkers were not searched and examined for chemicals because if a chemical team would have been there, which there was not, but had they shown up there to look through the bunkers, we would have been the one to clear the doorways for them.

Mr. SHAYS. Let me clarify this, though. So this is not a cook-off, this did not come 3 miles——

Mr. MARTIN. No, sir. It is sitting right there at Khamisiyah.

Mr. SHAYS. Literally sitting right there.

Mr. MARTIN. The road that I am sitting on right now is the main road going into Khamisiyah.

Mr. SHAYS. So that was before detonation.

Mr. MARTIN. Exactly. I have also other pictures here, sir, if you would like to see them. This is what the bunkers looked like before. This was the starting of the explosion, during the explosion, and this is what the exact same bunker looked like after the explosion and what the ground looked like. It was black and charred.

Mr. SHAYS. What surprised us first when the announcement was made about Khamisiyah and in terms of the fact that chemicals were there and DOD disclosed that, not this latest disclosure about the 5000, what we were led to believe was and what we were led to picture was that you had chemicals in the depot, in the bunkers, but I did not visualize that they were actually on shells. And so when I saw the plumes, I just visualized, well, there are the plumes, which way are they going. And I just want to make this point to you. But to actually see the pictures and to realize that they were on shells that then sent them 2, 3, 4 or 5, 6 miles away, in some cases you would point out even 12 miles away, was a new revelation to me that I did not know until I watched that program.

And part of the challenge is we are constantly learning new things, not through eager disclosure, and the other challenge that we learned was when the head of the CIA was asked about were there chemical weapons and aside from not answering the question, he said there were no offensive use of chemicals. And the incredible choice of words makes this committee feel that we are constantly in a game to understand what the truth is and then understand what they are saying and understand whether we are being misled.

For instance, in our last hearing, we had been wrestling with the fact that DOD has not given the names to the VA of those people who were in the Persian Gulf and then to be able to have the VA know who was where in the Persian Gulf so that when someone like you comes forward from a particular area in the war that then they contact others. We were told 600 names had been given to the VA, there were 600 troops in the Persian Gulf. I then made an assumption, 600 people there, 600 names—600,000 names, excuse me, 600,000 troops there, 600,000 names given to the VA. Then we learned it was just people active in the military and some of those 600,000 were not there.

So then when we tried to pin down the VA and say how many do they actually have, the names of the people who served there, we still do not know.

Mr. MARTIN. Sir, I talked with some people from the VA about putting together a roster of members from the 37th, if there was a way that specialized testing or epidemiological studies could be done on just our unit.

Mr. SHAYS. See, that is a no brainer.

Mr. MARTIN. It will not be done.

Mr. SHAYS. Well, it is a no brainer. Everyone who was there, the Army should be able to tell, the VA should know, and every one of them should be tested. Case closed.

Mr. MARTIN. I got a call 2 or 3 days ago from a medic from the 37th Engineer Battalion that took care of me when I first got sick. He is now stationed in Korea. He called me, he left our unit in April of this year and has been transferred to Korea. He called me to ask me what all this was about because he did not know any-

thing about until he just—he saw me on CNBC Live a few days ago, about a week ago, and wanted to know what this was about. Nobody had tried to contact him. He called his wife stateside, nobody had contacted her. Finally, they contacted his mother or he contacted his mother and she told him that someone from the military was trying to find him.

And it blew my mind because if he is still active duty, the military should know where he is at, not calling his mother, they should know he is stationed in Korea.

Mr. SHAYS. Did you see any Russian ammunition?

Mr. MARTIN. Yes, sir. We used it. We used it. We blew up quite a bit of Russian AK–47's and a lot of their ammunition, but we used Russian C–3's.

Mr. SHAYS. As I recall, some of the munitions actually ends up with lindane in it to give it the smoke and the plumes to know where the shells are actually landing, among other reasons.

Let me get on just to ask one or two more questions of this panel and then I would be happy to go back to either gentleman if they have a question.

I would like to be clear, Mr. Kapplan, about the visual picture, the picture that you described, "Also during this period I saw my first animal remains that were devoid of any insects. I instructed my personnel to stay clear of these carcasses until we were able to burn them."

You are trying to illustrate what, that even the insects did not want to be near these dead animals? I want you to elaborate on that statement.

Mr. KAPPLAN. The desert where we were located at, the 3d Armored Division's areas of operations or tactical assembly area known as TAA Victory, was a very desolate place. There was either no or very little vegetation in the area. Thus there was very little or very few food sources for any scavenger. When you saw camels and other animals that were devoid of any insects or enemy remains that were void of any insects, flies, desert flies, you immediately became very suspicious of what was going on, considering that our areas were full of flies, i.e., our mess halls, our class A ration points. So we instructed our folks to stay away from them until those remains were buried and/or burned.

Mr. SHAYS. And so some people handled the remains and burned them.

Mr. KAPPLAN. Yes, sir. We had a graves registration team that was assigned to my responsibility as the support operations officer. In other words, a logistics officer for our battalion, and they were charged with handling the enemy remains.

Mr. SHAYS. The bottom line for that was there was a picture that you remember at the time because it seemed very unusual to you.

Mr. KAPPLAN. Multiple times. Yes, sir.

Mr. SHAYS. Multiple times. Thank you.

I would like to now ask you, Mr. Roberts, one or two questions that you do not have to answer if you do not want. I am unclear as to your present physical condition.

Mr. ROBERTS. Say that again?

Mr. SHAYS. I am unclear as to your present physical condition. What is the diagnosis that you are wrestling with now?

Mr. ROBERTS. I was not supposed to make it through the first of the year, to be honest with you.

Mr. SHAYS. Because? What is your diagnosis?

Mr. ROBERTS. Lymphoma cancer.

Mr. SHAYS. And are you receiving 100 percent care from the VA?

Mr. ROBERTS. No. You are talking about disability or care?

Mr. SHAYS. I just want to know if all your health care needs are being taken care of and, if so, by whom?

Mr. ROBERTS. Medicare is taking care of it privately. VA has done nothing——

Mr. SHAYS. What type of insurance do you have right now?

Mr. ROBERTS. I have a very small cancer policy. It does not pay but just minor stuff.

Mr. SHAYS. So you are diagnosed with a very serious form of cancer.

Mr. ROBERTS. Yes.

Mr. SHAYS. And you have insurance, public or private insurance? Do you have insurance from the government or do you have insurance——

Mr. ROBERTS. No, sir.

Mr. SHAYS. You have no insurance from the government, is that right?

Mr. ROBERTS. Wait just a minute. I am getting a little bit confused. I am on Social Security, so I guess you do not count that.

Mr. SHAYS. OK. But in terms of the VA, what type of care is the VA providing you?

Mr. ROBERTS. None whatsoever.

Mr. SHAYS. None whatsoever.

Mr. ROBERTS. No, sir.

Mr. SHAYS. You are getting no care from the VA.

Mr. ROBERTS. No, sir. And I really do not think I want any from them.

Mr. SHAYS. Fair enough. When you describe the loud noise and you describe, you said, "Within a few minutes my arms, neck and face were stinging. My lips felt numb and I had a strange taste in my mouth like a copper penny or perhaps a metallic taste better describes it," this is how much after that you heard that sound?

Mr. ROBERTS. I would say we stayed in the bunker for about 20 minutes. I would say about 25 to 30 minutes after that.

Mr. SHAYS. And did you put protective gear on or was this before you put protective—did you first put protective gear on?

Mr. ROBERTS. By the time I got into the bunker for the first time, I put the gas mask on.

Mr. SHAYS. You put a gas mask on. Did you have this taste before you put the gas mask on or after you put the gas mask on?

Mr. ROBERTS. I think we are a little bit confused. We went in the bunker twice.

Mr. SHAYS. OK. Let me just say, this is very important, you are under oath, and I am trying to just make sure that we are very clear because we also have a concern about the knowledge of the troops in terms of how to use the chemical gear, we also have a serious question as to how capable the chemical gear was, whether it actually did the job that it was supposed to do and whether the troops knew how to apply it in a way that would make it safe. So

this is an important little dialog that we are having here. I would like you to just run through the sound and the noise and what you did.

Mr. ROBERTS. The first thing that woke me up was an explosion. I grabbed a gas mask and chemical suit, ran outside, running to the bunker, I saw a big flash.

Mr. SHAYS. OK. So you heard a sound and you ran out with the gas mask on and the——

Mr. ROBERTS. No, not on.

Mr. SHAYS. You were just carrying it.

Mr. ROBERTS. Yes, sir.

Mr. SHAYS. OK. And then you see another flash?

Mr. ROBERTS. I saw the flash and then the sound of the concussion.

Mr. SHAYS. OK.

Mr. ROBERTS. Running to the bunker. Go in the bunker. Take the gas mask out of its pack, put it on, don it and sit there for a good 20 minutes.

Mr. SHAYS. Describe from when you woke up to how long it took you to put your protective gear on. How long?

Mr. ROBERTS. I did not put my protective gear on the first time when I got in the bunker, just the mask.

Mr. SHAYS. Gotcha.

Mr. ROBERTS. We were all sitting there wondering what happened.

Mr. SHAYS. OK.

Mr. ROBERTS. Sat there for about 20, 30 minutes. We got the all clear over the radio. So that is when a lot of us went outside and were just kind of milling around and that is when we were exposed, at that point. So from the time of the explosion to that point, I have to estimate about 25 to 30 minutes.

Mr. SHAYS. And I am just unclear, and it is my problem, not yours, I just want to be clear, I do not understand when you started to have the taste in your mouth and when—"Within a few minutes, my arms, neck and face were stinging. My lips felt numb and I had a strange taste." When did that start happening?

Mr. ROBERTS. Maybe I am explaining it wrong, to be honest with you.

Mr. SHAYS. No, you have done a good job.

Mr. ROBERTS. When I came back out, we got the all clear.

Mr. SHAYS. Yes.

Mr. ROBERTS. About half of us, were outside standing around, some of them were using the restrooms. Half of them went back to the tent. I was one of the smart people that stayed out there talking. Within 2 to 3 minutes after—2 to 3 to 4 minutes, I am just estimating the best that I can, and I started feeling my face like this and it was feeling funny. I heard one of the people a couple of tents down, hey, my face feels like it is on fire. I can tell you his name and everything. I heard Marines, something is wrong, something is burning my skin. And it was not—I do not know how to explain the stinging sensation or the burning sensation. You just started rubbing your skin—and about the time you figured out, boy, somebody has screwed up royally, that is when the alarms started going off.

Mr. SHAYS. So then an alarm went off. After——

Mr. ROBERTS. All kind of alarms.

Mr. SHAYS. All kind of alarms.

Mr. ROBERTS. Yes, sir.

Mr. SHAYS. So you had been woken up, you had run into the bunker, you put the mask on, you had not put your protective gear on, you came outside, you were milling around, you thought it was all clear, and then you actually started to feel bad.

Mr. ROBERTS. Yes. And it is not a mirage. I mean, that is not any——

Mr. SHAYS. Sir, you would have no reason to make this up.

Mr. ROBERTS. Well, according to the Department of Defense, you know, I am getting pretty tired of hearing that nothing happened.

Mr. SHAYS. The gentleman—you said there was someone else. What was the name of that other gentleman where you had that dialog?

Mr. ROBERTS. Roy Butler.

Mr. SHAYS. And he served with you.

Mr. ROBERTS. Yes, sir. And we have had dozens and dozens of people testify.

Mr. SHAYS. Well, it is not like you came home, you were fine while you were there, you actually had an experience, you had these sensations at the time. You were concerned about them somewhat at the time, so you put your entire protective gear on after that point. After that point.

Mr. ROBERTS. We went back in the bunker.

Mr. SHAYS. Yes, I hear you. Well, I would go back in the bunker.

Mr. ROBERTS. By that time, it was too late, really, to be honest with you.

Mr. SHAYS. Well, it appears that might have been the case. When you were discharged from the military, by then you had obviously had some physicals. When you finally left the military.

Mr. ROBERTS. Well, they kept threatening me. They were going to put me out because I could not do the physical training. Not from the Navy. I did not have any physicals from the Navy and that is who I was asking at that time for help. And the VA, I do not think you want to hear all that. I have no use for them.

Mr. SHAYS. Have you ever asked to speak to someone like Mr. Joseph and just tell the story to him personally?

Mr. ROBERTS. Mr. Joseph?

Mr. SHAYS. Dr. Joseph.

Mr. ROBERTS. No, I do not think it would really do any good, to be honest with you.

Mr. SHAYS. I am just going to ask two more questions of Mr. Martin and then I appreciate the patience of the committee and I will go back if they have any questions.

Mr. Martin, you did not go into every bunker, correct?

Mr. MARTIN. No, sir. We did not.

Mr. SHAYS. How many bunkers did you go in?

Mr. MARTIN. I personally went into about three bunkers before I was bored of seeing the same things. My commander went in approximately 9 or 10 bunkers and the rest of our unit went into the 15 or 17 or so that did not—13 or 15 that did not have live mines in the doorway.

Mr. SHAYS. It is your suspicion that not all the bunkers were checked?

Mr. MARTIN. I know not all the bunkers were checked. You can see in the videotape when we would take a camera up to the doorways of the bunkers to enter, you will see bouncing Betty live land mines, you will see antipersonnel tank land mines. I mean, you will see all kinds of land mines the doorways, so we just moved on to the next one.

Mr. SHAYS. So when the Defense Department tells us Bunker 73 had chemicals in them, you would be testifying before this committee that they may know that there were in 73 but they cannot say they were not in some other bunkers.

Mr. MARTIN. Exactly. I do not know how they can pinpoint one bunker when we were there and we did not know it, and they were not there and they know it, other than when—I guess the Iraqis gave them a report that said Bunker 73 had 6.5 metric tons of Sarin in it. I do not think the bunkers were large enough to hold 6.5 metric tons unless it was in little test tubes, I do not know. I did not see any of those in any of the bunkers. But if Bunker 73 had Sarin in it, then it was either that we ourselves put explosives on it and did not know what we were looking at, or we put it around the outside and on top of the bunkers, because there were so many bunkers that we could not get into to wire them.

Mr. SHAYS. I am actually convinced that if you had not taken the picture and, for instance, CBS did not have their picture of the chemical on the shell, the projectile, that they would not acknowledge it to this day.

Mr. MARTIN. That is what I have told—after I testified to your committee before, when they wanted that videotape, if I would have given them that videotape for the 3½ months prior than I gave it to the Presidential Advisory Committee, June 21 would have never happened. I know that for a fact.

Mr. SHAYS. And my final question, you were asked by Mr. Fattah, and I am a little unclear about this and it was a very important question that he asked, is it your testimony that equipment was set up to detect chemicals and they did not go off? Can you testify equipment was set up to monitor chemicals?

Mr. MARTIN. We did not have chemical alarms set up in the area I was sitting at. The guys from the 37th, the soldiers from Alpha Company of the 37th have claims that they heard alarms go off. It was a personal call on their part. Sergeant Dan——

Mr. SHAYS. I do not understand personal call. What does personal call mean?

Mr. MARTIN. Sgt. Dan Tipulski, who was on 60 Minutes also, he claims that he just took his alarm and held it out the window just for curiosity, of his vehicle.

Mr. SHAYS. When you say alarm, not every soldier has an alarm.

Mr. MARTIN. Right. Not every one of us. All we had on us as a personal alarm was an M256 kit. But, see, like I said, the men from Alpha Company were 1½ miles down away from us.

Mr. SHAYS. We have testimony that in some places the equipment was never set up to monitor it.

Mr. MARTIN. Right.

Mr. SHAYS. So therefore when the military says that they have—no alarms went off so we should not be concerned, that is not—no alarm went off, that is true, that is the kind of dialog we have with them sometimes.

Mr. MARTIN. Right.

Mr. SHAYS. So that no alarm went off. And then we find out, and they knew that no alarms were actually—no monitoring equipment was set up so an alarm could go off. So I am asking you a question. Were you around any monitoring equipment that could go off?

Mr. MARTIN. Not during Khamisiyah. Not at all during Khamisiyah.

Mr. SHAYS. So it was not like you were around monitoring equipment and it just was there doing its job and it just did not go off because there were no chemicals.

Mr. MARTIN. Not at all.

Mr. SHAYS. You did not see any monitoring equipment.

Mr. MARTIN. I did not see any. The colonel never gave any order to deploy the M8 chemical alarms. Even the guys from Alpha Company that heard their alarms go off, I am curious why they did not get on the radio and warn the rest of us or hit the horns or something.

But my one question, I guess, sir, back to you would be what does it matter if we had alarms or not? The Pentagon has already said 14,000 of them were worthless, so why is it so important now that the alarms went off? There was no alarm.

Mr. SHAYS. Well, there are many answers to that question.

Mr. MARTIN. I mean, if they were all worthless, why do they want to say that there was an alarm that went off.

Mr. SHAYS. A short response and then I am going to ask if any committee member would like to just ask another question and I would be happy to——

I know we are keeping witnesses here for a while. This is a very important hearing and our feeling is this. You all have waited 5 years, in some cases, to tell your story. Mr. Martin, you have told it a few times. But you have all waited a long time and we want to make sure your story is heard and responded to.

Ms. NICHOLS. Mr. Shays, on the alarms, for example, in Riyadh, when we were in Riyadh the first 9 days, those alarms were not real loud. We could not hear them unless I opened a window, which you really did not want to do if there was a potential for chemical or you were in hard building, you wanted to keep the window closed. But we could not hear them unless we opened the window.

Mr. SHAYS. You hear the alarms for the chemicals——

Ms. NICHOLS. So my first response, and I remember thinking this, I have got to open the window so I can hear the alarm, but my first response besides grabbing at my mask is I am going to hit the window down to try to decrease exposure if we get the chemicals.

There were not chemical alarms all through theater, we had to—I begged one off of the NBC people at the Air Force area at KKMC to take forward. I am not even sure—you know, I turned it over to our assistant NCO to set up, I am not even sure if he set it up. I know I had him go through the training with the NBC person. But you could not hear those alarms very far, so if one went off,

if they did not pass a radio message, it did not get out to the troops.

The other thing that I am trying to get through is that if your troops were under a low level and it was affecting their neurological functions, they would not think I need to get on the radio, I need to pass the word. We were not neurologically functioning well under neurotoxins. The whole system was a mess.

You know, I do not know what kind of proof you are going to need but the medical proof is there. We had deaths in theater that were not explored.

Mr. SHAYS. Let me just ask, to conclude this panel, Mrs. Kapplan, do you have any comments to make to close? I did not ask you a question, but the thing that—there are degrees of outrage and all of them are pretty high, but the thought that somehow a very small child could be affected by potentially the gear of her dad and the mom and other children is beyond my comprehension.

Do you have any final comment to make, any observation?

Mrs. KAPPLAN. Well, I think when any military person goes to serve his country, he never thinks about his family being a potential victim of his patriotism, if you will. You do not know how many times my husband and I have sat down and thought what if we did not do this and what if we did not do this. It is very hard when people attack your credibility in the military medical system, the CCEP, to be strong within yourself and think, no, I really need to be an advocate for my child, I need to come forward and I need to say this is wrong and this is what is going on and we need to look into it.

Mr. KAPPLAN. This is the burden, sir, that I will have for the rest of my life.

Mr. SHAYS. I was not intending to give either of you a burden. My intention, though, is to say that your country——

Mrs. KAPPLAN. I am not sure that there is ever going to be a definitive response from the DOD that everyone is going to feel really warm and fuzzy about, but I do think—like I said before, that accountability needs to be addressed in this issue and I think that perhaps a GAO IG investigation with subpoena power into DOD and VA handling of this issue really needs to be looked at.

Thank you.

Mr. SHAYS. Thank you.

Mr. Towns is a Democrat, I am a Republican. We do not know, we may have our suspicions, but we do not know how the elections will turn out, who will be in charge, but the one thing you can all be certain of is that Mr. Towns, who has worked as an equal partner on this issue with me and the full committee, that we will pursue it even with more vigor in the days and months and potentially years to come. So you all have provided an extraordinary service.

And I am going to with that conclude this hearing. Thank you very much. Not this hearing, but this panel.

Mr. TOWNS. May I also thank the witnesses?

I really appreciate your coming and sharing your time with us and telling it in terms of your experiences because I am certain that as we go along, the things that you have said and the things that you have done will help others as well, because we are not going to let this issue go. We are going to stick with it.

Thank you so much.

Thank you.

Mr. SHAYS. Thank you all. And while you all are getting up, I am just going to put into the record, I want to be fair to the Assistant Secretary of Defense who has written us a letter, this is Assistant Secretary of Defense for Legislative Affairs, Sandra Stuart, to explain the reason why the Department is not here to testify.

[The information referred to follows:]

THE ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, DC 20301-1200

LEGISLATIVE AFFAIRS

19 SEP 1996

The Honorable Christopher Shays
Chairman
Subcommittee on Human Resources
and Intergovernmental Relations
Committee on Government Reform and Oversight
U.S. House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

We respectfully decline your invitation to testify before your Subcommittee on Thursday, 19 September 1996. As we discussed with your staff, our most appropriate witness, Assistant Secretary of Defense for Health Affairs Stephen C. Joseph, who had provided testimony at your earlier hearing, would have had little new to add to his testimony from his last appearance before the Subcommittee, and he would not have been able to address some of the specific issues you identified for discussion. While there was subsequent interest in having Dr. Joseph participate, in the interim he accepted a request to testify before the House Committee on Commerce Subcommittee on Health and Environment's hearing on Medicare Subvention at the same time.

As was also discussed with your staff, we would be pleased to testify before your Subcommittee and provide a full update on issues surrounding our investigation of possible chemical agent exposure during and after the Gulf War as soon as we have completed our ongoing investigation in this area. Much of the analysis relies on modeling developed jointly by the Persian Gulf Investigative Team and the Central Intelligence Agency. Severe mechanical failures to the modeling equipment have delayed the planned schedule to conclude examination of operations at Khamisiyah. Having appeared previously before the Subcommittee to discuss our research and clinical evaluation programs associated with Persian Gulf War Veterans' Illnesses, we will of course work with the Subcommittee to arrange an opportunity to testify on possible chemical exposures when the analysis of the modeling information is finished.

While the investigation is not yet complete, the Department announced on Wednesday an expansion of its effort to notify veterans who may have been exposed to low levels of chemical agent resulting from demolitions at the Khamisiyah facility in March 1991. We are expanding the notifications because the information we are currently reviewing may conclude that possible low level exposures might have taken place out to 25 km from Khamisiyah on March 10, 1991. As discussed in our 5 September 1996 testimony before the Presidential Advisory Committee, on that day a group of U.S. forces detonated a still unknown number of chemical munitions in a pit area a few kilometers away from Bunker 73, which was destroyed on March 4.

As we learn more about Khamisiyah in the next few weeks, we expect to identify and notify additional troops who might have been exposed. We will encourage these individuals to participate in the Department's clinical evaluation program. Once we have a clear and accurate picture of events at the pit area, we will be happy to update your Subcommittee on Khamisiyah as well as any other incidents under investigation.

We appreciate your willingness to postpone our appearance and look forward to arranging an opportunity to meet with your Subcommittee in the future.

Sincerely,

Sandra Stuart

Sandra K. Stuart
Assistant Secretary of Defense
(Legislative Affairs)

Attachment

NEWS RELEASE

PLEASE NOTE DATE

No. 539-96
(703)695-0192(media)
(703)697-3189(copies)
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IMMEDIATE RELEASE September 18, 1996

NOTIFICATIONS OF POSSIBLE CHEMICAL WEAPONS EXPOSURE TO BE MADE

New Notices

Deputy Secretary of Defense John P. White announced today an expanded notification program to Gulf War veterans who may have been exposed to low levels of chemical weapon agents resulting from demolitions of Iraqi ammunition at the Khamisiyah weapons storage complex in Southern Iraq in March 1991, shortly after Desert Storm had ended.

The expanded notices were ordered by White because information currently being evaluated suggests low level exposures may have taken place out to 25 km from the Khamisiyah complex on March 10, 1991, when a small group of U.S. forces detonated a still unknown number of 122 mm chemical rockets in a pit area a few kilometers away from Bunker 73, which was destroyed on March 4. Both the pit and Bunker 73 are located in the vast Khamisiyah complex.

The Pentagon announced the discovery of the destruction of chemical weapons at Bunker 73 during a news conference on June 21. At that time, there had been no reports of demolitions by U.S troops in the pit area. After the briefing, the Persian Gulf Investigation Team continued to examine intensively the operations at the Khamisiyah complex. The team's further discussions with veterans revealed that members of the 37th Engineer Battalion destroyed stacks of crated munitions in the pit area on March 10, 1991, after these stacks were found by the battalion operations officer a day earlier. Information about the destruction of chemical weapons in the pit area has been developed since that time.

As reported to the Presidential Advisory Committee on Gulf War Veterans Illnesses on September 5, 1996, DoD and the Central Intelligence Agency are working on a computer model that will estimate the possible dispersion of any chemical agents that might have occurred during the weapons destruction. DoD will begin notifications immediately to about 5,000 Service members who were in the possible dispersion area. As we learn more about Khamisiyah in these next few weeks, we expect to identify more troops who might have been exposed. DoD will notify them to offer them evaluation.

In October 1991, the UNSCOM inspection team found 297 122mm rockets containing a mixture of the chemical nerve agents sarin (GB) and cyclosarin (GF) in the pit area. The mostly intact rockets were found in several heaps or piles, but some appeared to have been damaged or destroyed. At that time the Iraqis told UNSCOM that occupying coalition troops had destroyed chemical weapons at Bunker 73 earlier that year. UNSCOM reported that the rockets found in the pit area were apparently salvaged from that bunker. Iraqi statements however, were viewed with skepticism at the time because of the use of deception by the Iraqis against UNSCOM.

In March 1992, when the UNSCOM inspectors returned to Khamisiyah, they reported that they consolidated and destroyed a total of 463 nerve agent 122mm rockets found in the pit area, including the 297 they found during the October 1991 inspection. Approximately 300 additional intact rockets were found buried in the pit area which were sent to Al Muthanna, 100 kilometers northwest of Baghdad, for destruction. DoD and CIA are currently trying to determine how many rockets were destroyed in the pit.

In May 1996, UNSCOM inspectors returned to Khamisiyah and were told by Iraqi officials that some 2,160 122mm GB/GF rockets were moved into bunker 73 from Al Muthanna just prior to the air war. The Iraqis told the inspectors that these rockets began to leak and they moved approximately half of them from bunker 73 to the pit area. The movement of these munitions occurred prior to the 37th Engineer Battalion's arrival in early March 1991. At this inspection, the Iraqis also stated that occupying coalition forces destroyed the pit area rockets.

As part of the systematic destruction of the Khamisiyah ammunition area, the 37th Engineer Battalion destroyed stacks of crated munitions in the pit area on 10 March 1991 after these stacks were found by the battalion operations officer a day earlier.

The Persian Gulf Investigation Team will continue to investigate the circumstances surrounding the pit area demolition, identify what troops were in the area at the time, determine the amount of any chemical agents released, and ascertain details required to model any potential downwind hazard area. Using modeled downwind hazard distance and unit location data from our Geographic Information System, units in the Khamisiyah vicinity that were possibly affected will be identified for further analysis and follow-up.

-END-

Mr. SHAYS. You all are free to get up, and I will just call on the next panel. It is Sylvia Copeland, Chief for Persian Gulf War Veterans Illnesses Taskforce, Central Intelligence Agency; and Dr. Frances Murphy, Environmental Agents Services, Department of Veterans Affairs.

While our next panel is coming, I will for the record submit this letter in its entirety. We will make it available so that my coloration of what it says can be viewed by everyone here.

I just will read the first paragraph.

"Dear Mr. Chairman," this is dated the 19th, we received it at 10:24. "We respectfully decline your invitation to testify before your subcommittee on Thursday, 9 September 1996. As we discussed with your staff, our most appropriate witness, Assistant Secretary of Defense for Health Affairs, Stephen C. Joseph, who had provided testimony at your earlier hearing, would have little new to add to his testimony from his last experience before the subcommittee and he would not have been able to address some of the specific issues you identified for discussion. While there was subsequent interest in having Dr. Joseph participate, in the interim he accepted a request to testify before the House Committee on Commerce, Subcommittee on Health and Environment, hearing on Medicare subvention at the same time." So he is at another hearing. I would just share my general impression that there should not just be one person in the Department of Defense who is capable and qualified to come and testify before this committee.

It leads me to have the continual concern that only information can come from one source and, frankly, if this committee continues either under Mr. Towns' or my leadership, we will be asking people other than Mr. Joseph to come and testify because I have to believe that there is more than one person who is working on this issue and is capable to respond.

And then, second, there is reference in the second paragraph to the fact that there is certain modeling going on. This modeling relates to the issue of when the plumes went in the air which way did the wind blow because when our troops were engaged in combat we had information that said that our troops could destroy certain depots because the wind would blow away from the troops, not toward our troops.

And the question is now we are looking at that information, the very company that made the determination that the plumes would go away from our troops, it is the company now who is looking to see if they were right, which raises a tremendous question mark in my mind and the fact now that the modeling still has problems raises additional questions.

But in fairness to the Assistant Secretary, he is at another place as we conduct this hearing.

I am going to ask both of you to—we need to swear both of our witnesses in, if you would both rise.

[Witnesses sworn.]

Mr. SHAYS. Ms. Copeland, you have never testified before this committee and I thank you for being here.

Dr. Murphy, you have been here twice before and I know it is not a particularly easy time to come before this committee under certain circumstances. I imagine you have private and public feel-

ings and you may not take our same assessment, you may take our same assessment in certain ways. So I realize that this—you have been here three times, you have been very gracious, we have appreciated you being here and we look forward to your testimony as well as yours, Ms. Copeland.

I think we will start with you, Ms. Copeland. Thank you very much for being here.

STATEMENTS OF SYLVIA COPELAND, PERSIAN GULF WAR VETERANS ILLNESSES TASKFORCE, CENTRAL INTELLIGENCE AGENCY; AND FRANCES MURPHY, DIRECTOR, ENVIRONMENTAL AGENTS SERVICES, DEPARTMENT OF VETERANS AFFAIRS

Ms. COPELAND. Mr. Chairman, with your permission, I would like to submit a recently published report that was sent to your subcommittee entitled "CIA Report on Intelligence Related to Gulf War Illnesses" for the record, a report, of which you have a copy.

Mr. SHAYS. There is no objection to that.

[The information referred to follows:]

CIA REPORT ON INTELLIGENCE RELATED TO GULF WAR ILLNESSES

In parallel with the DOD's Persian Gulf investigative Team, the CIA's Office of Weapons, Technology and Proliferation conducted an independent review of intelligence documents to determine whether US troops were exposed to chemical and biological warfare agents during the Gulf war. The CIA's effort did not seek to duplicate that of DOD; however, CIA analysts drew upon and examined DOD information to clarify intelligence, to obtain leads, and to ensure a thorough and comprehensive intelligence assessment.

KEY FINDINGS

On the basis of a comprehensive review of intelligence and other information, we assess that Iraq did not use chemical or biological weapons or deploy these weapons in Kuwait. In addition, analysis and computer modeling indicate chemical agents released by aerial bombing of chemical warfare facilities did not reach US troops in Saudi Arabia. Coalition bombing resulted in damage to filled chemical munitions at only two facilities—Muhammadiyat and Al Muthanna—both located in remote areas west of Baghdad. UNSCOM inspections concluded that no chemical munitions were destroyed at the An Nasiriyah Ammunition Storage Area, countering publicized theories that fallout from the facility were the cause of credible but unverified nerve agent detections in Saudi Arabia. We assess no biological weapons or agents were destroyed by Coalition forces during the Gulf war. Finally, Iraq never produced radiological weapons for use and bombed Iraqi nuclear facilities caused only local contamination north of the Kuwait Theater of Operations.

A recent assessment based on a comprehensive review of all intelligence information and a May 1996 UNSCOM inspection concludes nerve agent was released as a result of inadvertent US postwar demolition of chemical rockets at a bunker and probably at a pit area at the Khamisiyah Ammunition Storage Area in Iraq. We have modeled the chemical contamination levels in Iraq resulting from the bunker destruction so that the DOD can assess who may have been exposed. Analysis of demolition activities in the pit area is still under way.

NO INTENTIONAL IRAQI USE OF CHEMICAL OR BIOLOGICAL AGENTS

We assess that Iraq did not use chemical or biological weapons against Coalition troops based on our thorough review of intelligence reporting and on the lack of casualties that was a signature of chemical use during the Iran-Iraq war. We assess that Iraq probably did not use these weapons because of a perceived threat of overwhelming Coalition retaliation.

CHEMICAL WEAPONS AT TWO SOUTHERN IRAQ DEPOTS: AN NASIRIYAH AND KHAMISIYAH

We assess that Iraq had chemical weapons at two sites (see figure 1) in Iraq—the An Nasiriyah Ammunition Storage Depot SW and the Khamisiyah (US name

Tall al Lahm) Ammunition Storage Area—within the Kuwait Theater of Operations (KTO)[1] during Desert Storm. Both of these sites were large rear-area depots near the northern boundary of the KTO that stored mostly conventional ammunition. UNSCOM reporting and other information indicate that Coalition bombing did not destroy the bunker containing the chemical agents temporarily stored at An Nasiriyah. We have recently determined US troops were near a release of chemical agents at Khamisiyah, and DOD is assessing potential exposure.

AN NASIRIYAH: CHEMICAL MUNITIONS MOVED TO KHAMISIYAH

According to Iraqi statements to UNSCOM in May 1996, An Nasiriyah stored 6,000 155-mm mustard rounds from early January until they were moved to Khamisiyah after 15 February 1991. Iraq stored the munitions starting just before the air war at one bunker—called Bunker 8 by Iraq—at An Nasiriyah Ammunition Storage Area SW. According to Iraq, these mustard rounds were moved to Khamisiyah because of fear of additional Coalition bombing.

The Coalition bombing of An Nasiriyah on 17 January 1991 did not cause a release of chemical agent because the bunkers that were bombed on that date did not contain chemical agents. In May 1996, UNSCOM inspectors examined the rubble surrounding the bunkers at An Nasiriyah that were bombed on 17 January 1991 and determined that the bunkers contained only conventional weapons. Although mustard rounds were in Bunker 8 at An Nasiriyah on 17 January, UNSCOM information indicates they were not damaged. No other agents were known to be at An Nasiriyah.

KHAMISIYAH: SOME CHEMICAL MUNITIONS DESTROYED BY GROUND TROOPS

UNSCOM inspected chemical munitions at or near Khamisiyah in October 1991 and identified 122-mm sarin/cyclo-sarin (GB/GF) nerve-agent-filled rockets and 155-mm mustard rounds. At that time it was not clear whether these chemical weapons had been present during the Gulf war or whether, as was suspected at other locations, the Iraqis moved the munitions there shortly before the 1991 UNSCOM inspection.

During its October 1991 inspection of the Khamisiyah facility, the Iraqis told UNSCOM that Coalition troops had destroyed chemical weapons at a bunker earlier that year,[2] and UNSCOM found chemical munitions at two open sites (see figure 2):

- Remnants of 122-mm rockets were identified at a single bunker among 100 bunkers, called "Bunker 73" by Iraq. It was unclear whether the munitions in Bunker 73 were chemical because there was no sampling or positive chemical agent monitors (CAM) readings and inspectors did not document characteristic features of chemical munitions.
- Several hundred mostly intact 122-mm rockets containing nerve agent-detected by sampling and with CAMs—were found at a *pit area* about 1 km south of the main storage area.
- Over 6,000 intact 155-mm rounds containing mustard agent, as indicated by CAMs, were found in an *open area* several kilometers west of Khamisiyah.

[1] Generally defined as Kuwait and Iraq below 31 degrees north latitude.

[2] This statement, however, was viewed with skepticism at the time because of the broad, continuous use of deception by the Iraqis against UNSCOM.

Figure 1. Iraq's Declared Wartime CW Agent Stockpile

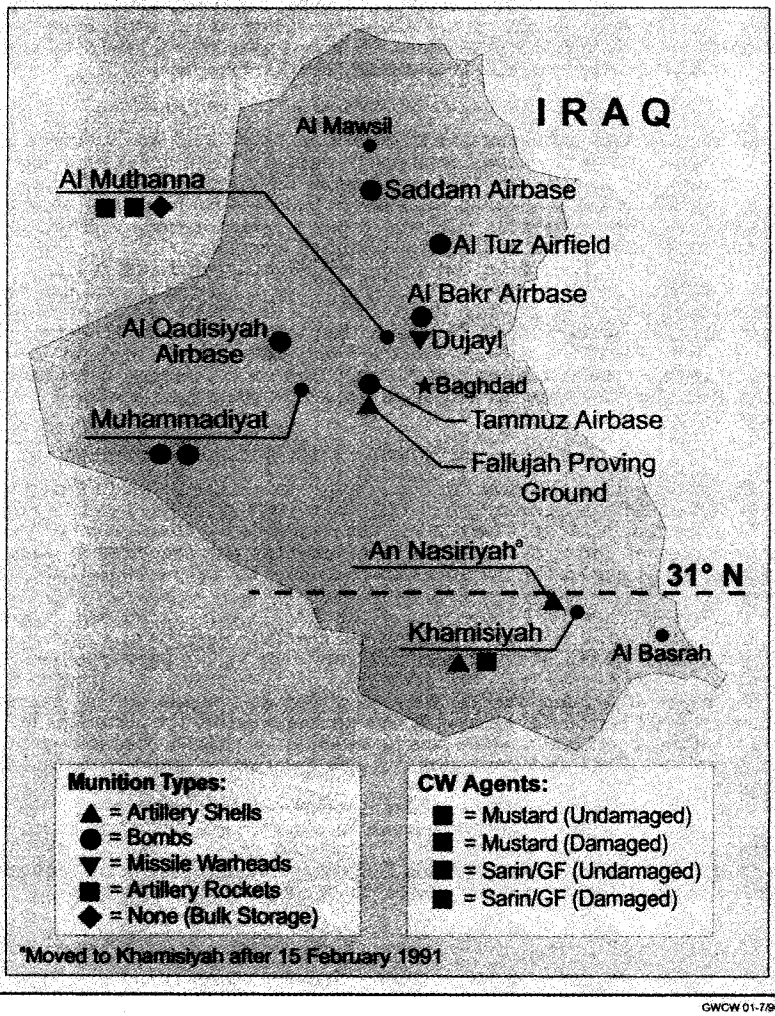

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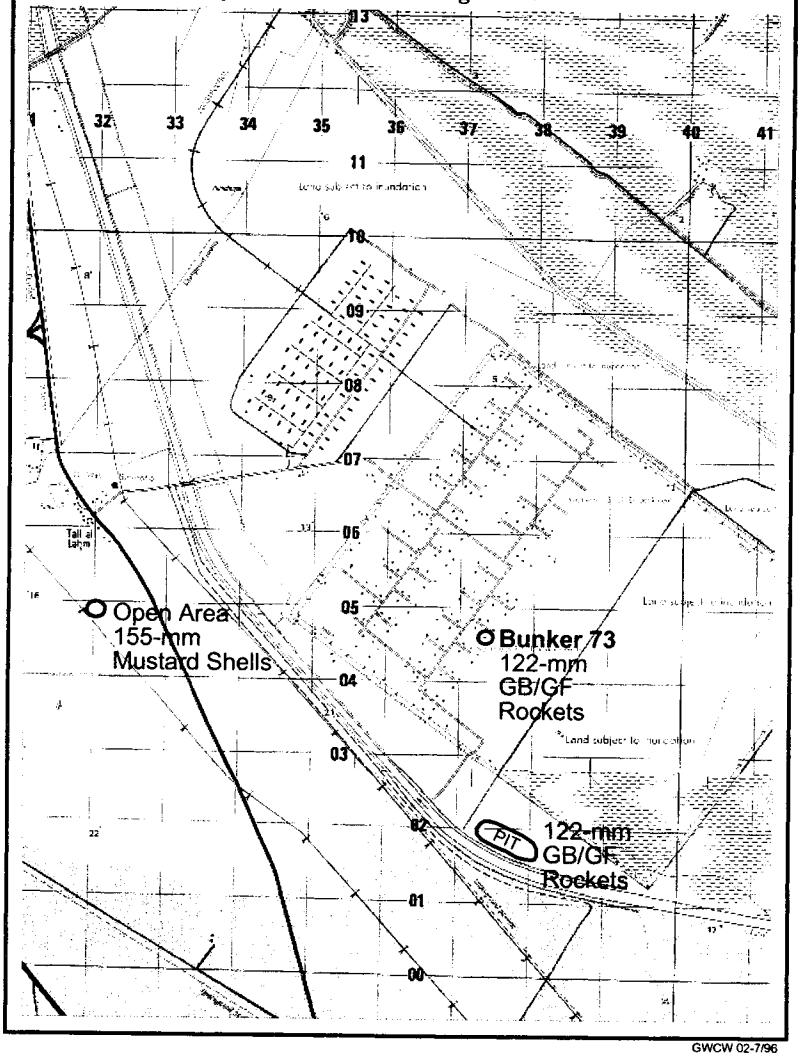
Figure 2. Khamisiyah Ammunition Storage Area



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Bunker 73 Rocket Destruction. The recent comprehensive review of all information enabled us to determine that US troops—not Iraq—destroyed the rockets in Bunker 73. In March 1996, in conjunction with DOD investigators, we determined that the US 37th Engineering Battalion had destroyed that bunker along with over 30 other bunkers on 4 March 1991.

However, it was not until UNSCOM's May 1996 inspection at Khamisiyah that was determined that Bunker 73 contained remnants of 122-mm chemical rockets. During this inspection, inspectors documented the presence of high-density polyethylene inserts, burster tubes, fill plugs, and other features characteristic of Iraqi chemical munitions. Analysis of the contents of the rockets that UNSCOM found in 1991 in the pit area just outside the Khamisiyah Storage Area shows that the identical rockets in Bunker 73 had been filled with a combination of the agents sarin and GF. Therefore, we conclude that US troops destroyed chemical rockets in Bunker 73.

Pit Area Rocket Destruction. During the May 1996 UNSCOM inspection, Iraq claimed that some of the rockets located in the pit area had been destroyed by occupying forces. On the basis of very recent interviews of 37th Engineering Battalion personnel, DOD now believes that demolition personnel did set charges on stacks of rockets in the pit on 10 March 1991 at 1630 local time.

We are still trying to determine the number of rockets US forces could have destroyed. Once we determine the number, we will model the likely hazardous area caused by the destruction. Iraq told the May 1996 UNSCOM inspectors that it moved about 1,100 rockets out of Bunker 73 to the pit 2 km away to avoid chemical contamination of the bunker facility. The Iraqis claimed the rockets started leaking immediately after they were transferred from the Al Muthanna CW Production and Storage Facility just before the air war.

Open-Area Mustard Shells Intact. As discussed previously, more than 6,000 mustard rounds were moved from An Nasiriyah to an open area several kilometers west of the main facility at Khamisiyah. These munitions were found undamaged by UNSCOM in October 1991. They were later moved to and destroyed at UNSCOM's Al Muthanna destruction facility.

MODELING OF RELEASE OF AGENTS FROM BUNKER 73

Modeling of the potential hazard caused by destruction of Bunker 73 indicates that an area around the bunker at least 2 km in all directions and 4 km downwind could have been contaminated at or above the level for causing acute symptoms including runny nose, headache, and miosis (see figure 3 and text box). An area up to 25 km downwind and 8 km wide could have been contaminated at or above the much lower general population dosage limit.[3] From wind models and observations of a video of destruction activity at Khamisiyah, we determined that the downwind direction was northeast to east (see figure 4).

MODELING ASSUMPTIONS ABOUT BUNKER 73

Some of the following modeling assumptions were based on data from US testing in 1966 that involved destruction of bunker filled with 1,850 GB rockets with maximum range similar to that of Iraqi rockets found in Bunker 73:

- 1,060 rockets as indicated by Iraq.
- Rockets filled with 8 kg of a 2:1 ratio of GB to GF (contents assumed to be 100 percent agent) based on UNSCOM information and sampling from the pit.
- Ten percent of rockets ejected from the bunker, half of which randomly fall within a 200-meter circle, the other half falling within a 2-km circle based on US testing.[a]
- Ejected rockets released agents on impact.
- A 15-meter mean agent release height was chosen to be conservative when determining ground hazard.
- All but 2.5 percent of agent in the bunker degraded by heat from explosion and motor/crate burning based on US tests.

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[3] The Army established this dosage criteria for protection of the general population: a 72-hour exposure at 0.000003 mg/m3—significantly lower than the 0.0001mg/m3 occupational limit defined for 8 hours—is specified.

[a] DOD documents and multiple veins reported that munition "cook-offs"—munitions that ignite and are ejected from their storage due to the demolition fire—sent ordnance as far as 10 km or more from the bunker facility. Nonetheless, we did not model this phenomena because we have been unable to determine whether any of the cook-offs involved chemical rockets, and if so, the number of rockets and how far they went.

• Winds slow to the northeast to east, based on modeling and analysis of a videotape of the destruction activity at Khamisiyah.

• Our models do not include the effect of the reported 32 to 37 conventional ordnance bunkers detonating and burning simultaneously with the chemical bunker. The added thermal energy created by explosions and fires in the other bunkers and solar heating caused by the increased amounts of smoke would tend to degrade agent as well as more quickly disperse the agent between the ground up to the maximum altitude of 800 to 1,200 meters.[b] This more rapid vertical spreading would tend to lower ground contamination in the area.

[b] This altitude represents the estimated height of the mixing layer—the lower turbulent part of the atmosphere above which agent transport is inhibited due to a laminar boundary layer. This layer can often be seen from aircraft while landing in cities with polluted air.

Figure 3. 0.4-Metric-Ton Release of Sarin at Khamisiyah Storage Area, Bunker 73 on 4 March 1991 (1100Z)

Lethal

Incapacitated/Disabled

Vision Impaired
(Miosis)

First Effects **
(Runny nose, watery eyes)

8-Hour Occupational Limit
(0.048 mg-min/m3)

72-Hour General Population Limit
(0.013 mg-min/m3)

** First effects also may include tightness of chest, coughing, skin twitching, sweating, and headache

2.5% Effective Release;
Mean Cloud Height 15 Meters

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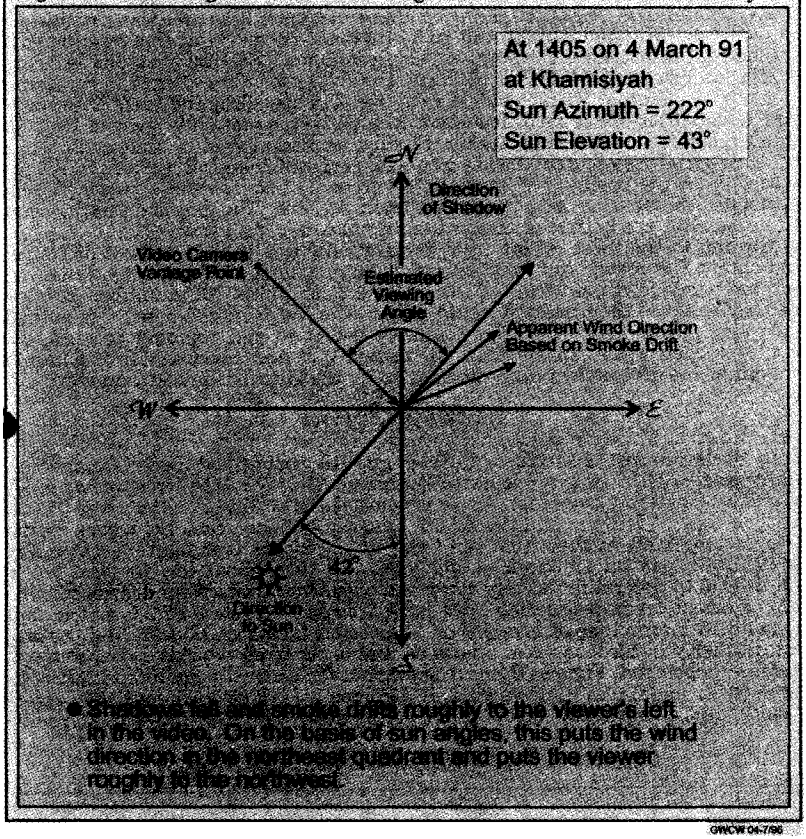
Figure 4. Determining Wind Direction During Demolition of Bunker 73 at Khamisiyah



- Shadows left and smoke drifts roughly to the viewer's left in the video. On the basis of sun angles, this puts the wind direction in the northeast quadrant and puts the viewer roughly in the northwest.

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CHEMICAL FALLOUT FROM AERIAL BOMBING: AT MUHAMMADIYAT AL MUTHANNA

We conclude that Coalition aerial bombing damaged filled chemical munitions at two facilities—Muhammadiyat and Al Muthanna. In reaching this assessment, we examined all intelligence reporting on the location of chemical weapons in Iraq and the KTO and scrutinized dozens of sites (see table) that were alleged to be connected in one way or another with chemical weapons. Our modeling indicates that chemical agent fallout from these facilities—both located in remote areas west of Baghdad—did not reach troops in Saudi Arabia. Finally, we have found no information to suggest that casualties occurred inside Iraq as a result of chemical warfare (CW) agents released from the bombing of these sites—probably because these two facilities are in remote locations far from any population centers. The Muhammadiyat and Al Muthanna sites are both over 30 km from the nearest Iraqi towns.

According to the most recent Iraqi declarations, less than 5 percent of Iraq's approximately 700 metric tons of declared chemical agent stockpile was destroyed by Coalition bombing. In most cases, the Iraqis did not store CW munitions in bunkers that they believed the Coalition would target. The Iraqis stored many CW munitions in the open, protecting them from Coalition detection and bombing because we did not target open areas. In addition, all known CW and precursor production lines were either inactive or had been dismantled by the start of the air campaign.

MUHAMMADIYAT

Iraq declared that 200 mustard-filled and 12 sarin-filled aerial bombs at the Muhammadiyat (US geographic name Qubaysah) Storage Area were damaged or destroyed by Coalition bombing. We have modeled the contaminated area resulting from bombing of Muhammadiyat, a site at least 410 km from US troops stationed at Rafha and even further from the bunk of US troops (see figure 5). Bombing of this facility began on 19 January and continued throughout the air war. We have been unable to determine exactly when the chemical bombs were destroyed. On the basis of recent Iraqi declarations, we have modeled a release of 2.9 metric tons of sarin and 15 metric tons of mustard on all possible bombing dates to find the largest most southerly hazardous area. Southerly winds occurred for only a few of the days the site was bombed. Figures 6 and 7 show that for general population limit dosages (above 0.013 mg-min/m3), downwind dispersions in the general southerly direction for sarin and mustard fall below this level at about 300 and 130 km, respectively.

SELECTED SUSPECT CHEMICAL WEAPONS SITES EXAMINED [a]

Facilities	Coordinates
Al Muthanna (Samarra)	3351N/04349E
Khamisiyah (Tall al Lahm)	3045N/04623E
Muhammadiyat (Qubaysah Storage Depot)	3315N/04241E
Al Walid Airbasc (H3 Airfield)	3256N/03945E
Fallujah I (Habbaniyah III)	3329N/04349E
Fallujah I (Habbaniyah I)	3333N/04338E
Al Bakr Airfield [subordinate] (Samarra East Airfield)	3410N/04416E
Al Taba'at Airstrip (H3 SW Airfield)	3245N/03936E
Al Tuz Airfield (Tuz Khurmatu Airfield)	3457N/04428E
Dujayl/Awarab (Sumaykah SSM Support Facility SE)	3349N/04415E
Fallujab Chem Proving Gnd (Habbaniyah CW Training Center)	3308N/04352E
Murasana Airbase (H3 NW Airfield)	3305N/03936E
Qadisiyab Airbase (Al Asad Airfield)	3347N/04226E
Saddam Airbasc (Qayyarah West Airfield)	3546N/04307E
Tammuz Airbase (Al Taqaddum Airfield)	3320N/04336E
Al Qaim Superphospbate Fertilizer Plant	3422N/04110E
Al Taqaddum Airfield	3320N/04336E
An Nasiriyah Ammo Storage Depot SW	3058N/04611E
Ash Shuaybab Ammo Storage Depot	3029N/04739E
Baghdad Ammo Depot Taji	3333N/04414E
Fallujah II (Habbaniyah II)	3329N/04340E
K–2 Airfield	3455N/04605E
Kirkuk Airfield	3528N/04421E
Kirkuk Ammo Depot West	3533N/04358E
Mosul Airfield	3618N/04309E

SELECTED SUSPECT CHEMICAL WEAPONS SITES EXAMINED [a]—Continued

Facilities	Coordinates
Qayyarah West Airfield	3546N/04307E
Qayyarah West Ammo Storage Depot	3552N/04307E
Tallil Airfield	3056N/04605E
Ubaydah Bin al Jarrah Airfield	3229N/04546E
Ad Diwaniyah Ammo Depot	3158N/04454E
Al Fallujah Ammo Depot South	3313N/04341E
Ukhaider (Karbala Depot and Ammo Storage)	3223N/04330E
Qabatiyah Ammo Storage (Wadi al Jassiyah Ammo Storage)	3352N/04242E
Tikrit Ammo Depot (Salahadin)	3443N/04339E

[a] These sites represent examples of sites that have been connected—often tenuously—to Iraq's chemical warfare program.

Figure 5. Iraqi Facilities With Damaged Chemical-Agent-Filled Munitions

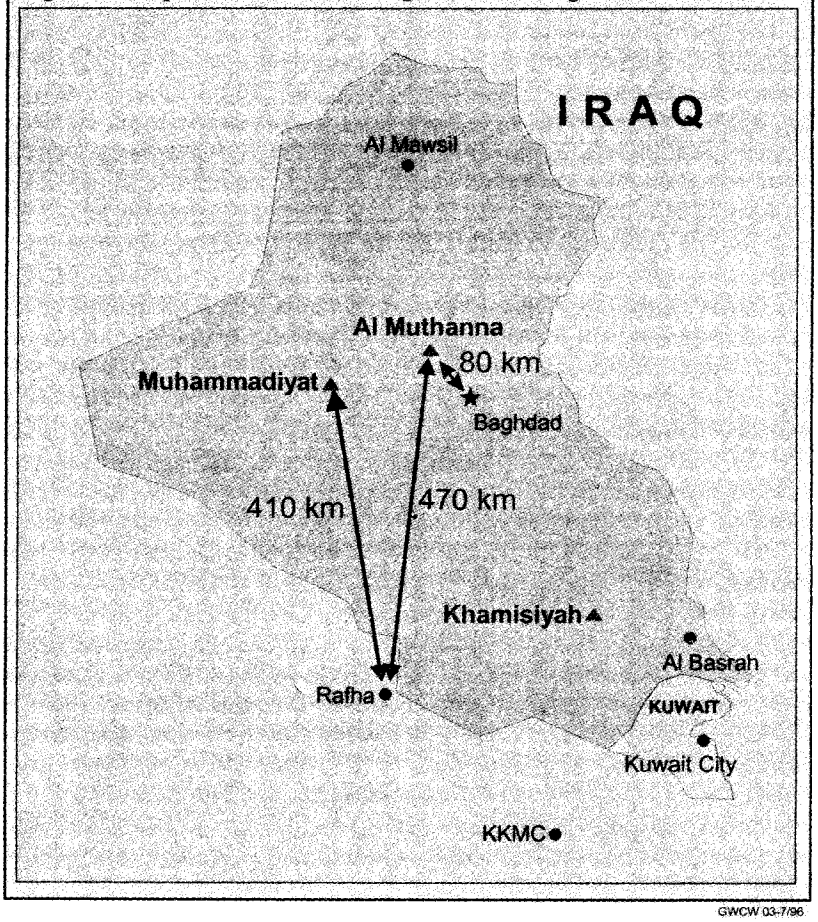

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Figure 6. Worst Case Hazard Footprint for 2.9-Metric-Ton Sarin Release at Muhammadiyat Storage Area

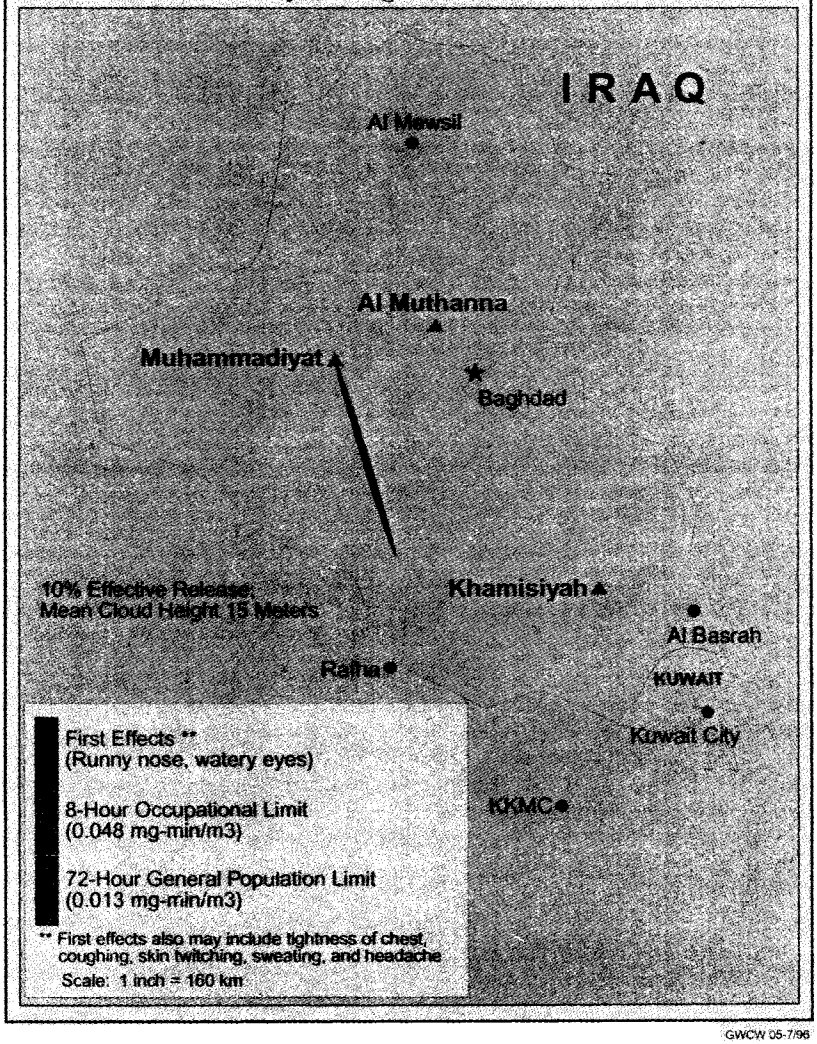

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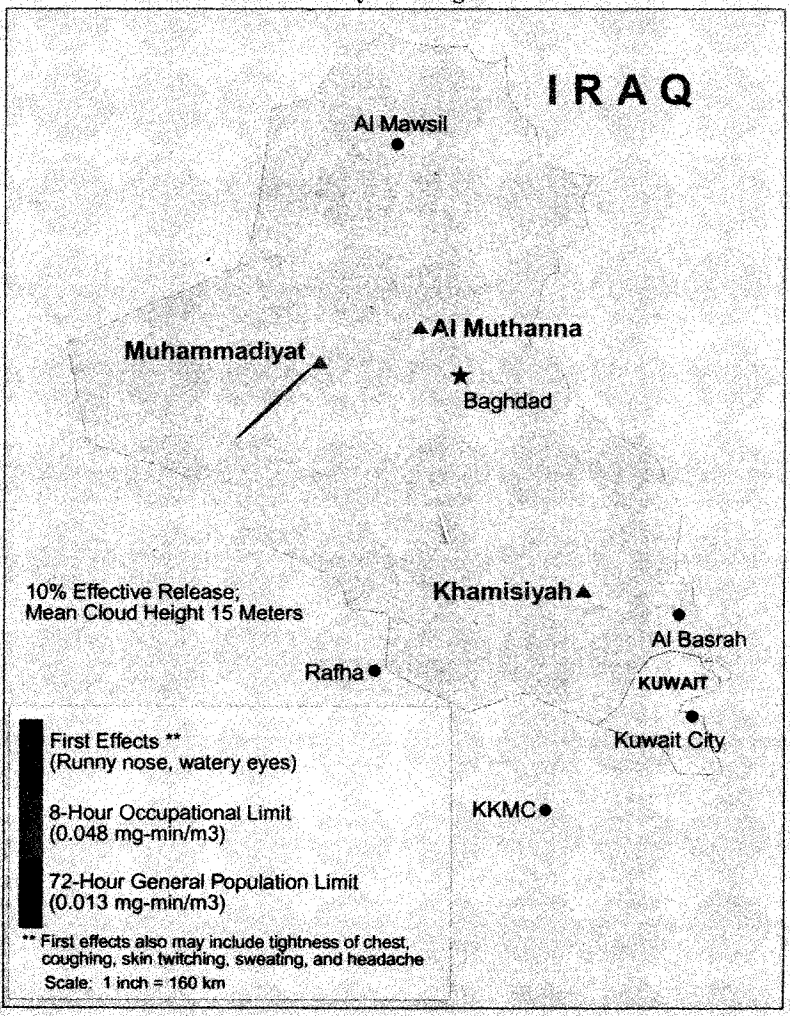
Figure 7. Worst Case Hazard Footprint for 15.2-Metric-Ton Mustard Release at Muhammadiyat Storage Area



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Neither the first effects nor the general population limit levels would have reached US troops that were stationed in Saudi Arabia.[4]

AL MUTHANNA

Iraq declared that 2,500 chemical rockets containing about 17 metric tons of sarin nerve agent at Al Muthanna (US geographic name Samarra), the primary Iraqi CW production and storage facility, had been destroyed by Coalition bombing. UNSCOM inspectors were unable to verify the exact number because of damage to the rockets. We have modeled possible bombing dates for this bunker and determined that the most southerly dispersal for reaching the general population limit dosage is 160 km (figures 8), well short of US troops.

NO EVIDENCE OF BIOLOGICAL FALLOUT FROM AERIAL BOMBING

There are no indications that any biological agent was destroyed by Coalition bombing. Available intelligence reporting and Iraqi statements indicate that Iraq went to great lengths to protect its biological munitions from aerial bombardment. The Iraqis have stated that its biological-agent-filled aerial bombs were deployed to three airfields well north of the KTO. The bombs were placed in open pits far from bombing targets, then covered with canvas, and buried with dirt. Iraqi biological warheads for Al Husayn missiles were hidden well north of the KTO both in a railroad tunnel and in earth-covered pits at a location near the Tigris canal. The Iraqis admitted to production of biological agents at four sites near Baghdad but said it ceased production before the air war. In addition, UNSCOM found no damage to any of these facilities from Coalition bombing.

IRAQI CHEMICAL AND BIOLOGICAL AGENTS

We found no evidence that would indicate that Iraq developed agents specifically intended to cause the most common types of long-term symptoms seen in ill Gulf war veterans. This finding is important in ruling out the scenario of covert use of such an agent. With the possible exception of aflatoxin, all declared Iraqi agents were intended to cause rapid death or incapacitation. The only documented effects of aflatoxin in humans are liver cancer months to years after it is ingested and symptoms—possibly including death—caused by liver damage from ingestion of large amounts. Effects of aerosolized aflatoxin are unknown. UNSCOM assesses that Iraq looked at aflatoxin for its long-term carcinogenic effects and that testing showed that large concentrations of it caused death within days. We have no information that would make us conclude that Iraq used aflatoxin or that it was released in the atmosphere when bombing occurred.

OTHER POTENTIAL HAZARDS

CIA's also reviewed intelligence on potential hazards other than chemical and biological agents. Some of the studied hazards include:

- **Red Fuming Nitric Acid (RFNA).** Scud missiles that impacted in Saudi Arabia and Israel each contained approximately 300 pounds of toxic RFNA oxidizer and 100 pounds of kerosene fuel. Although we know of no long-term illnesses related to these chemicals, we assess that RFNA is a likely cause of some of the burning sensations reported by veterans near Scud impacts. DOD's Persian Gulf Investigation Team (PGIT) has been informed of this and is following up to look for long-term symptoms.
- **Radiological Weapons and Radiation Fallout.** Although Iraq conducted research on radiological weapons, we assess it never progressed into the developmental phase. Small quantities of radioactive material were released during tests in areas north of Baghdad. These tests took place two years before the Gulf war, and any radioactivity from those tests would have decayed away by the time of the war. In addition, Iraqi nuclear facilities bombed during the Gulf war produced only minimal local contamination north of the KTO, with no releases detected beyond those facilities.

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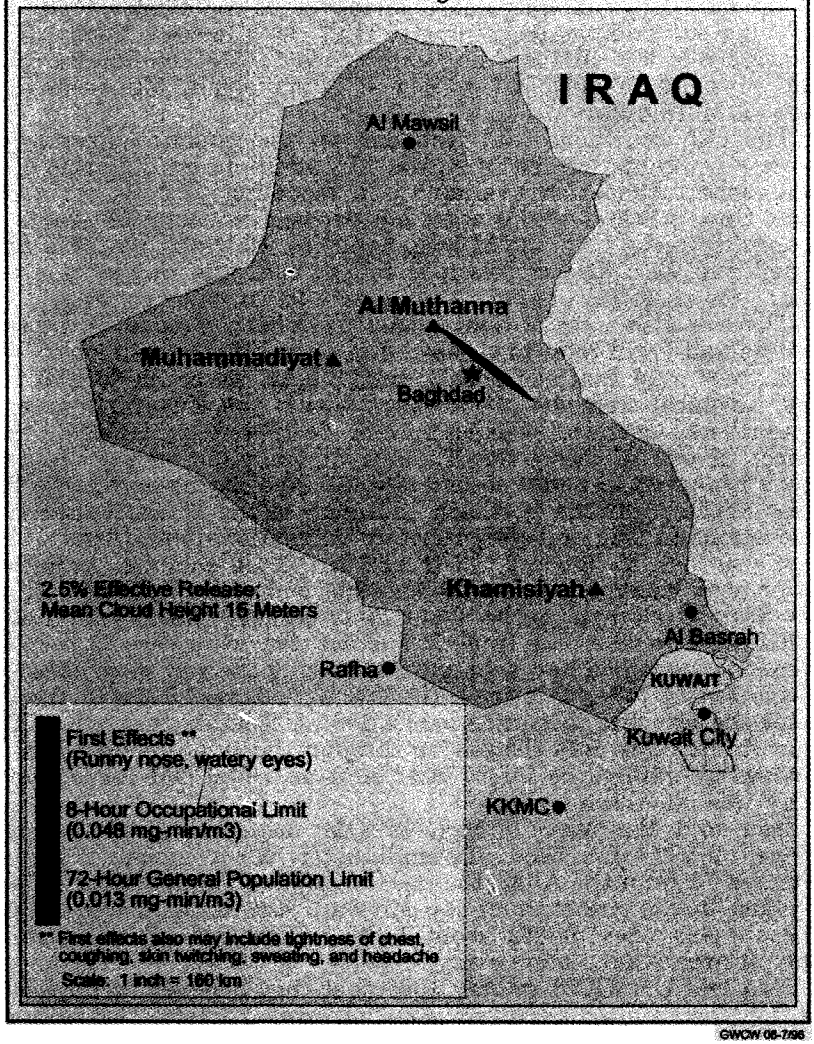
[4] When predicting very low concentration levels far downrange of the source, large dispersions are created that are difficult to model. We assess, however, that our results are biased upward because we chose optimal times and dates that would have produced the maximum dispersion toward Saudi Arabia. In addition, the models do not account for phenomena—such as deposition onto the ground and rain removal of agent—that would greatly diminish potential downwind exposure.

• **Miscellaneous.** We have seen a number of reports claiming that veterans were exposed to other hazards including everything from poisoned water supplies to chocolate additives. In examining these reports, we found nothing to corroborate them, but we have made DOD's Persian Gulf Investigative Team aware of them.

FUTURE EFFORTS

CIA will continue to track any leads that surface in the future and will make our findings available to the public. We will complete our review of the hazards posed by destruction of chemical rockets in the pit area and will publish our findings over the Internet.

Figure 8. Worst Case Hazard Footprint for 16.8-Metric-Ton Sarin Release at Al Muthanna Storage Area



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Mr. SHAYS. Would you put the mic a little—maybe put it in front of you? It is a little hard to read sometimes with the mic in the way, but we sure can hear you better.

Ms. COPELAND. I am pleased to represent the agency today and to relay our findings pertaining to Gulf war illnesses. Today, I will provide our key findings and some recent assessments regarding the presence of chemical agents at Khamisiyah, Muhammadiyat and Al Muthanna.

The CIA concludes that Iraq did not use chemical agents, nor were any agents located in Kuwait. In addition, on the basis of intelligence information available and modeling to date, we assess that United States troops were not exposed to chemical agents released by aerial bombing of Iraqi facilities. However, we have identified and will discuss potential fallout concerns in the case of a rear area chemical weapons storage bunker in southern Iraq.

There is also a set of figures that have been handed to the committee and I will refer to those as I go through the testimony.

If you would look at figure 1 first, please, we conclude that Iraq had chemical weapons at two sites within the Kuwaiti theater of operations. Chemical weapons were destroyed by United States forces at one of these, the Khamisiyah ammunition storage area. Both Khamisiyah and a second site, An Nasirryah, were large rear area depots near the northern boundary of the Kuwaiti theater of operations in Iraq and stored mostly conventional munitions.

If you look at figure 2, UNSCOM inspected chemical munitions at or near Khamisiyah in October 1991 and identified 122 millimeter Sarin/Cyclosarin nerve agent filled rockets and 155 millimeter mustard rounds. At the time, it was not clear whether the chemical weapons identified had been present during the war or whether, as suspected at other locations, the Iraqis had moved the munitions after the war and just prior to the 1991 UNSCOM inspection. This uncertainty was only cleared up through the recent comprehensive review of intelligence information and an UNSCOM inspection in May 1996 at Khamisiyah.

Iraq told the May 1996 UNSCOM inspectors that Iraq had moved 2,160 unmarked 122 millimeter nerve agent rockets to Bunker 73 from the Al Muthanna CW production and storage facility just before the start of the air war. According to Iraq, during the air war, they moved about 1,100 rockets from that bunker to the pit area 2 kilometers away.

Iraq told UNSCOM in May 1996 that they believed occupying coalition forces also destroyed some pit area rockets. DOD's investigation into this possibility has indicated that U.S. soldiers destroyed stacks of crated munitions in the pit on 10 March 1991. We are working with the investigative team to determine the number of rockets destroyed in order to model the potential hazard resulting from this destruction. We plan to finish our analysis on the pit in the coming weeks.

During the May 1996 inspection, Iraq also told UNSCOM that the 6,000 155 millimeter mustard rounds UNSCOM found in the open area at Khamisiyah in October 1991 had been stored at one bunker at An Nasirryah until 15 February 1991, just before the ground war. Iraq claims that fears of coalition bombing motivated An Nasirryah depot personnel to move the intact mustard rounds

to the open area 5 kilometers from the Khamisiyah depot, where the rounds were camouflaged with canvas. Subsequently, we have been able to confirm that the munitions were moved to this area about this time.

Modeling of the potential hazard caused by the destruction of Bunker 73, you can look at it in figure 3, indicates that an area around the bunker at least 2 kilometers in all directions and 4 kilometers downwind could have been contaminated at or above the level causing acute symptoms, including runny nose, headaches, miosis. An area up to 25 kilometers downwind could have contaminated at a much lower general population dosage limit. Based on wind models and observations of a video and photographs of destruction activity at Khamisiyah, we determined that the downwind direction was northeast to east.

Some of the modeling assumptions we used were based on data from U.S. testing in 1966 that involved destruction of several bunkers filled with GB rockets of similar maximum range to the Iraqi rockets found in Bunker 73.

On the basis of all available information, we conclude that coalition aerial bombing resulted in damage to filled chemical munitions at only two facilities: Muhammadiyat and Al Muthanna. Both are located in remote areas west of Baghdad. Our modeling indicates that fallout from these facilities did not reach troops in Saudi Arabia. According to the most recent Iraqi declarations, less than 5 percent of Iraq's approximately 750 metric tons of chemical agent stockpile was destroyed by coalition bombing.

At Muhammadiyat storage area, Iraq declared that 200 mustard filled and 12 Sarin filled aerial bombs were damaged or destroyed by coalition bombing. We have modeled the contaminated area resulting from bombing Muhammadiyat, a site which is at least 410 kilometers from United States troops stationed at Rafha and even further from the bulk of United States troops. Bombing of this facility started on 19 January and continued throughout the air war. Analysis of all available information leads us to conclude that the earliest chemical munitions destruction date at Muhammadiyat is 22 January. Based on recent Iraqi declarations, we have modeled the release of 2.9 metric tons of Sarin and 15 metric tons of mustard for all the possible bombing dates. For these days, as for the whole time period of the bombing, southerly winds occur only on a few days. Figures 6 and 7 show the maximum downwind dispersions and the general southerly direction for Sarin and mustard cutoff at about 300 and 130 kilometers respectively. Neither the first effects nor the general population limit levels reached United States troops that were stationed in Saudi Arabia.

At Al Muthanna, the primary Iraqi CW production and storage facility, Iraq declared that 2,500 chemical rockets containing about 17 metric tons of Sarin nerve agent had been destroyed by coalition bombing. UNSCOM inspectors were unable to verify the exact number because of damage to the rockets. Analysis of all available information leads us to conclude that the earliest chemical munitions destruction at the bunker that was destroyed at Al Muthanna is 6 February. Of the days that the bunker at Al Muthanna could have been bombed, winds were southerly on only 8 February. Figure 8 shows that for the general population limit dosage, the most

southerly dispersion on 8 February is 160 kilometers, again well short of U.S. troops.

Finally, we have found no information that would lead us to conclude or suggest that casualties occurred inside Iraq as a result of CW agents released from the bombing of these two facilities. This is probably because these two facilities are in remote locations, far from any population centers. The Muhammadiyat and Al Muthanna sites are both over 30 kilometers from the nearest Iraqi town.

We will continue to be vigilant in tracking any lead that surfaces in the future. If we find any information pointing to chemical or biological agent exposures or impacting significantly on the issue of Gulf war veterans' illnesses, we again will work with the Department of Defense to announce those findings.

Mr. SHAYS. Thank you, Ms. Copeland.

Dr. Murphy.

Dr. MURPHY. Mr. Chairman and members of the subcommittee, thank you for inviting me here today to appear before the subcommittee and update you on important clinical and research developments related to Persian Gulf war veterans.

I apologize, I was originally scheduled to be on the fourth panel this afternoon with the scientists and medical experts. I am not an investigation expert, I am not in intelligence, and therefore my comments will be focused on research and medical issues.

I am currently the Director of the VA's Environmental Agents Service. I am a neurologist and previously the director of VA's Persian Gulf Referral Center in Washington, DC.

Shortly after the return from the southwest Asia theater of operations, veterans of Operation Desert Shield and Desert Storm began to report a variety of symptoms and illnesses. In response to the needs of these wartime veterans, the Department of Veterans Affairs developed its first health care programs for Persian Gulf veterans beginning in 1991 and 1992. The Department has continuously improved and expanded these programs to encompass a comprehensive, four-pronged approach to Persian Gulf veterans programs, addressing relevant medical care, research, compensation and outreach and education issues.

VA provides Persian Gulf Registry Health Examinations, Referral Center evaluations, and special eligibility for priority outpatient and inpatient health care for Persian Gulf veterans. To date, more than 60,000 Persian Gulf veterans have completed Registry exams, almost 187,000 have been seen in ambulatory care clinics, and more than 18,000 have been admitted to VA medical facilities.

Of those veterans participating in our Registry programs, they have commonly reported to us that they suffer from fatigue, skin rash, headaches, muscle and joint pain, memory loss, shortness of breath, sleep disturbances, diarrhea and other gastrointestinal complaints, and chest pain, a group of symptoms that have become very familiar to those of us who deal with the health of Persian Gulf veterans.

However, another 12 percent of our Registry participants are asymptomatic, but they do come to VA looking for advice from physicians because they are concerned that there might be possible future consequences resulting from their service in the Persian Gulf.

It is important to recognize that numerous scientists and advisory committees have concluded that there are many types of different illnesses, including a wide variety of well defined medical and psychiatric conditions being diagnosed in Persian Gulf veterans participating in the VA, DOD and other health surveillance programs. VA physicians report that a small number of Persian Gulf veterans have unexplained illnesses.

Unfortunately, we have not been able to give a medical diagnosis to every veteran who comes into our health care facilities. Indeed, the current information suggests, however, that no single unique illness is the cause of all illness in Persian Gulf veterans, and we have not been able to identify as yet a Gulf war Syndrome.

VA's research programs related to Persian Gulf veterans' illnesses include more than 30 individual research projects being carried out nationwide by the VA and university affiliated investigators.

VA established three Environmental Hazards Research Centers in 1994. All three centers are carrying out projects which address certain aspects of potential adverse health outcomes of possible exposure of Persian Gulf veterans to neurotoxins.

In addition, VA's Environmental Epidemiology Service has completed a mortality study and the first phase of the National Health Survey of Persian Gulf Veterans and their Families. Details of these and other federally sponsored research studies are included in the report federally Sponsored Research on Persian Gulf Veterans' Illnesses for 1995.

In May, VA announced that it would establish a fourth Environmental Hazards Research Center. This center will study adverse reproductive health effects in Persian Gulf, Vietnam and veterans of other eras which may be associated with military occupational exposures. The proposals were due to the VA's Research and Development Service on September 16th and awards will be made for those proposals before the end of 1996. We will keep the committee updated on the progress of this activity.

I would like to take this opportunity to give you an overview of the progress of several major epidemiology studies. The first is the Persian Gulf War Veterans Mortality Study. This study analyzes all deaths of the almost 697,000 Persian Gulf war veterans who served in the theater of operations between August 1990 and April 1991 and it compares them to a group of over 700,000 veterans who served elsewhere during that period.

The study demonstrates a significant excess in deaths in Persian Gulf veterans due to external causes, such as accidental deaths due to automobile accidents. It does not demonstrate a difference in death rates due to medical conditions, including deaths due to malignant cancers.

The results of this and other scientific studies together so far suggest that Persian Gulf veterans as a group do not appear to be suffering from life threatening medical conditions.

The National Health Survey of Persian Gulf Veterans and their Families is being carried out by VA's Environmental Epidemiology Service. Phase I, a postal survey of 15,000 Gulf war veterans and a comparison group of 15,000 Gulf era veterans, was completed in August. The questions on this survey asked veterans to report

health complaints, medical conditions and a variety of possible environmental exposures, including importantly potential nerve gas, mustard gas and biological warfare exposure.

The adjusted response rates for Phase I of this survey were 56 percent. Phase II will consist of 8,000 telephone interviews and a review of 4,000 medical records. Phase II will address the potential non-response bias and provide a more stable estimate of the prevalence of various health complaints and outcomes.

The examination protocol is being reviewed to determine if revisions are indicated based on our new knowledge of potential low level chemical exposures.

Peer review is being provided by a subcommittee of VA's Persian Gulf Expert Advisory Committee. Unfortunately, it is too early to discuss the results of this study, as we have just begun our analysis of the Phase I results.

In January 1994—I will try to speed up.

Mr. SHAYS. Let me say that that red light can be turned off. I wanted all our witnesses to make their full statement and I do not want you to feel rushed. This is important.

Dr. MURPHY. Thank you. I appreciate that.

In January 1994, the Secretaries of VA, DOD and HHS established the Persian Gulf Veterans Coordinating Board to provide interdepartmental coordination and direction of Federal programs related to Persian Gulf veterans. The Coordinating Board provides an interdepartmental means to share clinical and program information on Persian Gulf veterans' issues and to effectively allocate available resources and provides a means of disseminating new research information.

VA plays a central role in the Persian Gulf Veterans Coordinating Board through its participation in the Clinical, Research, Compensation and Benefits Working Groups. In particular, the Research Working Group provides guidance and coordination for VA, DOD and HHS research activities related to Persian Gulf war veterans' health. It coordinates all studies conducted and sponsored by these three departments to prevent unnecessary duplication and ensure that important gaps in scientific knowledge are identified.

The working group is actively involved in directing resources toward high priority questions and monitoring the results of federally sponsored research programs.

I would like to give you one example this afternoon of the Coordinating Board's proactive role in relevant research administration. This is a prioritization of the Federal and non-Federal research proposals submitted for funding pursuant to DOD's broad agency announcements.

The American Institute of Biologic Science provided an independent peer review of the 111 proposals submitted. The Research Working Group reviewed those proposals judged to be scientifically-meritorious by the American Institute of Biologic Science and prioritized them according to relevance and the potential to fill research gaps in the existing Persian Gulf research portfolio.

Twelve research projects encompassing the area of reproductive outcomes, toxicology of pyridostigmine bromide, modeling of respiratory toxicant exposures from tent heaters, psychological outcomes, leishmaniasis, chronic fatigue, fibromyalgia and neuro-

muscular function were given high priority for funding by the Research Working Group.

Importantly, studies of low level chemical warfare exposure were not given high priority in either the BAA proposal process or in the 1995 working plan because military and intelligence sources had stated that U.S. troops had not been exposed to chemical agents. The research program was designed around the available information and the working group had no official information about chemical exposures.

The Coordinating Board, however, immediately revised its initial action plan when the possibility of nerve agent exposure in southern Iraq became known. We believe that the actions taken by the research working group have strengthened and improved our research portfolio related to Persian Gulf veterans' issues.

VA through the Research Working Group and the Coordinating Board has developed an action plan to address possible long-term health consequences of low level exposure to chemical warfare nerve agents and mustard gas based on the DOD's announcement regarding the demolition of chemical munitions bunkers and the destruction of a pit containing Sarin and cyclosarin at Khamisiyah.

The VA has always remained open to the possibility that Persian Gulf veterans were exposed to a wide variety of hazardous agents while serving in southeast Asia, including chemical warfare agents. Prior to DOD's announcement on June 21, 1996, the VA designed its clinical uniform case assessment protocols to detect clinical signs and symptoms related to neurotoxic exposures.

In addition, VA established a pilot program at the VA medical center in Birmingham to evaluate potential reports of a group of Persian Gulf veterans from Alabama, Tennessee, North Carolina and Georgia who reported concerns about poor health which they attributed to the effects of low level chemical warfare exposure. These evaluations did not reveal any neuropsychologic process typically associated with neurotoxin exposure.

DOD's announcement regarding the demolitions at Khamisiyah has spurred VA to focus more attention on the possible effects of very low level chemical exposures. Dr. Kizer has asked the Research Working Group of the Coordinating Board to provide a plan for addressing this issue as a component of the 1996 Working Plan for Research. As it stands now, the Research Working Group has recommended an action plan to fund toxicological research proposals on low level chemical weapons exposure from a pool of already reviewed proposals submitted through a competitive process to the Army.

Second, they will solicit proposals on the feasibility of conducting epidemiologic investigations of low-level chemical agent effects.

And, third, they will review the ability to confirm the identities and location of individuals in and around Khamisiyah with a goal of soliciting an epidemiological investigation if appropriate.

Based on the Coordinating Board's recommendations, $2.5 million have already been allocated to three new peer-reviewed basic science research projects in this area and an additional $2.5 million has been identified for these future studies. Funding for these new efforts will come from the VA–DOD collaborative biomedical research program.

It is important to note that research related to the service in the Persian Gulf war is highly complex. It encompasses many disciplines and presents numerous challenges. VA is committed to meeting these challenges and obtaining the most accurate answers concerning the health of Persian Gulf veterans and their families.

Answers to our research questions will take time and concentrated efforts are being made to identify important answers to our current gaps in knowledge. Yet we should be encouraged by the significant advances we have already made in our understanding of some of the complex issues in this field.

I am personally convinced that the research studies underway and the additional studies under development will lay a firm foundation for clinical care for Persian Gulf veterans.

I want to thank you, Mr. Chairman. That concludes my testimony. I appreciate the extra time, and I would be happy to address any questions.

[The prepared statement of Dr. Murphy follows:]

PREPARED STATEMENT OF FRANCES M. MURPHY, DIRECTOR, ENVIRONMENTAL AGENTS SERVICE, DEPARTMENT OF VETERANS AFFAIRS

Mr. Chairman and Members of the Subcommittee: Thank you for this opportunity to appear before you today to update you on important clinical and research developments related to Persian Gulf War (PGW) veterans.

Shortly after returning from the Southwest Asia theater of operations veterans of Operations Desert Shield and Desert Storm began to report a variety of symptoms and illnesses. In response to the needs of these wartime veterans, the Department of Veterans Affairs developed its first health care programs for Persian Gulf veterans during 1991-92. The Department has continuously improved and expanded them to encompass a comprehensive four-pronged approach to PGW veterans programs, addressing relevant medical care, research, compensation, and outreach and education.

VA provides Persian Gulf Registry Health Examinations, Referral Center evaluations, and special eligibility for priority outpatient and inpatient health care to Persian Gulf War veterans. To date, more than 60,000 PGW veterans have completed Registry examinations, almost 187,000 have been seen in ambulatory care clinics and more than 18,200 have been admitted to VA medical facilities to receive health care for a diverse group of conditions.

Persian Gulf veterans participating in the Registry examination have commonly reported that they suffer from fatigue, skin rash, headache, muscle and joint pain, memory loss, shortness of breath, sleep disturbances, diarrhea and other gastrointestinal symptoms, and chest pain. However, 12% of the Registry participants are asymptomatic and have no current complaints but are concerned about possible future health consequences resulting from their service in the Persian Gulf. These results are consistent with reports of the 20,000 service members examined under the Comprehensive Clinical Evaluation Program and similar examination programs carried out in the United Kingdom and Canada.

It is important to recognize that numerous scientists and advisory committees have concluded that many types of illnesses, including a wide variety of well-defined medical and psychiatric conditions, are being diagnosed among PGW veterans participating in these health surveillance programs. VA physicians report that only a small number of PGW veterans have unexplained illnesses. Indeed, current information suggests that no single, unique disease is the cause of the illnesses of PGW veterans, and no Gulf War Syndrome has been identified.

It should be remembered that the Registry and other examination program data are provided through medical records of self-selected health care-seeking individuals and is not likely to be reflective of the entire population of Persian Gulf War veterans. In order to draw definitive conclusions about the health status of PGW veterans, a carefully designed and well executed research program is necessary. VA has already laid the foundation for such a research program. VA is also completing a structured research portfolio to address the most important Gulf-related medical and scientific issues.

VA's research programs related to Persian Gulf veterans illnesses include more than 30 individual projects being carried out nationwide by VA and University-affili-

ated investigators. VA established three Environmental Hazards Research Centers in 1994; all three centers are carrying out projects which address certain aspects of the potential adverse health outcomes of possible exposure of PGW veterans to neurotoxins. In addition, VA's Environmental Epidemiology Service has completed a Persian Gulf Veterans Mortality Study and the first phase of the National Health Survey of Persian Gulf War Veterans and their Families. Details of these and other Government Federally sponsored research studies are included in the report, "Federally Sponsored Research on Persian Gulf Veterans Illnesses for 1995." Copies of this report have been provided to the subcommittee and have been mailed to each Registry physician for review and reference.

In May, VA announced that it would establish a fourth Environmental Hazards Research Center. This center will study adverse reproductive health effects in Persian Gulf, Vietnam and veterans of other eras that may be associated with military occupational exposures. The proposals were due to VA's Research and Development Service on September 16, and awards will be made before the end of 1996. We will keep you updated on the results of this Request for Proposals for the Environmental Hazards Research Center for reproductive outcomes.

I would like to take this opportunity to give you an overview of the progress of several major epidemiological efforts undertaken by the Department of Veterans Affairs. The first is the Persian Gulf War Veterans Mortality Study. This study analyzes all deaths of 696,562 Persian Gulf veterans, who served in the theater of operations between August 1990 and April 1991 as well as specific cause of the deaths, and a comparison group of 746,291 veterans who served elsewhere. The follow-up period for this study went through September 1993. The Persian Gulf Veterans Mortality Study has been completed and has been accepted for publication in a peer-reviewed scientific journal. The study demonstrates a significant excess in deaths in PGW veterans due to external causes, such as automobile accidents, but does not demonstrate differences in death rates due to medical conditions, including deaths due to malignant cancers. The results of this, and other scientific studies together, suggest that PGW veterans as a group were not suffering from life-threatening medical conditions.

The National Health Survey of Persian Gulf Veterans and their Families is being carried out by the VA's Environmental Epidemiology Service. Phase I, a postal survey of 15,000 Gulf War veterans and a comparison group of 15,000 Gulf era veterans, was completed in August. The questions on this survey asked veterans to report health complaints, medical conditions, and a wide variety of possible environmental exposures, including episodes of potential nerve gas, mustard gas, or biological warfare exposure. The adjusted response rate for Phase I of this survey was 56.5%. Phase II will consist of 8,000 telephone interviews and a review of 4,000 medical records. Phase II will address the potential for non-response bias, provide a more stable estimate of prevalence rates for various health outcomes, and verify self-reported health outcomes in medical records. The Phase III examination protocol is being finalized and examinations of veterans and their family members are expected to begin in Spring 1997. The protocol is being reviewed to determine if revisions are indicated based on our new knowledge of potential low-level chemical warfare exposures. Peer-review is being provided by a subcommittee of VA's Persian Gulf War Expert Scientific Advisory Committee. It is too early to discuss the results of this study as we have just begun our analysis of the Phase I results.

In January 1994, the Secretaries of VA, DoD, and HHS established the Persian Gulf Veterans Coordinating Board to provide interdepartmental coordination and direction of federal programs related to PGW veterans. The Coordinating Board provides an interdepartmental means to share clinical and program information on PGW veterans issues, to effectively allocate available resources, and to provide means of disseminating new research information. The Coordinating Board has three primary mission objectives:

- To provide all veterans the complete range of health care services necessary for medical problems that may be related to deployment in Operations Desert Shield and Desert Storm.
- To develop a research program that will result in the most accurate and complete understanding of the health problems experienced by PGW veterans and the factors that have contributed to these problems.
- To develop clear and consistent guidelines for the evaluation and compensation of disabilities related to Persian Gulf service.

VA plays a central role in the Persian Gulf Veterans Coordinating Board through its participation in the Clinical, Research, and Compensation and Benefits Working Groups. In particular, the research working group provides guidance and coordination for VA, DoD and HHS research activities related to Persian Gulf War veterans health. It coordinates all studies conducted or sponsored by these three departments

to prevent unnecessary duplication and to ensure that important gaps in scientific knowledge are identified. The working group is actively involved in directing resources toward high priority questions and monitoring the results of Federally-sponsored research projects. It has produced two reports: the *Report of Federal Research Activities Related to Persian Gulf Veterans Illnesses* and the 1995 document *A Working Plan for Research On Persian Gulf Veterans Illnesses.* The 1996 update of the Working Plan is due to be released in October. These two activities have aided VA, DoD and HHS in focusing their departmental resources in the research areas of the highest priority, which are also likely to be the most fruitful.

One example of the Coordinating Board's proactive role in relevant research administration was its prioritization of the Federal Government and non-government research proposals submitted for funding pursuant to DoD's Broad Agency Announcement. The American Institute for Biological Sciences (AIBS) performed peer-review of the 111 proposals submitted. The research working group reviewed those proposals judged scientifically meritorious by AIBS and prioritized them according to relevance and potential to fill research gaps in the existing Persian Gulf research portfolio. Twelve research projects encompassing the areas of reproductive outcomes, toxicology of pyridostigmine bromide, modeling of respiratory toxicant exposures from tent heaters, psychological outcomes, leishmaniasis, chronic fatigue, fibromyalgia, and neuromuscular function were given high priority for funding by the research working group. Studies of low-level chemical warfare agent exposure were not given high priority in its 1995 Working Plan because military and intelligence sources had stated that U.S. troops had not been exposed to chemical agents. However, the Coordinating Board immediately revised its initial action plan when the possibility of nerve agent exposure in Southern Iraq became known. We believe that the actions taken by the Research Working Group have strengthened and improved our research portfolio related to Persian Gulf veterans issues.

VA, through the research working group of the Coordinating Board, has developed an action plan to address possible long-term health consequences of low-level exposure to chemical warfare nerve agents and mustard gas, based on the DoD's announcements regarding the demolition of a chemical munitions bunker and the destruction of a pit containing Sarin and cyclosarin at Khamisiyah.

VA has always remained open to the possibility that PGW veterans were potentially exposed to a wide variety of hazardous agents while serving in the Southwest Asia theater of operations, including chemical warfare agents. Prior to the DoD announcement on June 21, 1996, VA designed its clinical uniform case assessment protocol to detect clinical signs and symptoms related to neurotoxic exposures. Neurologic examination and cognitive testing were part of the earliest versions of this protocol developed in 1993. In addition, VA established a pilot program at the VAMC Birmingham to evaluate potential reports of a group of PGW veterans from Alabama, Tennessee, North Carolina, and Georgia who reported concerns about poor health, which they attributed to effects of low-level chemical warfare exposure. As part of this special health care program, more than 100 veterans were evaluated. Included in this group were 55 Persian Gulf War veterans complaining of cognitive problems who underwent extensive (7-8 hours) neuropsychological testing and clinical evaluations. These evaluations did not reveal a neuropathological process typically associated with neurotoxin exposure.

A recent literature review carried out by the Armed Forces Epidemiology Board, an advisory board of independent, non-government scientists, suggests that readily-identifiable, long-term adverse health effects due to nerve agent exposures occur in humans who show signs of acute toxicity or poisoning. However, the literature does not contain a clear body of evidence that long-term, chronic adverse health effects result from non-poisoning exposures that do not produce acute clinical signs and symptoms. However, the research in this area is sparse, and the Coordinating Board has strongly recommended that more research resources be allocated to address this question.

The DoD announcement regarding the demolitions at Khamisiyah has spurred VA to focus more attention on possible effects of very low-level exposures of chemical warfare agents. Dr. Kizer has asked the research working group of the Coordinating Board to provide a plan for addressing this issue as a component of the 1996 Working Plan for Research. As it now stands, the research working group has recommended a plan of action to: (1) fund toxicological research proposals on low-level chemical weapons exposure from a pool of already peer-reviewed proposals submitted through a competitive process to the Army; (2) solicit research on the feasibility of conducting epidemiological investigations of low-level chemical agent effects; and (3) review the ability to confirm the identities and locations of individuals in and around Khamisiyah with the goal of soliciting, if appropriate, an epidemiological investigation. Based on the Coordinating Board's recommendation, $2.5 million dollars

has already been allocated to three new, peer-reviewed, basic science research projects in this area, and an additional $2.5 million dollars has been identified for future studies. Funding for these new efforts will come from the DoD/VA collaborative biomedical research program that is part of DoD's appropriation.

In addition to the activities of the Coordinating Board, VA has addressed the concerns expressed by the independent Presidential Advisory Committee on Gulf War Veterans' Illnesses. In response to the Advisory Committee's recommendations, VA has taken steps to further enhance government research efforts and improve the allocation of resources for research studies.

It is important to note that research related to service in the Persian Gulf War is highly complex. It encompasses many disciplines and presents numerous challenges. VA is committed to meeting these challenges and obtaining the most accurate answers concerning the health of PGW veterans and their families. Answers to our research questions will take time, and concentrated efforts are being made to identify important answers to the gaps in our current scientific knowledge. Yet, we should be very encouraged by the significant advances we have already made in understanding some of the complex issues in this field. I am personally convinced that the research studies underway and the additional studies under development will lay a firm foundation for clinical care of Persian Gulf War veterans.

Thank you, Mr. Chairman. That concludes my testimony. I would be happy to address any questions.

Mr. SHAYS. I thank both of you. Your testimony is, in some cases, talking about different issues. One is talking about exposure, protection and exposure, and the other is talking about effect, but they are all connected, and that would be part of my interest in pursuing the questions that I have.

We knew that Iraq had chemical and biological weapons. There is not a Member of Congress that did not know that they were developing and producing both chemical and biological weapons. We knew that before the war, we knew that they had these chemicals and biological weapons in more than one place. There are a lot of things that you and I know. But it did not take really a brain scientist to know that they had it.

They had the capability and we also know they had the experience because they used it in defensive mode more than offensive with the Iranians, but they used it, and we know they used it on their own citizens, the Kurds.

So we entered the war with a lot of knowledge about the potential for chemical or biological weapons being used. Capability and experience.

Now, the next issue is was there detection, and I would like to ask you, Ms. Copeland, if you can respond to the whole issue of detection—equipment going off, soldiers saying that there were warning signs, we had witnesses here, a witness in particular talking about being in the bunker with his mask on and then later coming out and feeling the effects, running down, putting his suit and mask on. We had testimony at other hearings and I am certain the CIA has reviewed that as well, saying that soldiers heard the alarms go off. Could you respond to that issue?

Ms. COPELAND. Those are operational-type questions. I am an intelligence officer. We reviewed all of the intelligence operation. DOD's investigative team reviewed all of the operational information.

Mr. SHAYS. Well, let me ask you this, then. Intelligence information, and this is my ignorance, perhaps, intelligence means that you try to find out certain things. What was your charge? I mean, it was not important to find out if there was in fact chemical weapons being used either offensively or being blown up and coming

over our troops? Is that not something you would see out? Is that not part of your intelligence work?

Ms. COPELAND. Yes. We reviewed all of the information from our variety of sources and looked at it, the information on the ground, the operational information. DOD has the responsibility to review that.

Mr. SHAYS. Well, if you have soldiers who are claiming that they had equipment go off, you would not have interviewed them?

Ms. COPELAND. It is not our job to interview U.S. soldiers. The reason why the CIA and the DOD investigative team worked together is because we each have different responsibilities. We review all of the intelligence information from a variety of sources.

Mr. SHAYS. I need the term intelligence, it does not seem very intelligent not to get all the information you can get, and I just—I need you to define what you mean by intelligence information. Does it mean—well, you can define it for me.

Ms. COPELAND. We have information from a variety of sources and that information we put together. We are not in the business of interviewing U.S. soldiers. That is DOD's job. We work with them, when they find something out that is important to the investigation, they pass it on to us. So our intelligence means when we find something out, we pass it on to them. We share the information. Each one of us has different responsibilities. Going over troop logs, interviewing soldiers is not one of our responsibilities.

Mr. SHAYS. That does not seem very intelligent.

Ms. COPELAND. We look at foreign information from foreign sources.

Mr. SHAYS. So your information comes from foreign sources.

Ms. COPELAND. That is correct.

Mr. SHAYS. OK.

Ms. COPELAND. Or technical means.

Mr. SHAYS. So basically your statements here are almost meaningless, then, because you are telling me that you can only check with foreign sources, but when we have our own troops who claim they are exposed to chemicals, you are not allowed to talk with them.

Ms. COPELAND. We work with the DOD investigative team. They pass on the information. We have worked very hard since March 1995 to gather all the information, look at everything we can and pass that information on. We take it very seriously and have worked very hard.

Mr. SHAYS. Ma'am, I know you work hard and I know you take it very seriously, I work hard and I take my job seriously, but that is not good enough. We all have to be logical about this.

There is a gigantic breakdown, a gigantic breakdown, and everyone is able to kind of find bureaucratic protection and in the process we have soldiers who are ill, soldiers who are dying and children who are feeling the effects of that, both personally and in terms of their own physical experiences, so we are trying to sort out how we resolve these issues.

There is nothing intelligent to me about not making sure you have all the information. And so are you saying to me—and you may have requirements under law that I am responsible for—let me just say, Ms. Murphy has appeared before us three times. I can

throw stones, I can look back and say you should have done something, I can also say that I did not get into this issue until 2 years ago. So, I mean, I feel that I have a role on all sides of this and it is not my intention to throw stones, but what I am hearing to me is an absurdity. Help me sort it out.

Are you allowed to interview Americans about information and intelligence they may have about the use of chemicals?

Ms. COPELAND. That is the DOD's responsibility. We work with them. The way that we have divided up this problem, we look at the intelligence, they looked through the logs and talked to——

Mr. SHAYS. OK. Now, is that your decision to divide it up? Did I as a Member of Congress prevent you from talking to our own side?

Ms. COPELAND. I can get back to you on specifics on legally what we can do and what we cannot.

Mr. SHAYS. But the bottom line is that you did not interview any of soldiers.

Ms. COPELAND. The bottom line is we did not go to any veterans and ask them any questions. We did have one of our people present when DOD talked to one of the individuals, but it is not our job to go out and contact them.

Mr. SHAYS. Now, the DOD has their own intelligence units. How do you interact with them?

Ms. COPELAND. They are part of the intelligence community and we work with them.

Mr. SHAYS. And the Director, Mr. Deutch, is in charge of those units as well indirectly, he coordinates their activities.

Ms. COPELAND. He is the Director of the intelligence community, the CIA, which includes the intelligence community.

Mr. SHAYS. Then let me back up. What value is your testimony here today? What should I take as helpful information?

Ms. COPELAND. We have looked into the issue. In September 1995——

Mr. SHAYS. Looked into what?

Ms. COPELAND. We started in March——

Mr. SHAYS. Looked into what issue?

Ms. COPELAND. Looked into the issue of Iraqi use, of where the chemical weapons were located when they were bombed, where chemical weapons were located when United States troops went into the Kuwaiti theater of operation. We began our intensive look into this situation or into the Gulf war illnesses in March 1995. We identified Khamisiyah as an area that needed further investigation in September 1995. At that time, we worked with DOD to sort out whether in fact this facility, No. 1, had chemical munitions present in it.

Mr. SHAYS. But, see, the problem is our troops knew there were chemicals there in 1991. The Defense Department did not acknowledge it until 1996, and you all were looking at it in 1995. I mean, it would just seem logical to me that we would talk to our own people.

Ms. COPELAND. In 1991, Khamisiyah was not considered a depot that had chemical weapons in it.

Mr. SHAYS. By——

Ms. COPELAND. To my knowledge——

Mr. SHAYS. By the CIA and by the Department of Defense, but not by our soldiers who were there, who took pictures, and who tried to tell people that there were chemical weapons there. And we had individuals such as the individual who testified before this committee, talking about sirens going off, putting on headgear, coming back up. When Mr. Roberts testified, saying that he had the effects of chemical weapons and he could describe them.

So what I am understanding is—so who is going to listen to that person, Mr. Roberts?

Ms. COPELAND. The pictures that we have seen that were on 60 Minutes were not chemical munitions.

Mr. SHAYS. They were not?

Ms. COPELAND. I have not seen any with bands on them that were chemical munitions. Those were—and you can look it up in Janes, it took us a few minutes, UK Tesh munitions. They did not contain chemical agents to our knowledge. The chemical munitions that were located at Khamisiyah were 122 millimeter rounds that had no markings on them as far as any color code.

Mr. SHAYS. Now, you have a total comfort level that all the bunkers were looked at? Or is that Defense?

Ms. COPELAND. From all the information we have——

Mr. SHAYS. No, that is not good enough.

Ms. COPELAND. There were several——

Mr. SHAYS. No, let me just——

Ms. COPELAND. There were several——

Mr. SHAYS. No, no, no. Stop, stop, stop.

"From all the information we have" is like if I do not ask for the information and if I do not seek it out, the answer is just going to be a negative, and that is what my problem is. I mean, if you simply choose not to find the information, then you do not have the information. So, I mean, that is a statement I have a hard time with, from all the information you have.

Now, the question I am asking you is do you have confidence that every one of those bunkers was looked at to make sure there were no chemical weapons?

Ms. COPELAND. I do not know if all of them were looked at. The only ones that we have been able to identify as actually having chemical munitions in them is Bunker 73. Also, the pit area that we described and another area which is in the Khamisiyah depot, which contained mustard rounds.

Mr. SHAYS. And the basis for determining Bunker 73 had the chemical weapons is what?

Ms. COPELAND. The basis of that, the confirmation of chemical munitions at Khamisiyah was based on an UNSCOM inspection in May 1996 where they went in and were able to identify all of the characteristics of chemical munitions from the rubble.

Mr. SHAYS. May I ask you something? You used the word "confirmation." Is that a word that I should be suspicious of?

Ms. COPELAND. In September 1995, when this came up, again, we began March 1995 looking at it, as an area that we needed to investigate further, we became more convinced that it was chemical agents. We wanted to make sure.

Mr. SHAYS. I do not understand the term "more convinced." Even if you were a little convinced, we would do something, correct? Or do we have to be more convinced?

Ms. COPELAND. When we saw——

Mr. SHAYS. I am taught to listen to your words very carefully because when your boss testified, he did not testify, answered questions on 60 Minutes, he said there was no offensive use of chemical weapons, which was about as meaningless a statement as anyone could make, because we are not talking about offensive use of chemical weapons.

We are talking about chemical weapons and we are talking about our own side blowing up chemical weapons and we are talking about our troops being 3 miles away and we are talking about the fact that 12 miles away they had projectiles coming out. So we are not just talking about the plume that went into the air and which way did it blow that you are talking about in the study. We are talking about the fact that they were on shells being projectiled out somewhere, projected out far away.

And so when I hear "more confident" and "confirmation" and so on, it seems to me that we have to get before confirmation, if you suspect possibly there may have been chemical weapons, our troops and the VA should be notified about it.

Ms. COPELAND. That is correct.

Mr. SHAYS. And if you are going to wait for confirmation, then we will wait 5, 6, 7 years.

Ms. COPELAND. We notified DOD in September 1995 when we first suspected this site, at the beginning of the investigation of this particular facility.

Mr. SHAYS. I just want to say with all due respect, I am not impressed with that statement.

We are going to come back. I think we have a vote and we will have you start us off.

Do we have a vote now? OK. We have a vote.

And I think what I am going to do is say that we will be back here at 2:30. If someone wants to get something to eat or something, we will be back at 2:30 and we will help you all out.

This hearing stands in recess.

[Recess.]

Mr. SHAYS. We would like to call this hearing to order and apologize. It took us a little later. We will have one more vote. Mr. Towns will be coming shortly and I will invite him to ask some questions.

Ms. Copeland, I have just a few more questions that I want to ask. Again, the connection that I have and I see between the two of you is that one representing the VA and one representing our intelligence community is that we know that Iraq had chemical and biological weapons, they had the capability to produce them, we know they produced them, we know that they had the experience to use them because they used them against Iran and also the Kurds. And the next question is detection.

There were various logs, both in Kuwait and in Iran, Ms. Copeland, that talked about soldiers knowing about warnings going off of chemical weapons. Did the CIA have access to those logs?

Ms. COPELAND. We have read the logs the DOD has provided us.

Mr. SHAYS. But only the logs that the DOD has provided.

Ms. COPELAND. We have not—DOD investigates and looks at those and provides those alarm readings to us that they determine that are credible. We did not when we did our comprehensive review beginning in March 1995, I think it is good to make it clear that we did not begin to look at this issue until March 1995. Those events they felt credible, they passed to us and we read them.

Mr. SHAYS. Why would you want to make clear that you looked at it in 1991 and not in 1991?

Ms. COPELAND. We started looking into the Gulf war illnesses issue in March 1991.

Mr. SHAYS. You started looking into the illnesses.

Ms. COPELAND. Correct.

Mr. SHAYS. Your testimony before this committee is——

Ms. COPELAND. Excuse me. March 1995.

Mr. SHAYS. March 1995. I am not trying to tie either of us up here. So March 1995. Why would you not have looked at them sooner?

Ms. COPELAND. Up until then, we were not part of the investigation. It was all DOD. We were asked to come in and make a separate, all source, intelligence look at all the intelligence information available and work with DOD as they looked at all the operational logs.

Mr. SHAYS. When we hired Science Application International Corporation to determine what would happen if we blew up various depots, the determination of this company was that the plumes, whatever danger, it would go in the opposite direction of our troops. Now, was that a CIA effort or a Defense Department effort?

Ms. COPELAND. Defense Department effort.

Mr. SHAYS. So the CIA was not involved in issues of deciding what would happen with blowing up a particular depot or depots?

Ms. COPELAND. We did not do any modeling. We were not involved in the modeling.

Mr. SHAYS. Were you involved in determining, since it was a foreign country, where the chemical weapons were?

Ms. COPELAND. Yes, we were.

Mr. SHAYS. Did you have any evidence before the war at Khamisiyah that there were chemical weapons?

Ms. COPELAND. We did not have Khamisiyah on our list as a chemical weapons depot and had not published it. We did not have it identified as a chemical weapons depot.

Mr. SHAYS. How many sites did you have as potential chemical weaponsites in Iraq?

Ms. COPELAND. I do not know the exact number, but I can get that number back to you.

Mr. SHAYS. Do you know an approximate number?

Ms. COPELAND. There were quite a few. I can get you the exact number.

Mr. SHAYS. The committee would like that, but "quite a few" is an important contribution to this committee. In other words, we knew they were in various places around the country.

Is the CIA involved in any way in reviewing the work of the Science Applications International Corporation's review of its own work?

Ms. COPELAND. We started—well, first of all, SAIC is not reviewing its own work.

Mr. SHAYS. SAIC is the company Science Applications International Corporation, correct?

Ms. COPELAND. Correct. We started a contract with them in 1992. Part of that contract in 1992 was to provide us downwind hazard information on a variety of locations.

Mr. SHAYS. So in other words they were to look at the various work they had done before 1992.

Ms. COPELAND. That is incorrect.

Mr. SHAYS. That is incorrect. Explain to me why that is incorrect. Is it technically incorrect or is it incorrect?

Ms. COPELAND. It is incorrect.

Mr. SHAYS. OK. Explain to me why.

Ms. COPELAND. We started our contract with them in 1992.

Mr. SHAYS. Right.

Ms. COPELAND. In 1995, when we started investigating whether—all of the intelligence on Gulf war issues and we identified facilities, specifically in the beginning two facilities that actually had chemical agents in them, we provided that information to SAIC and asked them to model it for us. So we provided the details on specific sites that we through our intelligence had identified as having chemical weapons in them when U.S. forces had bombed them.

Mr. SHAYS. Let me back up because I may just simply probably misunderstand the purpose for hiring SAIC. This was a company that both Mr. Deutch and Mr. Perry were directors of.

Ms. COPELAND. I do not know.

Mr. SHAYS. The question I have was this company engaged in doing modeling work to determine before the war if in fact we bombed some of these bunkers which way the prevailing winds would take the plumes and so on?

Ms. COPELAND. SAIC did work for DOD during the war.

Mr. SHAYS. OK. To make those determinations and other things.

Ms. COPELAND. You would have to ask DOD precisely what they asked them to do.

Mr. SHAYS. OK. I understand the word "precisely" is important. That is one reason why I would have loved to have had DOD here.

But the company that did work before the war is now being asked to review some of its own work, is that not true?

Ms. COPELAND. That is not true.

Mr. SHAYS. That is what I am missing. That is what I am missing.

Ms. COPELAND. In order to do the modeling, you have to have certain assumptions. I do not know what DOD gave them when they did their modeling. I do know what I am giving them for our modeling.

Mr. SHAYS. So the technicality is they did the modeling in both bases but you are saying the data may be different.

Ms. COPELAND. The data has got to be different.

Mr. SHAYS. OK. But are we not kind of splitting hairs here? Are we not kind of splitting hairs? They did modeling work before the war and made determinations. Now they are doing modeling work after the war to see if maybe they made some mistakes.

Ms. COPELAND. That is incorrect.

Mr. SHAYS. I feel like I am playing a chess game with you.

Ms. COPELAND. The model predicts a downwind hazard.

Mr. SHAYS. Right.

Ms. COPELAND. You have to make assumptions and give inputs to the models. If the inputs are different, you get a different model.

Mr. SHAYS. So you are saying the inputs are different, so the data that is supplied is different, but the company doing the modeling is the same company, is that not correct?

Ms. COPELAND. That is true.

Mr. SHAYS. OK. Well, I will be happy to leave it at that. I mean, I will be happy to leave the fact that the data that you had before the war might have been different than the data that you had after the war, now with hindsight, but it is the same company doing the modeling.

Ms. COPELAND. That is correct.

Mr. SHAYS. That is correct. And I have a little bit of trouble with that and I have trouble with the fact that we had to take so long to get to this point in my asking you the question. It makes me think I have to think more clearly to make sure I am hearing every word you say because if I am not precise I am not going to learn the truth. And you want me to learn the truth, you do not want to keep the truth from me.

What is the explanation of "Severe mechanical failures to modeling equipment have delayed the planned schedule to conduct examinations of operations at Khamisiyah"? This was the letter we received from DOD.

Ms. COPELAND. The recent storm or hurricane, they have lost their entire operating system and I believe the hard drive is gone, and so right now they are trying to fix their computer.

Mr. SHAYS. Is this the only company that we could hire to do this work?

Ms. COPELAND. It is the company that we believe is the most expert to do this work. There are others in the U.S. Government, U.S. Army, U.S. Air Force that also have models and can model downwind predictions. They do not use some of the weather models that SAIC has developed, but they could do downwind hazards.

Mr. SHAYS. Now, just getting back and then I am going to go back for a vote and Mr. Towns will probably be ahead of me and I am just going to ask him to convene the committee and not have to wait for me.

I am just very unclear as to why the CIA got involved in 1995 and not sooner. I believe that with the incredible ability to gather intelligence that you have, it is hard for me to explain why you would not have known that there were in fact chemical weapons in some depots, for instance, knowing what the Czechs have told us, knowing Khamisiyah, knowing about the pit that was just disclosed just the night before actually to us, I am having trouble with that because it undermines my confidence in your ability.

Reassure me that somehow it should not bother me that it took until 1995 for the CIA to have some concern that maybe there were chemicals there. Why should that not discomfort me?

Ms. COPELAND. Up until 1995, DIA had the primary lead in looking at and investigating Gulf war illnesses from an intelligence

perspective. Admiral Studeman in 1995 asked that CIA do an independent review of all the available information.

Mr. SHAYS. But let me understand something. You all are involved in what happens overseas, that is one of the points you made.

Ms. COPELAND. Yes.

Mr. SHAYS. So it would strike me that we have done extensive intelligence work in Iraq. That is one reason why I think—and Iran and elsewhere and it is one reason why—and Kuwait and so on, it is one reason why I think we were as successful as we were in the war. I give credit for some work done by the CIA in this regard.

What I am asking is—well, first I am asking you this. Not to play a game here, but you used "primary lead" and I am thinking, well, there must be another kind of lead. So let me ask you, did you play a secondary lead?

Ms. COPELAND. No, we did not. They were the lead.

Mr. SHAYS. OK. Were you followers or were you not involved at all?

Ms. COPELAND. We were not involved at all. We listened and looked at some of the reports, but we did no research.

Mr. SHAYS. OK. So "not involved at all" is not accurate, and I am not trying to tongue tie you, because you are under oath and I need to be clear here, so maybe your careful choice of words is important. You were at meetings, so you listened, you just did not do the research? What do you mean?

Ms. COPELAND. DIA did the research, looked at all the intelligence information and we had meetings together on chemical issues and they would brief us on their findings. We did not check any of the findings, we did no independent research, until we were asked in March 1995.

Mr. SHAYS. OK. Let me ask you this and then I am going to go. When you say you did not check, was the CIA provided information that may have suggested before 1995 that chemicals were in Khamisiyah?

Ms. COPELAND. The 1991 report was available to us, as to the rest of the intelligence community, in 1991.

Mr. SHAYS. So you had the information in 1991.

Ms. COPELAND. We sure did. Yes, we did.

Mr. SHAYS. And people reviewed that information.

Ms. COPELAND. The analysts at that time reviewed the information.

Mr. SHAYS. OK. And what did—when you and Mr. Deutch and others expressed extraordinary outrage, as I am sure they must have, because this was in your possession, how did they determine that this information in 1991 was not provided—we have people getting ill and dying because in my judgment of chemical agents and we have—even though you did not want to speak to the soldiers and talk to them, they were reaching out to anyone who would listen. Now, tell me what the CIA has done to try to figure out why they blew it. And that is an understatement.

Ms. COPELAND. Why we did not look at the information earlier?

Mr. SHAYS. No, you did look at the information. You had the information, you looked at it, nobody acted on it. The issue is you did have the information in 1991.

Ms. COPELAND. That is correct.

Mr. SHAYS. Pretty serious information.

Ms. COPELAND. That is correct.

Mr. SHAYS. OK. Why did not that analyst or someone else step forward and tell leaders that they had this information and it should be looked into? Considering that there were some people like our own soldiers who were complaining that they were possibly affected by chemical agents?

Ms. COPELAND. At this time, when we got this information in 1991, it was rather confusing. We were not sure because the Iraqis had deceived us in several of the inspections. When we received this report, we did not know for sure whether or not those munitions were moved in just prior to the inspection or if they had been there all along during the war.

Mr. SHAYS. So you ignored—I am sorry.

Ms. COPELAND. On top of that, we had not identified this facility as a CW facility. We had identified Nasirryah.

Mr. SHAYS. No, but you——

Ms. COPELAND. The Iraqis—this is important to understand.

Mr. SHAYS. Sure.

Ms. COPELAND. The Iraqi declaration had Nasirryah/Khamisiyah. We all interpreted that to be Nasirryah. So we had confusion on where this facility was exactly, what was being looked at, when those munitions were moved in.

Mr. SHAYS. So when you have confusion, you get the answer.

Ms. COPELAND. No. At this time, our primary goal and objective was to identify all of the field chemical munitions and all the types of agents and facilities that the Iraqis had and give that information to UNSCOM so that they could be destroyed. That was our focus. There was no Gulf war illnesses in the time of 1991. Known. Well, to us. No known illnesses to us at that time.

Mr. SHAYS. I will be back.

Mr. Towns, you have the floor.

Mr. TOWNS [presiding]. Thank you very much.

Let me just sort of follow on something that the chairman raised earlier. Even if the CIA did not itself gather the info, it must input and synthesize the DOD info, right?

Ms. COPELAND. That is correct.

Mr. TOWNS. In order to draw conclusions. Is that correct?

Ms. COPELAND. That is correct.

Mr. TOWNS. So then with that, you would have to know a little more than you are saying that you know.

Ms. COPELAND. DOD provides us information on their investigation. They investigate it and then we synthesize that with all of our intelligence information.

Mr. TOWNS. That is correct. So what I am saying is that alone, that you do have information a little more than you are saying that you have and you probably know a little bit more than you are saying that you know, just on that basis alone, I think.

Ms. COPELAND. I do not believe that it is in my purview to answer DOD operational information and that is what I answered earlier. My knowledge, I do know the information that DOD provides to us. That is correct.

Mr. TOWNS. Well, I understand what the chairman is saying. I think that we want to be open here and I would rather you say "I do not care to answer" and let us move forward, rather than to take me around the mulberry bush. I would rather you just say "I do not want to answer it" or "I will get that information from somewhere else, maybe it is out there."

Ms. COPELAND. OK.

Mr. TOWNS. I mean, really, I think that we need to sort of have that kind of honesty and be candid. I understand that you cannot speak for another agency, but I am saying to you that based on the structure, you would have the information and I think that that is what I am really saying and I think that you would have to acknowledge that, based on the structure.

Let me just move on. I am not going to belabor the point.

Ms. Copeland, do we know the number of troops potentially affected or the period of their exposure?

Ms. COPELAND. I do not know that. It is better to ask DOD that question.

Mr. TOWNS. Do we know what chemical agents the troops may have been exposed to?

Ms. COPELAND. We do know the types of agents that they may have been exposed to at Khamisiyah. It was a mixture of Sarin and Cyclosarin, GB or GF.

Mr. TOWNS. Let me just say that—the reason we are pushing this issue, I think you need to understand we are very serious on this side about this. Lives are being destroyed and we consider this as being very serious. That is the reason why we keep pressing the issue and if you do not have the answer to something, feel free to say "Go somewhere else and get the information," and I will move on. That is the kind of man I am. But I tell you, we are not going to stop. We are going to continue to pursue this because there is a problem. I mean, there is no ifs, ands, or buts about it. So I am going to let you know that it is not something we are going to dance and go away.

And I just want to say one other thing. In the last election, I got 88 percent of the vote and even if I go down, I should be around 80 percent, even if I go down. And I am sure that I have 51 percent, so I will be back. I will be back. So I just want to sort of make that point clear.

But let me just move on. I do not want to get into the whole thing here.

I want to go to you, Dr. Murphy, and I know you have been here several times. Mr. Roberts testified, I think it was, earlier that I think 399 out of an outfit of 758 that were discharged either medically or medically unfit, are you aware of this kind of information? The soldiers that were identified. Let me just say why I ask you that.

Dr. MURPHY. From his unit?

Mr. TOWNS. Yes.

Dr. MURPHY. Of 758 soldiers, 399 were discharged with medical——

Mr. TOWNS. Either medically or medically unfit.

Dr. MURPHY. I am not aware of that, sir.

Mr. TOWNS. Well, let me just ask you this, then. You have a registry that you mentioned. What do you have in that registry? What do you keep? What is it for? Educate me.

Dr. MURPHY. I think the chairman was a little confused about what information VA has also, so let me start out by saying that we do have a roster of every single individual who was deployed to the Persian Gulf theater of operations, so we have almost 697,000 names and identifiers of people who were in Operation Desert Shield and Desert Storm. That is being updated on a frequent basis and we currently have over 1 million names because in fact the Gulf war period was never closed.

The Persian Gulf Veterans Health Registry is a voluntary program under which we offer physical examinations to veterans who choose to come to the VA health care system. It allows somebody to come to the VA to get a physical examination, laboratory tests and get some questions answered about their concerns, and about their health status after their Persian Gulf service.

If they need medical care or followup, we also have the ability to provide them a full range of medical services based on the priority care legislation that you and your colleagues passed. So any Persian Gulf veteran who says that they feel they have an illness that was due to an exposure that occurred in the Gulf is eligible for VA medical care.

If you are asking why we do not know about these 399 individuals——

Mr. TOWNS. That is correct.

Dr. MURPHY. The Veterans Benefits Administration could check and find out if they have submitted a claim for compensation, but DOD would need to notify us that they had identified a unit, that they were having literally half the individuals discharged on a medical basis, and they have not provided that kind of information to us. So I will go back and check.

Mr. TOWNS. You know, I find myself on this side apologizing. I do not want to put you against—one agency against another agency, but let me just tell you what my problem is now. DOD said it did not occur, that some of these things did not occur. But the point is that you treat all.

Now, you in your registry and you treating people, would you say that your findings would be the same, that basically it did not occur, only just a few isolated incidents that have occurred? What category would you put this in?

Dr. MURPHY. Well, first of all, I do not think you are asking a question about medical care, if I am interpreting you correctly.

Mr. TOWNS. That is correct. DOD is saying basically that a lot of this did not happen, these numbers, forget about this, this is basically what they have said up to this point. Now, you are in the treatment business, so you are actually treating people, so now would your records confirm what DOD is saying?

Dr. MURPHY. Certainly a number of Persian Gulf veterans have come to us for health care. As I previously said in my testimony, more than 60,000 Persian Gulf veterans, approximately 10 percent, have come to the VA requesting a registry examination and more than 187,000 individuals have come for outpatient care. So there

are a number of individuals who are requesting health care services from VA and I think that is significant.

No. 2, we have not seen a consistent pattern or a pattern of illnesses that have pointed us to one organ system being affected or one disease being most common in this group of Persian Gulf veterans. We have seen a whole variety of different kinds of medical illnesses. The diagnoses certainly have not suggested to us in the VA that there was a definite neurotoxic exposure.

I would also like to reiterate the point that we have asked repeatedly the Department of Defense and other intelligence sources to work with us. We are a health care organization. I am a physician. I want to care for my patients and I need information to base good decisions on. We wanted information on any exposure that might be relevant to any health consequences that have occurred in Persian Gulf veterans.

And I am a little bit disappointed that we did hear before June 1996 that chemical weapons were released at Khamisiyah because it delayed our research programs. It did not have an effect on the health care, we delivered the health care that was necessary to these veterans, but it did delay our research activities.

Mr. TOWNS. Dr. Murphy, how do you respond to Mr. Tuite's written statement that nearly all of the U.S. forces who served in Operation Desert Storm were exposed to chemical agents? How do you respond to that?

Dr. MURPHY. I really do not know. What I can tell you as a physician and as a neurologist, if there was nerve agent exposure, we know the kinds of symptoms that veterans should have had and the kinds of illnesses they should have developed with an acute toxic exposure to these chemicals. But whether or not there was any widespread low level exposure, I really do not have the expertise. That is an intelligence question. We have the information that we have from the intelligence community.

Mr. TOWNS. Ms. Copeland.

Ms. COPELAND. From all the information that we have looked at, we have only identified the two facilities that were bombed. Our modeling indicates that there was no exposure at the general population limit dosage, which is were we modeled it to.

Exposure at Khamisiyah is possible and that is why we have laid out the footprint. There were agents there. Another area that is possible is the pit area which is in Khamisiyah and close to the bunker. U.S. troops did explode chemical munitions there, so it is possible there as well.

Mr. TOWNS. The models are actually based on synthetic info, is that correct?

Ms. COPELAND. Excuse me. What do you mean by synthetic info?

Mr. TOWNS. The information that you collect would determine the model, is that correct?

Ms. COPELAND. We input information into that model. Some of the models that are used like NC4 were developed over the years by the military to look at and predict downwind hazards from chemical agents, downwind patterns.

Mr. TOWNS. Yes. That is correct. Hypothetical. But let me just sort of move from that to some of your clinical guidelines, Dr. Mur-

phy. How did you develop them? Did DOD assist you in setting up clinical guidelines?

Dr. MURPHY. No.

Mr. TOWNS. How did they come about, your clinical guidelines?

Dr. MURPHY. Well, actually, as I said, VA set up its clinical programs very early for Persian Gulf veterans in August 1992 because of the concerns and the number of Persian Gulf veterans who had come to our VA facilities. There were three referral centers set up in Washington, DC, West Los Angeles and Houston, TX. I was the director of one of those referral centers. And after having the experience of seeing several patients, several dozen patients, we decided that we really needed a more consistent and comprehensive method of evaluating those patients. The three referral center directors, actually spear headed by the Washington VA, the staff that I worked with and my colleagues at the Washington VA, developed the protocol for a comprehensive evaluation.

That included, by the way, neuropsychological testing and if the veterans had relevant symptoms in their nervous system, neurological testing, from the very beginning, back in 1993 when that protocol was first under development.

At the beginning of the DOD CCEP program, DOD asked us to share our experience with our referral centers and our registry program and they adopted the protocol that we had developed at the Washington, DC referral center and now we have comparable programs in VA and DOD using the same protocol that was developed by VA.

Mr. TOWNS. Would you consider, and I do not want to put you on the spot, but have we pursued this in a very aggressive fashion? Would you consider—you have been around now a long time, would you say that we have pursued this aggressively?

Let me just tell you why I ask that, it is that here we have today several witnesses here who indicated what has happened. We have people out there that wanted to come and testify. We are now getting letters. We are getting phone calls from people who are saying that this is the experience that they had. And there seems to be a real problem. I mean, I think that we all now have to be convinced that there is a problem.

As to the magnitude of the problem, you know, maybe we do not totally know. Maybe we do not. But I think that we are convinced that there is a problem.

Now, with that in mind, would you say that you feel that based on what has happened up to this point that you have aggressively pursued this to be able to get the kind of information—and I know you say, well, DOD has role, and I understand that and eventually we are going to talk to DOD. There is no question about it. Do not think we are not going to talk to them. But in the meantime, you are here, we are trying to get as much information as possible.

Dr. MURPHY. I can only speak for VA on this.

Mr. TOWNS. I understand that.

Dr. MURPHY. I am confident that we have had the full support of Secretary Brown and all of the upper level administration in the VA. They have given top priority to Persian Gulf programs, for clinical care, for medical research, for compensation programs and for outreach and education for our veterans.

We have received an incredible amount of support at all levels within VA and I think we have a good track record of at least attempting to develop the best programs we can for our Persian Gulf veterans. We have worked very hard on that. We have monitored the quality of those programs and have worked very hard to continuously improve them.

I have heard the same comments that you have, both in phone calls to my office and in the various congressional hearings, that sometimes VA has not done the best job at the local level in taking care of veterans and I have been personally involved in trying to correct those problems when necessary. But I think the vast majority of Persian Gulf veterans who come into the VA for their health care, the ones who do not show up at hearings, have been happy with the health care they have gotten.

That certainly was brought out at the Presidential Advisory Committee meeting. They actually went out and talked to veterans at our medical centers and they were pleased with the comments they got back on the satisfaction of those veterans.

Mr. TOWNS. Well, I am not going to hold you any longer, but let me just say and I want to say it very clearly that we are not going to go away. We are going to pursue this issue, regardless of who the chair of this committee is next year, be it my good friend, if he is fortunate enough to be able to hold on, we will continue to pursue it. And God knows, if I am fortunate to be the chair of it, that we are going to pursue it. So we are not going to go away. So you might as well start digging and getting the answers.

And I would like to just convey to DOD, who has representatives here but did not come to testify, that you are not off the hook. We will talk to you. We will talk to you. There is no question about it. And I want to let DOD know that.

Mr. Chairman, with that in mind, I want you to know I yield back to you and tell you that I join arms with you, join hands with you in making certain that we get to the bottom of all of this.

Mr. SHAYS [presiding]. We left out one part. Maybe our replacements will carry on after us.

Mr. TOWNS. No, I explained that before you arrived. I said I got 88 percent the last time and I am certain that—I might drop down some, but I will have 51 percent.

Mr. SHAYS. Well, I would like to work for you if I am not back.

I would like to just conclude, Dr. Murphy, and then I have one more question for Ms. Copeland.

On your testimony on page 7, you said "Studies of low level chemical warfare agent exposure were not given high priority in its 1995 working plan because military and intelligence sources had stated that U.S. troops had not been exposed to chemical agents."

And then later on you say "The VA has always remained open to the possibility of Persian Gulf veterans being exposed to a wide variety of hazardous agents while serving in southeast Asia, including chemical warfare agents. Prior to DOD's announcement on June 21, 1996, the VA designed its clinical uniform case assessment protocols to detect clinical signs and symptoms related to neurotoxic exposures."

I am a little confused. What it sounds to me like is that you used the DOD as a basis for your not listening to your veterans and to

all the facts that just were looking you square in the face that there was this Gulf war syndrome which is lots of maladies that had a toxic feature to it.

Tell me when does your own work override the work of the DOD? Let me put it this way. What would our veterans have had to do to get the VA to finally begin low level chemical warfare agent exposure tests and recognize that there was that possibility? What would they have had to do?

Dr. MURPHY. In my testimony I think you will see that we actually did begin testing. Part of the problem that we have, Mr. Chairman, is that there is no diagnostic test or biomarker. There is not a blood test that I can do on a veteran that tells me that they were exposed to mustard gas or nerve agents back in the 1991 time period. That is an unfortunate fact. We do not have good diagnostic tests in that regard.

But we did listen to our veterans and we did start a specialized program at the Birmingham VA that looked at a group of veterans who said that they felt that they were exposed and we looked for the secondary effects of exposure which are neurologic. We did very careful detailed neuropsychological testing in that group of individuals.

We also did a comprehensive examination that looked for possible secondary effects of chemical agents, including, again, neurologic effects, some of the things that you would worry about with cognitive effects.

Mr. SHAYS. But the bottom line is, with all due respect, now that you know there were chemicals for a certainty, or potential possibility, let me use that term, you are going to do something else. You are going to do something different. What are the new things that you are going to do?

Dr. MURPHY. We are going to develop a research program that specifically focuses on very low level exposures that we had previously been told did not exist.

Mr. SHAYS. You were told—no. Well, yes and no. They told you they did not have any proof of.

Dr. MURPHY. No, they told us it did not happen.

Mr. SHAYS. I would like you to elaborate on that. Told us what did not happen? That chemical weapons were not being used offensively?

Dr. MURPHY. That there had been no verified detections and that no veteran had been exposed.

Mr. SHAYS. There had been no verified detections. So you listened to DOD and not the veterans. How come?

Dr. MURPHY. We did not.

Mr. SHAYS. You did not listen to the veterans?

Dr. MURPHY. We developed a special program——

Mr. SHAYS. No, ma'am. This is——

Dr. MURPHY. Trying to evaluate——

Mr. SHAYS. Dr. Murphy, the whole——

Dr. MURPHY. We also—wait a minute.

Mr. SHAYS. I would be happy to wait, but then I want you to address that point, so I will let you continue.

Dr. MURPHY. We also from the very beginning looked at a comprehensive evaluation program for those people with difficult to di-

agnose conditions that focused on trying to get clinical information that might point us to specific toxic exposures.

Clearly if the majority of people had come in with documentable neuropsychological problems, peripheral neuropathy, despite what we had been told about no evidence of exposure, we would have gone on and developed a research program focused on neurotoxic exposures. That is not what happened with our clinical programs. Despite that, we went on and designed a survey and we are asking 15,000 Persian Gulf veterans if they feel they were exposed to chemical agents, nerve agents, mustard gas.

Mr. SHAYS. When did you start to do that?

Dr. MURPHY. It was done last fall, November.

Mr. SHAYS. Last fall? 1995?

Dr. MURPHY. It was designed prior to that. Birmingham, the clinical pilot program, was begun in 1993 when the veterans voiced their concerns to us, so I think the record shows the VA has listened to veterans, we have done the clinical work and designed some exploratory research focused on this issue, despite the lack of information.

It would be foolish for us——

Mr. SHAYS. I am going to want to inject myself here. You have made your point, do you want to just keep making your point?

Dr. MURPHY. Go ahead.

Mr. SHAYS. You are doing something different today now that you know that our troops might have been exposed. What is the different thing you are doing today? And you have used as excuse that you were not doing—what you are doing today you did not do before because you did not know and DOD specifically said they were not exposed, so that is on the record. So what is this new thing you are doing today?

Dr. MURPHY. We have research programs that will now focus on low level chemical agents.

Mr. SHAYS. And when did those research programs begin to focus on low level chemicals? When did you start that?

Dr. MURPHY. The Research Working Group made its recommendations immediately after the announcement in June 1996.

Mr. SHAYS. So it is fair for me to say that you did not begin the low level until the DOD finally put their stamp of approval on the fact that our soldiers may have been exposed to chemicals.

Sir, let me just say something. With all due respect, I do not mind you even coming up and testifying, I would be happy to swear you in. I am not trying to intimidate you, but all we are trying to do is know the facts and I do not want to be unfair to Dr. Murphy. There are so many things in this issue, so if you would like to identify yourself and be sworn in, I would be happy to have you testify. And I am not saying that to intimidate you not to.

Dr. Murphy, would you like him to testify? He would be more than welcome to.

Dr. MURPHY. No. Thank you.

Mr. SHAYS. I do not even mind if you sit there and not testify, if you want to say something. I do not mean that in a critical way, I think there are times you need to seek someone else who has information, so I would welcome that, if you would like to sit there.

Dr. MURPHY. I would just like to reiterate the fact that in 1993, years before we had confirmation, we set up clinical programs to evaluate veterans to see if we could find any evidence of neurotoxic exposure.

Mr. SHAYS. What are you specifically looking for? And I am making reference to your testimony on page 8, which is the last question, the top paragraph, "These evaluations did not reveal any neuropathologic process typically associated with neurotoxin exposure."

Dr. MURPHY. The examinations did not reveal a peripheral neuropathy. You will hear later from Dr. Padilla about organophosphate induced delayed peripheral neuropathy and also that the cognitive findings that you might expect due to a toxin's effect on the central nervous system were not present in the individuals.

Mr. SHAYS. Were you here when Nick Roberts gave his testimony?

Dr. MURPHY. No, I was not. I am sorry. I was at the Agent Orange hearing.

Mr. SHAYS. Well, he basically pointed out that he was in a circumstance where he woke up and his testimony said:

> I was awakened by a loud explosion. Running to the bunker, I heard a second explosion and noticed a large fireball toward the port. Once in my assigned bunker, I put on my gas mask. We all sat there for approximately 20 minutes and then the all clear was given. We left the bunker and went outside. I estimate that half of the unit returned to their tents and the other half remained outside talking. To the best of my knowledge, there were 112 men assigned to the air detachment. I was one of the men outside talking. Within just a few minutes, my arms, neck and face were stinging. My lips felt numb and I had strange taste in my mouth like a copper penny or perhaps a metallic taste better describes it. Some say a mist came over the camp. I do not remember a mist, but more of a fog. Just about the time we all concluded that we had been hit with something, chemical alarms began sounding. Alarms were going off everywhere. Marines camped nearby began to yell, "Go back to your bunkers. We have all been gassed." Once back in the bunker, we were ordered to MOPP level four. Radio transmissions were coming in, "Confirmed gas attack. I repeat, confirmed gas attack. All stations go to MOPP level four." We stayed at MOPP four about 1 hour and then we were given the all clear once again. Afterwards, many of us went to the water tank and washed ourselves down to stop the stinging. My first symptoms were redness of the skin and welts on my chest that afternoon.

Now, this is not atypical. I am sure you have heard soldiers tell you that. When a soldier tells you that, do you say, well, do not worry, DOD has assured us that no chemicals were used? Is that what you do?

Dr. MURPHY. No, we try to investigate further.

Mr. SHAYS. OK. Well, the CIA did not investigate further and your investigating further regretfully resulted, though, in the fact that low level testing is just beginning now, and so I just say to you with a great deal of respect that no one has been listening to our veterans, including the VA, including the CIA, including the DOD, frankly, including the majority of Congress and all of us who waited too long to get into this issue.

I am going to just end, Ms. Copeland, with a question about figure 3 in the document you gave us. And I would like to have you tell me what assumptions, what are the assumptions that were used to determine this chart? This is chart 3.

Ms. COPELAND. The assumptions on page 4 in the box text. And I can go through those, if you would like.

Mr. SHAYS. The assumptions on page 4 of——

Ms. COPELAND. The text.

Mr. SHAYS. OK. Give me 1 second. Thank you. I am all set. And what are those?

Ms. COPELAND. Do you want me to read through those?

Mr. SHAYS. Just give me some of them and tell me who made these assumptions.

Ms. COPELAND. We made these assumptions based on——

Mr. SHAYS. "We" being the CIA?

Ms. COPELAND. "We" being the CIA. That is correct.

Mr. SHAYS. OK. And for the area involved to have been wider, what assumptions would have had to have been different?

Ms. COPELAND. I cannot answer that at this time, but I can get back to you.

Mr. SHAYS. I did say one final question, but what was the final determination to the CIA that chemicals were used at this site? That chemicals were present in this depot at Khamisiyah?

Ms. COPELAND. I am sorry. I do not understand the question.

Mr. SHAYS. What finally convinced the CIA that chemicals were used? Were in Bunker 73.

Ms. COPELAND. Convinced us or what made us look at it in the beginning in September 1995?

Mr. SHAYS. What convinced you that they were there?

Ms. COPELAND. The U.N. Inspection Team going in in May 1996 and identifying in the bunker those characteristics that were typical of Iraqi CW munitions.

Mr. SHAYS. And so that U.N. group went in when?

Ms. COPELAND. May 1996.

Mr. SHAYS. And that was—that convinced the U.N. Inspectors that chemicals had been used? That was the first time they were—excuse me, that chemicals were present? That was the second time they were there or the first time?

Ms. COPELAND. They were there several times. I do not know the exact number.

Mr. SHAYS. Is there anything either of you would like to say before we get to our next panel?

OK. Thank you very much.

Mr. TOWNS. I have a question.

Mr. SHAYS. I am sorry. My apologies. My apologies.

Mr. TOWNS. Thank you very much.

Dr. Murphy, you indicated in your testimony that a small number of veterans have unexplained illnesses. What is a small number?

Dr. MURPHY. Let me give you two answers to that. In our registry, our original registry, we had not really focused in on the issue of unexplained illnesses. We were at that time thinking in 1991 that we might see a lot of respiratory disease related to oil well fires, diagnosable medical conditions. So there was no specific question that asked about unexplained or undiagnosed illness included in the original registry.

In order to try to give you an estimate of how many people from that original registry might have unexplained illnesses, we did an analysis that looked at veterans who reported they had symptoms but the physicians had not given them a diagnosis. And there are

several reasons why that is a very crude estimate. And that is about 23 percent of the first 52,000 people that came in.

Since September 1995, we redesigned the registry and there is a specific question at the end of the registry examination, after the physician has written the symptoms and diagnosis, and it asks the physician to specifically designate whether they feel the patient has an unexplained illness, yes or no.

When physicians are asked that question, of the first 800 people that we have computerized data on, only 6 percent of the physicians said that they felt that their patient had an unexplained illness. So I think that with more experience on that new registry, we may have better numbers. But it seems to be a relatively small number. I would not rely on 6 percent after only 800 exams.

Mr. TOWNS. Let me close by just asking——

Thank you very much, Dr. Murphy.

Ms. Copeland, you testified that the Iraqis reported that 200 metric tons of chemical munitions were destroyed. Can we establish that we destroyed that amount, and what does your intelligence tell us?

Ms. COPELAND. The 5 percent of the 700? What our intelligence tells us is that there were only two sites that had the chemical munitions in it. The Iraqis, what they did was move the chemical munitions out of the site, like the bunkers and other facilities, several of them, and moved them into the open and covered them up. So we agree with what the Iraqis have given us, the information and have no other information to disagree with it at this time.

Mr. TOWNS. All right. I want to ask you a question and if you do not want to answer it, just say "I do not want to answer it." Please do not say DOD.

Ms. COPELAND. OK. All right.

Mr. TOWNS. Can we get that agreement up front?

Ms. COPELAND. That is fine.

Mr. TOWNS. OK. Let me ask, Ms. Copeland, what are the specifications for the MA chemicals alarm and the Fox detection vehicle? Did these detection devices work?

Ms. COPELAND. I cannot answer that.

Mr. TOWNS. Thank you. Thank you very much. I yield back to the chairman.

Mr. SHAYS. Dr. Murphy.

Dr. MURPHY. Could I just make a concluding comment?

Mr. SHAYS. I am going to ask just one more question so maybe I would like you to just wait. This is more of a housekeeping question. How many cancer cases among veterans are on the Persian Gulf registry?

Dr. MURPHY. I do not remember that exact number offhand, but I have it in a notebook in the back of the room, so I will give that to you before I leave.

Mr. SHAYS. No, I want it under oath, so if someone could get that, please?

Do you want to make your comment and we can get back to that?

Dr. MURPHY. I would just like to encourage veterans to take advantage of the VA health care programs. We would like to see any veteran who is concerned about their health at this point, whether they were in the 37th Engineering Battalion or the other units that

were around Khamisiyah at the time of the bunker or the pit incident and any other veteran who is concerned about their health to come in for a registry health examination. The VA is there for you and we would like you to take advantage of these programs.

For more information, anybody can call 1–800–PGW–VETS, that is Persian Gulf war vets. It is a toll-free help line and they will tell you how to register for the health care programs.

This is data that was prepared in January 1996 by the Environmental Epidemiology Service. Of the first 52,216 examinations on Persian Gulf veterans in the health registry, there were 202 cancers in males and 24 in females, so that is a total of 226. That is only the data from the registry. It does not include the diagnostic data that was previously provided to you from our inpatient hospitalization records. I would refer you back to information we provided you at the last hearing for those numbers.

Mr. SHAYS. In the subcommittee on June 25th, the director of the Atlantic Region Office of the Veterans Benefit Administration, Gary Hickman, testified that there were about 704 Gulf war veterans with malignant cancers. Can you kind of give a sense of how that relates to the 226?

Dr. MURPHY. Some of those are other unique individuals and some of them are individuals who are already included in the 200 plus that I just gave you. The Veterans Benefits files include those individuals who applied for and in some cases received compensation for malignant cancers. The Veterans Benefits Administration has their own data file for administrative purposes and we have our set of files.

Mr. SHAYS. Right. I understand, but they are all people with cancers and what I am trying to relate—and they are all, I guess, Gulf war veterans. What I am trying to understand is why is your number 226 and why is his number 704?

Dr. MURPHY. You had specifically asked, sir, for the number of cancers on our health registry examination and that is the number I gave you.

Mr. SHAYS. Why would there not be more if there are 704 that Mr. Hickman has?

Dr. MURPHY. Because it is a voluntary program and some people choose to get an examination for compensation and do not come in to get a registry examination.

Mr. SHAYS. OK. Do you use that 226 number as a number that illustrates how many people have cancers?

Dr. MURPHY. No, sir.

Mr. SHAYS. How do you use that? What is the significance of the 226?

Dr. MURPHY. We use the Persian Gulf registry as a very crude health surveillance tool. We feel the proper way to get answers to the prevalence of cancers, the rates and frequency of cancer in the Persian Gulf veterans population is through well designed research programs.

Mr. SHAYS. When you were in California talking about 226 cancer cases among the 52,260 veterans in the Persian Gulf registry, do you point out it is just a crude registry and that there are a lot more than have cancer?

Dr. MURPHY. Yes. And we pointed that out to your committee before, that that in fact is not——

Mr. SHAYS. But when you were out in California, what would—I am just trying to get a handle on——

Dr. MURPHY. In California, sir? Excuse me.

Mr. SHAYS. It is just that that is where—we are just trying to listen to what the VA says and you recently stated in the California media, and I wish I had the date, that there were 226 cancer cases among the 52,216 veterans on the Persian Gulf registry. And that to me is you are saying to someone that is a significant number——

Dr. MURPHY. You are quoting me?

Mr. SHAYS. No. I am not saying a significant number, the fact that you said it says to me that you think it is a meaningful number of some kind. And then we have testimony that says there are 704 Gulf war veterans with malignant cancers. And I am just trying to sort that out. I just need to know what is the point?

If this is a crude health surveillance tool, what is the point of it? I mean, someone hearing you would say, well, there is just 226.

Dr. MURPHY. I do not remember the context of that comment that is being attributed to me. I am not sure that I said that. But those numbers are correct from what I have just told you. I responded directly to your question about how many veterans on the health registry had cancers.

Mr. SHAYS. You did.

Dr. MURPHY. And in that context——

Mr. SHAYS. And in that context, I agree. In that context.

Dr. MURPHY. It has no significance——

Mr. SHAYS. But I am just trying to understand in that context what is the significance and you are telling me it is a crude health care surveillance tool, so——

Dr. MURPHY. It has no significance, sir.

Mr. SHAYS. It has no significance?

Dr. MURPHY. No.

Mr. SHAYS. Is that how you want to end?

Dr. MURPHY. The registry was set up to provide health care and in providing that health care, we do some monitoring to assure that the examinations are being done completely and to try to get some basic health information about the veterans who are coming in to VA to see us.

We recognize that that is not a complete assessment of the health of Persian Gulf veterans and we are really just trying to get additional information on the health care programs that we provide.

We have said repeatedly in testimony, in meetings and every chance we get that we feel that the best way to get answers about the health status of Persian Gulf veterans is through research. We have that research underway and should be seeing results of several different surveys of Persian Gulf veterans in late 1996. And I would base my conclusions about the health of Persian Gulf veterans not on these self-selected health care programs like the registry or the CCEP, but on good, sound scientific study and that is my message to you.

Mr. SHAYS. And my message to you is that obviously we cannot depend on the Department of Defense or the CIA to encourage you to do the studies you need to do, so that when you get veterans who are coming to you with serious physical problems that you begin the studies and not wait for them.

With that, we will just call on our next panel.

Thank you both very much.

Our next panel is one person, James Tuite, international security consultant and director, Gulf War Research Foundation, who also, I believe, worked with Mr. Riegle.

Mr. TUITE. Yes, sir.

Mr. SHAYS. Mr. Riegle was one of the first to get into this entire issue. And you were his staff person on that?

Mr. TUITE. I directed the investigation for the committee, sir.

Mr. SHAYS. Well, I am eager to hear from you. Let me swear you in, and I hope people from the CIA and the Department of Veterans Affairs will stay and hear your testimony.

[Witness sworn.]

Mr. SHAYS. What is it like to be on the other side of the table?

Mr. TUITE. It is fine.

Mr. SHAYS. Good.

STATEMENT OF JAMES TUITE, DIRECTOR, GULF WAR RESEARCH FOUNDATION

Mr. TUITE. Mr. Chairman, a letter I received from a sick Gulf war veteran during the Senate Banking Committee investigation into this issue during the 103d Congress——

Mr. SHAYS. I am going to interrupt you, Mr. Tuite. I just want to just get a sense of your involvement with this issue, even if you are going to start to do it in your testimony.

Mr. TUITE. Yes, sir.

Mr. SHAYS. Mr. Riegle was chairman of the government banking——

Mr. TUITE. He was actually the chairman of the Senate Banking Committee investigation and we were looking into both United States exports to Iraq that may have contributed to their chemical and biological warfare programs, as well as the possible health consequences of the war after we received a number of reports that the soldiers may actually be sick from exposure to those compounds.

Mr. SHAYS. And you were there from when to when?

Mr. TUITE. I was there from 1993 to 1995.

Mr. SHAYS. So from 1993, when? Beginning, end?

Mr. TUITE. Around June 1993.

Mr. SHAYS. June 1993 to——

Mr. TUITE. To the end of the 103d Congress.

Mr. SHAYS. Right. And you were involved in how many hearings on this issue?

Mr. TUITE. Only one hearing. I wrote three reports for the Senate Banking Committee on this issue and interviewed several thousand veterans regarding their experiences in the Gulf war.

Mr. SHAYS. So while there was only one hearing, there were extensive interviews during the course of those 2 years plus?

Mr. TUITE. That is correct, sir. We handled it more as an outside of the hearing room style of investigation, where we were actually interviewing literally thousands of veterans.

Mr. SHAYS. Thank you for that information and please proceed. Sorry I interrupted you.

Mr. TUITE. Mr. Chairman, a letter received from a sick Gulf war veteran during the Senate Banking Committee investigation into this issue during the 103d Congress illustrates the way this investigation has been handled by the government. He wrote: "We had gas alarms go off several times, we were told they are all false alarms. We noticed what we thought were missiles streaking across the sky. We were told these were shooting stars. We heard loud explosions in the sky and saw bright flashes of light. We were told these were sonic booms."

That veteran is now suffering from Gulf war syndrome.

Mr. Chairman, the Senate Banking Committee received similar deceptive answers from administrative officials and Department of Defense and Central Intelligence Agency bureaucrats when it asked similar questions regarding this issue. It has been the position of the Department of Defense since mid 1993 that no chemical agents were detected and that no chemical munitions were fully deployed in areas occupied by U.S. forces. The facts continuing to argue otherwise.

During the Banking Committee investigation, we received thousands of calls and documents from service men and women, many claiming that chemicals were detected and that munitions were in areas where U.S. forces were deployed.

On June 21, 1996, the Department of Defense finally admitted that chemical weapons were in the Kuwaiti theater of operations and that they were improperly destroyed by United States troops after the war. But even with this admission, they insisted only a small number of troops were exposed.

Mr. SHAYS. I am sorry, sir. What was destroyed?

Mr. TUITE. Chemical munitions, sir.

Mr. SHAYS. OK.

Mr. TUITE. In February 1994, I composed letters to the Secretary of Defense, Health and Human Services and Veterans Affairs on behalf of Chairman Riegle, requesting that all information regarding this issue be declassified for the benefit of medical researchers and the veterans. In May 1994, we received a joint response from all three cabinet secretaries, asserting that there was no information, classified or otherwise, responsive to our request.

In March 1994, Chairman Riegle sent a letter to the Secretary of Defense requesting transmittal of all classified and unclassified information regarding this issue directly to the Office of the U.S. Senate Security. The requested information was never received.

We did, however, receive a response in April 1994 from the Defense Department's General Counsel's office, telling us that CENTCOM, the command element during the Persian Gulf war, could not locate anything described as a log regarding chemical and biological warfare activity.

Many of the documents denied to Congress, including elements of the CENTCOM nuclear, biological and chemical warfare log were subsequently partially declassified and released to individuals and

even put on the Internet. Yes, those responsible for protecting our soldiers would rather give information, some of which I believe gratuitously identified both vulnerabilities and intelligence methods and sources, to international curiosity seekers before they would give it to Congress.

The report that I am submitting to the committee for inclusion into the record as part of my testimony draws on some of these very documents, the existence of which were previously denied. It also draws upon assessments of U.S. Army National Ground Intelligence Center and the findings of the Persian Gulf Investigative Team acknowledging that the detections of the Czechoslovak chemical defense specialists were reliable, credible and based on wet chemistry analysis. The method does not disclose the amount of agent to which the troops were exposed to, but it does reliably identify the specific substances.

During the Gulf war, substances identified during the first week of the air war were Sarin, Tabun and mustard agent.

Up to now, the missing element in the equation has been the mystery of how the agents were transported from the research productions and storage facilities in Iraq to the troops. This has been an especially difficult issue, since it has been the long-held assertion of the Department of Defense, the Defense Intelligence Agency and the Central Intelligence Agency that the winds were blowing in the wrong direction during the detection events.

The report I submit today solves this mystery for the detections that occurred after the initial wave of coalition bombings of these chemical warfare agent storage facilities during the first 2 days of the air war. Using visible and infrared meteorological satellite imagery from NOAA, which was available to military planners during the war, a war before which they expressed deep concern about the fallout from these bombings, I have been able to determine that a thermal plume rose into the atmosphere over the largest Iraqi chemical warfare agent research, production and storage facility at Muthanna after the coalition aircraft and missile bombardment.

Seventeen metric tons of Sarin were reported destroyed during these attacks, which began on January 17, 1991. These thermal and visual plumes extended directly toward areas where those same chemical warfare agents were confirmed by Czechoslovak chemical specialists. These images are displayed both in the chart here in the hearing room, which I will put up after my testimony, and in the report I am submitting with my testimony.

Mr. Chairman, hundreds of thousands of United States servicemen and women were in the area where these detections occurred, assembling for the upcoming invasion of Iraq and the liberation of Kuwait.

There has been an assertion by Dr. Steven Joseph, Assistant Secretary of Defense for Health Affairs, and others that there was no acute phase to Gulf war syndrome and therefore it could not be as a result of exposure to chemical agents. Yet the majority of the thousands of veterans who contacted the Banking Committee during its investigation reported that they experienced undiagnosed flu-like illnesses and rashes during the war.

Mr. Chairman, the Environmental Protection Agency provides warning pamphlets through the U.S. Department of Agriculture to

farm workers using pesticides, many of which are organophosphate relatives of the nerve agents but thousands of times less powerful. These pamphlets warn that if flu-like symptoms and rashes occur after exposure to these compounds, medical assistance should be sought immediately. Exposure to these compounds has also been linked to chronic illnesses and neurological and musculoskeletal illnesses similar to those being reported by the soldiers.

A recently published peer-reviewed study by Dr. Goran Jamal of British veterans revealed that 14 of 14 randomly selected veterans all showed signs of peripheral neuropathies similar to those seen in victims of chronic organophosphate exposure. In earlier testimony before this committee, the findings of a small-scale molecular epidemiology conducted by Dr. Howard Urnovitz, myself and scientists from the University of Arkansas and two Veterans Affairs facilities disclosed that two geographically separate groups of Gulf war veterans were not expressing antibodies to type 2 and type 3 polio, a vaccine that we all receive. This immunologic anomaly was not observed in the non-veteran control study. This research continues with the goal of identifying the course and progress of the illness. This type of research in turn is an essential first step in the ultimate goal of treating the veterans of the war.

The report I am submitting with my testimony today does not establish the link between low level organophosphate chemical nerve agent exposure and Gulf war syndrome. It does, however, scientifically overturn the long-held government position that the troops were not exposed to chemical warfare agents in, as was said by Central Intelligence Agency Director Deutch, "any widespread way."

While some clinical studies have been done suggesting such a link the exact processes responsible have not been identified. The same, however, has been said of the connection between cigarette smoking and lung cancer and the exposure of veterans to Agent Orange and the horrible illnesses that they are suffering.

The link seems clear, however, even though the precise method that the causative agents create the illness is not fully understood. Research and proper neurological, immunological and microbiological testing of Gulf war veterans are needed to determine the cause, course and potential treatment for this illness. Further, this approach will assist in resolving which aspects of the illness may be causing spousal and familial transmission and the possible links between the reported exposures and birth defects. The delayed response of the medical community to Persian Gulf war related illnesses as a result of government mismanagement of this issue may mean that the illness has progressed in these veterans and their family members.

Mr. Chairman, I am concerned that if we expend our efforts trying to discover and punish those responsible for miscalculations and coverup, both of which I believe have occurred, we are distracted from what must be our first priorities: determining the cause and treatment of Gulf war syndrome and correcting the chemical and biological warfare defense gap faced by our forces.

The calls for an independent investigation into the decisions made during and after the war while welcome should not be an excuse to further delaying acting on these priorities. An independent

investigation should not replace the popularly chosen panel envisioned by our founding fathers over 200 years ago to resolve these sorts of problems, the Congress.

I would recommend based on what we know now, that nearly all of our soldiers in the Gulf were exposed to chemical warfare agents, that Congress move speedily to enact legislation similar to the Agent Orange Act of 1991, mandating assistance to affected veterans, extending the presumptive period indefinitely for veterans with certain medical conditions, and funding independent research into illnesses and the possible effects on veterans' families. Simultaneously and perhaps more importantly, Congress should initiate an independent review of the entire U.S. chemical and biological defense program, including the military doctrine and analytical and predictive capabilities to warn of chemical and biological threats in both the Department of Defense and the Central Intelligence Agency.

Mr. Chairman, members of the committee, I thank you for this opportunity to present my testimony and ask that the full text of my remarks and the accompanying material be included in the record.

[The material accompanying Mr. Tuite's prepared statement follows:]

Report on the Fallout From the Destruction of Iraqi Chemical Warfare Agent Research, Production, and Storage Facilities into Areas Occupied by U.S. Military Personnel During the 1991 Persian Gulf War

19 September 1996

James J. Tuite, III
International Security Consultant
and Director, Gulf War Research Foundation

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SCOPE OF REPORT

This report is limited to an assessment of prior reports of the exposure of U.S. military personnel to chemical warfare agents from fallout as a result of the bombings of Iraq's chemical warfare production and storage infrastructure. Particular attention is given to the relationship between the air attacks during the early phase of the Coalition "air war" campaign and the detections of sarin by members of the Czechoslovak chemical defense units on January 19, 1991. These detections have been described by the Department of Defense as both "reliable" and "credible."

Attention is also given to additional Czechoslovak chemical defense unit detections of the nerve agents sarin and tabun, and the blister agent sulfur mustard, on January 19-21, 1991. These detections are of particular importance because the Department of Defense has assessed the Czechoslovak chemical warfare agent detection technology to be both "reliable," "credible," and based on "wet chemistry" analysis. According to declassified U.S. intelligence reports, the substances housed in the facilities that were attacked in the first days of the "air war" included sarin, tabun, and mustard, whose presence in Coalition troop areas was confirmed by these Czechoslovak technologies. The Department of Defense has said in recent reports that these detections are "possible."

According to the Department of Defense, Central Intelligence Agency, and the CIA subcontractor currently conducting the modeling of the distance and direction fallout from the bombings might have traveled during this period, the Czech findings have not been considered "confirmed." This lack of confirmation, they claim, is because the wind, and therefore the fallout, was traveling in the wrong direction. Since an explanation could not be provided to explain the presence of these agents in Coalition troop areas, the detections were denied. A confirmation in these areas has enormous implications, since it means that hundreds of thousands of U.S. service men and women were exposed to varying levels of chemical warfare agents from these bombings. This report provides the necessary scientific data to refute the Department of Defense and Central Intelligence Agency position and confirm the exposure of U.S. troops to chemical warfare agents.

KEY FINDINGS OF THIS REPORT

This report provides evidence that establishes that U.S. soldiers were exposed to chemical warfare agent fallout from the aerial bombings of Iraqi chemical warfare agent research, production, and storage facilities by Coalition forces. This report identifies:

- the location of, and in many cases the date that, chemical warfare agent research production and storage facilities known to contain chemical warfare agents, chemical warfare agent precursors, and other hazardous chemical toxins were bombed;

- archived meteorological data, including visible and infrared satellite imagery illustrating that the heat and smoke, and therefore the toxic debris, from these facilities traveled directly towards U.S. military personnel; and,

- scientific confirmation of the presence of these exact compounds using technologies evaluated by the U.S. Department of Defense to be both "credible," "reliable," and based on scientific techniques.

Unlike previous government disclosures claiming that the number of soldiers exposed to these compounds is minimal and limited to the immediate area around the destruction of the Kamisiyah facility after the war, this research demonstrates conclusively that chemical warfare agents and precursors were present in areas where hundreds of thousands of U.S. soldiers were massing for the upcoming invasion of Iraq and liberation of Kuwait. The evidence provided by the Czech detections of chemical warfare agents in troop areas also lends credence to the thousands of chemical agent alarms deployed with U.S. troops that also began sounding with the initiation of the bombings.

AERIAL BOMBING OF IRAQI CHEMICAL WARFARE AGENT RESEARCH, PRODUCTION, AND STORAGE FACILITIES

Table 1 identifies known Iraqi chemical warfare agent research, production, and storage facilities, based on information provided in declassified Defense Intelligence Agency (DIA) intelligence information reports (IIR), which are presumed to be accurate. The geocoordinate data provides precise locations for the principal sites targeted. The dates on which the sites were bombed is also based on declassified DIA and Joint Chiefs of Staff reporting.[1] United Nations Special Commission on Iraq (UNSCOM) reports confirm that chemical agents were present at many of these facilities. According to DIA reports, "all known or suspected CW/BW storage sites were damaged or destroyed during Desert Storm with the exception of four cruciform bunkers at Samarra [the others were destroyed] and two 12-frame refrigerated bunkers."[2]

A recent unclassified report from the Central Intelligence Agency reveals that Iraq has declared to the United Nations that nearly 17 metric tons of sarin were destroyed during the attacks on the Muthanna State Establishment (Samarra) and that 2. 9 metric tons of nerve agents were destroyed during Coalition attacks on the chemical warfare agent storage site at Muhammadiyat (3315N04121E).[3]

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[1] Source (classified). Subject: The following are assessed to be chemical munitions storage bunkers, 23 JAN 1991 (declassified 11 AUG 1991). Intelligence Assessment of Chemical and Biological Warfare in the Gulf; For the Defense Science Board investigating Desert Storm Syndrome (1993), (declassified 25 SEP 1995). Office of the Joint Chiefs of Staff, U.S. Department of Defense, Washington, D.C. (declassified 21 December 1995); Internal Staff Paper, Release Covered by MOP 39, Subject: Soviet Request for Info on Chem/Radiologic Leaks, 23 JAN 1991 (declassified 21 December 1995). McConnell, J.M., RADM, USN, Director for Joint Staff, Intelligence Internal Staff Paper, Soviet Embassy Request for Information on Desert Storm, 18 JAN 1991, Washington, D.C. (declassified 21 DEC 1995).
[2] Defense Intelligence Agency. Subject: (classified). 11 APR 1991 (partially declassified, 19 JUL 1991).
[3] Central Intelligence Agency, CIA Report on Intelligence Related to Gulf War Illnesses (2 August 1996).

TABLE 1. LOCATION OF KNOWN/SUSPECTED CHEMICAL AGENT RESEARCH PRODUCTION, STORAGE, PRECURSOR, AND RELATED HAZARDOUS STOCKPILES BOMBED BY COALITION FORCES

FACILITY	LOCATION	ACTIVITY	REPORTED DATES OF BOMBINGS
MOSUL AIRFIELD	361822N/0430849E	CW STORAGE	1/28/91
QAYYARAH WEST AMMO DEPOT	355140N/0430630E	CW STORAGE	2/10/91
QUYYARAH WEST AIRFIELD	354611N/0430718E	CW STORAGE	2/10/91
KIRKUK AMMO DEPOT WEST	353230N/0435800E	CW STORAGE	2/08/91
KIRKUK AIRFIELD	352810N/0442018E	CW STORAGE	2/05/91
MUTHANNA STATE ESTABLISHMENT – CW RESEARCH, PRODUCTION AND STORAGE (also called: SAMARRA)	335020N/0435030E	CW STORAGE CW PRODUCTION CW RESEARCH	1/17/91
H-3 AIRFIELD	325551N/0394449E	CW STORAGE	2/09/91
AL TAQADDUM AIRFIELD	331958N/0433604E	CW STORAGE	2/04/91
BAGHDAD AMMO DEPOT - TAJI	3332223N/0441638E	CW STORAGE	2/10/91
UBAYDAH BIN AL JARRAH AIRFIELD	322915N/0454544E	CW STORAGE	1/17/91
AN NASIRIYAH AMMO STORAGE FACILITY SOUTHWEST	305750N/0461030E	CW STORAGE	2/09/91
TALLIL AIRFIELD	305606N/0460527E	CW STORAGE	1/29/91
ASH SHUAYBAH AMMO STORAGE DEPOT NORTHEAST	3022840N/0473830E	CW STORAGE	2/01/91
HABBANIYAH -1 (FALLUJAH-3)	3333N04338E	PESTICIDES CW PRECURSORS[4]	1/17/91 2/01/91
HABBANIYAH - 2 (FALLUJAH-2)	3329N04340E	PRODUCTION: CHLORINE HCL ACID SULFUR CHLORIDE SULFUR TRIOXIDE THIONYL CHLORIDE DICHLORO METHYL PHOSPHINE OXIDE PHOSPHORUS TRICHLORIDE PHOSPHOROUS OXYCHLORIDE METHYL PHOSPHITE STORAGE: DIISOPROPYL AMINE DIMETHYLAMINE HCL (25 TONS) THIODIGLYCOL (40 TONS)	1/17/91 2/01/91
HABBANIYAH-3 (FALLUJAH-1)	3329N04349	NO COMPLETED PRODUCTION WORKS OR STORAGE SITES – COMPLETELY DESTROYED BY ALLIED BOMBINGS	1/17/91 2/01/91
HABBANIYAH (OTHER)	3322N04331E	CW STORAGE	2/17/91
FALLUJAH (OTHER)	3313N04341E	CW STORAGE	2/21/91
AL QAIM	3350N04110E	CW STORAGE	2/10/91
K-2 AIRFIELD	3455N04324E	CW STORAGE	2/09/91
TIKRIT	3443N04339E	CW STORAGE	2/13/91
KARBALAH	3223N04330E	CW STORAGE	2/03/91
AD DIWANIYAH	3158N04454E	CW STORAGE	2/03/91
QABATIYAH	3353N04239E	CW STORAGE	1/19/91

[4] U.S. ARMY Operations Group INSCOM, Subject: IIR 2 201 0022 92, Inspection of Chemical Warfare Facilities, 3 OCT 91 (declassified 1995). Report provides information on activities at the three Habbaniyah sites.

Unidentified Variables

The location or locations at which chemical munitions and bulk agent were stored after being removed from known chemical warfare agent production and storage facilities adds an unknown variable to estimates of bombing damage to chemical warfare stocks. Identifying these additional facilities would complicate observations, but does not alter events associated with known locations bombed in the days prior to detections of chemical warfare agents in areas occupied by U.S. troops. Many of the facilities suitable for the storage of these materials were in areas in which Iraqi forces were deployed. The presence of three such facilities at An Nasiriyah and Kamisiyah have recently been confirmed by the Department of Defense. Further, a declassified signals intelligence (SIGINT) intercept report,[5] recent UNSCOM reporting,[6] and a recent press interview with a former Iraqi commander[7] indicate that chemical rounds were deployed to the front with the Iraqi forces and that Iraqi commanders had limited or pre-designated authority to use them. Each of these reports indicates that the probability of chemical warfare agent fallout from bombing targets not then known to contain these materials is also high.

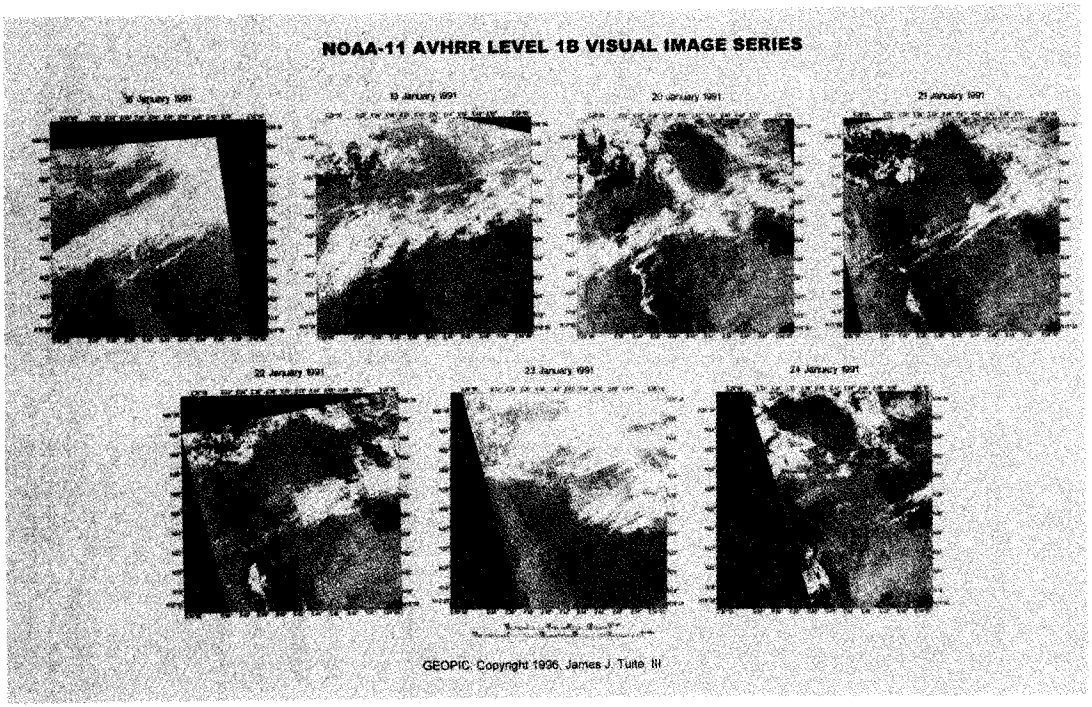
[5] CENTCOM CCJ3-X (NBC) Log, February 5, 1991 (partially declassified)
[6] Security Council Report S/1995/864, 11 October 1995 (UNSCOM).
[7] Riding the Storm: How to Tell Lies and Win Wars, personal interview by Maggie O'Kane, Cinecontact, 175 Wardour Street, London, W1V3FB, U.K.

STALLED FRONTAL ACTIVITY, WINDS ALOFT, AND VISIBLE AND INFRARED SATELLITE IMAGERY

STALLED FRONTAL ACTIVITY

Shortly after the initiation of the air war and throughout the period covered in this section (January 17-24, 1991), a low pressure system over Iraq and a high pressure center over the Indian Ocean resulted in a stationary frontal pattern and the development of low-level cloud activity directly over the area occupied by coalition forces. This stalled weather pattern was reported in the official history of the weather (Gulf War Weather) prepared by the United States Air Force in 1992.

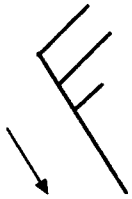
A composite of NOAA-11 visual images showing the stalled front appears on the following page. This composite image covers the period January 18-24, 1991 (Coverage for January 17, 1991, was not available from the National Climatic Data Center).


NOAA-11 AVHRR LEVEL 1B VISUAL IMAGE SERIES
18 January 1991
19 January 1991
20 January 1991
21 January 1991
22 January 1991
23 January 1991
24 January 1991
GEOPIC. Copyright 1996. James J. Tuite, III

WINDS ALOFT

In analyzing whether or not fallout is a factor in the "valid"[8] detections we are aware of thus far, wind directions in the hours before, not just during, the detections are relevant. The Department of Defense and the Central Intelligence Agency rely on point time data rather than data over time. While this information is important, it is much less relevant than analyzing the winds that may have transported toxic effluents to the area of detection in the hours immediately before the detections occurred.

Winds are represented on National Weather Service (NWS) surface charts by the following symbol:[9]



(Speed: long bar 10 kts each; short bar - 5 kts)
Example: 25 kts

Direction

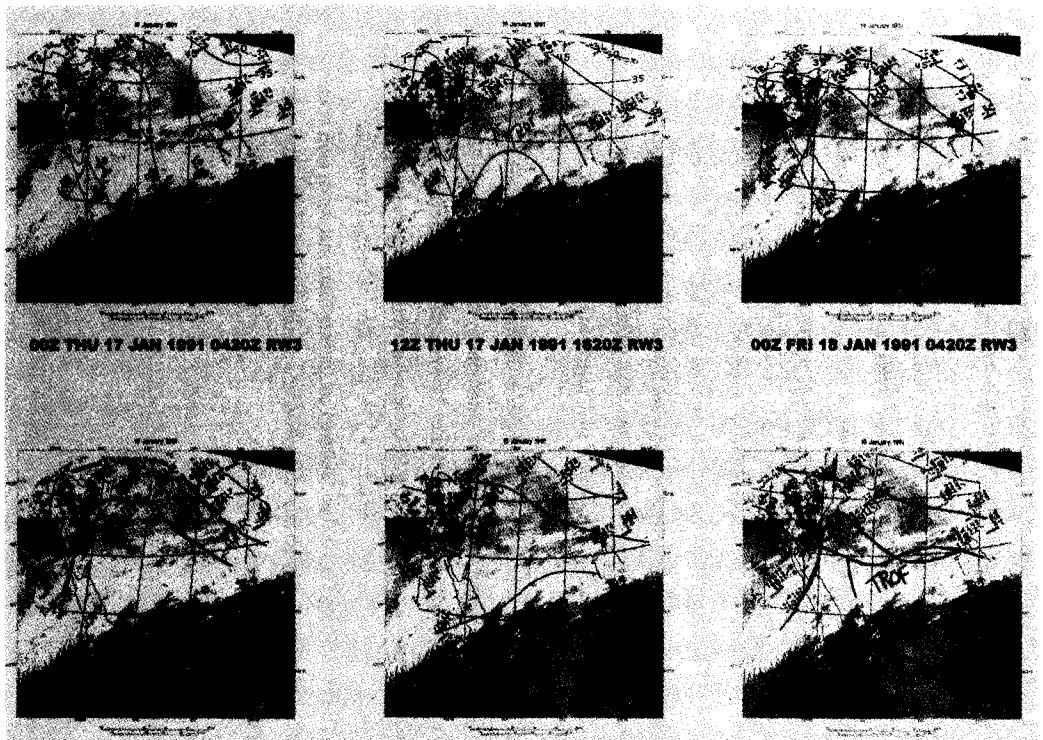
However, above the frictional surface layer, wind speeds are geostrophic and tend to follow isobar contours. Wind speeds are subgeostrophic throughout the mixing layer (ML) with wind directions crossing the isobars at a small angle towards low pressure .[10] Low pressure is the lower isobar on each of the charts displayed on the following composite image (page 10) for the period prior to the "credible" Czechoslovak chemical detections on January 19, 1991.

[8] Letter to the author from Col. E. Koenigsburg, U.S. Department of Defense (DoD), Persian Gulf Investigative Team (PGIT), dated April 18, 1996, acknowledging that it is the position of the DoD that the Czech chemical detection methods are valid.
[9] Dusan Djuric, Weather Analysis, (Englewood Cliffs, NJ: Prentice Hall) 249.
[10] Roland B. Stull, An Introduction to Boundary Layer Meteorology, (Norwell, MA: Kluwer Academic Press, 1988), 15.

During night time bombings the area closest to the ground is highly stable, partly due to the absence of solar thermal activity. This stable layer normally would trap pollutants in this surface layer. However, high explosive weapons and highly volatile agent material would have created their own thermal activity, and toxic effluents and agent vapor penetrated the surface layer to travel with the winds aloft in the residual layer (RL) of the night time atmosphere. "Although the winds at ground level frequently become lighter or calmer at night, the winds aloft may accelerate to supergeostrophic speeds in a phenomena that is called the low-level jet or nocturnal jet...Winds exhibit very complex behavior at night. Just above the ground the wind speeds become light or even calm. At altitudes on the order of 200 meters above the ground, the wind may reach 10-30 meters/second [36-108 kilometers/hour].[11] Regardless of the night time behavior of the pollutants, the return of the mixing layer after sunrise results in the fanning out of the toxic effluent debris throughout the mixing layer (altitudes of 1000 meters and higher).

The available surface weather data reveals that during the period just prior to the January 19, 1991, chemical warfare agent detections by Czechoslovak and French forces, surface frictional winds varied with location. However, the isobaric contours confirm that the non-frictional winds were moving from the areas over the bombed facilities towards the units involved in the detection activity. The next composite chart shows that throughout this period the 1000mb (millibar) contours indicate that winds aloft at the lowest recorded levels flowed directly towards the detecting elements, even when surface winds did not.

[11] Ibid.



NATIONAL WEATHER SERVICE SURFACE CHART SERIES PRIOR TO 19JAN1991 CHEMICAL WARFARE AGENT CONFIRMATIONS

GEOPIC: Copyright 1996, James J. Tuite, III

The confirmation necessary to establish that the bombings of these facilities caused enormous thermal events and plumes that extended directly towards Coalition military personnel should be observable using satellite imagery if the collected data is not obscured by dense clouds. Such a confirmation can be made by (1) identifying the location of the facilities (accomplished above), and (2) by reviewing both the visible and infrared imagery available immediately before and contemporaneous with the detection of chemical warfare agent materials in areas where Coalition forces were located which are identical to those contained in the facilities that were destroyed.

VISIBLE AND INFRARED METEOROLOGICAL SATELLITE IMAGERY

Source of Data: Advanced Very High Resolution Radiometer (AVHRR) Level 1B satellite images taken by NOAA-11 were acquired from the National Climatic Data Center, National Oceanographic and Atmospheric Administration (NOAA), Asheville, North Carolina. The AVHRR aboard NOAA-11 collects on five distinct spectral bands; three infrared bands and two visible bands.

Data resolution: 1.1 kilometer (km)

Image Processing: ERDAS Imagine, Version 8.2, geographic information system (GIS) software was used to process the images that follow.

Annotated images were rotated to true north alignment. Locational annotations were geolocated using readily identifiable reference points. No enhancement or alteration of the images was performed. Infrared images are outside of the visible spectrum; visible detail on these images is the result of thermal and infrared reflecting activity. A map of Iraq appears at the end of the report to assist in reader orientation.

19JAN1991; 0008Z; CHANNEL 4 (10.3-11.3 nanometers (IR))

The image on the following two pages was taken by NOAA-11 on January 19, 1991, at 0008Z, several hours prior to the first Czech detections. This is the image recorded by AVHRR channel 4, which measures thermal and other infrared activity in the 10.3-11.3 nanometer range. The two other infrared channels (3, 5) also measured the activity recorded on the image. The visible imagery channels (1,2) record no activity since the image was taken during a period of darkness. The first image in unannotated. The second image is annotated for reader orientation.

NOAA-11 19JAN91; 0008Z; CHANNEL 4 (10.3-11.3nm (IR))
GEOPIC Copyright 1996, James J. Tuite, III

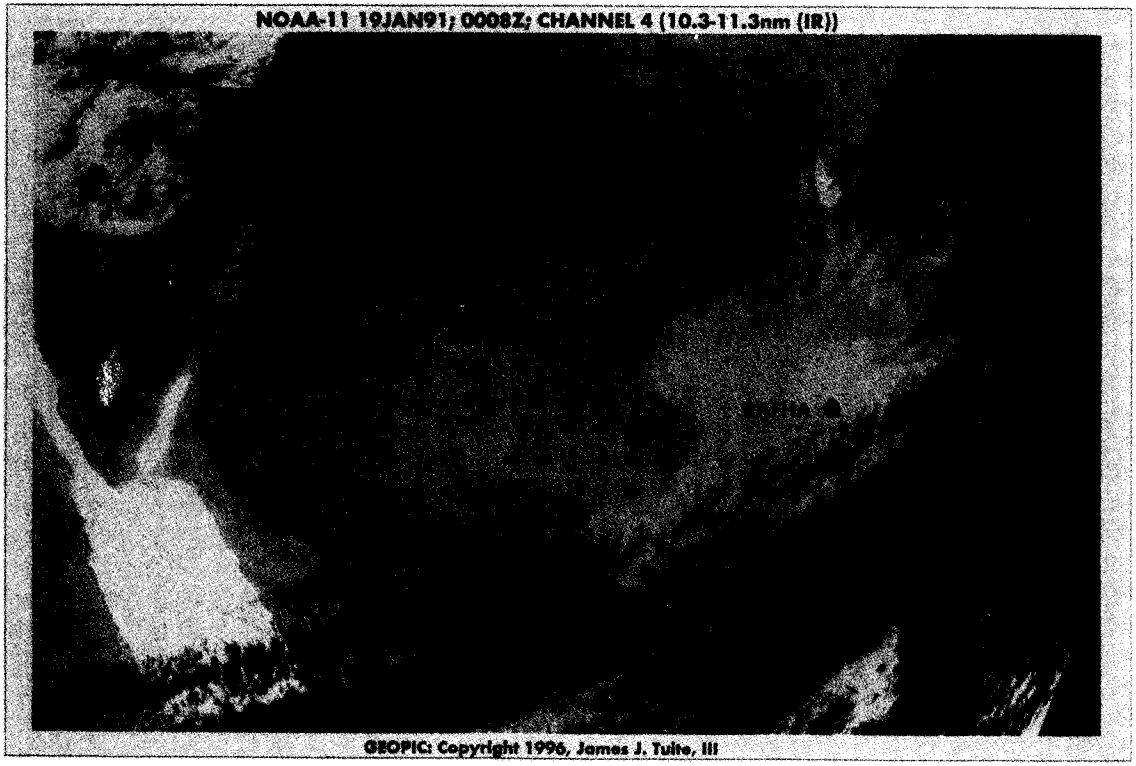

NOAA-11 19JAN91; 0008Z; CHANNEL 4 (10.3-11.3nm (IR))
GEOPIC: Copyright 1996, James J. Tuite, III

Image information:

The preceding images identify an intense point source thermal event originating in the area directly over the Muthanna State Establishment in Iraq. This was Iraq's largest chemical warfare agent research, production, and storage facility. The plume from this facility extends south toward a larger area of thermal activity. This larger thermal activity covers a number of other facilities in Iraq known to contain chemical warfare agents, chemical warfare agent precursor materials, and other hazardous industrial and agricultural chemicals. These facilities were also bombed during this period and would have contributed to the thermal activity. This composite plume continues southward toward the areas in which the Czechoslovak chemical teams detected chemical agents identical to those known to be stored or produced at the bombed facilities. These detections occurred in an area where this warm air mass collided with the colder clouds in the stalled front described above. This predictably would have resulted in both instability and condensation activity. The chemical warfare agents, which are 4-6 times heavier than air, should have dropped to the surface as a result of this activity.

19JAN1991; 1125Z; MULTISPECTRAL IMAGE (CH. 1,2 (VISIBLE) CH. 4 (IR))

The image on the following page was taken by NOAA-11 on January 19, 1991, at 1125Z. This is the image recorded by AVHRR channels 1 and 2, which measure visible activity, and channel 4, which measures thermal and other infrared activity in the 10.3-11.3 nanometer range. By analyzing the images from the 0008Z pass just prior to the Czech detections and the 1125Z pass just after the Czech detections, both the direction and nature of this enormous thermal and visible plume are confirmed.

Again, there is an intense point source multispectral plume of thermal and visible debris originating from the area directly over the Muthanna State Establishment. This activity extends directly southward, passing over other known and suspected chemical warfare agent storage sites which were also attacked during this period. Again, this plume interacts with the stalled front in the area where the detections occurred.

NOAA-11 19JAN91; 1125Z MULTISPECTRAL IMAGE (CH. 1, 2 (VISIBLE) CH. 4 (IR))

GEOPIC: Copyright 1996, James J. Tulte, III

These images are from the NOAA-11 satellite passes that occurred just prior to and after the first Czechoslovak chemical agent detection, which the Department of Defense has labeled as "credible" and "reliable" but not confirmed because the wind was allegedly blowing the wrong way.

These images directly contradict several Department of Defense and Central Intelligence Agency positions about the direction the fallout moved and the stated position that U.S. forces were not exposed to chemical warfare agents "in any widespread way." They also lend weight to other simultaneous chemical agent detection activity that occurred across the theater by other Coalition forces during the period this front was stalled over Coalition forces. Detection technologies and individual detections during the period of the stalled frontal activity are discussed in the next section of this report. Subsequent to this period, however, visible satellite imagery shows that plume activity from the bombings continued towards Coalition troop deployments. This new knowledge about the distances these materials may have traveled demands a reassessment of the hazards associated with bombing these facilities throughout the war.

CZECHOSLOVAK AND COALITION DETECTION TECHNOLOGIES

Sensor Technology

The three major powers participating in the 1991 Persian Gulf War, the U.S, U.K., and France, all expected chemical warfare agent use by the Iraqi military. These governments brought a diverse array of chemical warfare detection and identification equipment with them to the Gulf. Soviet equipment, such as the GSP-1 and GSP-11 and a mobile chemical agent laboratory were also used by Czech chemical troops. This broad array of equipment used varying technologies to detect and confirm the presence of chemical warfare agents, as well as to identify the specific agent present. The following is a listing of the different physical principles employed:

- wet chemistry
- mass spectrometry
- ion mobility spectrometry
- chemical reaction
- biochemical enzyme reactivity
- flame photometry
- ionization

The Department of Defense has only acknowledged up to this point that the Czechoslovak technology is reliable and credible and the Czech confirmation procedure uses wet chemistry principles, which permit a qualitative confirmation of specific chemical warfare compounds. Only two of seven detections by Czech units have been called credible and reliable. The remainder are said to be possible. The Department of Defense claims that none of the detections using any of the other technologies have been confirmed.

Table 2 identifies detector/sensor and agent identification systems deployed by coalition forces reporting the detection of chemical warfare agents.

TABLE 2. DETECTOR/SENSOR AND AGENT IDENTIFICATION SYSTEMS DEPLOYED BY COALITION FORCES REPORTING THE DETECTION OF CHEMICAL WARFARE AGENTS[12]

NATION/ SYSTEM	CHEMICAL AGENTS	SENSITIVITY	METHOD/ TECHNOLOGY
FRANCE/F1	G/V AGENTS	DATA NOT AVAILABLE	BIOCHEMICAL ENZYME DETECTOR
FRANCE/TDCC	GA/GB AC CK	1 mg/m3 350 mg/m3 2000 mg/m3	CHEMICAL/BIOCHEMICAL DETECTOR
FRANCE/ADLIF	GB/GD	DATA NOT AVAILABLE	FLAME SPECTROMETRY
UK/CAM	G/V AGENTS H AGENTS	0.1 mg/m3 2.0 mg/m3	ION MOBILITY SPECTROMETRY (QUANTITATIVE FEATURE)
UK/NAIAD	G AGENTS V AGENTS	0.05mg/m3 0.005 mg/m3	BIOCHEMICAL ENZYME DETECTOR (CHOLINESTERASE REACTIVITY)
UK/MARK I	G/V AGENTS H AGENTS	DATA NOT AVAILABLE	BIOCHEMICAL/CHEMICAL REACTIVITY
UR-CZ/GSP-1	G/V AGENTS	0.05mg/m3	AIR SAMPLING/ BIOCHEMICAL ENZYME (CHOLINESTERASE REACTIVITY)
UR-CZ/GSP-11	G/V AGENTS	0.05 mg/m3	AIR SAMPLING/ BIO-CHEMICAL ENZYME (CHOLINESTERASE REACTIVITY)
CZ/PPCHL-90	MOST CHEMICAL WARFARE AGENTS	AGENT IDENTIFICATION THROUGH WET CHEMISTRY ANALYSIS	FIELD PORTABLE CHEMICAL AGENT LABORATORY - CHEMICAL REAGENTS/ WET CHEMISTRY ANALYSIS
US/M8(A1)	G AGENTS V AGENTS	0.1 mg/m3 0.2 mg/m3	IONIZATION AUTOMATIC ALARM
US/M8 PAPER	G/V AGENTS H AGENTS	YES/NO YES/NO	CHEMICAL REACTIVITY COLOR INTERPRETATION
US/M9 PAPER	G/V AGENTS H AGENTS	YES/NO YES/NO	CHEMICAL REACTIVITY COLOR INTERPRETATION
US/M256	G AGENTS V AGENTS H AGENTS	0.05 mg/m3 0.15 mg/m3 3.0 mg/m3	BIOCHEMICAL ENZYME DETECTOR (CHOLINESTERASE REACTIVITY) CHEMICAL REACTIVITY
US/M256A1	G AGENTS V AGENTS H AGENTS	0.005 mg/m3 0.02 mg/m3 3.0 mg/m3	BIOCHEMICAL ENZYME DETECTOR (CHOLINESTERASE REACTIVITY) CHEMICAL REACTIVITY
US/CAM	G/V AGENTS H AGENTS	0.1 mg/m3 2.0 mg/m3	ION MOBILITY SPECTROMETRY (QUANTITATIVE FEATURE)
US/MM1 FOX NBC VEHICLE	G AGENTS 60 OTHER PREPROGRAMMED AGENT SPECTRA	SEVERAL mg/m3 M8A1 (M43) IONIZATION BACKUP UNIT (EARLY WARNING)	QUADRAPOLE GC-MS FULL GC-MS

[12] Specifications (where available) obtained from DOD FM Series 3; the Chemical Research, Engineering and Development Command (CRDEC), Aberdeen Proving Grounds, MD; the manufacturers; and, Jane's NBC Protection Equipment 1991-1992, and 1995-1996.

SUMMARY OF CHEMICAL WARFARE AGENT DETECTIONS

PERIOD ONE: JANUARY 17, 1991 - JANUARY 24, 1991

During this critical period, coalition forces targeted and bombed the key Iraqi chemical warfare research, production, and storage facility at Samarra (also known as Muthanna) on January 17, 1991; major chemical warfare agent production and storage facilities at Habbaniyah I, Habbaniyah II, and Habbaniyah III (also known as Fallujah I, II, III) on January 17-18, 1991; and chemical weapons storage facilities at An Nasiriyah and Ubaydah Bin Al Jarrah Airfield on January 17, 1991. This pattern of chemical weapons facility bombing activity is likely incomplete, but the bombings of these critical targets are confirmed in contemporaneous intelligence reports. [13]

TABLE 3. PRINCIPAL REPORTED CHEMICAL AGENT DETECTIONS BETWEEN 17 JANUARY 1991 - 24 JANUARY 1991 [14]

DATE	LOCATION	NATION/UNIT	AGENT DETECTED	METHOD/TECHNOLOGY
17 JAN 91	N.W. HAFIR AL BATIN	US/ 2/5TH SFG	UNKNOWN NERVE AGENT	IONIZATION, BIOCHEMICAL REACTION, ION MOBILITY SPECTROMETRY M8A1, M256, CAM
19 JAN 91	N. HAFIR AL BATIN	CZ/ CHEM. DET. UNIT	SARIN (GB)	BIOCHEMICAL REACTIVITY WET CHEMISTRY GSP-1(11), PPCHL-90
19 JAN 91	N.E. HAFIR AL BATIN	CZ/ CHEM. DET. UNIT	SARIN (GB)	BIOCHEMICAL REACTIVITY WET CHEMISTRY GSP-1(11), PPCHL-90

[13] Defense Intelligence Agency, Intelligence Assessment of Chemical and Biological Warfare in the Gulf: For the Defense Science Board investigating Desert Storm Syndrome, Washington, D.C. (1993) (declassified September 25, 1995);OSD-CCC SOA 1294, Subject: Soviet Request for Info on Chemical/Radiological Leaks, 17 JAN 1991, Office of the Joint Chiefs of Staff, U.S. Department of Defense, Washington, D.C. (declassified 21 December 1995); Internal Staff Paper, Release Covered by MOP 39, Subject: Soviet Request for Info on Chem/Radiologic Leaks, 23 JAN 1991 (declassified 21 December 1995); McConnell, J.M., RADM, USN, Director for Joint Staff, Intelligence Internal Staff Paper, Soviet Embassy Request for Information on Desert Storm, 18 JAN 1991, Washington, D.C. (declassified 21 DEC 1995); Memorandum for the Assistant Deputy Under Secretary of Defense, Soviet and East European Affairs, Subject: Soviet Embassy Request for Information on Desert Storm (declassified 21 DEC 1995).

[14] Detection/confirmation reports are primarily from CENTCOM CCJ3-X log (partially declassified 1995), Defense Science Advisory Board (DSAB) report (June 1994), reports from the Czech government regarding detection activity during the Persian Gulf War, and declassified DIA reports regarding chemical detection activity. Several events (3) are identified in CENTCOM reporting and discounted by CENTCOM but confirmed by interviews with chemical detection specialists. These reports have been included only if the reports are corroborated or documented by multiple independent sources.

19 JAN 91	KKMC	CZ/ CHEM. DET. UNIT	UNKNOWN NERVE AGENT	BIOCHEMICAL REACTIVITY WET CHEMISTRY GSP-1(11), PPCHL-90
19 JAN 91	30 KM FROM KKMC	FR	UNKNOWN NERVE AGENT	BIOCHEMICAL REACTIVITY
19 JAN 91	30 KM FROM KKMC	CZ/ CHEM. DET. UNIT	CONFIRM FRENCH DETECTION	WET CHEMISTRY PPCHL-90
19 JAN 91	KKMC	CZ/ CHEM. DET. UNIT	SULFUR MUSTARD (HD)	WET CHEMISTRY PPCHL-90
19 JAN 91	JUBAYL	UK	UNKNOWN BLISTER (AFTER UNEXPLAINED EXPLOSIONS)	CHEMICAL REACTIVITY, ION MOBILITY SPECTROMETRY M-9, CAM
19 JAN 91	JUBAYL	US/ NMCB-24	UNKNOWN BLISTER (AFTER UNEXPLAINED EXPLOSIONS)	CHEMICAL REACTIVITY M-256 (2/3 TESTS)
20 JAN 91	NW of KKMC	US/ 800TH MP BDE	UNKNOWN NERVE AGENT	IONIZATION, BIOCHEMICAL REACTIVITY M8A1, M256
20 JAN 91	DHAHRAN	UK	UNKNOWN NERVE (AFTER SCUD ATTACK)	BIOCHEMICAL REACTIVITY (SEPARATE DEVICES) NAIAD, MARK I
20 JAN 91	NEAR KKMC	CZ/ CHEM. DET. UNIT	SULFUR MUSTARD (HD) FOR 2 HRS	WET CHEMISTRY PPCHL-90
20 JAN 91	NEAR KKMC	FR	UNKNOWN NERVE AGENT	BIOCHEMICAL REACTIVITY
20 JAN 91	FRENCH SECTOR KKMC	CZ	SARIN (GB)/TABUN (GA)	BIOCHEMICAL REACTIVITY WET CHEMISTRY PPCHL-90
21 JAN 91	KKMC	FR	UNKNOWN NERVE AGENT	BIOCHEMICAL REACTIVITY
21 JAN 91	KKMC	CZ/ CHEM. DET. UNIT	SARIN (GB)/TABUN (GA), SULFUR MUSTARD (HD)	BIOCHEMICAL REACTIVITY WET CHEMISTRY PPCHL-90
21 JAN 91	KKMC	FR	UNKNOWN CW	CHEMICAL OR BIOCHEMICAL REACTIVITY
22 JAN 91	RAFHA	US	UNKNOWN NERVE AGENT	IONIZATION, BIOCHEMICAL REACTIVITY M8A1, M256
23 JAN 91	KKMC	CZ/ CHEM. DET. UNIT	UNKNOWN CW	WET CHEMISTRY PPCHL-90
23 JAN 91	NEAR KKMC	CZ/ CHEM. DET. UNIT	PATCH OF SULFUR MUSTARD (HD)	WET CHEMISTRY PPCHL-90
23 JAN 91	**CENTCOM**	**US/ CENTCOM NBC CELL**	**ORDER TO CENTAF**	**DISREGARD CHEMICAL AGENT REPORTS COMING FROM THE CZECHS**
17 JAN - 23 JAN 91	THEATER-WIDE	US	UNKNOWN NERVE AGENT	IONIZATION M8A1

OBSERVATION

This period of widespread chemical agent sensing by the instruments and methodologies cited above directly coincides with the release of the detected material, the identification of thermal and visual plume activity extending from the area of the damaged facilities towards prepositioned military personnel, and a meteorological phenomena that would stall the toxic vapors and debris directly over the area in which coalition troops were deployed.

PERIOD TWO: JANUARY 24, 1991 - FEBRUARY 28, 1991

This period is marked by the continued bombing of Iraqi chemical weapons research, production and storage facilities and by the continued sounding of the M8A1 automatic ionization nerve agent alarms throughout the area occupied by U.S. and Coalition forces. In testimony before the Senate Banking Committee on May 24, 1994, Department of Defense officials acknowledged that the 14,000 chemical agent alarms deployed with U.S. forces in the Gulf sounded three times per day, on average, during the period of the air and ground war.

French, Czech, and U.S. commanders publicly or privately reported that the alarms sounded because of traces of nerve agent in the air from the bombing of Iraqi chemical weapons facilities, but asserted, incorrectly, that the amount of agent present was insufficient to cause physiological harm. The commander of the Soviet Chemical Troops, Major General Igor Yestafyev and Soviet Foreign Minister, Vitaly Churkin, publicly expressed concern over the bombings and their potential impact to the safety of the Soviet Union.[15]

[15] Associated France Presse, Paris, February 4, 1991 as reprinted in The Independent (cites General Raymond Germanos that chemical fallout-related neurotoxins from allied bombings were being detected "a little bit everywhere;" Kanishchev, A. and Timofeyev, L, "Soviet Spokesman on Attacks on Iraqi Chemical Objects," TASS, February 8, 1991; Handleman, S., "Kremlin Growing Frustrated with Role of Outsider," Toronto Star, February 10, 1991.

Soldiers continued to report flu-like illnesses, rashes, and large unexplained cross-species/cross-family die-offs of animals in the desert. Several reports of chemical nerve agent detections/confirmations using US/M256 chemical agent detection kits were also received.

During this period, the general pattern of reliable known or reported chemical agent detections decreased, but it is unclear whether this is the result of (1) a CENTCOM directive on January 23, 1991, ordering subordinate elements to disregard reliable detections such as those made by the Czechs; (2) U.S. units reportedly being told to ignore or disable chemical agent detection equipment; (3) an absence of data based on the refusal of the Department of Defense to declassify the entire CENTCOM CCJ3-X NBC and other subordinate unit log entries for most of this period; or (4) a reduction of the levels of agent material present due to the passing of the stationary front observed during Period One.

Satellite Data

Visible and thermal satellite imagery and smoke plume data shows that the debris from the bombings consistently moved with the weather patterns towards and over positions occupied by coalition forces assembling for the upcoming invasion of Kuwait and Iraq. One study conducted after the war on the debris from the Kuwaiti oil well fires indicated that satellite imagery revealed visible debris observed at heights of 6-7 km above ground level and at distances of nearly 2,000 km from their source.[16] While the smoke and toxic debris from the bombings of the chemical warfare agent research, production, and storage facilities were not always visible, there is no reason to believe that, except for the decomposition of the agents themselves, they would behave any differently than any other airborne effluent debris.

[16] Limaye, S., Suomi, V., Velden, C., Tripoli, G. "Satellite Observations of Smoke from Oil Fires in Kuwait," Science, Vol 252, 15 June 1991 pp. 1536-1539.

CONCLUSIONS

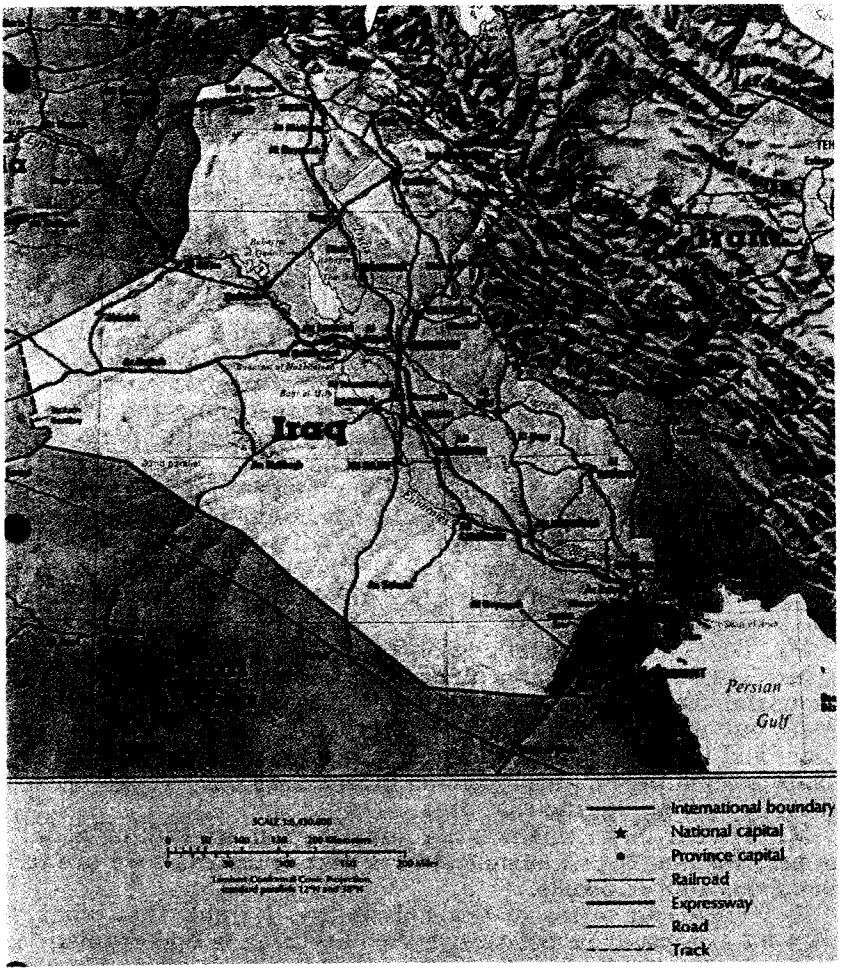
U.S. soldiers were exposed to detectable levels of chemical warfare agent fallout from the aerial bombings of Iraqi chemical warfare agent research, production, and storage facilities by Coalition forces. This report identifies the location of, and in some cases the date that, chemical warfare agent research, production, and storage facilities known to contain chemical warfare agents, chemical warfare agent precursors, and other hazardous chemical toxins were bombed. Archived meteorological data, including visible and infrared satellite imagery illustrates that the heat and smoke, and therefore the toxic debris, from these facilities traveled directly towards U.S. military personnel. Finally, it establishes scientific confirmation of the presence of these exact compounds by technologies evaluated by the U.S. Department of Defense to be both "credible" and "reliable."

Unlike previous government disclosures claiming that the number of soldiers exposed to these compounds is minimal and limited to the immediate area around the destruction of the Kamisiyah facility after the war, this research demonstrates that chemical warfare agents were present in areas where hundreds of thousands of U.S. soldiers were massing for the upcoming invasion of Iraq and liberation of Kuwait. A review of other detections and detection technologies is needed. In cases where sensor technologies utilizing different and complementary scientific principles simultaneously indicated the presence of chemical warfare agents, these detections should also be considered credible.

FUTURE EFFORTS

Additional research is being conducted on plume and fallout activity occurring throughout the entire war. Further, imagery should be able to determine the extent of fallout resulting from the destruction of the Kamisiyah facility. Imagery datasets for the entire war have been acquired and will be analyzed to determine, as far as possible, just how extensive the these exposures may have been. Such a research approach will also assist in identifying areas of potential exposures. The fallout data developed in this report should, however, result in a policy determination assuming that all U.S. military personnel may have been exposed to these materials.

Additional independent interdisciplinary research is also being conducted to determine the course and progress of this disease, which appears to have neurological, immunological, and microbiological aspects. This type of research is a necessary first step to develop inexpensive diagnostic tools and possible treatment protocols for Persian Gulf War Related Illnesses.


Iraq
Persian
Gulf
International boundary
National capital
Province capital
Railroad
Expressway
Road
Track

Mr. SHAYS. Thank you, Mr. Tuite. It is very provocative and interesting testimony. I will start with Mr. Towns.

Mr. TOWNS. Thank you very much, Mr. Chairman.

Let me begin by first thanking you for your testimony. Let me make certain that I understood you clearly. Are you saying that nearly all of the U.S. troops who served in Operation Desert Storm were exposed to chemical agents?

Mr. TUITE. That is correct, Representative Towns. What happened was that when we hit these facilities, we were bombing these facilities in many cases with F–117s, in other cases with Tomahawk cruise missiles, and the missiles would hit the facilities, many of which contained volatile compounds which would cause secondary fires and what I would call a thermal event.

Now, the bombings for the most part occurred at night, when the air was relatively cool and, as we all know, hot air rises, as does pollution that is contained in hot air. The materials were lifted to higher altitudes and both the infrared imagery and the upper atmospheric weather patterns confirm that during the period from the bombings to the point that these chemicals were scientifically confirmed by the Czechs, they were coming directly toward the troops. So we have a release of chemicals at point A, we have a footprint, if you will, going from point A to where the troops are, and then we have the detections at that point in distance in an area where hundreds of thousands of troops were assembling for the invasion of Iraq.

Mr. TOWNS. You are talking about almost 700,000 troops, right?

Mr. TUITE. In that particular area, it was only several hundred thousand. Some of the troops were in further distant areas in the rear, but in the King Khalid Military City area, Hafir Al Batin area, and in the northern part of the theater, we had all of the divisions assembling for the upcoming invasion, so the troops were continually moving up into that area.

Mr. TOWNS. Now, this is a big number. You are talking about it is possible that it is transmittable; if that is the case, we are talking about a lot of people.

Mr. TUITE. In terms of transmissibility, I think that what we may be looking at in the transmissibility area is opportunistic infections as a result of some of the exposures, not necessarily a biological pathogen. And some of the evidence of that is that we had cross-species die-offs in the theater. It is also an evidence of the chemical exposure. We had animals, large mammals, we had insects, we had birds dying simultaneously, as reported by the soldiers in the theater, and that is not consistent with a biological pathogen and that is consistent with a toxicological exposure. Sheep do not pass the disease to flies, do not pass the disease to insects, and so on.

Mr. TOWNS. Right. Let me just ask you, because I know that you have had a lot of experience, you have worked here for a number of years. You mentioned independent investigation. How would that group be put together?

Mr. TUITE. Truly we need an investigation, whether it be conducted by the GAO or a group that is assembled through a cooperative effort of both Congress and the administration. Some prior independent panels have been created with the speakers and the

ranking members creating such a panel and selecting members of the panel. But they need to have investigators, whether they be detailed from the FBI or some of the Federal law enforcement agencies with subpoena power, the ability to be able to walk in and demand records from the VA, the Department of Defense and the Central Intelligence Agency, and do that kind of an analysis.

Now, this would not necessarily all be information for public consumption, obviously, but we need to have some kind of review because it is obvious that our chemical and biological warfare defense doctrine during the war, which did not acknowledge the fact that cumulative effects of low level nerve agent exposure can cause not just chronic illnesses but if the war had been a 6-month or a 12-month war and these exposures would have continued, they could have caused very, very serious illnesses to the soldiers and affected military mission.

So what we need to be able to do is look at the doctrine very independently to determine what the medical threat is to our soldiers, what the medical threat is in a 4-day war, the medical threat from the bombings, the medical threat from both acute and low level exposure, to try and develop a defense, a defensive doctrine, that will protect our soldiers not only for the 3 or 4 days or the 3 or 4 months that we need them for the military mission, but provide the necessary safety precautions that they can protect our soldiers from having long-term health problems even after they are discharged from military service.

Mr. TOWNS. Thank you very much, Mr. Tuite.

I yield back, Mr. Chairman.

Mr. SHAYS. Thank you.

Mr. Tuite, did you have clearance to get information that would not be available to the general public?

Mr. TUITE. I had top secret SCI clearances during the investigation.

Mr. SHAYS. So if I asked you a particular question you are able to remember what you can tell me and what you cannot tell me?

Mr. TUITE. Yes, sir.

Mr. SHAYS. OK. That is kind of a dumb question, I guess. Do we have the ability to detect, because I have not gotten a briefing on this, the ability to detect biological agents with equipment?

Mr. TUITE. We have a very primitive system called the BID system, Biological Integrated Detection System, which can identify a limited number of agents if they know what those agents are ahead of time.

In a 1994 counter-proliferation initiative conference, then Deputy Secretary Deutch from the Department of Defense said at that conference we currently have no biological agent detection capability deployed with any of our forces anywhere in the world and that was a videotaped comment. That was an inaccurate comment. We do have a primitive system but it takes some number of hours or days to get any kind of a response from that system, so if there was a biological threat in the area by the time we received a warning the soldiers would all be infected.

Mr. SHAYS. There is a constituent of the State of Connecticut, not the 4th Congressional District, whose son was a pilot in the Persian Gulf theater and he became very sick and he was diagnosed

to have a whole host of different problems, nothing related to chemicals. His parents have spent $20,000 to have him examined and treated in Texas and they say that from a layman's term, it is rashes, he is being treated to try to get the chemicals out of his system. He will go into a steam room and people will literally leave the steam room because the smell in the steam room is so toxic, so unbearable for anyone else there.

You know, you hear things like that and you do not know—in my environment, I do not know how to read that, but the fact is he is a sick person. And they see physical, not mental, effects of his illness. Not mental, they see physical.

Now, one of the things that surprised me is that I would think that the United States that has developed some chemical weapons like other countries have and then destroyed some, that we would also have tested to determine the effects of these chemical weapons on various animals and so on. And I would think that we would have the ability to know if the effects—I guess what I am asking you to do is do you have any knowledge in the research that you do that would give me a feeling that the United States has a better handle on toxic exposure, chemical exposure and how you treat it?

Mr. TUITE. There are two different standards in terms of military and civilian standards as to what they consider to be toxic exposures. Now, the civilian standards are much more stringent than the military standards.

Mr. SHAYS. I am more interested in treatment.

Mr. TUITE. In terms of treatment, most——

Mr. SHAYS. I am interested not in just terms of treatment, but in terms of kind of the symptoms. I mean, I listen to this, I think I am a normal human being, and people describe things that say, hey, you are really sick. And then we have someone who will come and testify that they have been felt to have these various symptoms and they have put names next to those symptoms and yet somehow, and they seem very logical to be connected to some kind of chemical exposure.

Mr. TUITE. Right.

Mr. SHAYS. And yet is like when we have these government officials come before us, like somehow, well, it has not been proven, it has not been shown, we need the DOD to tell us that there was exposure before we react to the symptoms and assume that they are caused by chemical exposure.

Mr. TUITE. In terms of medical treatment, I am not aware of any of the veterans who have received medical treatment from any of the groups who have had long-term and permanent cures. Now, some of the veterans who were treated with antibiotics in the very early stages when they came back claim that their health is much better, others do not.

When you have a neurotoxicological exposure like this, you have damage to your body's ability to be able to mount an immune response to the things that you and I come into contact with every day and that makes it very difficult to treat because we can treat what is wrong with them today, but it makes it very difficult to deal with what the injury is that is underlying the illness that they have.

So when you have an illness provoked by an injury, in other words, and a good example of this would be AIDS, where you have people who have AIDS have a viral insult, but that viral insult is causing their immune system not to respond, so the people who die from AIDS die from all sorts of opportunistic infections and cancers, not from HIV.

And likewise, when you have any other kind of immune system induced illness, the deterioration of the individual seems to be more related to the inability of the immune system to deal with the things that you and I can deal with in a normal way causing their condition to deteriorate.

Now, some of these things may be identifiable, but many of the researchers that are out there are doing treatment that has short-term results. Now, short-term results are certainly welcome, but if you discontinue the treatment over time, the illness tends to come back.

Also, a lot of neurological healing would depend on the age of the person who is affected. Certainly a 25 year old should have the ability if his immune system is strengthened to be able to deal with this kind of an issue rather than a 45 year old, someone my age.

Mr. SHAYS. In saying that the bombing of the bunkers in Iraq and the plumes did not reach the United States forces, where did the CIA get it wrong, and why?

Mr. TUITE. May I put a chart up?

Mr. SHAYS. Sure. If you can kind of bring that microphone a little closer to you, we might be able to pick it up.

Mr. TUITE. The CIA got it wrong by using a model for a retrospective study rather than for a prospective study. Models are designed to determine what might happen if certain conditions exist, not what exists in the past. Models are designed to predict, not to say what happened historically. Models are created from analysis of historical data.

What I did, and I have had a document on the Gulf war weather since the earliest phases of the Senate Banking Committee investigation, but when we found out exactly when the facility at Muthanna was hit, I looked at that document and there was a tremendous gap in that document. They showed imagery of the weather on the early hours of the 18th and then they did not show it again until the late hours of the 19th, so there was almost a 48-hour gap in that document.

So over a long period of time, I acquired the industry standard program for imagery analysis on this issue and acquired the actual data from NOAA so that the imagery could be analyzed. And when looking at two satellite passes of NOAA 11, one taken before the Czechs detected chemical agents on the 19th and one take afterwards, we find a tremendous thermal point event generating above the Muthanna facility.

Mr. SHAYS. Can you point that out?

Mr. TUITE. Yes, sir. The Muthanna facility is located right here. It is right beside the upper lake on the map there.

Mr. SHAYS. What does that tell me, though?

Mr. TUITE. That tells me that there is being a tremendous amount of heat being generated by something under that particular point. The heat was being generated by Tomahawk missiles and F–

117s using high explosive weapons against very volatile and combustible materials. Those materials when hit with these high explosive weapons would be in some cases blown around and in other cases there would be fires, but the material would be thrust and the pollution from those materials would be thrust upward.

Mr. SHAYS. Now, which way do the pictures tell us they went?

Mr. TUITE. The pictures tell us they went from the area where the lake is, if you can see it there, which is the light image. This is a reverse image that you are looking at here on the side.

Mr. SHAYS. All right.

Mr. TUITE. From the light area of the lake directly down into a cloud bank, which was over the area where U.S. forces were located. Now, that is also the area where Czechs began detecting chemical agents. And underneath that plume we also have a number of other suspected Iraqi chemical warfare agent facilities, including the three facilities at Falusia or Habinia which is one of the largest chemical production complexes in the world. It produced both chemical agent precursors and other industrial pesticides and compounds of that nature.

Mr. SHAYS. Your testimony is, then, that this is just the tip of the iceberg in terms of Khamisiyah, that we eventually are going to probably hear from the DOD that some of the chemical plants they blew up, that potentially the fallout was over our troops, not away from our troops?

Mr. TUITE. I do not know how they can evade accepting the fact that when these facilities were destroyed and the Czechs detected the chemicals at a distant point using a method that they considered to be scientifically valid, and the plume going directly from point A to point B, how they can deny that there is a high degree of probability not only that it came from this facility, but also that at this point we have to admit that hundreds of thousands of U.S. forces were exposed.

This is in only 1 day. I have only been able to analyze 1 day. I plan on analyzing the entire war using this method.

Mr. SHAYS. Now, let me understand. Is this a long process, to be able to analyze each day? Do you have the same data available to the CIA or the Defense Department?

Mr. TUITE. This data is from the National Oceanographic and Atmospheric Administration.

Mr. SHAYS. And that is what they would use?

Mr. TUITE. That is what they would use.

Mr. SHAYS. OK.

Mr. TUITE. I have also asked a local satellite contractor, a meteorological satellite contractor, to take a look at this to make sure that I am not saying something that is out of school on this issue and they have confirmed that there is an intense thermal point source of thermal activity coming off the area over Muthanna and coming down toward the troops.

Mr. SHAYS. That part I understand. How do they then determine from the picture that it was over our troops?

Mr. TUITE. Well, you can geo-locate using some of the other identifiable landmarks on the map and, in fact, if you look at the tip of Sinai Peninsula there, which is over—if you go back to the center——

Mr. SHAYS. You can touch the photo, you do not have to bring that with you.

Mr. TUITE. Thank you. We know what the geo-coordinates of that are and what they are relative to KKMC and Hafir Al Batin, and so we can make very, very clear and concise judgments about exactly where everything is. We know where the Muthanna facility is and the other facilities are based on some of the declassified documents that DOD has put out on the Internet.

Mr. SHAYS. Do you have anybody from the CIA or the DOD that comes to you and says, you know, what do you know and how are you analyzing it and have a dialog with you? Or are you totally ignored?

Mr. TUITE. Not from the Central Intelligence Agency. I do have an ongoing correspondence with the Department of Defense and the Persian Gulf Investigative Team.

Mr. SHAYS. And what is their response to what you tell us?

Mr. TUITE. Their response is that they are continuing to investigate it.

I really do not know how to deal with their position because in addition to the—if you look on the far left——

Mr. SHAYS. I have to know which of those four you want me to look at.

Mr. TUITE. I am sorry. In this particular case, we are looking at the upper atmospheric wind patterns coming directly down toward the troops. In every case, for the 48 hours prior to the detection, the wind patterns, the current patterns are coming down toward the troops. Now, the surface winds vary depending on where you are on earth because of the frictional effects between the upper atmosphere and the earth, so if you are in between two buildings, you might see the wind going one way and if you are out in a wider street you will see it going another way.

But if you go above that surface layer, you will see the patterns are identifiable. Again, the weather charts are available from NOAA. They log all of the weather patterns and the pressure gradients everywhere in the world, every day, and they have—in this case, two satellites passed over the area twice a day.

Mr. SHAYS. So in looking at the modeling that was done by Science Applications International Corporation, whether we get into a debate of whose data they used and whether they have new data now, they simply could now look historically and know exactly what happened?

Mr. TUITE. That is correct. A model is not necessary. We have retrospective data that we can analyze.

Mr. SHAYS. You do not have to look at the model to see if the model was correct, you just look at what actually happened.

Mr. TUITE. No. And in fact, if the model——

Mr. SHAYS. No? You said no or yes? I do not know how you——

Mr. TUITE. No, you do not have to look at the model. In fact, if the model said that it was going anywhere other than what the wind charts and the satellites say it was going, then the model is inaccurate.

Mr. SHAYS. OK. Now, what they say in figure 6, the CIA is saying that it went in the direction, it just did not go as far, and I

am referring to figure 6 in this chart here. Why do you not come here and then——

Mr. TUITE. That is actually the Muhammadiyat facility, which according to the CIA was not first attacked until after this particular—the Somara facility or the Muthanna was attacked beginning on the 17th and in their analysis, they say it was going from here directly toward Baghdad.

Mr. SHAYS. Right. Right.

Mr. TUITE. The plume says that is not true. In fact, the initial plume, the intense thermal plume, is going this way.

Mr. SHAYS. This blows my mind. I mean, unless I am just an idiot here and you are a fraud. I know one of those——

Mr. TUITE. Well, the other issue about their assumption is their assumption is that the material would not get more than 15 meters off the ground, and these are images taken from——

Mr. SHAYS. You know, this will be a dialog that is going to continue, but we need to continue it quickly. If you would sit down, unless you have any other references.

Tell me what you think is going to happen in the next 2 or 3 years. We finally have since—this year, we finally have acknowledgment that in Khamisiyah we had potential exposure to our troops. We have our troops saying that we had a burn-off that went 12 miles out. And the first announcement was made just before our third hearing and now before our fourth hearing we have a testimony that—excuse me, not testimony, we have disclosure since last night that 5,000 other people might have been exposed because of the pits.

What do you think the DOD is going to be forced to acknowledge in the next 2 to 3 years?

Mr. TUITE. I think ultimately they are going to have to admit the possibility of low level exposure to everyone in the theater.

Now, again, the research is going to have to begin to look at the links between the low level exposures, some of the mechanisms that causes the kinds of illnesses that we are seeing and possible treatment protocols so that we can actually look at how to take care of these soldiers.

More importantly, I would hope that Congress would start to take action because of the evidence to, if you will, at this point disregard DOD because after 3 years of listening to deception, misinformation, carefully worded statements on widespread intentional use rather than widespread intentional exposure, that we realize that there is something that they are hiding because of the careful way they are wording their statements. And what we really need to do, I believe, now is just get on with the business of helping the veterans and get on with the business of making sure that this does not happen to our soldiers again. And I think that is going to be a very, very heavy responsibility for those that are involved in a process.

Mr. SHAYS. That was a wonderful segue into our next panel, which will discuss low level exposure. As someone who was in public life in a State house involved in a lot of environmental law, we got into this whole issue of low level exposure of chemicals and how you use them under controlled situations. And it is almost like there is a gigantic disconnect between the Army and the Federal

Government, between EPA and DET in my own State and their way of looking at it and the way the Army and the CIA and others look at it, even the Department of Veterans Affairs.

The problem with low level exposure is that people get sick slowly, but ultimately their symptoms become acute.

Mr. TUITE. That is correct.

Mr. SHAYS. And I well remember, I had a group of doctors who came to me and pointed out that when we gave cigarettes to our troops in World War II, 20 years later the throat cancer went up like this, they showed this line, and then 20 years later—you know, just almost vertical, and then they get out to World War II and 20 years later there was a line and it just went vertical in terms of the number of cancer cases as a result of smoking. So we cannot waste any time here, can we?

Mr. TUITE. May I add one additional thing?

Mr. SHAYS. You sure may.

Mr. TUITE. In regard to the facility at Khamisiyah, I have in my hand a special battle damage assessment study on Iraqi Military Support Production and Storage Capability which was prepared on 3 February 1991. And I quote, "Also in Iraq, 37 ammunition storage buildings were destroyed at Tall Al Lahm ammunition depot," which is the other name for Khamisiyah, and I have the documents that also confirm that here, "the most extensive hit ammunition storage structures thus far. The attack on Tall Al Lahm resulted in the loss of approximately 10,000 tons of ammunition."

So this facility was heavily targeted by coalition forces and may have resulted in fallout in addition to those that occurred during the destruction event, far before the 37th Engineer Battalion ever arrived there. And I will give this to the staff for inclusion as well.

Mr. SHAYS. I thank you for your information and your testimony before the committee. We are just almost getting inundated with what I think are very important and significant reports and studies and so on.

You have been a wonderful witness, and I thank you very much for being here.

Mr. TUITE. Thank you, Mr. Chairman.

Mr. SHAYS. Our fourth panel is William Baumzweiger, Stephanie Padilla and Dr. Claudia Miller.

If you would remain standing and raise your right hand.

[Witnesses sworn.]

Mr. SHAYS. Mr. Tuite, I am going to invite you to sit down, if you do not have to run away, and just sit over there and if you want to respond to anything you have heard, that might be helpful. But we have three primary witnesses.

I am going to ask each of you to say your names as I should have said them and give us a little of your background and then we will just start this way here.

Doctor.

Dr. BAUMZWEIGER. Good afternoon. I am Dr. William Baumzweiger. My background is neurology and psychiatry. I practiced psychiatry for a number of years in Los Angeles and then did a neurology residence at the West L.A. VA, where I started seeing Gulf war patients.

Mr. SHAYS. Thank you very much.

Dr. Miller.

Dr. MILLER. My name is Claudia Miller. I am a physician on staff at the University of Texas Health Science Center in San Antonio. I am an assistant professor there. My background was originally in environmental health for about 12 years as an industrial hygienist and then I became a physician and am boarded in internal medicine and in allergy and immunology. My research interest is low level chemical exposures.

Dr. PADILLA. I am Stephanie Padilla, and I work at the U.S. Environmental Protection Agency. My training is in biochemistry. I have a Ph.D. in biochemistry, specifically neurochemistry. And I study the effects of pesticides on experimental animals.

Mr. SHAYS. You all have been here all day long, and we did not quite expect the hearing to go this long, but were you here for most of the hearing, all three of you?

[Witnesses nod in the affirmative.]

Mr. SHAYS. I am going to invite you to give your testimony. I am also going to invite you to comment on what you have heard. Maybe some of questions that were asked that you think are the questions we need to focus in on.

And if you think that we are just—not being experts in this issue, if you think that any of us up here, even though they cannot hear what you are going to say, but I am still here, that we are off base on something, I want you to correct and I want the record to be accurate. We are in an area that we frankly know little about except we can see and hear like anyone else.

Doctor, why do we not start with you?

STATEMENTS OF WILLIAM BAUMZWEIGER, NEUROLOGIST AND PSYCHIATRIST, LOS ANGELES, CA; CLAUDIA MILLER, ASSISTANT PROFESSOR, ENVIRONMENTAL AND OCCUPATIONAL MEDICINE, UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER, SAN ANTONIO, TX; AND STEPHANIE PADILLA, NEUROTOXICOLOGY DIVISION, U.S. ENVIRONMENTAL PROTECTION AGENCY, RESEARCH TRIANGLE PARK, NORTH CAROLINA

Dr. BAUMZWEIGER. Thank you very much. The first thing I would like to do, just to clear up this issue of whether or not exposure to organophosphates can cause chronic problems, both neurological and immune, is to show you some literature.

Mr. SHAYS. You have me scared here, doctor.

Dr. BAUMZWEIGER. Yes. This is only a small fragment of the literature which I got just by going to the UCLA biomedical library. All of these books and articles speak to the existence of organophosphate-induced delayed neurotoxicity. This is a syndrome which has been known since the late 1800's, was very clearly documented by 1930, and which there have been a number of accidental exposures, tragedies in the 1930's, 1970's, 1980's. I am sure that the other witnesses are familiar with these as well.

The signs and symptoms of acute neurotoxicity do not have to be so dramatic as seizures and death. They can be very mild and they can consist of headaches, nausea, vomiting, episodes of psychosis, personality change, many of things that Major Denise Nichols spoke to. And I really recommend that you consider her testimony

as to what she saw, the behavioral aberrations and what not, as evidence that there was acute low level exposure.

Nonetheless, whether or not people did show any acute signs, there is clear evidence that at some point, whether it is weeks or months later, maybe even up to years later, people can begin to develop chronic central and peripheral neuropathic problems. In addition, it seems that organophosphates as well as chemicals like dioxin are capable of allowing viruses into the lymphocytes of our own cells, viruses which are ordinarily excluded. There is an article by Nanda in the Indian Journal of Experimental Biology about this, it came out last year, and we may be seeing not only a neurological problem but an immune problem as well. If this is the case, this would explain some of our findings.

I was asked to see in the middle of 1993, late 1993, I was asked to see these patients with Gulf war diseases because I was at West L.A. and this was supposedly one of the referral centers for Gulf war evaluation. I have to tell you that I do not really know if they understood what was going on, because on the one hand——

Mr. SHAYS. "They" being who?

Dr. BAUMZWEIGER. The VA. Within their own organization because it was a very confusing situation. I was a house officer there in neurology and I was told we were supposed to evaluate and treat and take care of these patients. On the other hand, when I saw what was to me clear signs and symptoms and history suggestive that they had been exposed to neurotoxin, I was told that they were not exposed to neurotoxin, that it simply did not happen and I should not consider that as a possibility and I should treat them for whatever one could conventionally treat them for. That is what I was told.

I did not go along with this.

Mr. SHAYS. You were told by the VA?

Dr. BAUMZWEIGER. Yes. I was told it was their policy, there was no such thing as exposure to neurotoxin in veterans. This was at the West L.A. VA. I was told this in no uncertain terms. And this is supposedly a treatment center.

Now, I have to tell you that there is another side to this. They did let me pursue my own conviction that there was low level exposure and they did allow me, rather than kicking me out, which they could very well have done, they did allow me to follow 10 patients who I followed and who I did a thorough study on. You have the results of that study.

So there was an ambivalence there. And 2 days before I left, I presented my results to West L.A. On the basis of what I did, they proposed twice to the central VA office or wherever an expanded study based on the idea that there had been certain physiological, neurological, neuropsychiatric, neurobehavioral changes that I had found and to pursue looking for more patients, more data that would support what I had found.

So on one hand, they were not really happy with me, but on the other hand, they picked up the idea and they tried to run with the ball.

Mr. SHAYS. I just would like you to describe very briefly your findings with those 10 patients.

Dr. BAUMZWEIGER. Well, the first thing I noticed was that these patients looked similar to several patients I had seen who had been intoxicated with a chemical used in industry called trichlorethylene, which is a solvent used in the electronics industry. I had seen several patients who had been intoxicated with this and over the course of my treating them as a psychiatrist it became clear that it was this intoxication which had caused their problems.

In one of these books, it does mention trichlorethylene as a neurotoxicant and it is well known that it is. They are much more careful with it now than they were back in the 1970's and 1980's.

When these Gulf war gentlemen and ladies came in, my sense was because I was trained in psychiatry, that their psychiatric symptoms really were not psychiatric, but were more like an intoxication.

I then looked at their blood pressure, their heart rate and their temperature very carefully and I found that they had very unstable heart rates, if you stand them up and lie them down and really take a careful heart. Very unstable blood pressure if you again take it lying down, take it standing up. If you followed their body temperature, their body temperature was either too low or too high for about a week and then for the next week it would spike up and down. And these are clear signs that the lower parts of the brain, the brain stem, are dysregulated.

And, as a matter of fact, I have here and I would like to show you some corollary information which was done at the West L.A. VA by myself and my colleagues, which demonstrated that there was instability in the autonomic nervous system. This page is from a document which demonstrated that they had abnormal responses to warming of the skin, that the blood vessels in the skin would open up too quickly. And this suggest that there was autonomic nervous system instability and I will be happy to share that with you.

In addition, I did studies on the lymphocytes of these patients and my study showed that even though it was not horribly high they had higher lymphocytes in their blood.

In addition, they all had increased lymphocytes in their spinal fluid, which suggested they had a chronic neurological problem. I took an even closer look at the lymphocytes in the blood and it demonstrated that they had too many of the aggressor, T–4, and too few of the suppressor, T–8, lymphocytes. I am sure you have heard of T–4 lymphocytes, people with AIDS do not have enough of these.

Well, as lymphocytes mature, they should go from the aggressor to the suppressor type and if they do not, then you get a spreading immune problem.

Mr. SHAYS. So the bottom line is what?

Dr. BAUMZWEIGER. The bottom line is they have a neuroimmune disorder that appeared to be seated in the brain stem, gradually spreading throughout their body, causing pseudo-psychiatric symptoms that could easily be mistaken for mental problems and causing a number of immune disturbances which could lead to musculoskeletal, gastrointestinal and other difficulties, which could be mistaken as isolated diseases.

That is what happened, I believe. I believe the VA——

Mr. SHAYS. These were your 10 patients.

Dr. BAUMZWEIGER. These are my 10 patients and those results are included in what I submitted to you before. And you can in addition have these here.

Now, in terms of them having psychiatric problems, I felt they were not psychiatric, and I went ahead and had some what are called quantitative EEGs done which are mathematical analyses of EEGs.

Mr. SHAYS. Doctor, let me just ask you something. You make me a little nervous because you are not reading from a statement, you have lots of books and papers so I want to somehow contain your statement.

Dr. BAUMZWEIGER. Sure. At any rate, I do not need to go through all of these. I am just saying I had the evidence that this was not a mental problem. This was neurological, if you do certain kinds of tests.

Mr. SHAYS. And at first the VA was saying they were not exposed to chemicals and they still allowed you to do your research, so to their credit, they allowed that to happen.

Dr. BAUMZWEIGER. That is right.

Mr. SHAYS. And what has been the result of your work?

Dr. BAUMZWEIGER. Well, I have continued to look at Gulf war patients. I actually have continued to work with the VA. I am now doing a fellowship in ENG in Los Angeles.

Mr. SHAYS. Are you moving in the same direction? Are the patients you see now consistent with the 10 that you saw originally?

Dr. BAUMZWEIGER. Absolutely. I have seen another five or six Gulf war patients. They have exactly the same subtle neurological problems.

Mr. SHAYS. Is it your judgment our troops were exposed to chemicals?

Dr. BAUMZWEIGER. Absolutely. This is OPIDN, organophosphate induced delayed neurotoxicity, which is a well known, very thoroughly documented syndrome.

Mr. SHAYS. What I sense, and we will call on you in just a second, Dr. Miller, I am getting a sense, are we in the outer edges of medical research?

In other words, is there a lot of disagreement among—the fact you even have to bring these books here to try to convince me that somehow, well, there are some people who say it, makes me begin to think that I am into something I was not expecting.

Dr. BAUMZWEIGER. No, it is not that we are on the outer edge of medical research. It is that there is a big hole, a big gap in medical research, which was caused by psychiatry and neurology splitting off from one another in 1937 or thereabouts.

Mr. SHAYS. I am coming back to you. OK. I am going to come back to you.

[The prepared statement of Dr. Baumzweiger follows:]

To:
House Committee on Human Resources and Government Oversight
Representative Christopher Shays

The Gulf War Disorders: A family of Acquired Central Nervous System / Neuroimmune Disease Arising Subsequent to Exposure to Organophosphate Neurotoxin, In Conjunction With Other Environmental Risk Factors Present During the Persian Gulf War

by

William E. Baumzweiger, M.D.
September 19, 1996

First, I would like to describe my background, and how I got involved in this issue. I am both a Psychiatrist and a Neurologist. Early on in my career, I became interested in what was called Psychosomatic Medicine, which was based on the notion that emotions could have profound effects on physiology. Gradually workers in Psychiatry created the Bio-Psycho-Social model, pointing out the core structures of the brain had control over many bodily functions, and could cause hypertension, ulcers, and other problems. The Neurologist Paul McLean began to provide hard neurological data on these phenomena, and on the origins of emotions such as fear. This led me to study these underlying areas, called the **limbic circuits and brainstem**.

Psychiatry and Neurology had spilt from one another in 1937, leaving a huge gap in our medical knowledge of the relation between mind and body, and leaving a huge gap in the training of physicians. However, as a psychiatrist interested in psychosomatic medicine, I learned that all major mental disturbances were fund to have motor system and sleep wake cycle pathology. This put their physiology in the same area- the limbic system-brainstem.

I felt that there was a great schism our knowledge of the mechanisms that linked mental life with the actual neurological substrates of cognition and emotional states. Consequently, here is a great need to educate ourselves in Behavioral

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Neurology, in Neuropsychiatry. There is a great need to learn about the alterations in genetic mechanisms that can be created by organophosphates, particularly when they are potentiated by hydrocarbons as they were in the Gulf (see below).

The splitting of Neurology from Psychiatry, which used to be a unitary discipline, Neuropsychiatry, had left a critical hole in our medical understanding, Unfortunately, Gulf War Syndrome falls into that hole. Recently, some psychiatrists and neurologists have been attempting to fill in that hole, and what I have learned from them helps to understand the Neuropsychiatric nature and brain dysfunctions that are the basis for Gulf War Syndrome.

Organophosphate neurotoxin is known to attack the limbic system, the brain stem, the spinal cord. Clinically, each of these areas are damaged in GWD. The limbic system is very likely disturbed because of the acetylcholine and glutamate being out of balance--The fact that there is a deficit usually seen in acetylcholine post neurotoxin poisoning.

DEFICIT

ACh will cause a relative increase in glutamate, which could lead to the increased irritability, and the seizures. The result of this, and the immune dysfunction that can accompany this can cause the following clinical manifestations:

1. In Gulf War Patients the family has fallen on hard times, or fallen apart. my patients, and anecdotally at least there are problems in GWD patients' family lives. Paul McLean father of the study of the limbic system said: "The history of the evolution of the limbic system is the history of the mammalian species, which is the history of the evolution of the family". This process is occurring in the brainstem, limbic system, and paralimbic cortical, areas that are classically affected by organophosphate neurotoxin. THERE IS PROFOUND LOSS OF SEXUAL INTEREST, AND IN MANY CASES ANORGASMIA.

2. The appearance of fearfulness in so many patients who were in one place at one time is a tip-off that the neuronal system, the limbic system, and particularly the amygdala is involved. This is something that should be understood as neurological and subcortical, instead of just thinking that this is all "mental".

3. Clinically, there is the appearance of multiple simultaneous memory, motor, emotional and other deficits, which are characteristic of dysfunction in specific limbic system and brainstem components. They limbic system is the only part of the CNS in which these functions are all to be found "in the same place". Therefore, using classical neurological principals, we can localize GWD to the limbic system and brainstem.

4. In these limbic and areas there is residual ability, even in adulthood, for neurons to grow new connections, to remain plastic, and to reconnect with one another in novel ways. This can lead to the SUDDEN appearance of phobias and other limbic phenomena, symptoms that usually take a long time to develop. This plasticity can also result in seizures.

5. The brainstem which is closely related functionally to the limbic system, is also dysregulated, and is also a target for organophosphate neurotoxin poisoning. CRANIAL NERVE SIGNS HAVE DEVELOPED AS A CONSEQUENCE.
The lack of localization in the limbic system may have been a conceptual problem for neurologists, and the subtle neurological symptoms are a problem for psychiatrists. Neurologists are used to localizing, which is hard to do in the Limbic System, and psychiatrists have been using psychopharmacological approaches, which do not give an understanding of the way that specific brain structures create specific emotions, AND SUBTLE NEUROLOGICAL SIGNS.

When I was at the Wadsworth VA in the period 1992-1995 I saw Gulf War Veterans who clearly had autonomic and neurological problems being classified as psychiatric cases. I did, with the aid of the Research Department at Wadsworth, sophisticated tests on these patients I found abnormalities in heart rate, blood pressure, body temperature, lymphocyte (a specific type of white blood cell) count, arterial tone, , autonomic nervous system response, and Quantitative EEG. These data are to be found in APPENDIX A.

Since then, I have spent the last three years doing clinical work with these patients, and patients with similar problems. The neurological problem is chronic organophosphate poisoning is too little acetylcholine. The problems caused by too little acetylcholine can create many of the signs and symptoms of Gulf War Disorder, without having to invoke any psychiatric diagnosis. These correlations

are to be found in Appendix B. This alone will create a number of neuropsychiatric signs and symptoms. I have researched them, and they match many of the problems found in Gulf War Syndrome.

Why The Gulf War Disorders Have Eluded So Many Medical Workers

1: Not only are its signs and symptoms subtle, but they are not elicited by normal examination. Gulf War Disorder falls in the gray zone between Psychiatry and Neurology.

2. It is a very unusual disease in its mechanisms. Without being an inherited disease, it exists on and effects the level of cellular-genetic control. It does not have macroscopic manifestations. It does not affect a single organ exclusively except the limbic system and the brainstem, but otherwise it can affect almost every organ system in the body. It is a new type of acquired genetic disorder.

3 Because of subjectivity in observations, the scientists and physicians who have been studying it have not seen what is there in there, or have not believed what they saw, or have not put the multiple elements into a coherent picture.

4. The risks of organophosphate neurotoxin were greatly potentiated by the massive amounts of crude oil products in the Gulf during the war, making scientific estimates of the risk inaccurate. There is experimental evidence that organophosphates can be potentiated by hexane, which is a hydrocarbon fragment found in great abundance in crude oil.[1] Obviously, there was in the area plentiful crude oil from oil fires and wartime activities. **The crude oil in the environment could have trapped and potentiated the Sarin and other organophosphates, making them much more dangerous at low doses.**

Overcoming the lack of knowledge, overcoming the observer blindness caused by subjectivity plus doing the synthetic work required to develop an entirely new understanding of a complex scientific area is hard. If one knows enough

neurobehavioral neurology and neuropsychiatry, one can see this is a limbic disorder, without fancy tests. My experience as both a psychiatrist and a neurologist gave me the tools and expertise that to see Gulf War patients in a unique way. Based on three years of intensive work with them, and with other patients demonstrating related neurological problems I have come to the conclusion that there is a core set of very real signs and symptoms seen in the set of Gulf War disorders patients. My view is admittedly the minority opinion. Many physicians in positions of authority in both the VA and DOD emphatically insist that there is no common theme to Gulf War Illnesses. However, I find on careful examination that there are consistent abnormalities, both neurological and neuropsychiatric.

On laboratory examination of blood, spinal fluid and SPECT scans there are persistent though subtle abnormalities[2].

I find strong evidence that there is at least a family of related Gulf War Disorders. Several problems are very consistently seen in Gulf War Disorders. These are specific hallucinations. blurry vision without refractive or accommodative error, subtle body temperature dyscontrol, positional tachycardia, positional orthostasis, and noise / sunlight sensitivity and new onset seizures appearing in young people who have no reason to be getting them.

These problems all point to cerebral dysregulation, particularly in the subcortical areas of the central Nervous system and immune suppression, allowing the growth of the many lymphomas and other cancers that these patients are developing.

In 1994 I did a case study of ten patients with Gulf War Disorder, all of whom had body temperature abnormality, unstable heart rate and blood pressure, and very consistent findings of very marked intolerance to light and noise. They all demonstrated peculiar visual difficulties and a specific type of motor slowing. Further they disturbed sleep wake cycle, irritability, loss of direction sense and loss of interest in things that they used to enjoy doing. They demonstrated statistically abnormal lymphocyte profiles, increased immune related cells called monocytes, increased lymphocytes in the CSF. I concluded that they had suffered from an environmental intoxication. I concluded that they had a central nervous system inflammatory process.

In 1995 I did an independent study of 204 disability applicants assessed for evidence of subcortical irritation, which was found in 24 %, of whom had a history of immune suppressing infections such a mononucleosis, or head trauma, or exposure to radiation/drugs that are immuno suppressive. I have examined about 40 Gulf War Disorder cases, and have thoroughly worked up fifteen such patients, finding basic neurological, neurobehavioral, immune and viral disturbances in all. That the GWD patients showed similar yet more advanced signs and symptoms of immune dysregulation as the disability patients is of greatest importance. It explains why, when hundreds of thousands of soldiers were exposed to organophosphates, only a certain percentage fell ill with GWD. We are dealing with a percentage-a percentage which is fairly constant in any population of people-10-15%. This is what happened to approximately ten percent of the personal in the Gulf.

I have evaluated the so called psychiatric symptoms in Gulf War patients, and find them to be inconsistent with normal psychiatric disease. They are most likely a product of subcortical brain dysregulation. Gulf War Disorder, much like lupus, multiple sclerosis, and syphilis, seems to have organic impact leading to organic personality changes that can be mistaken for psychiatric disorder.

The simultaneous appearance of all the following: movement disorder, memory difficulty emotional problems, and the inability to integrate inside and outside is typical in the Gulf War Disorders. The presence of these problems all together is potent evidence for localization of the damage in the limbic system.[3]

Further evidence of the localization of the pathophysiology of Gulf War Disorder is available. I have seen in my own work with Gulf War patients an interesting phenomenon that increases the likelihood that the problem is in the limbic system. I have seen repeatedly many all of the above mentioned deficits, but in my own neuropsychiatric examinations of these patients, I have noted the preservation of working memory, that is the preservation ability to follow a single line of thought with several different elements to a satisfactory conclusion. They can do the Trail Test fairly well. **Working memory is, in fact not part of the limbic system.** [4] **This preserved function, along with all of the other defects further reinforces the central nervous system problem to the limbic system and the brainstem.**

Further, my work with other patients, especially Vietnam Veterans, who have experienced neurotoxic chemical insults to the nervous system has convinced me that patients who have become ill due to inhaled potent neurotoxic and immunotoxic fumes have in one critical way a particular and unique sensory symptom that is almost pathognomonic. This is true even though other details of their individual disorders can vary widely.

The accumulated neurological, neurobehavioral, neuropsychological and psychiatric data add up to a clear picture of brainstem and limbic system disruption, with immune and cardiovascular complications. Dr. Arthur Vento has done SPECT scans on 80 Gulf War veterans, and has found abnormalities in the orbitofrontal, right hemisphere, and paralimbic limbic cortices which are consistent with a brainstem-limbic system encephalitis.[2] While there is no one completely homogenous Gulf disease, there is a **related family of Gulf War Disorders (GWDs).**

These abnormalities are characteristic of damage in specific areas of the brain, areas that can account for the many symptoms of this disorder. Even though the pathology does not appear on most of the tests we commonly perform, there is a consistent pattern on some more advanced tests that highly suggestive of neurotoxin exposure, with subsequent dysregulation of neuroimmune function.

My conclusion is that Gulf War Disorders are neurological / neurobehavioral illnesses that involve the limbic system, the brain stem and the immune system. Unfortunately, they can mimic many aspects of psychiatric disease, but there are extremely consistent disturbances seen on close neurological and psychiatric examination that make these disorders definable as resulting from neurotoxic injury. They have been precipitated by environmental toxins, most likely Organophosphates.

Organophosphate Neurotoxin

The precipitating factor found in all ill Gulf war armed forces who got sick, and was absent in those who didn't, was the exposure to neurotoxin, which allowed immuno suppressive viruses to invade and cripple crucial immune cell lines in the brain. The absence of cases of Gulf War Disorders in the French Forces are

probably due to the superior technique that they had in protecting them selves from neurotoxin.

All neurotoxic organophosphate poisons that cause the clinical picture of GWD, the OPIDN picture, attack receptors called Neurotarget Esterase Receptors that are present on both the neurons and on lymphocytes associated with those neurons.[5] The attack on these receptors somehow results in permanent genetic alterations in the proliferation and differentiation of key lymphocytes in the subcortical areas, and well as on central and peripheral nerve damage that is often progressive and permanents. The exact mechanism is still unknown. However I demonstrated that there is an abnormally percentage of lymphocytes in the spinal fluid, and that there are many immature lymphocytes in their spinal fluid, suggesting this problem is occurring in Gulf War patients.

The result of chronic inflammation of these areas would be changes in neuronal function and irritability that could manifest with numerous neurological and neurobehavioral functions. Gulf War Disorders are apparently acquired genetic disorders that effect the brain's ability to generate well differentiated, mature lymphocytes and maintain a normal lymphocyte-neuron interaction. This in turn would result in a deterioration of neuron function, and in a over-production within the brain of immature, poorly differentiated lymphocytes. These lymphocytes may be indiscriminately attacking the neurons that they are supposed to support.

Organophosphate neurotoxins are known to acutely increase acetylcholine, an excitatory neurotransmitter, and then lead to a burn out of the acetylcholine generating systems, leading to a deficiency in acetylcholine. A deficiency in acetylcholine in the deep brain areas (limbic circuit and hypothalamic /brainstem areas) would create the signs and symptoms that I have found in the Gulf war disorders.

For example, Gulf War Disorder is characterized by an inability to fuse visual images, particularly of moving objects, and are also characterized by an inability to localize sounds in space. High level neurological mechanisms such as this are known to be due to defects in predominantly cholinergic circuits that can finely resolve tiny differences in sound timing[6], recruit neurons to maintain the signal,

and store the information. [7, 8] Deficits of acetylcholine in these deeper areas of the brain create the symptoms of Gulf War Disorder. The neurological, neurobehavioral and neuropsychiatric phenomenology of GWS supports the idea that the cholinergic areas, where adaptation and neuronal plasticity is maintained in the brain and spinal cord, have sustained long term damage from damage to the Neurotarget Esterase receptors on neurons and lymphocytes..

It may be the a number of viruses are involved is some of these cases, viruses that are commonly found in all of us; viruses that we can pick up fro the environment, viruses that we may have contracted from vaccinations or in other ways, These viruses may have been let into the lymphocyte cell lines by their being forced into premature proliferation / division by organophosphates. The phenomenon of increased lymphocytes in the spinal fluid has been noted in other settings. These are cells intimately involved with cell mediated inflammatory processes, It is highly significant for chronic brain disease[9] and spinal fluid showing increased lymphocyte percentage is characteristic of limbic encephalitis.[10] The question is what is causing the subcortical encephalitis is Organophosphate exposed individuals?

Despite the immune suppression in these patients, I demonstrated, as mentioned, an increase in lymphocytes in the spinal fluid. This strongly suggested there was a localized CNS inflammation with brainstem and limbic encephalitis, and the production of lymphocytic white cells. This explained the ongoing neuroimmune disturbance of the cholinergic subcortical mechanisms and immune cells that had been insulted initially by the neurotoxin, and continue to be disturbed by viral dysregulation.

The relation of this disorder to virus was pointed out by myself to the Wadsworth staff, with a high number of the Gulf War Veterans having not only positive EBV, but also high amounts of viral IgA and IgM, suggestive of subclinical viral infection associated with their high CSF and evidence of brainstem-limbic system irritation. How neurotoxic and viral disorders could combine to cause a subcortical inflammatory process was addressed by myself, in 1995.

Organophosphates are Neurotoxins and Immunotoxins

It is well known that the organophosphates are potent immunotoxins as well as neurotoxins.[11] When cells are forced to proliferate abnormally, viruses that are ordinarily excluded from them can get into them. Viruses attack the faster growing cells. During the genetic processes involved in DNA reproduction in cells, the virus enters. It is then present in every subsequent cell. This is why they attack epithelial cells and other fast growing cells, and hardly ever attack, for instance bone, and other slow growing cells. This is demonstrated by the ability of Phorbol ester to allow EBV and herpes-6 into human lymphocytes.[12] This is the basis for Gulf War Syndrome and possibly also Agent Orange syndrome as well.

The following spectrum of disorders is in all likelihood precipitated by exposure to organophosphate neurotoxin, which is known to produce OPIDN, Organophosphorus Induced Delayed Neurotoxicity, a disorder characterized by both central and peripheral neuropathy.[13, 14]

Every modern textbook of Neurotoxicology, Peripheral Neurology and Environmental Medicine tells the reader about the multiple delayed illness that appear subsequent to Organophosphate exposure (OPIDN). In a recent three volume work "The Vulnerable Brain and Environmental Risks both the many symptoms and the history of the disorder is clearly described:

"The (long term) dangers associated with human exposure to organophosphorus compounds are best illustrated by the series of poisonings that occurred at intervals during the period from the 1930's through the 1970's. In most of these cases the victims displayed delayed onset of muscle pain, muscle weakness, paresthesias...ataxia and spasticity...(and) higher order dysfunctions manifested as difficulties in concentration, nervousness, depression and the various forms of psychiatric disturbances."

The role of Organophosphate neurotoxin in causing peripheral nervous system disease is documented in thousands of books and articles. Suffice it to say that every veteran I have seen with Gulf War Syndrome has slowly progressing peripheral neuropathy of a mixed sensorimotor type, with all of them having some at least decreased vibration sense. Some seemingly healthy Gulf War Veterans I have examined also demonstrate a mild decrease in vibration sense.

How Organophosphate Neurotoxin Could Create the Apparently Psychiatric problems in Gulf War Disorders

Many patients who have GWD are diagnosed as having Psychiatric problems. In fact, there is a high likelihood that injuries to the limbic system are mimicking psychiatric disturbances. Careful review of the cholinergic parts of the limbic system, the brainstem reveals that all of the supposedly psychiatric symptoms are seen in dysfunction of the acetylcholine mechanisms of these areas.

Generally, acetyl choline is involved in emotional modulation and motivational mechanisms, especially in the limbic and brainstem areas. In particular, the cingulate gyrus is responsible for the ability to focus directed attention the ability to attend to multiple elements within the environment at once, and also autonomic nervous system integration with physical and emotional state.

The cingulate is in addition partly responsible for initiation of motor action. The lowed motor action of the Gulf War Disorder patient makes one suspect this area as being a source of these problems. even though they can be caused by defects in other neurological structures. The fact that all these functions reside in the cingulate part of the limbic system, a d they are all present in Gulf War Disorder is highly suggestive, and actually leaves no other unitary explanation for their presence all at once in the same disorder.

THE

Parietal Lobe: Defect in parietal lobe function noted by Vento can explain the difficulties with direction sense in GWD. The parietal paralimbic areas are, according to Robert Post, very critical for mapping three dimensionally[15].

THERE IS A LOSS OF 3 DIMENSIONALITY IN GWD.

The Immune deficiency Gulf War Disorders

It has recently been demonstrated that organophosphate affects not only central nervous system neurons and peripheral neurons, but also long term lymphocyte characteristics. The neurotoxins Sarin and Soman as well as the original organophosphate TOCP would do this because they all have long term effects the same **Neurotarget Esterase receptors, which are to be found on brain neurons, peripheral neurons and lymphocytes. These effects are chronic, and this**

suggest that entire lines of lymphocytes are altered when exposed to these types of neurotoxins.[5]This is most likely why immune disease arises in patients who are exposed to these types of neurotoxins.

One of the main aspects of this illness is the susceptibility seen in Gulf War Forces to immune suppression the immune suppressive related illnesses, especially cancers and lupus erythematosus. Recent work shows that in a number of immuno suppressive related disorders such as rheumatoid arthritis, diabetes and lupus erythematosus, there is a defect in IL-2 production.[16]. There may be a defect in circulating IL-2 as demonstrated by the immune suppression and decreased monocytes in the CSF, along with an increase in tissue production of IL-2, as evidenced by increased monocytes in blood.

We know that in the presence of acute herpesvirus infection and trauma there is an increase Nitric Oxide Ion, resulting in release of intracellular calcium from the smooth Endoplasmic Reticulum, causing increased interferon gamma and Tumor necrosis factor, and probably the increased capability of the viruses o insert themselves into the genome of the neuron and its associated lymphocytes. (It appears that specific lymphocyte lines may be associated with specific neurons in the CNS.) **We know that increased nitric oxide ion causes proliferation in immune cells, such that they are not able to fight off viral control over their activities.** [17] **This may be the basis for the CNS lymphocytosis seen in these disorders. The immaturity of these cells would lead to immune incompetence, as well as autoimmune phenomena.**

The result of these very different processes is the same, to up-regulate the viral control of the lymphocytes, neurons, and neuronal glia in the nervous system. The limbic system in particular has a plasticity and an ability to remold itself throughout life, which would depend on a different genetic control set than the rest of the central nervous system. The patients develop a syndrome what I have described in earlier papers as a form of limbic encephalitis, a neuroimmune syndrome that is typically very rarely seen, and seen associated usually with a few neuromodulatory cancers.

The Role of the Limbic System in Gulf War Disorder and Other Neuro-behavioral/Neuropsychiatric Problems

Forced proliferation of white cells apparently has allowed viruses into the limbic, brainstem areas, areas which are still capable of considerable neuronal modification and growth. The resulting inflammation can result in the dissociation of the usually tight nit limbic system into dysfunctional parts.

The dissociation of the limbic system seen in the histrionic / obsessive pattern seen in Gulf War Syndrome shows that the limbic system itself is inflamed and dysfunctional. Veterans with Agent Orange, have the nasal phenomena, have the limbic phenomena, which shows that they too are suffering from a limbic encephalitis, from another mechanism.

These disorders relate to the cholinergic areas that would be affected by inhaled neurotoxic gas, and the immune and cardiovascular defects follow from the multiple predisposing insults combined by the neurotoxic exposure. The subcortical areas of the brainstem and limbic system are directly responsible for providing affect and motivation are the cholinergic-rich amygdalar complex, and the hypothalamic septal upper midbrain nuclei. We see affect and motivation profoundly impaired in these patients.

Further, the sympathetic nervous system is particularly critical for providing excitatory systems. We know that dysautonomia is one of the consequences of exposure to organophosphates, and there is dysautonomia in GWD, with temperature dyscontrol, positional, heart rate and blood pressure We see serious and potentially dangerous instability in excitability levels in these patients.

Psychoanalysis is now teaching that the mother first stimulating and then soothing the child somehow develops the ability to regulate affect. The non dominant right frontal cortical area is critical in balancing off positive and negative feelings in an adaptive way. [18]

It appears that in the normal neurobiological state this affect regulation takes place in the areas that anatomically connect the limbic system to the brainstem and to the cortical areas. The regulatory mechanisms in the limbic

system allow the self to function autonomously enough to self regulate , to balance raw physiological excitement coming from below and inhibitory influences coming from socialization (just thinking too much) coming from above.[19]

Behavior control appears to be gravely impaired in Gulf War Disorders due to the loss these inhibitory boundaries. This loss is in the acetylcholine rich areas that appear to be chronically dysregulated by neurotoxin exposure and subsequent viral invasion of local lymphocyte systems in the brainstem-limbic system.

Organophosphate Damaged Areas of the Brain and How They Produce the Signs and Symptoms of Gulf War Disorder

Central Nervous System

Subsequent Observations of GWDs have repeatedly demonstrated dysautonomia, vascular irritability, neuroimmune dysregulation. Loss of normal psychological responses to helping figures, the appearance of abnormal personality configurations, impulse control problems and the reversal of normal reactions to helping figures suggested a widespread but consistent pattern of Neuro-immune disruption.

1. Decreased effectiveness of the frontal lobes, creating problems with judgment, with motivation, with matching past experience with present situation.

2. Defect in recognition mechanisms for telling self from non self, with a sense of dysphoria and dysthymia, dislike of the self and persistent neurologically induced depression, suggesting a neuroimmune dysfunction.

3. Defect in correlation between the multiple areas of representations of objects and qualities in the brain due to temporoparietal dysfunction.

4. Upregulated startle behavior and brainstem arousal mechanisms such as irritation, with disruption of the normal brainstem operation, whose priority is to

select a pattern that can explain the environmental situation with a minimum of required territorial or complex response.

5. Bizarre behavioral abnormalities developed in GWD veterans. These appear to be explainable only on the basis that they are Brainstem-limbic dysfunctional behaviors (sham rage, etc., violent behavior) dissociated from cognition and affect.

6. Persistent olfactory hallucinations suggested that the precipitating insult has been inhaled.

Olfactory hallucinations are a very strong indication that these patients have inhaled neurotoxic gas that has de stabilized their nasal mucosa, olfactory system and limbic system.[20]. Inhaled organophosphates first would attack the limbic system, which is known to be at the end of the track for inhaled neurotoxins / insults that come in through the nasal epithelium[21]. The abnormalities of smell, the diminished olfaction combined with the nasal irritability in gulf war patients demonstrates that the nasal epithelium has been disturbed by the passage through it of toxins, the frequent appearance of olfactory hallucinations demonstrates the tract into the limbic system through the uncus has been disturbed. The existence of Olfactory Hallucinations in these patients is very significant. True Gulf War Disorder patients seem to all have them. These hallucinations are probably due to inhaled neurotoxin.

The Neurobehavioral Symptoms: The destabilization of the limbic system has led to pseudo psychiatric symptoms which make no psychiatric diagnostic sense, but which make complete sense when understood from the view of subcortical-limbic dysfunction. Thousands of our armed forces personnel have been given erroneous diagnosis of PTSD , somatization disorder, and schizophrenia. Destabilization of the limbic system sensory-motor gating systems can lead to schizophrenia-like symptoms.[22]

Clearly organic symptoms of simultaneous irritability, new onset obsessions, and alterations an attachment / affiliation. There is clear signs of this. symptoms probably due to environmental exposures, creating a neuroimmune disorder

that has multiple manifestations, which we can understand as the Gulf War Disorders.

It has long been recognized that the brainstem and limbic system can become irritated from virus[23], from cancer generated insult[24], or from organophosphate neurotoxin. We know that herpesvirus inserts itself directly into the neuron's DNA and stays in the genome itself, and can alter its behavior. We know that with OPIDN, the presence of organophosphate like agents such as Phorbol ester causes the two Herpesvirus to up-regulate and transfect lymphocytes.[12] Human Herpesvirus can penetrate the cell under a number of circumstances, including the presence of, the presence of oil[25]. This result has been confirmed.[26]

What caused some of our armed forces to become sick, while the French forces did not? All the forces had predisposing factors. The precipitating factor found in all ill Gulf war armed forces who got sick, and was absent in those who didn't get sick was the exposure to neurotoxin., which allowed immuno suppressive viruses to invade and cripple crucial immune cell lines in the brain.

New Onset Seizures New onset seizures complex partial Grand Mal Epilepsy is appearing at a remarkable rate in GWDs. The organophosphates Deltamethrin, Dieldrin, Endosulfran, Soman andTabun are all potent neurotoxins, and can cause seizures as well.[27] The organophosphates that are Neurotarget esterase related can cause OPIDN, and can affect the limbic circuit. The limbic circuit is the source of all of the seizures that I have seen in Gulf War Veterans. It is rather uncommon, without head trauma, tumor, or drug abuse for seizures to begin in the 30-50 age range. It is most likely that something has caused extensive modification in the limbic circuitry of Gulf War forces with recent onset epilepsy. The damage to the acetylcholine receptors and consequent depletion of acetyl choline (normally thought of as a excitatory neurotransmitter) may lead to seizures. The mechanism may be the up-regulation of receptors, growing hypersensitivity from a lack of acetyl choline, or epileptic phenomena could be associated with a lack of acetyl choline, [28]: or acetylcholine may be the neurotransmitter in interneurons that is needed to balance against the excitatory transmitter, glutamate.[29]

Sleep Apnea: Many Gulf War veterans are suffering from sleep apnea syndrome. One of the parts of the CNS affected by OPIDN is the medulla, where the respiratory centers are related to the cholinergic system, and are to be found in the medulla, where they could be injured by this process. The area of the medulla involved in sleep is controlled by acetylcholine and Nitric Oxide Ion. NAD Diaphorase eliminates Nitric Oxide Ion. This enzyme in increased, causing depleted NOI in these areas when there is damage to the acetylcholine system.[30]

The Urgency of this problem

A front page New York Times article from Sunday Sept. 1 [31]makes it clear that this is an urgent matter. According to responsible officials, the chances are increasing that there will be an accidental release of some of our 1.2 million pounds of neurotoxic gas in the near future due to vessel . We had better learn how to take care of those who are exposed accidentally to organophosphate neurotoxin-not just for the sake of caring for our citizens

Gulf War Syndrome is the result of neuroimmune dysfunction within the limbic system and brainstem, associated with a depletion of acetylcholine and probably dopamine, as well as in immune disturbance in the brainstem that spreads to multiple organ system. This neuroimmune disturbance and the neurotransmitter deficits can in almost all cases explain all the signs and symptoms of GWD, without resorting to psychiatric explanations.

I reject diagnoses such as Chronic Fatigue Syndrome as an explanation for this disorder. These patients demonstrate brainstem dysfunction, memory and motor problems that is not seen in Chronic Fatigue Syndrome . Further, there is are a number of serious scientific problems with this diagnosis in any circumstance.[20] I also do not believe that the majority of symptomatic Gulf War participants experienced any stress which would be sufficient to precipitate, PTSD, and GWD has too many neurological and immune correlates to make a diagnosis of PTSD applicable. So called "Complex PTSD" is not a valid diagnosis by DSM-4 criteria, and would appear to be a confusing designation for subcortical neural dysfunction. A few Gulf War participants may have true PTSD. I have seen only one, out of the perhaps 100 Gulf War veteran I have ever observed.

Summary

Doctors Butafusco and Prendergast in Georgia, doing a DOD sponsored experiment using the organophosphate DF, have shown that exposure to a concentrations as small as **250 parts per million for 2 hours for 10 days** can cause long term neuronal dysfunction. This represents a concentration that was well below the sensitivity of many of the detectors we had in the Gulf. This organophosphate, like Sarin and Soman attacks the Neurotarget Esterase Receptor. Mr. Jim Tuite is able to show that the troops were exposed to prolonged low level exposure, which is cumulative. We must accept that the problem is exposure to organophosphate neurotoxin.

Limbic encephalitis would cause dysfunction of the entire limbic system, including a loss of coordination in its activities, and defects of the individual activities itself, as well as brainstem dysregulation. Its effects would alter the behavior and cause irritation in the parts of the brainstem that are involved in adaptation of the limbic functions, such as the MLF and median forebrain bundle. These areas would be the most easy targets for viral re-modeling and pathological resetting of genetic activity. This is quite likely why, under different circumstances, the same syndrome of brainstem dysregulation is induced.

In all of these conditions, there is headache made worse by mental effort, there is light and heat intolerance, there is fatigue, there is musculoskeletal disease and autoimmune problems, there is difficulty with attention, concentration and neurological-emotional stability. The factors that lead to neuroimmune inflammatory problems and their exacerbation give a clue to the nature of the brainstem GWS, Agent Orange exposure, radiation exposure, polio, head trauma are all quite different, but all create the same clinical syndrome.

While the problem in apparently not primarily a bacterial or viral one, microbes may be a complicating factor. Certain bacterial infections can cause similar immuno suppressive effects to virus, especially Nocardia Asteroides,[32] Campylobacter Jejuni and C. Elegens.[33] E. Histolytica[34], Mycoplasma, and amoebas. The entire problem of immuno suppressive virus, which are seen with excessive frequency in GWS, needs to be addressed as a

complicating factor to this disease.[20] We may be able to temporarily suppress the pathological lymphocytes with antibiotics.

Calcium channel blockers clearly help with the irritability, help with the headaches, help with the dysphoria presumably by blocking excessive influx of Calcium in response to abnormal signals. The dysphoria is helped with Florinef, a salt retaining steroid. Yohimbine may help with the depletion of acetyl choline. Wellbutrin helps with the depletion of dopamine. Staying out of the sunlight greatly helps with the cerebral dysregulation presumably by avoiding an upregulation of prolactin. Dantroline may help with muscle spasm, in low doses, by preventing the influx of Calcium from inner stores into the cell content.

Conclusions

What to do with organophosphate insecticides and neurotoxins has been a terrible and apparently unresolved problem for the US government. Twelve years ago Dr. K.T Maddy of the California Department of agriculture warned of the dire consequences of even agricultural use of pesticides, stating the effects of exposure could come out 20 year later.[35] A short while ago a huge class action lawsuit involving serious injury from the organophosphate insecticide Dubane was settled in favor of the plaintiffs.

Russell Metcalf, in the concluding remarks to the book Delayed Neurotoxicity, said in 1984:

"In our studies of OPIDN we must not lose sight of the ultimate effects on the human...organism...I believe that all there has all to often been too little concerned for the ultimate effect of OPIDN upon Humans. OPIDN is a profound human tragedy, almost always visited upon unsuspecting victim... A massive outbreak of OPIDN ...could dwarf the thalidomide tragedy both in the extent of human suffering and in legal monitory damages. The only responsible course of action for dealing with organophosphorus esters shown to produce OPIDN is to withdraw the compound from use".

We are now sitting on 1.2 million pounds of poison gas in this country, which is according to the experts stored in rather unstable conditions. We are having problems getting rid of it, and there is some chance that someone will be exposed to it. The nightmare that Hitler invented to kill the Jews of Europe has become our nightmare now. We cannot wait around for this vile stuff to break through its polyethylene lined containers and contaminate our land. We must accept the reality, and deal with the danger. We must act now-to ameliorate the damage it has already inflicted to our armed forces, and to prevent further disaster from occurring.

Bibliography

1. Abudonia M. Interaction Between Neurotoxicities Induced By Organophosphates and Long Chain Hexacarbon Compounds. 1986.
2. Vento J. 80 SPECT Scans of GWD Patients, 1996.
3. Trimbell M. Behavioral and Psychiatric Manifestations of the Temporal Lobe. In: Mesulam M, ed. American Academy of Neurology Annual Meeting. New York: American Academy of Neurology, 1993.
4. Knight R. Attention, Working Memory, and the Frontal Lobes. In: Mesulam M, ed. American Academy Of Neurology Annual Meeting. Washington, DC, 1994.
5. Nadna S. Tri- Ortho- Cresyl Phosphate Induced Neurotarget Esterase Inhibition in Brain and Peripheral Nerves Effectively Monitored By Lymphocytes. Indian Journal of Experimental Biology 1994;32:356-9.
6. Yin T. Audition. In: Conn P, ed. Neuroscience in Medicine. Philadelphia: J. B. Lippincott, 1995.
7. Sannita W. Retinal and Cortical Oscillatory Responses to Patterned and Unpatterned Retinal Stimulation in Man. In: Pantev, ed. Oscillatory Event Related Brain Dynamics. New York: Plenum Press, 1994:167-82.
8. Niebur E. Models For the Neuronal Implementation of Selective Visual Attention Based on the Temporal Structure of Neural Signals. In: Pantev C, ed. Oscillatory Event Related Brain Dynamics. New York: Plenum Press, 1993:295-324.
9. Wink A. Cerebrospinal Fluid Measurements. In: Lentner C, ed. Geigy Scientific Tables. 8 ed. West Caldwell, N.J.: Ciba Geigy Corporation, 1981.
10. Fishman R. Cerebrospinal Fluid in Diseases of the Nervous System. Philadelphia: W. B. Saunders, 1992.
11. Kowalczyk S. Studies on the Effect of Pesticide Chlorfenwinfos on Mouse Immune System. Archivum of Immunologiae et Therapiae Experimeantalis 1992;40:283-9.
12. Lusso P. Interactions between HHV-6 and Other Herpesvirus. In: Ablashi D, ed. Human Herpesvirus-6. New York: Elisever, 1992:121-31.
13. Kulig K. Clinical Neurotoxicology Of Industrial and Agricultural Agent. In: Chang L, ed. Neurotoxicology. San Diego: Academic Press, 1995:620-669.
14. Metcalf. Delayed Neurotoxicity in Perspective. In: Crammer, ed. Delayed Neurotoxicity. Little Rock: Intox Press, 1992.

15. Post R. Neurobehavioral Neurology The Limbic System. In: Mesulam MM, ed. AAN Annual Convention. New York, 1993.
16. Lotze. Interleukin As A Pharmacologic Reagent. In: Smith K, ed. Interleukin 2. San Diego: Academic Press, 1988:237-294.
17. Murphy S. Glial Cells and Nitric Oxide, Sources and Targets. In: Vincent, ed. Nitric Oxide In the Nervous System. San Diego: Academic Press, 1995.
18. Schore. Affect Regulation and the Origin of the Self. Hillsdale, NJ: Lawrence Erlbaum Associates, 1994.
19. Deutch A. The Nucleus Accumbens Core and Shell: Accumbal Compartments and Their Functional Attributes. In: Kalivas P, ed. Limbic Motor Circuits and Neuropsychiatry. Boca Raton: CRC Press, 1993:45-88.
20. Cullen M. Is there Evidence for Extreme Vulnerability of the Brain to Environmental Chemicals? In: Isaacson R, ed. The Vulnerable Brain and Environmental Risks. New York: Plenum Press, 1994:65-77.
21. Lewis. Transport of Inhaled Toxicants to the Cental Nervous System. In: Isaacson R, ed. The Vulnerable Brain and Environmental Risks. New York: Plenum, 1994.
22. Swerdlow N. Limbic Cortico-Striatal-Pallido-Pontine Substrates of Sensorimotor Gating in Animal Models and Psychiatric Disorders. In: Kalives P, ed. Limbic Motor Circuits and Neuropsychiatry. Boca Raton: CRC Press, 1993:311-345.
23. Pranzatelli M. Autoimmunity: The missing link in the Neurobiology of CNS Paraneoplastic Syndromes. Advances In Neuroimmunology 1996;3:12-17.
24. Victor M. Principles of Neurology. New York: McGraw Hill, 1993.
25. Burke. Current Status of HSV Vaccine Development. In: Roizman, ed. The Human Herpesvirus, 1994.
26. Okada Y. Viral activation from latency during retrodifferentiation of U973 (lymphocyte) cells exposed to phorbol ester is followed by infection with HIV virus type 1. Immunopharmacology 1995;30:27-39.
27. Gilbert M. Neurotoxicants and Limbic Kindling. In: Isaacson R, ed. The Vulnerable Brain and Environmental Risks. New York: Plenum Press, 1992:173-92.
28. Johnson M. Neurotransmitters and Epilepsy. In: Wyllie P, ed. The Treatment of Epilepsy. Philadelphia: Lea and Farbinger, 1993:111-25.
29. Schwartzkroin P. Basic Mechanisms of Epileptogenesis. In: Wyllie P, ed. The Treatment of Epilepsy. Philadelphia: Lea and Farbinger, 1993:111-25.

30. Vincent S. Localization of Nitric Oxide Neurons in the Central Nervous System. In: Vincent S, ed. Nitric Oxide in the Nervous System. San Diego: Academic Press, 1995:84-102.
31. Egan T. Error In Chemical Arms Cleanup Sparks Fears. New York Times. New York, 1996:1 and 8.
32. Beamon B. An Environmental Bacterium Possibly Associated with Neurodegenerative Disorders in Human Beings. In: Isaacson R, ed. The Vulnerable Brain and Environmental Toxins. New York: Plenum, 1992:147-67.
33. Mendel J. Participation of the G Protein G alpha in Multiple Aspects of Behavior of C. Elegens. Science 1995:1652-58.
34. Seguin R. E. Histolytica Stimulates the Unstable Transcription of C fos By Protein Kinase C Transduction. Immunology 1995;8:49-57.
35. Rosenstein L. Interpretation and application of Delayed Neurotoxicity and Legal Viewpoints. In: Carnmer J, ed. Delayed Neurotoxicity. Little Rock: Intox Press, 1984.

Mr. SHAYS. Dr. Miller.

Dr. MILLER. I was asked by your committee to address a question, whether low levels of something like an organophosphate, for example, Sarin, could be responsible for some of the health problems that we are seeing in the Gulf war veterans. And, of course, just to remind ourselves, Sarin, of course, was not the only organophosphate-type exposure soldiers may have encountered in the Gulf. Pesticides in this chemical class and pyridostigmine bromide, a related carbamate drug were also used.

I forgot to mention, I also serve on the VA expert——

Mr. SHAYS. Could I ask you to just lower the mic a little bit? And I am going to ask you to speak a little more slowly.

Do any of you have a plane to catch or something? Is that why you are speaking fast? I would have had you go first, doctor. I am sorry. What time is your plane leaving?

Dr. MILLER. 6:45.

Mr. SHAYS. OK. You are going to be OK. It is 4:30. Unless you are going to Philadelphia to get the plane.

Dr. MILLER. No. I appreciate your consideration.

Mr. SHAYS. Is it National?

Dr. MILLER. Yes.

Mr. SHAYS. OK. You will be all right.

Dr. MILLER. Thank you. I forgot to mention at the introductory period that I serve on the Persian Gulf expert, if you want to call it expert, advisory panel for the VA and have since its inception.

Effects of low level chemical exposures have been a focus of my research over the last 8 years. I co-authored a report for the New Jersey State Department of Health back in 1989 and a subsequent book, ironically, it was entitled "Chemical Exposures, Low Levels and High Stakes," about patients who report developing chronic illnesses and chemical intolerances following low level exposure to various chemicals, including pesticides, solvents and combustion products. Some of the sickest individuals that we have studied as a group seem to be those who are exposed to an organophosphate or carbamate pesticide in the same chemical class.

In 1995, we published a study of 37 patients who had been exposed to pesticides in this same class, these were civilians, who subsequently reported developing multi-system symptoms and new onset chemical, food and drug intolerances. Eighty percent of these individual told us they were no longer able to work or could only work part-time because of the severity of their health problems. The most common symptoms reported by these individuals at the time they were exposed were often flu-like. For example, fatigue, concentration difficulties, headaches, shortness of breath, musculoskeletal pain, and gastrointestinal symptoms. The specific data on these 37 patients is included in table 1.

In general, these individuals did not report the classical symptoms of organophosphate poisoning. However, they did report developing new and unusual intolerances for common chemicals such as fragrances, traffic exhaust, gasoline, household cleaning products, chlorine in swimming pools that was mentioned here earlier, and other kinds of exposures. In addition, many found they could no longer tolerate alcoholic beverages, various foods, caffeine and

medications they were prescribed, including antidepressants and others.

Four years ago, the chief of staff of the Houston VA Medical Center asked me to consult on the first Gulf war veteran admitted to their newly designated regional referral center for Gulf war veterans and this was because the individual was complaining of chemical intolerances and the chief of staff asked me to come in as a consultant, having read about some of our work.

Since then, I have been asked to evaluate about 75 Gulf veterans. These veterans' symptoms and their frequent reports of new onset intolerances to chemicals, foods and medications reminded me of the civilians we had studied with histories of exposure to organophosphate or carbamate pesticides or to mixtures of solvents at low levels.

Comparison of eight symptom scales derived by factor analysis revealed similar ordering of symptoms in the Gulf veterans and the pesticide exposed civilians. This is included in figure 1. We can see the comparison of the different symptom groups.

All of the civilians reported new chemical intolerances because they were selected for our study on this basis. However, 78 percent of the first 59 Gulf veterans we saw at the Houston center also reported new onset chemical intolerances since the war.

For example, mechanics who once liked the smell of engine exhaust or said they used to bathe, literally bathe, in solvents with no associated symptoms reported severe symptoms with these exposures since the war. One mechanic told me that before the war his idea of the perfect perfume was WD–40. Now, WD–40 and many other low level chemical exposures he says make him feel ill.

Seventy-eight percent of the veterans also reported new food intolerances or feeling ill after meals; 40 percent had experienced one or more adverse reactions to medications since the war; 66 percent of those who used alcoholic beverages reported that even a small amount such as one can of beer made them feel ill, and these were individuals who frequently enjoyed drinking maybe a six-pack on the weekend.

Twenty-five percent of those who used caffeine reported feeling ill if they drank coffee or another caffeinated beverage and 74 percent of those who smoked reported that smoking an extra cigarette or borrowing someone else's stronger brand made them feel ill.

More than half of the Gulf veterans seen at the referral center reported intolerances in all three categories: chemical inhalants, foods and drugs or food/drug combinations.

What this really shows is sort of a generalized pharmacologic intolerance that these individuals seem to have developed, responses at low levels to things that would not bother the ordinary person and had not bothered these individuals previously now seemed to be triggering symptoms in them.

Most patients will not report such intolerances to their physicians. Generally, they will focus on describing their symptoms such as headaches or irritability. Even if they were to tell their physicians that they were experiencing confusion or nausea while driving, it is unlikely that either they or their doctors would entertain the notion that their symptoms might be triggered by exposure to

traffic exhaust, and yet that is exactly what many veterans and these civilians exposed to organophosphates tell us.

There are now several studies in addition to our own linking chronic multi-system symptoms to organophosphate or carbamate exposure. These agents have been implicated in similar illnesses and intolerances in pesticide exposed casino workers, an attorney whose home was exterminated, and other persons exposed to organophosphates.

A recent European study involving nine countries revealed other cases of new onset intolerances following exposure to various pesticides. Again, these individuals have multi-system kinds of symptoms.

Thirty years ago, Tabershaw and Cooper in California described a group of agricultural workers with acute organophosphate pesticide poisoning, some of whom developed persistent symptoms. Following their acute exposure, nearly 20 percent reported that even a whiff of pesticides made them feel ill. A number of the workers quit working with agricultural chemicals for this very reason.

In 1966, in Germany, Spiegelberg described persistent, multi-system symptoms among Germans who had worked in chemical weapons production during World War II. Notably, he also described new onset intolerances for alcohol, nicotine and medications among these workers. Thus, there is accumulating evidence linking organophosphate type compounds with chronic illness and new onset intolerances in a subset of exposed persons. This unusual symptom of new onset chemical food and drug intolerances appears to be a unifying theme. It would be difficult to imagine that so many people with identifiable exposures would invent such a bizarre complaint. It would be a bit of a coincidence.

Many of these individuals now avoid fragrances they once enjoyed, no longer fill up their own gas tank or drive where there is heavy traffic exhaust because they feel too ill if they do these things and they have given up formerly favorite foods such as pizza or chocolate because they feel sick when they eat them.

Taken together, these observations by our own group and by other researchers suggest that we may be dealing with an entirely new mechanism for a disease, one we have nicknamed Toxicant Induced Loss of Tolerance or TILT. A yet to be proven mechanism of disease is a theory of disease, hence, we have dubbed this the TILT theory of disease.

TILT appears to involve two steps: initiation and triggering. First, after a single acute or multiple low level exposures to a pesticide, solvent or other chemical, a subset of those exposed appear to lose their prior natural tolerance for a variety of common exposures, such as tobacco smoke, fragrances, engine exhaust and gasoline. Following initiation, very low levels of many common substances trigger their symptoms, including not only chemicals but also various foods, medications, alcoholic beverages and caffeine. Symptoms generally involve multiple organ systems and wax and wane in a seemingly unpredictable manner.

Ironically, patients may be completely unaware of these intolerances because of a phenomenon called masking. If an individual were intolerant of multiple substances, chemicals, foods, drugs and

so on, but they were exposed to these substances one after another during the day, then that person's responses to these exposures might overlap in time so that at any given point in time that person might be feeling ill like they had chronic flu or chronic fatigue, but they would be unable to tell which exposure was triggering their symptom.

In effect, there would be so much background noise that the signal was hidden, the relationship to any particular exposure. This is what is meant by masking.

To determine whether the Gulf veterans' current health problems are now being triggered and thus perpetuated by everyday chemical exposures, physicians need to be able to minimize background chemical noise or unmask their patient.

Physicians and researchers attending two federally sponsored workshops on the health effects of low level chemical exposures have recommended that double blind placebo controlled testing of patients in an environmentally controlled hospital ward be conducted in order to determine whether such low level intolerances do in fact occur. As you can see, this is an area of contention among physicians.

To accomplish this, use of an environmental medical unit has been proposed. This is a hospital unit in which chemical exposures would be controlled to the lowest levels practicable by air filtration and use of construction materials and furnishings that do not release low levels of chemicals into the air.

I know Congressman Sanders has been involved with the carpeting issue. That is one example. One would not put new carpeting in such a unit and, of course, many hospitals do that, so you have to control those kinds of exposures if you are going to test people adequately for low level sensitivities.

An analogy will help illustrate the need for such a facility. Suppose we wanted to determine whether headaches in a coffee drinker, and, again, many of these people are sensitive to caffeine, were due to caffeine. It would not tell us much if we were to simply have this person drink a cup of coffee and say how they felt.

You would first need to have the person stop all caffeine for about a week. If he experienced withdrawal symptoms, headache, fatigue, irritability, that would be a hint that caffeine could be a problem for him. If symptoms resolved after a week of avoiding all caffeine, that would provide further evidence. Then, once his symptoms had cleared, we could give him a cup of coffee and see how it made him feel. Of course, for research, you would do that in a blinded placebo-controlled way.

Failure to have this patient at a clean, caffeine-free baseline prior to challenge would likely result in a false negative caffeine challenge. That is why you have to get rid of the background noise, if you will, eliminate exposures prior to testing.

By analogy, placing ill Gulf veterans in a conventional exposure chamber, the kinds that are available in most universities or many universities, and exposing them to a few parts per million of some chemicals may produce misleading results. On the other hand, if they were to remain in an environmental medical unit for a few days beforehand and their symptoms resolved, one could then test

them to determine which exposures were triggering their symptoms.

Without carefully conducted studies of this kind, questions concerning the role of ongoing low level exposures in perpetuating the veteran's symptoms are unlikely to be resolved. Although research using an environmental medical unit has been proposed to the Department of Defense, Department of Veterans Affairs and the National Institute of Environmental Health Sciences, studies of this kind have not yet been funded.

While Congress authorized partial funding for such a project 2 years ago and the Department of Defense agreed to provide the remaining sum, an environmental unit still has not been constructed.

Until this tool is made available to physicians, Gulf veterans are likely to remain in their current Catch–22 of being required to show objective evidence of their disability and having no means by which to do so.

In summary, the illnesses of many Gulf veterans and civilians exposed to organophosphates and other chemicals share a strikingly similar pattern: multi-system symptoms that wax and wane in time and loss of prior tolerance for chemicals, foods and drugs. This pattern appearing in different groups, chemically exposed groups but different demographically, provides evidence, albeit it circumstantial, for an emerging new theory of disease described as Toxicant Induced Loss of Tolerance.

Confirmation or refutation of this theory rests upon careful evaluation of patients in an environmental medical unit. Results of studies in such a unit would benefit not only those patients admitted to the unit, but also other veterans and civilians by helping to elucidate mechanisms. Scientific understanding of these mechanisms can be expected to lead to more effective treatments and prevention.

Thank you.

[The prepared statement of Dr. Miller follows:]

PREPARED STATEMENT OF CLAUDIA MILLER, ASSISTANT PROFESSOR, ENVIRONMENTAL AND OCCUPATIONAL MEDICINE, UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER, SAN ANTONIO, TX

Good afternoon. I was invited here by your subcommittee to address the question, "Could low levels of an organophosphate like the nerve agent Sarin be responsible for some of the chronic health problems reported by Gulf War veterans?" Of course, Sarin was not the only organophosphate-type exposure soldiers may have encountered in the Gulf: Pesticides in this chemical class and pyridostigmine bromide, a related carbamate drug, were also widely used.

Effects of low level chemical exposures have been the focus of my research for the past eight years. I co-authored a report for the New Jersey State Department of Health (Ashford and Miller, 1989) and a subsequent book (Ashford and Miller, 1991) about patients who report developing chronic illnesses and chemical intolerances following exposure to various chemicals, including pesticides, solvents, and combustion products. Some of the sickest individuals we have studied, as a group, seem to be those who were exposed to an organophosphate or carbamate pesticide. In 1995, we published a study of 37 patients who had been exposed to pesticides in this class and who subsequently reported developing multi-system symptoms and new-onset chemical, food and drug intolerances (Miller and Mitzel, 1995). Eighty percent of these individuals told us they were no longer able to work or could only work part-time because of their health problems. The most common symptoms reported by these individuals at the time they were exposed were often flu-like, for example, fatigue, concentration difficulties, headaches, shortness of breath, musculoskeletal pain and gastrointestinal symptoms (Table 1). In general, these individuals did not report the classical symptoms of organophosphate poisoning. However, they did re-

port developing new and unusual intolerances for common chemicals such as fragrances, traffic exhaust, gasoline, and household cleaning products. In addition, many found they could no longer tolerate alcoholic beverages, various foods, caffeine, and medications they were prescribed, including antidepressants.

Four years ago the Chief of Staff of the Houston VA Medical Center asked me to consult on the first Gulf veteran admitted to their newly-designated Regional Referral Center for Gulf War Veterans. Since then, I have been asked to evaluate about 75 Gulf veterans. These veterans' symptoms and their frequent reports of new-onset intolerances to chemicals, foods and medications reminded me of the civilians we had studied with histories of exposure to organophosphate or carbamate pesticides or to mixtures of solvents at low levels.

Comparison of eight symptom scales derived by factor analysis revealed similar ordering of symptoms in the Gulf veterans and the pesticide-exposed civilians (Figure 1). All of the civilians reported new chemical intolerances because they were selected for our study on this basis. Notably, seventy-eight percent of the first 59 consecutive Gulf veterans seen at the Houston Referral Center also reported new-onset chemical intolerances since the War. For example, mechanics who once liked the smell of engine exhaust or said they used to "bathe" in solvents with no associated symptoms, reported severe symptoms with these exposures since the War. One mechanic told me that before the War his idea of the perfect perfume was WD-40. Now WD-40 and many other low level chemical exposures make him feel ill. Seventy-eight percent of the veterans also reported new food intolerances or feeling ill after meals; 40% had experienced one or more adverse reactions to medications since the War; 66% of those who used alcoholic beverages reported that even a small amount, such as one can of beer, made them feel ill; 25% of those who used caffeine reported feeling ill if they drank coffee or another caffeinated beverage; and 74% of those who smoked reported that smoking an extra cigarette or borrowing someone else's stronger brand made them feel ill (Table 2). More than half of the Gulf veterans reported intolerances in all three categories—chemical inhalants, foods, and drugs or food/drug combinations (Figure 2).

Most patients will not report such intolerances to their physicians. Generally, they will focus on describing their symptoms, such as headaches or irritability. Even if they were to tell their physicians that they were experiencing confusion or nausea while driving, it is unlikely that either they or their doctors would entertain the notion that their symptoms might be triggered by exposure to traffic exhaust.

There are now several studies, in addition to our own, linking chronic, multi-system symptoms to organophosphate/carbamate exposure. These agents have been implicated in similar illnesses and intolerances in pesticide-exposed casino workers (Cone and Sult, 1992), an attorney whose home was exterminated (Rosenthal and Cameron, 1991), and other persons exposed to organophosphates (Sherman, 1995). A recent European study involving nine countries revealed other cases of new-onset intolerances following exposure to various pesticides (Ashford et al, 1994). Thirty years ago, Tabershaw and Cooper (1966) described a group of agricultural workers with acute organophosphate pesticide poisoning, some of whom developed persistent symptoms. Following their acute exposure, nearly 20% reported that even a "whiff" of pesticide made them feel ill. A number of the workers quit working with agricultural chemicals for this reason. In 1961 Spiegelberg described persistent, multi-system symptoms among Germans who had worked in chemical weapons production during World War II. Notably, he also described new-onset intolerances for alcohol, nicotine and medications among these workers (Spiegelberg, 1961).

Thus there is accumulating evidence linking organophosphate-type compounds with chronic illness and new-onset intolerances in a subset of exposed persons. This unusual symptom of new-onset chemical, food, and drug intolerances appears to be a unifying theme. It would be difficult to imagine that so many people with identifiable chemical exposures would invent such a bizarre complaint. Many of these individuals now avoid fragrances they once enjoyed; no longer fill up their own gas tank or drive where there is heavy traffic exhaust because they feel ill if they do; and have given up formerly favorite foods such as pizza or chocolate because they feel sick when they eat them.

Taken together, these observations by our own group and by other researchers suggest that we may be dealing with an entirely new mechanism for disease, one we have nicknamed "Toxicant-induced Loss of Tolerance" or "TILT." A yet-to be proven mechanism of disease is a theory of disease. Hence, we have dubbed this the "TILT Theory of Disease" (Miller, 1996; Miller, in press). TILT appears to involve two steps, initiation and triggering (Figure 3): (1) After a single acute or multiple low level exposures to a pesticide, solvent or other chemical, a subset of those exposed appear to lose their prior, natural tolerance for a variety of common exposures such as tobacco smoke, fragrances, engine exhaust, and gasoline; (2) Following initi-

ation, very low levels of many common substances trigger symptoms, including not only chemicals, but also various foods, medications, alcoholic beverages and caffeine. Symptoms generally involve multiple organ systems and wax and wane in a seemingly unpredictable manner.

Ironically, patients may be completely unaware of these intolerances because of a phenomenon called "masking": If an individual were intolerant of multiple chemicals, foods and drugs and were exposed to these substances one after another during the day, then that person's responses to these exposures might overlap in time. At any given point in time that person might feel ill but be unable to tell which exposure was triggering symptoms. In effect, there would be so much background noise that the signal was hidden. This is what is meant by "masking."

To determine whether the Gulf veterans' current health problems are now being triggered and thus perpetuated by everyday chemical exposures, physicians need to be able to minimize background chemical noise, or "unmask" their patients. Physicians and researchers attending two federally-sponsored workshops on the health effects of low level chemical exposures have recommended that double-blind, placebo-controlled testing of patients in an environmentally-controlled hospital ward be conducted in order to determine whether such low level intolerances do in fact occur (National Research Council, 1992; Association of Occupational and Environmental Clinics, 1992). To accomplish this, use of an Environmental Medical Unit has been proposed. This is a hospital unit in which chemical exposures can be controlled to the lowest levels practicable via air filtration and use of construction materials and furnishings that do not outgas (release low levels of chemicals into the air).

An analogy will help illustrate the need for such a facility. Suppose we wanted to determine whether headaches in a coffee drinker were due to caffeine. It wouldn't tell us much if we were to simply have this person drink a cup of coffee and tell us how he felt. We would first need to have the person stop all caffeine for about a week. If he experienced withdrawal symptoms—headache, fatigue, irritability—that would be a hint that caffeine could be a problem for him. If his symptoms resolved after a week of avoiding all caffeine, that would provide further evidence. Then, once his symptoms had cleared, we could give him a cup of coffee and see how it made him feel. Failure to have this patient at a clean, caffeine-free baseline prior to challenge would likely result in a false negative caffeine challenge. By analogy, placing ill Gulf veterans in a conventional exposure chamber and exposing them to a few parts per million of some chemicals may produce misleading results. On the other hand, if they were to remain in an Environmental Medical Unit for a few days beforehand and their symptoms resolved, one could then test them to determine which exposures were triggering their symptoms.

Without carefully conducted studies of this kind, questions concerning the role of ongoing low level exposures in perpetuating the veterans' symptoms are unlikely to be resolved. Although research using an Environmental Medical Unit has been proposed to the Department of Defense, Department of Veterans Affairs and the National Institute of Environmental Health Sciences (NIH), studies of this kind have not yet been funded. While Congress authorized partial funding for such a project two years ago and the Department of Defense agreed to provide the remaining sum, an Environmental Medical Unit still has not been constructed. Until this tool is made available to physicians, Gulf veterans are likely to remain in their current Catch-22 of being required to show objective evidence of their disability and having no means by which to do so.

In summary, the illnesses of many Gulf veterans and civilians exposed to organophosphates and other chemicals share a strikingly similar pattern: Multi-system symptoms that wax and wane and loss of prior tolerance for chemicals, foods and drugs. This pattern appearing in different, chemically-exposed groups of patients provides evidence, albeit circumstantial, for an emerging new theory of disease described as Toxicant-induced Loss of Tolerance. Confirmation or refutation of this theory rests upon careful evaluation of patients in an Environmental Medical Unit. Results of studies in an Environmental Medical Unit would benefit not only those patients admitted to the Unit, but also other veterans and civilians by helping to elucidate mechanisms. Scientific understanding of these mechanisms can be expected to lead to more effective treatments and prevention.

Table 1. Most Common Acute Symptoms Reported by 37 Civilians Following Exposure to an Organophosphate or Carbamate Pesticide

Symptom Category	Number
Breathing difficulties	15
Fatigue/weakness	12
Headache	12
Agitation, trembling, irritability	12
Nausea, vomiting	11
Confusion, disorientation, trouble concentrating	10
Eye/vision problems	10
Dizziness, lightheadedness	9
Joint/muscle pain, stiffness	7
Heart racing or irregular beats	7
Diarrhea	6
Skin problems	6
Numbness or tingling	5

Table 2.

New Onset Intolerances Reported by Gulf War Veterans (n=59) Seen at the Houston VAMC Regional Referral Center

	%
Chemical inhalants	78.0%
Medications	40.4% of those who took drugs
Alcoholic beverages	65.9% of alcohol users
Caffeine	25.0% of caffeine users
Foods	78.0%
Specific Foods	64.4%
Illness after meals	49.2%
Tobacco use	74.1% of tobacco users

Comparison of Symptom Severity

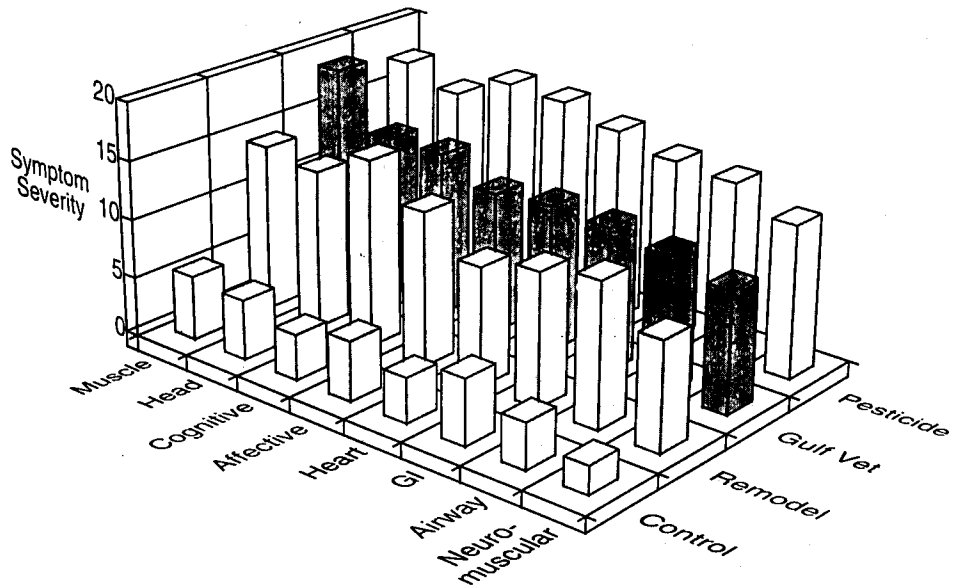

Figure 1

New-Onset Intolerances Reported by 59 Consecutive Gulf Veterans

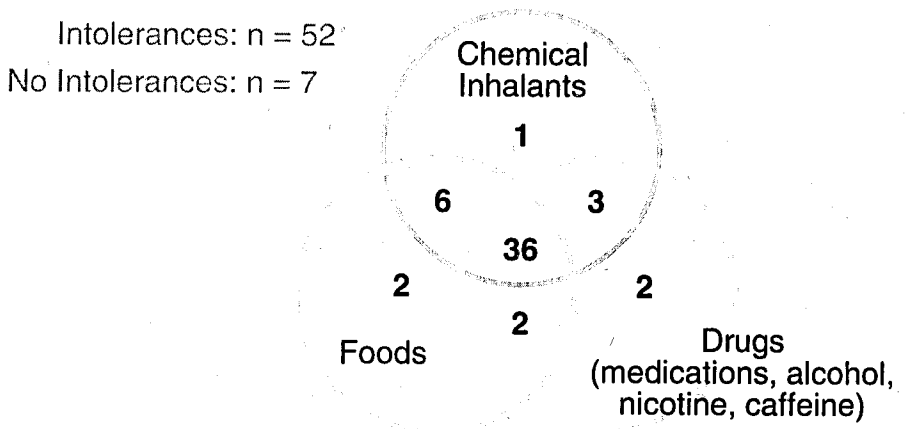

Figure 2

Phenomenology of Toxicant-induced Loss of Tolerance

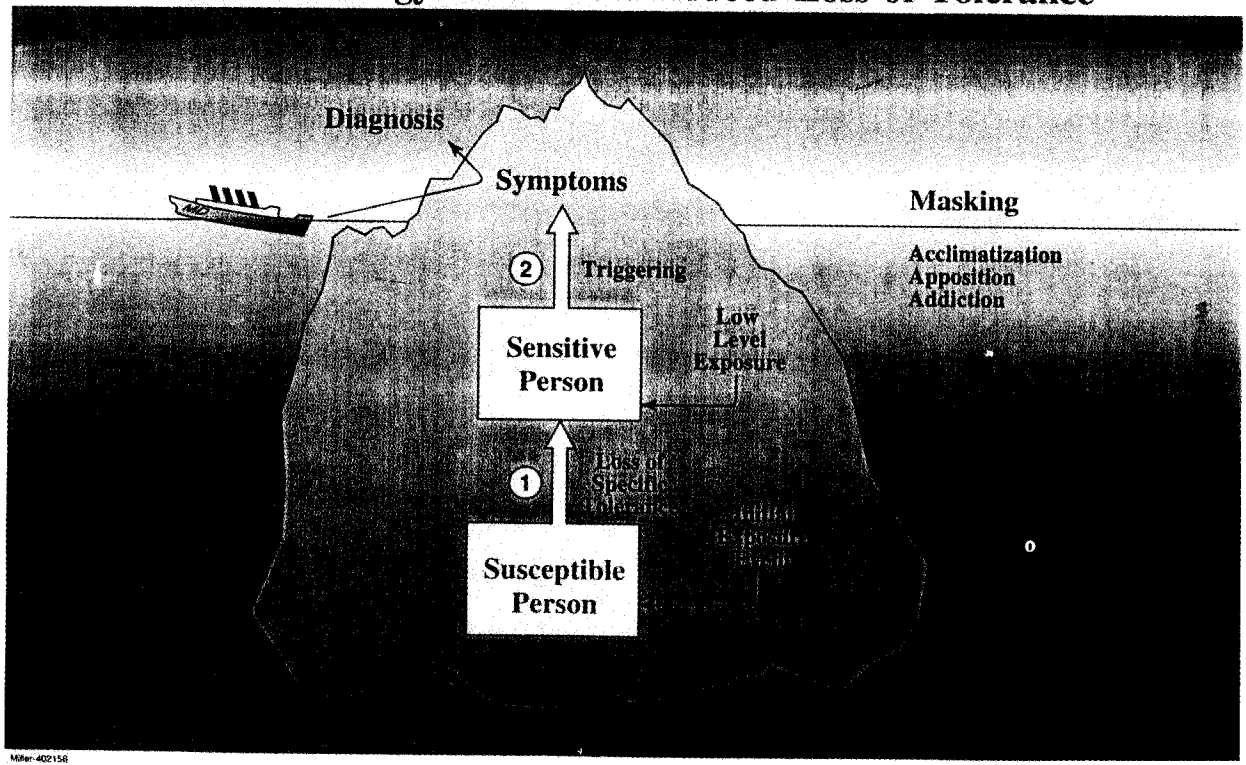

Figure 3

Mr. SHAYS. Thank you, Dr. Miller. I think we are going to be fine for your flight, but whenever you have to go, just let me know.

Dr. Padilla.

Dr. PADILLA. Mr. Chairman and members of the subcommittee, it is indeed an honor to be here today. I am pleased to have the chance to tell you about my research and other publications regarding the potential long-term health effects of exposure to organophosphate compounds.

As I said, my training is in the area of biochemistry, specifically, neurochemistry, and for the last 15 years I have conducted research at the National Health and Environmental Effects Research Laboratory in North Carolina. I study the toxic mechanisms of organophosphate pesticides and my research provides guidance, hopefully, to the U.S. Environmental Protection Agency for use in the risk assessment of anti-cholinesterase pesticides.

I have served on a scientific review board convened by the DOD to judge and rank—wait a minute. Let me say this first of all. I am not an expert on Gulf war illnesses, nor on warfare nerve agents, but I have served on a scientific review board convened by the Department of Defense to judge and rank and Gulf war illness research proposals submitted to the DOD for funding.

I am, however, well versed in the area of organophosphate toxicology and the toxic effects precipitated by these pesticides on mammalian species, including humans. The structure and mode of action of nerve agents and organophosphate pesticides are similar. Both classes of compounds are organophosphates and their primary mechanism of action is the inhibition of acetylcholinesterase. Acetylcholinesterase stops the action of acetylcholine, an essential neurotransmitter in the central and peripheral nervous systems, the neuromuscular junction and other areas of the peripheral nervous system.

Because the majority of signs and symptoms which occur when an animal or human is exposed to organophosphate pesticides or carbamate pesticides usually abate when the acetylcholinesterase activity returns to normal, organophosphate and carbamate pesticides are assumed to be relatively safe because at sub-lethal dosages they only precipitate short-term, reversible effects.

There are, however, indications that exposure to organophosphate pesticides may produce residual adverse effects. I am going to consider a few. For instance, it is known, as already mentioned, that members of a subset of the organophosphate compounds cause organophosphate induced delayed neuropathy, a bilateral neuronal degeneration of the peripheral and central nervous systems, resulting in a numbness and incoordination in the arms and legs which appears about 2 weeks after exposure to those organophosphates and may be permanent.

I want to add a parenthetical here. The U.S. Environmental Protection Agency tests all pesticides on the market to make sure as much as possible that they do not produce OPIDN, organophosphate induced delayed neuropathy. There are compounds that do it and most of the ones that are in the literature here are old time compounds that are not on the market. So it is not as if there are pesticides out there that have not been tested. This is called the hen test and you basically administer high doses of these com-

pounds to chickens to see if they develop incoordination in the legs. And that is to make sure that these do not get on the market.

Mr. SHAYS. And they choose chickens because of their nervous system?

Dr. PADILLA. Well, that is a very good question. Much of my research, rats work, it is just easy in chickens to tell. When they are walking on two legs, it is much easier to tell when chickens are uncoordinated.

Mr. SHAYS. OK.

Dr. PADILLA. It is true.

Although much research has been conducted on the subject, there is no experimental, and by that I mean published, evidence that the commonly used nerve agents cause this type of peripheral neuropathy. There is, however, evidence from my own laboratory as well as others that exposure to more than one cholinesterase inhibiting compound may cause this neuronal degeneration when any of these compounds alone would produce much less or no damage at all.

It must be noted that to my knowledge that none of these studies, the synergistic type of study, has been conducted with nerve agents, only with other classes of organophosphate compounds. And when I say to my knowledge, I mean in the published literature.

And I go through a little bit of a review of the literature from 30 years ago, which I am going to skip over and go to the more recent studies in the last 15 years.

Some more recent studies, which included the appropriate controls, indicate that there may be long-term health effects associated with exposure to organophosphate pesticides. Studies that compared the effects of poisoned pesticide workers and control workers long after the poisoning episode, this is 6 months to 3 years later, revealed that previously poisoned workers showed changes in motor skills, some academic skills, and/or attention, visuo-motor functions and mood. One of the authors concluded that "Results clearly indicate that there are chronic neurological sequelae to acute organophosphate poisoning" and cautioned that one must conduct the appropriate tests to reveal these changes.

There have, however, been few studies which address the effects of low level, long-term exposures to organophosphate pesticides. Recently such a study was published which compares the neuropsychological effects in sheep farmers who were regularly exposed to organophosphates with a control group of quarry workers. It was concluded that the sheep farmers were impaired on tests which assessed sustained attention and speed of information processing, but there were no differences between the two groups with regard to short-term memory or learning.

Are there animal studies that also suggest that exposure to organophosphate pesticides produce long-term effects?

There are reports that one or multiple exposures to commonly used organophosphate pesticides may alter neurochemical endpoints. Months after one exposure to a large dosage of chlorpyrifos, which is Dursban, experimental animals appeared normal until they were challenged with a drug which interacted with the cholinergic nervous system. It may be, therefore, that the

adverse long-term effects due to this exposure were silent until the brain chemistry was pharmacologically challenged.

Moreover, work in my laboratory during the last 5 years has indicated that one or multiple exposures to organophosphate pesticide fenthion may cause persistent, possibly permanent, alterations in the biochemistry of the retina. My conclusion is that there is evidence in the human literature which is now supported by an emerging animal literature of long-term effects of acute, relatively high level exposure to organophosphate pesticides. What is not clear is whether a poisoning episode has to occur that causes clinically significant persistent effects.

There is a very important question that needs to be considered too in relation to the Gulf war illnesses and that is whether repeated low level exposure to organophosphates would also produce these effects. Both the human literature and the experimental animal literature is very sparse with regard to studies of subchronic exposure to low levels of organophosphate pesticides or nerve agents.

The community of scientists who study the health effects of acetylcholinesterase pesticides is just beginning to study this question.

I thank you again for inviting me to this hearing and I am glad to answer any questions that you may have.

[The prepared statement of Dr. Padilla follows:]

PREPARED STATEMENT OF DR. STEPHANIE PADILLA, NEUROTOXICOLOGY DIVISION, U.S. ENVIRONMENTAL PROTECTION AGENCY, RESEARCH TRIANGLE PARK, NORTH CAROLINA

Mr. Chairman and members of the Subcommittee, it is indeed an honor to be here today. I am pleased to have the chance to tell you about my research and other publications regarding the potential long-term health effects of exposure to organophosphate compounds.

Experience and Background: My training is in the area of biochemistry, specifically neurochemistry. For the last 15 years I have conducted research at the National Health and Environmental Effects Research Laboratory in Research Triangle Park, NC. I study the toxic mechanisms of organophosphate pesticides. My research provides guidance to the U.S. Environmental Protection Agency for use in the risk assessment of anti-cholinesterase pesticides. I am not an expert in chemical warfare nerve agents or the Gulf War veterans illnesses, although I have served on a Scientific Review Board convened by the DOD to judge and rank Gulf War illness research proposals submitted to the DOD for funding. I am, however, well versed in the area of organophosphate pesticide toxicology and toxic effects precipitated by these pesticides on mammalian species, including humans. The structure and mode of action of nerve agents and organophosphate pesticides are similar: both classes of compounds are organophosphates and their primary mechanism of action is the inhibition of acetylcholinesterase. Acetylcholinesterase stops the action of acetylcholine, a neurotransmitter in the central and peripheral nervous systems, the neuromuscular junction and other areas of the peripheral nervous system. When a nerve agent or a pesticide inhibits acetylcholinesterase, the concentration of acetylcholine increases in those areas, causing an overstimulation of the target cells with the following possible signs and symptoms (which appear from minutes to days after exposure, depending on the route of exposure and the compound to which the person was exposed): pupil constriction, rapid or slowing of the heart rate, changes in blood pressure, increased sweating, lacrimation, salivation, nausea, abdominal pain, diarrhea, and muscle fasciculation, headache, confusion, irritability, difficulty in concentration, and emotional lability. Because the majority of these signs and symptoms usually abate when the acetylcholinesterase activity returns to normal, organophosphate pesticides are assumed to be relatively safe because at sublethal dosages they only precipitate short-term, reversible effects.

Long-Term Health Effects of Organophosphate Compounds: There are, however, indications that exposure to both nerve agents and organophosphate pesticides may produce residual adverse effects (considered below).

HUMAN REPORTS AND STUDIES:

For instance, it is known that members of a subset of the organophosphate compounds cause organophosphate-delayed neuropathy, a bilateral neuronal degeneration of the peripheral and central nervous systems resulting in a numbness and incoordination in the arms and legs which appears around 2 weeks after an exposure to those organophosphates and may be permanent. Although much research has been conducted on the subject, there is no experimental evidence that the commonly-used nerve agents cause this type of peripheral neuropathy. There is, however, evidence from my own laboratory, as well as others, that exposure (relatively high levels of exposure when compared to human exposure scenarios) to more than one cholinesterase-inhibiting compound may cause this neuronal degeneration when exposure to any of these compounds alone would produce much less or no damage at all (Pope and Padilla, 1990; Pope *et al.,* 1992). It must be noted that, to my knowledge, none of these studies has been conducted with nerve agents, only with other classes of organophosphate compounds.

Even more than 30 years ago, there have been human complaints about possible persistent effects of cholinesterase-inhibiting compounds. Gershon and Shaw (1961) found that humans exposed repeatedly to insecticides displayed schizophrenic and depressive disorders which may be accompanied by memory impairment and difficulty in concentration. In addition, Metcalf and Holmes (1969) showed that agricultural and industrial workers exposed to cholinesterase-inhibiting pesticides complained of forgetfulness, difficulty in thinking, visual problems, and persistent aches and pains, concluding that "It appears, therefore, that there is need for further intensive study because of the unknowns we now recognize and because of the possibility that long-term exposure to organophosphate compounds can induce irreversible or only slowly reversible brain dysfunction." Although the above information appears quite incriminating for the long-term health effects of organophosphate nerve agents and pesticides, it must be noted that many of these studies were less than satisfactory from a research point of view (e.g., many did not include a control group of unexposed, age- and gender-matched subjects) and other studies suggested that there were no long-term health effects due to pesticide exposure (Durham *et al.,* 1965). Also, when judging the status of any scientific literature base, one must realize that, in general, it is much more difficult to publish a totally negative study of any sort; therefore, it is possible that other negative studies were completed but are not part of the published literature.

Some more recent studies, which include the appropriate controls, also indicate that there may be long-term health effects associated with exposure (usually acute, relatively high dose) to organophosphate pesticides. Studies that compared the effects of "poisoned" pesticide workers and control workers long after the poisoning episode (i.e., 6 months to 3 years, depending on the study) revealed that the previously poisoned workers showed changes in motor skills, some academic skills, and/or attention, visuo-motor function and mood (Midtling *et al.,* 1985; Savage *et al.,* 1988; Rosenstock *et al.,* 1991). One of the authors concluded that "Results clearly indicate that there are chronic neurological sequelae to acute organophosphate poisoning," and cautioned that one must conduct the appropriate tests to reveal these changes. There have, however, been few studies which address the effects of low-level, long-term exposure to organophoshate pesticides. Recently, such a study was published which compared the neurophysiological effects in sheep farmers who were regularly exposed to organophosphates with the control group of quarry workers (Stephens *et al.,* 1995). It was concluded that the sheep farmers were impaired on the tests which assessed sustained attention and speed of information processing, but there were no differences between the two groups with regard to short-term memory or learning.

CONTROLLED ANIMAL STUDIES:

Are there animal studies that also suggest that exposure to organophosphate pesticides produce long-term effects? This question could be quite difficult to answer as most of the long-term effects reported in human studies were symptoms (reported by the subject) rather than signs (noted by the observer). Obviously, when conducting the animal studies the toxic endpoints can only be signs and not symptoms, which limits the scope and possibly the sensitivity of the study. In animal studies, however, other variables may be controlled. For example, it is always known exactly what, when and how much organophosphate the animals received, whereas in the

human studies the length of exposure, the route of exposure, and the level of exposure are not normally verified.

There are reports that one or multiple exposure to commonly used organophosphate pesticides may alter neurochemical endpoints. Months after one exposure to a large dosage of chlorpyrifos, experimental animals appeared normal until they were challenged with a drug which interacted with the cholinergic nervous system (Pope *et al.,* 1992). It may be, therefore, that it is possible that the adverse long-term effects due to this exposure were "silent" until the brain chemistry was pharmacologically challenged. Moreover, work in my laboratory during the last five years has indicated that one or multiple exposures to the organophosphate pesticide, fenthion, may cause persistent, possibly permanent, alterations in the biochemistry of the retina (Tandon *et al.,* 1994; Tandon *et al.,* 1995). These effects were still noted 2 to 3 months (the total life span of this species of rat is about 2.5 years) after cessation of dosing, at a time when all other biochemical parameters, like acetylcholinesterase, had returned to normal.

Conclusion: There is evidence in the human literature, which is now supported by an emerging experimental animal literature, of long-term effects of acute, relatively high level exposure to organophosphate pesticides. Taken in concert, the properly controlled human studies indicate that humans who have experienced acute, high level exposure to organophosphate pesticides may experience lasting deficits for as long as 2 to 3 years after the poisoning episode. What is not clear is whether a "poisoning" episode has to occur to cause these clinically significant persistent effects. Most of the human and animal subjects in the literature had experienced a "poisoning" episode or had more than 50% inhibition of the normal level of brain acetylcholinesterase activity. The most important question that needs to be considered in relation to the Gulf War illnesses is whether repeated low-level exposure to organophosphates would also produce these effects. Both the human literature and the experimental animals literature is very sparse with regard to studies of subchronic exposure to low levels of organophosphate pesticides or nerve agents. The community of scientists who study the health effects of anticholinesterase pesticides is just beginning to study this question.

I thank you again for inviting me to this hearing, and I am glad to answer any questions you may have.

Mr. SHAYS. I thank all of you for your patience in sitting through a long day. Your testimony really is quite important and I am trying to get a handle on how it relates to our concern of whether our troops were exposed and the symptoms and so on.

I was expecting something a little different, but the fact I was expecting something a little different does not mean that—it may be even more important that I got this testimony the way I got it from you all.

Focusing on your last point, Dr. Padilla, it strikes me that what I hear you saying and I think I maybe hear all of you saying and then you can correct me, that you seem to imply that exposure to certain chemicals over time will dissipate and that maybe 4 or 5 years from now you will not have the problems that you have in the short range and then the whole concept of poisoning and what constitutes poisoning. And so what I am trying to get a handle on is here we have troops whose illnesses seem to get worse, not better, and the testimony that I am hearing from you all is not totally connecting with that.

Dr. PADILLA. I guess I did not understand what you thought I said. You thought I said what?

Mr. SHAYS. What I thought you said at the end was that exposure over time to certain chemicals, that there is a—I will just read the last line. "Taken in concert, the properly controlled human studies indicate that humans who have experienced acute high level exposure to organophosphate pesticides may experience lasting deficits for as long as 2 to 3 years after the poisoning episode.

What is not clear is whether the poisoning episode has to occur to cause these clinically scientific persistent effects."

Dr. PADILLA. No. What I meant there was people have only looked as far as 2 or 3 years after the poisoning episode.

Mr. SHAYS. OK.

Dr. PADILLA. That is considered an extremely long time, since the effects are supposed to reverse in a matter of days to weeks.

Mr. SHAYS. I made an assumption that chemical exposure and the illnesses that related to chemical exposure is a science that is particularly advanced and that we have a lot of experts around the country and I am beginning to get the feeling that this is a whole new area of study. Is this accurate?

Dr. BAUMZWEIGER. Yes. I am sorry. You asked me that question and I said it is not new, but, yes, it really is new. And I think the confusion is between——

Mr. SHAYS. Before you give me your answer, I just want to know, is that true as far as you are concerned, Dr. Miller?

And then I am going to come right back to you, doctor.

Dr. MILLER. Is which part true?

Mr. SHAYS. Is it true that this is a science, this is not as an established a science as other areas of health care?

Dr. MILLER. Low level exposure causing these kinds of intolerances and then being perpetuated?

Mr. SHAYS. Just intolerances. Just how you treat people exposed to chemicals.

Dr. MILLER. It is well developed in certain areas but not in this particular area with this particular effect.

Dr. PADILLA. Not with anti-cholinesterase.

Mr. SHAYS. I am sorry?

Dr. PADILLA. Not with anti-cholinesterase. It is thought that they go in, they inhibit acetylcholinesterase. If you live through that and you recover, you are fine. That is what has been thought up until this point. That is why this human literature that I was quoting is—within the last 15 years, people have gone back and looked at pesticide workers that have been poisoned and that is what they are looking for.

Mr. SHAYS. Sir, I am going to come to you in just second, but I did interrupt.

But what I am just saying to you is my expectation was different. My expectation was—I get the feeling like we are almost having to argue who is right within the field, rather than being accepted principles that we all agree to. And I almost, if I read into it, I also get the feeling that within the medical community some may discount people who are supposedly experts in this area.

I see your expression, but——

Dr. BAUMZWEIGER. Well, let me say——

Mr. SHAYS. When I see someone bring a book up here to have to prove to me that what he is saying might be true, I get a little suspicious.

Dr. BAUMZWEIGER. I think there is a great deal of dispute about this but I think one of the reasons is not because of the doctors, but because of the people who make pesticides and what not have always contended that physicians are alarmists about this, about the potential for long-term hazards of organophosphates. I think

the three of us more or less agree that there is some potential within the subpopuulation who is exposed to organophosphates for long-term neurological and immune damage.

Mr. SHAYS. Dr. Miller.

Dr. MILLER. I think there is a critical issue here and that is do you have to have an initially acute exposure with the classical symptoms of organophosphate poisoning, real poisoning, before you get delayed effects. The only paper I know of, and correct me if I am wrong, with humans saying that you do not have to have those kinds of acute things is the one that we did where we said people had all of these flu-like symptoms with their initial exposure event and yet these people are very disabled. Eighty percent of them cannot work full-time any longer and this was 7 or 8 years down the road. I am not talking a couple of years down the road, 7 or 8 years down the road. That is longer than the Gulf veterans have been.

Dr. BAUMZWEIGER. There is a second article by Nanda in the Indian Journal of Medicine that says you do not have to have acute symptoms but perhaps they are so subtle they are not noticed, but you can progress to get chronic symptoms which involve not only the nervous system but the immune system and the immune system involvement may be what is causing the progression and the chronic nature of this illness.

Dr. MILLER. But there are a lot of unknowns around that.

Dr. BAUMZWEIGER. But there are a lot of unknowns.

Dr. MILLER. This is not a well studied area that we are focusing on right now.

Dr. BAUMZWEIGER. That is right. This is not agreed on universally.

Mr. SHAYS. OK. Well, let me just say to you that that is surprising to me, that this is not a well studied area. I mean, I cannot tell you how surprising it is. In this day and age, I would think it would be.

Dr. BAUMZWEIGER. No, you are right. It is amazing particularly that we produce millions of pounds of this stuff and we in fact in this country have 1.2 million pounds of organophosphate Sarin and other highly toxic chemicals in unstable conditions that we cannot even get rid of and yet we do not know the potential hazards and long-term effects of them. Yes. It is very surprising and very disturbing.

Mr. SHAYS. Mr. Tuite, you have been very patient.

Mr. TUITE. Mr. Chairman, first of all, the agents that we are talking about here, the organophosphate compounds that we are talking about here, were developed by the Wehrmacht. They have been tested in the Nazi death camps and at Fort Detrick. They are not particularly large contributors to the scientific literature on this issue, but there were tests of low level agent exposure to U.S. forces that occurred from the late 1950's through the mid-1970's, when Congress outlawed that type of testing.

And the Department of Defense is quick to point out that nearly 90 percent of these folks have no serious health problems as a result of their exposures. They are also quick to point out that 79 percent have good to excellent health. Well, this is a the cup is half full, the cup is half empty kind of an analogy because this means that more than 10 percent have serious health problems after their

exposures and these were young men who were in the military and 21 percent would describe their health as fair to poor.

This was in testing that we did at Fort Detrick and at other facilities in the United States on nearly 6,000 U.S. soldiers. We exposed them to these chemicals. And we are looking at an approximate percentage of what we are seeing right now in the Gulf war veterans getting sick, so that there may be an actual genetic predisposition or sensitivity to the low level exposures. But, furthermore, something that Dr. Padilla brought up was that the combinations of these compounds can cause synergistic effects, and we know that the troops were taking the carbamate inhibitor, carbamate cholinesterase inhibitor, pyridostigmine, as a nerve agent pretreatment.

Mr. SHAYS. These were the pills they were taking to combat chemicals?

Mr. TUITE. Correct. At the same time they would have been exposed to these compounds. And there has been published research indicating synergism between organophosphate and these kinds of medications. So the issue in its sort of benign sense, there is not much study on these kinds of compounds, the ones that are designed not to kill insects, but to kill people. And the scientific data that we have available indicate that there is a problem.

Furthermore, there has been some occupational studies done of people who work in these kind of facilities and there is clinical incidence of increased illnesses very similar to those that the veterans are experiencing. What we do not know is exactly why the people who are exposed to these compounds exhibit the symptoms that they do in the long term.

So the cause and effect relationship, the link, is there, but it is a clinical link, not an etiological link. We do not know what is causing it to happen, we just know that the literature is reporting in many cases that it is happening.

Mr. SHAYS. I hear you. This is terrible analogy, the best I can do to illustrate a point. We have a very long street in Stamford, Connecticut, where I live. It is two-lane each way. There are probably, from North Stamford to get downtown, there are probably 12 lights, 13 lights, and you have to stop and sometimes a storm comes and they mechanically get out of line and it takes people so long to get down because they have to stop at each light. And during the course of this we found that Stamford was not using digital equipment, it was still using mechanical equipment, and we found out the reason why was the person who designed this system, the only thing it could work on was the mechanical systems that go back 20, 30, 40 years.

And I get the feeling that maybe one of the problems is that the people in the VA, potentially this is a whole other area that is not their shtick.

Dr. BAUMZWEIGER. That is absolutely right. You are absolutely right. They just are not aware of this. And what I was trying to explain is that the reason they are not aware of this, it is not their fault, and I understand this is complicated, psychiatry and neurology split about 30 years ago, leaving a hole in our knowledge of the interaction between mind and body. The immune system is stuck in between the mind and the body and is the player in creating

these chronic neuroimmune disorders that are secondary to organophosphate and other multiple chemical exposures.

Mr. SHAYS. Do you think that is a potential problem at the VA? That they simply do not have people trained in this area?

Dr. MILLER. I think there is a lack of data in the toxicology literature so that you can say that people who have these very low exposures to pesticides but other classes of solvents and various other chemicals can lead to chronic ill effects. That has not been studied very well. There is very little literature on that.

Mr. SHAYS. But with all due respect, not being studied well means you have doctors who are not focused on it as well. I mean, they both go hand in hand.

Dr. MILLER. That is true. But physicians rely upon what is published in the literature already.

Mr. SHAYS. Well, I do not want to read too much into this, but I just——

Dr. Padilla, do you think that this is part of the challenge that we have, that simply we do not have enough people at the VA——

Dr. BAUMZWEIGER. Absolutely.

Mr. SHAYS [continuing]. And elsewhere that are focused in on this kind of issue and that this is still somewhat of a controversial area of medical study?

Dr. PADILLA. I guess in my opinion definitely. I do not know the human literature as well as I know the experimental animal literature for pesticides. But, yes, it is emerging. Most of what I was talking about was research done in the last 10 years.

Mr. SHAYS. Dr. Stephen Joseph, the Assistant DOD Secretary for Health Affairs, who we have referred to, told the subcommittee "Chronic symptoms or physical manifestations do not later develop among persons exposed to low levels of chemical nerve agent who did not first exhibit acute symptoms of toxicity." Do you believe this to be true or not true?

Dr. BAUMZWEIGER. Not true.

Dr. MILLER. Our research suggests otherwise, but the proof is still out.

Dr. PADILLA. One of the things that has disturbed me as I have been writing my testimony and answering questions is what is meant by low level.

Mr. SHAYS. That is fair. You know, I will tell you what——

Dr. PADILLA. I have something else I want to say.

Mr. SHAYS. Sure.

Dr. PADILLA. Actually, that was not a question to be answered, it is just a statement.

Mr. SHAYS. OK. But I want an answer to this question.

Dr. PADILLA. I know.

Mr. SHAYS. OK.

Dr. PADILLA. In my work with rats, you can poison a rat with a pesticide and if you walk in and look at the rat, they look perfectly normal and later on, they will have deficits 2 and 3 weeks later.

One of the questions that I would like to bring up just as my own work is these troops were taking pyridostigmine, which is designed to dampen the effects of nerve agents, it is my understanding. They were taking pyridostigmine so that they have a reversible inhibitor of acetylcholinesterase at the active site, so that a permanent in-

hibitor, the nerve gas, cannot get into the active site and kill the acetylcholinesterase and might cause——

Dr. BAUMZWEIGER. Unfortunately, that does not work with Sarin and Sarin was the major——

Dr. PADILLA. But what I am saying is——

Mr. SHAYS. But your point——

Dr. PADILLA. But what I am saying is if they were taking the pyridostigmine that it may dampen the acute effects. That has been what we have learned in the laboratory.

Mr. SHAYS. So rather than protecting them, it could simply mask the fact that they were actually being affected by it.

Dr. PADILLA. Well, it does protect them. It would protect them from——

Mr. SHAYS. To a degree, but it would also mask it for them. They would not exhibit certain physical signs.

Dr. PADILLA. Well, I know that we do not use pyridostigmine but we use physostigmine in the laboratory for just this purpose, to mask the acute effects on the animals.

Mr. SHAYS. I think what you are saying is something significant. I will put it in my layman terms and then you tell me if I am correct. What I think I hear you saying is in the process—I think it is a very significant point. A lot of points have been significant, but I think what I hear you collectively saying, you are articulating it that in the process of taking these pills, I call them pills, they masked the fact that our troops may have actually been exposed.

Dr. PADILLA. Yes. It is my understanding that pyridostigmine, the idea is to mask the effects of the nerve agent, but also they would produce some of the same effects that the nerve agent would produce and so you either have an extremely high baseline or it would mask the effect of the nerve agent. I believe.

Dr. BAUMZWEIGER. Yes. Can I add something here?

Mr. SHAYS. Sure.

Dr. BAUMZWEIGER. The pyridostigmine protects many of the acetylcholine sites but there is a site called the neurotarget esterase site, which is supposed to where the this OPIDN, organophosphate induced delayed neurotoxicity, the chronic condition starts, these sites are on peripheral and central neurons and on lymphocytes and it is not known where if pyridostigmine, physostigmine protects that site. In fact, it probably does not, so it just masks. And that is when you asked me do there have to be acute symptoms I said no because the acute symptoms can be masked by other things.

Mr. SHAYS. I am going to ask, the minority staff has a question, too, and there is no one from the minority to ask the question, I would like her to be able to, but first off, in the Internet, there was a report on possible effects of organophosphate low level nerve agent exposure and this is DOD and at the end of it, they say "We therefore conclude that there is no credible evidence for chronic illnesses caused by exposure to organophosphate nerve agents at concentrations too low to produce signs or symptoms of acute" and so on. And it says "While further research on animals might contribute some information to the general data base on toxicity, it is unlikely in the extreme that such research would enhance our under-

standing of Gulf war illnesses." And this was a document of 9/13/96.

Could you respond to that?

Dr. BAUMZWEIGER. Yes. Actually, the DOD has sponsored an experiment by Prendergast and Butafusco that is going on right now in Georgia.

Mr. SHAYS. Well, I know they are doing that, but I want to know if you think that they are right.

Dr. BAUMZWEIGER. I think they are absolutely wrong and I think their own experiment has demonstrated that they are wrong.

Mr. SHAYS. Well, just because they are experimenting does not mean that they think they are wrong. They may do the experiment to prove they are right.

Dr. BAUMZWEIGER. No, the experiment proved that they were wrong. Their own experiment proved that they were wrong about that contention. I have talked to Dr. Prendergast and to Dr. Butafusco and they exposed rats to minute amounts of organophosphate neurotoxin and even though some did not have acute effects, they went on to have the chronic neurological problems and they still have them months and months later, which is a long time for a rat.

Mr. SHAYS. Dr. Miller, could you comment on this? I may not have read enough to make you—but I think you get the gist of their attitude.

Dr. MILLER. I think it is premature for anyone to say that low levels of organophosphates cannot cause chronic health problems. I think there is a lot of literature now suggesting that is quite a possibility and there are ways to approach that question scientifically.

Mr. SHAYS. Dr. Padilla.

Dr. PADILLA. I agree.

Mr. SHAYS. You agree in questioning the statement?

Dr. PADILLA. I agree with Dr. Miller.

Mr. SHAYS. Thank you.

Mr. Tuite.

Mr. TUITE. I have actually looked at that document quite closely and there are all sorts of method flaws in the document itself. First of all, they do not say who wrote it, which really kind of bothers me, that they are using the Internet and taxpayers' money as a bully pulpit to publish propaganda.

They talk about leading experts in the field and then they reference a study being done by one individual up at Fort Detrick.

Mr. SHAYS. I might just say, it says prepared for Health Affairs by the Persian Gulf Illnesses Investigation Team.

Mr. TUITE. That is a lot of individuals. I would like to know who prepared it so that we can at least evaluate that individual's credentials to prepare that kind of a document.

But they open up by saying one of the assumptions that we have to do is assume that all the organophosphate nerve agents should be looked at as a group since they all produce similar effects and then later on in the same report they go on to discredit one of the scientists who has done some research in this area because he considers all of the particular organophosphate compounds as a single group to determine their effect.

So, I mean, the method of that report shows that it was thrown together very quickly. There was very little scientific review and they are citing one expert who is their own expert in terms of the leading national experts on this issue, so it causes some concern when that is what is being circulated in the veterans community, that is what is being given to veterans as information on what may be wrong with them, without any kind of review, without any kind of methodical soundness in the research itself or in the paper itself.

Mr. SHAYS. Thank you.

Cheryl Phelps has a question or two or three or four, whatever.

Ms. PHELPS. Thank you, Mr. Chairman, for allowing me to ask some questions on behalf of the Democratic members.

Dr. Baumzweiger, was it your testimony in 1993 that it was VA policy that Gulf vets were not exposed to neurotoxin?

Dr. BAUMZWEIGER. That is what their policy was, it was their policy, it was a belief. They had been told that by the DOD, they believed it and they expected us to believe it.

Ms. PHELPS. So it was the Federal policy, not necessarily the policy of that particular——

Dr. BAUMZWEIGER. Correct. Correct. I do not believe it was West L.A.'s. It was the dictate that had been handed down to them, that we were not to think that way.

Ms. PHELPS. Did you happen to note how it influenced their treatment of patients that came in?

Dr. BAUMZWEIGER. Oh, absolutely.

Ms. PHELPS. Could you just——

Dr. BAUMZWEIGER. It forced them to think of these patients as either psychiatric cases or only to look at the musculoskeletal or gastrointestinal aspects of this disease when they are not the core symptoms. The core symptoms are loss of self, loss of sexuality, loss of identity, loss of ability to relate to others, brain stem size due to lack of acetylcholine. These are the core signs which one looked at because they had denied——

Ms. PHELPS. But you did also say that you were not inhibited in any way in pursuing your research in that area.

Dr. BAUMZWEIGER. No. They did not dissuade me in any way.

Ms. PHELPS. Dr. Miller, I was going to ask, because I know that you are on the special committee right now, has that policy changed or can you describe——

Dr. MILLER. I do not know of any such policy and I do know from my consulting at the Houston Regional Referral Center that I was given free rein to look into these questions. I raised the question of chemical exposure to nerve agent because there were a number of cases where people would report something like a bunker or a SCUD exploding and they would say that soon after that they developed symptoms, so we raised those issues. But, again, with the constant denial that there was any agent in Gulf and with the feeling that you have to have acute toxic symptoms to have problems, no one really pursued it as the leading hypothesis, but it was not denied that that was a possibility, it was just very low on the list of priorities.

Dr. BAUMZWEIGER. It was just disavowed, but not denied.

Ms. PHELPS. So in your current capacity on this special committee, what has been the evolution of this type of thinking?

Dr. MILLER. We have had a number of witnesses on this very question, as you have, Jim Tuite, appeared before our committee. We have asked DOD witnesses to come and talk to us and show us some of the maps and I think this is scheduled for our next committee meeting. I think there are members on the committee who said, no, it could not possibly be organophosphates because there were no acute symptoms and that has been conventional medical wisdom. But a number of us have pursued it pretty aggressively and we are continuing to explore it just as you are.

Ms. PHELPS. You heard the testimony of the first panel?

Dr. MILLER. Yes, I did.

Ms. PHELPS. Would you describe any of their symptoms as indicators of organophosphate exposure?

Dr. MILLER. Very mild exposure. For example, the numbness around the mouth is something I would be very suspicious of.

Mr. SHAYS. I just want to identify, suspicious that it happened, suspicious that it was related to chemical exposure?

Dr. MILLER. But you see there is also something called perioral numbness that can happen when a person is anxious, so it is not clear, that is, it is not a symptom or sign that would be pathognomonic for that organophosphate exposure. But you would think about it. I would think about it.

The symptoms that I showed you that civilians have had that are not acute organophosphate exposure symptoms but are flu-like, I hear that in many of the veterans.

I should also say that not all the veterans necessarily became ill right at that point. There are veterans who got ill and they attribute it specifically to the pyridostigmine bromide by itself, whether it was with a nerve agent or not, I do not know, but there were some that got sick back in August before the war ever started and that was after taking pyridostigmine bromide.

There are others who became ill when the Saudi trucks came through spraying. We know there were organophosphate pesticides used by the Saudi trucks and those are unspecified. No one knows how much or specifically which compounds were used because those were contracted.

And then there were other people who did not get sick until they got back to the United States. I think specifically of a couple of veterans, one of whom took a job as an exterminator and he became ill when he was using organophosphate pesticide. And yet because he had served in the Gulf, he thought it was due to his service in the Gulf. Maybe that contributed to it.

But these are very hard things to know. It is hard to know the relationship between any particular exposure and symptoms when these things do not leave footprints. This is not like dealing with lead or DDT where you can measure it in the body years later. These things come and they are gone and appear to leave whatever damage behind.

Ms. PHELPS. How would you respond, Dr. Miller, to Mr. Tuite's testimony that there were thousands of vets who experienced flu-like symptoms and rashes after a particular bombing episode?

Dr. MILLER. I find his analysis very compelling. Again, there is always a dose issue. Was the dose sufficient to cause this problem? And I think we are in a very ill-defined area right now.

Mr. SHAYS. Let me just interrupt. That is your point about low level, high level, what is low level.

Dr. BAUMZWEIGER. Could I say something about that?

Ms. PHELPS. Yes, you may, Dr. Baumzweiger.

Dr. BAUMZWEIGER. The literature is, as has been pointed out, very new, but it has been pointed out by Aboudonia that hexane, which is a major component of heavy oil will potentiate neurotoxic effects of organophosphates and we had these organophosphates mixed in with tremendous amounts of petroleum products and hydrocarbons which may have made them not only stick around, but which may have made them far more toxic than they might have ordinarily been.

Ms. PHELPS. Dr. Padilla, would exposures occur, say, for example, if Mrs. Kapplan handled her husband's clothing or other belongings, would you see the type of—would they exhibit organophosphate poisoning?

Dr. PADILLA. That is a very interesting question. I am not aware of a lot in the literature about one person's clothing poisoning another person's clothing.

Ms. PHELPS. Or the person who handled that clothing.

Dr. PADILLA. Yes. Or the person who handled it.

Dr. MILLER. There is quite a bit in agricultural workers, about them taking their clothes home and other people being exposed to their clothes which may have organophosphates on it and through skin contact, because it is rapidly absorbed through the skin, they can develop poisoning.

Again, my understanding is that the clothing and equipment that have been tested so far have not shown any organophosphates, but then again they may degrade after a period of time and it has been 5 years since the war, so I think there are so many uncertainties——

Mr. SHAYS. I would like to just pursue that and I am really happy that you are asking, Ms. Phelps, the questions you are asking because we did not get into that issue.

Is there scientific literature that sustains the concern that clothing can transmit these chemical agents and that they can affect others?

Dr. MILLER. Primarily via skin contact.

Mr. SHAYS. If you touch them, right. Obviously. But with agricultural workers, other family members that touch them then are affected by them.

Dr. MILLER. Yes. In clothing that has been saturated with organophosphates.

Mr. SHAYS. I will come back to that but I just want to—what I am beginning to hear which is also something that is new to me is that I made an assumption that if you were exposed to a chemical agent that there would always be that trace of that chemical and that you would always have proof. So you are suggesting that you might not have proof later on.

Dr. MILLER. That is right.

Mr. SHAYS. You have the effect, but not the proof of that agent.

Dr. MILLER. That is correct. Many of these degrade fairly quickly.

Mr. TUITE. The question came up as to what constituted low level exposure and what kind of exposure levels we are talking about——

Mr. SHAYS. Why do we not get to that in second? I will come back to that.

Do you want to finish your questions?

Ms. PHELPS. Actually, I want to switch gears for a second.

Dr. Baumzweiger, in your written testimony you said that every vet that you examined that you diagnosed with Gulf war syndrome exhibited decreased hydration?

Dr. BAUMZWEIGER. Yes.

Ms. PHELPS. I do not know what that means. What does that mean?

Dr. BAUMZWEIGER. In other words, when you—first of all, let me say that not every vet who was in the Gulf and has symptoms has Gulf war syndrome. I only mean those with the dysautonomia, with the unstable heart rate and blood pressure and body temperature.

If you look at these individuals, what you see as a constant finding is when you hold the tuning fork by say their finger, they lose the feeling of vibration before the average person will. Even though they may not be really very symptomatic, they are beginning to lose subtle parts of their sense, of their sensory system, and that is part of the peripheral neuropathy you see in this OPIDN.

Ms. PHELPS. Got it. And you examined how many vets over the course of this research that you have done?

Dr. BAUMZWEIGER. I have examined closely 15 veterans, being able to do chemical analyses on 10 of them. I have looked more superficially at about 50 now and through Denise Nichols I have heard about the symptoms of several hundred, all of which support the contentions that I am making.

Ms. PHELPS. So of the 15 that you examined closely, which is the universe of your study——

Dr. BAUMZWEIGER. Right.

Ms. PHELPS [continuing]. They all exhibit this.

Dr. BAUMZWEIGER. Absolutely all of them.

Ms. PHELPS. So listening to the symptoms and the conditions that the first panel described, was there any indicator that they might also have that particular——

Dr. BAUMZWEIGER. I am sure if we would check them for vibration loss, they would all have a small amount. Now, it would not knock your socks off, but they would all have a tiny amount.

Ms. PHELPS. But it is detectable.

Dr. BAUMZWEIGER. It is detectable.

Ms. PHELPS. So should this then be a common factor in diagnosing Gulf war——

Dr. BAUMZWEIGER. Absolutely. Absolutely. Just like the dysautonomia, body temperature, heart rate——

Ms. PHELPS. So you are saying all these things, the irregular heart rate——

Dr. BAUMZWEIGER. That is right. They are there in all of them.

Ms. PHELPS. These are common factors.

Dr. BAUMZWEIGER. They are all common. These patients also have loss of libido, sex drive, double vision.

Ms. PHELPS. Every one?

Dr. BAUMZWEIGER. All of them.

Ms. PHELPS. So if you surveyed everyone who ever complained of Gulf war—having some Gulf war related illness, they would exhibit these——

Dr. BAUMZWEIGER. No, I think you have to select those who actually have the physical symptomatology of the instability in their physiology, like the heart rate and the blood pressure instability. And there were some people who went to the Gulf and I am sure came back with psychiatric problems or other problems and do not have this. This seems to be a problem in about 10 to 20 percent of the population, as Mr. Tuite has pointed out.

Ms. PHELPS. But all 15 that you——

Dr. BAUMZWEIGER. All of them who really have the core physiology would have these individual problems as well.

Ms. PHELPS. Dr. Miller, would you comment on that? That set of questions that I just asked Dr. Baumzweiger.

Dr. MILLER. Yes. The neurological and cognitive testing that has been done at the VA by people who are doing that kind of thing, when they look at controls, has not demonstrated sort of the same things, but I do not know whether they are doing exactly the same tests, the neurologists who have looked at these patients. But frequently common tests, looking for peripheral neuropathy and so on, do not reveal abnormalities. Again, we may be looking at something much more subtle and the question is how significant is that relative to, let us say, a control group. And he feels it is significant, I did not see significance bars and P values and so on on his data, I do not know if it has been published yet, but obviously any finding like that that is concrete would be of great interest but I do not know of concrete findings of neurological abnormalities that have been published yet among the veterans.

Ms. PHELPS. Thank you, Mr. Chairman.

Mr. SHAYS. Thank you.

Mr. Tuite, you had a comment you wanted to make.

Mr. TUITE. Yes. The issue came up about what constituted low level exposures and along those lines, our chemical detectors were not designed to provide OSHA quality or EPA quality protection to the troops. They were designed for point detections to identify chemical agent attacks, but these alarms continued to go off. And likewise with the Czech equipment, their field alarms were not designed to sit there and look at environmental exposures, they were designed to look at chemical agent attacks.

So the issue of low level is a serious one and, in fact, our alarms do not go off until 1,000 times what is considered the permissible exposure limit in an 8-hour total weight average up at Aberdeen Proving Ground based on the material safety data sheets for a worker working there.

So if we are looking at it from a laboratory perspective, at that level, one-thousandth of the amount that would require the folks up at Aberdeen to wear a mask, they were being exposed to 1,000 times more than that, being told to disregard the alarms, that it was neurotoxins in the air from the bombings but it was not enough to hurt you. But yet they are concerned enough about the folks up at Aberdeen and the folks that work in an occupational

setting with these compounds that they think that much less than that is harmful enough to hurt you.

Mr. SHAYS. Well, you figure a point that—one of the things that I have wondered in our hearings is does the military have a practice for its soldiers that we would not allow for everyday citizens of this country in terms of exposure to certain types of chemicals?

And, in fact, are some of those soldiers under orders to utilize a chemical, I am not talking about a chemical to kill, but a chemical to do some type of service, and they are actually under order to use it and in confined areas, which leads me to this point and I do not know what your answer is but we had a constituent who died in Connecticut, his job was to use a chemical called Lindane to spray soldiers, Iraqi soldiers, who were captured and he did it day in and day out and he did it in a confined area and he ultimately died of pancreas cancer and his child was born with some physical challenges. And they are convinced that he died of Lindane exposure.

Now, is there anything that would give credibility to at least a concern about that? Is Lindane first a substance that we would in the private sector be very careful how it is used?

Dr. MILLER. It is not used in a lot of agricultural applications any more.

Mr. SHAYS. We do not allow it to be used.

Dr. MILLER. We do not allow it to be used. In terms of its being used for delousing patients, getting rid of head lice, it is used in this country. There is a lot of concern about its effects. It is a chlorinated compound, a chlorinated pesticide.

Dr. PADILLA. It is not an organophosphate.

Dr. MILLER. It is not an organophosphate. It is a completely different class. And I just want to add——

Mr. SHAYS. But still it is a substance that we are concerned about enough to want to regulate its use.

Dr. MILLER. Well, I have seen exactly the symptoms that we are talking about here in relationship to organophosphates in an individual who had a similar exposure to the one you described, this veteran who was delousing prisoners also and now has many chronic health complaints, intolerances, chemical intolerances, and so on. But it is not like there is one smoking gun. There are other things.

Mr. SHAYS. There is not one Gulf war syndrome, there are lots of maladies and there are lots of potential causes and the mixtures of chemicals and so on and how they relate to each other. I realize that.

But the point is, I mean, picture this, picture a person under orders to do something that in this country OSHA would come in and sue the company. And a person under orders cannot say no unless he or she is willing to be court martialed. And this is a factor. So we are touching on a lot of issues.

I believe that Dr. Murphy may want to respond at least to one or two comments here.

First off, we appreciate, Dr. Murphy, your willingness to stay and listen. I certainly appreciate it. Maybe you just want to make a comment for the record.

And if any of you would like to just make a closing comment, I just do not want you to miss your plane, having waited so long.

You all have been wonderful and patient with someone who is clearly a generalist on this issue.

Dr. Murphy.

Dr. MURPHY. Thank you for allowing me to make another comment. I just wanted to clarify one of the points that was brought out by Dr. Baumzweiger. There has never been a departmental policy against identifying or investigating neurotoxic exposures or chemical warfare agents. It may have been said, I am not discounting the validity of his statement. That may have been a personal opinion of one physician at one medical center.

The VA has always said that we are looking at all exposures and including those in the consideration of the health effects on Persian Gulf veterans.

Mr. SHAYS. Let me just say I believe that would be true, but the only question is that there is sometimes a company culture and the company culture in some ways is exhibited by the fact that even in your testimony you are acknowledging that you were somewhat—had the DOD pointed out sooner that our troops may have been exposed to chemicals we might have started low level studies sooner, and so I think your point is well taken. It certainly would not and should not be a policy, the question is in some facilities was there an attitude, a company culture, that kind of exhibited that comment.

Dr. BAUMZWEIGER. I have to say that I agree with Dr. Murphy. I do not think there was an agency wide policy against there being Gulf war syndrome or an agency wide conviction that organophosphates did not matter. I think this is something that just crept into parts of the structure of the organization.

Mr. SHAYS. And I would say, Dr. Murphy, we have had too much testimony from too many veterans that have exhibited the same concern, so I am sure that this is changing and changing quickly throughout the system.

Dr. MURPHY. Thank you.

Mr. SHAYS. Thank you.

Does anyone have a last word here and then we will get on our way.

Dr. MILLER. You mentioned about the culture and one of the problems that we have faced, I think, in some of the boards that have met on this issue, on some of the review panels for grants, are people who feel very strongly in their scientific wisdom that these kinds of effects cannot exist and that they are psychogenic and, in fact, some of these individuals serve as expert witnesses for corporations, for example, against these kinds of things and it makes it very hard, then, to entertain proposals or ideas that are new.

Mr. SHAYS. I have a little more sympathy, I would just say, a little more sympathy for the Department of Veterans Administration for the fact that we are in an area where there is not as much study and there seems to be medical warfare in some cases in terms of what is considered legitimate and what is not. There has got to be reasons to explain some of what I consider dysfunctional behavior on the part of a lot of different people on this issue.

Dr. BAUMZWEIGER. I would also like to say that the symptoms of this are extremely subtle and one of the reasons I was able to pick

them up is that I am both a psychiatrist and a neurologist, which most people are not.

Mr. SHAYS. I understand.

Dr. Miller, you have said your last word?

Dr. MILLER. Yes.

Mr. SHAYS. And Dr. Padilla, do you have any comment you want to make?

Your testimony has been very helpful and Mr. Tuite as well. It has just been a very interesting day.

You would like to make one comment? It has to be real short. Identify yourself again for the record.

Ms. NICHOLS. For the record, it is Denise Nichols. And I want to point out one thing. In the chemical logs that we have released through Paul Sullivan, Georgia Veterans, Brigadier General Neal brought up in those NBC logs from CENTCOM about the Belice, Italy, there was a combination there back in history, World War II. Dr. Jackson has identified that, too. The initial casualty figures from Belice, Italy, World War II, I think the ship was bombed and it mixed with oil, the initial casualties were not that great but over time, there was a great number of casualties and Dr. Jackson has researched that information and it combines the idea of a mixture of agents and I think we need to look into that.

Mr. SHAYS. And I think that has been very well established.

Mr. Tuite, do you have a closing comment?

Mr. TUITE. The only thing that I would suggest the committee to press for is that I have been told by elements both from the Department of Defense and the Presidential Advisory Committee that the CENTCOM still has not released segments of the NBC logs to even those bodies investigating this issue and I am certain they probably have not provided them to this committee.

Mr. SHAYS. We will followup with a letter tomorrow on that issue. And you might take a look at the letter and make sure that we are writing it the proper way to get the information we need to get.

Mr. TUITE. I have also been told that there are eight missing pages now from that log.

Mr. SHAYS. Well, we will raise that question as well.

Let me thank all of our witnesses throughout the day who have been here and also for those who have stayed to hear this testimony.

I would like to end by thanking our court reporter, Rita Hemphill, and Kelly Gahan, who is a subcommittee intern, and Matthew Ebert, our full committee intern, as well as Bob Newman, who is on our staff, who has worked very hard on this issue, taking the place of a former staff member who spent a lot of time on this, Kay Hickey, and also Cheryl Phelps.

This hearing is adjourned.

[Whereupon, at 5:30 p.m., the subcommittee was adjourned.]

[Additional information submitted for the hearing record follows:]

PREPARED STATEMENT OF HON. BERNARD SANDERS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF VERMONT

Mr. Chairman, thank you for holding this important hearing on Persian Gulf War Syndrome and the role that low level exposure to chemical and biological weapons

may have played in it. Nevertheless, these hearings on the Gulf War Syndrome should not be limited to this aspect of the debacle.

I have asked you to hold a hearing on the Pentagon's negligent investigation of the U.S. troops' exposure to chemical weapons during the Gulf War. We must investigate why the information about possible U.S. troop exposure to nerve gas and chemical weapons, known since 1991, was not made public and was not incorporated into the studies about Persian Gulf War syndrome. We must find out who is responsible for this very serious dereliction of duty, and hold those people accountable.

The story has unfolded slowly, but it is becoming clearer that the Department of Defense—DOD—inadequately investigated and released evidence of possible exposures to the veterans and their health care specialists. This is abominable behavior that has significantly contributed to the veterans suffering by unnecessarily questioning their complaints and perhaps even exacerbating their injuries by contributing to delayed or inaccurate diagnoses and treatments. We cannot permit this kind of behavior by the country that these very troops risked their lives to protect. We need to hold those responsible accountable, minimize the harm done, and prevent this calamity from being repeated.

Since 1991, DOD denied the possibility of Gulf War troop exposure to chemical and biological weapons—until June 21st of this year. And DOD still casts doubts on claims that these exposures may have contributed to the chronic symptoms they are experiencing. Several weeks ago, the chief investigator of Presidential Advisory Committee reported that up to 1100 U.S. troops were exposed to the deadly nerve gas sarin when they blew up an Iraqi ammunition depot shortly after the Gulf War and that the Pentagon's investigation into this exposure has been "superficial." He recommends that an independent body continue the investigation rather than the Pentagon.

Given the fact that some 50,000 soldiers who served in the Persian Gulf have complained of various ailments associated with that war, it is totally unacceptable that for five years the Pentagon denied that they had any evidence that American troops were exposed to Iraqi chemical weapons and nerve gas which U.S. troops destroyed.

Mr. Chairman, I understand that this subcommittees jurisdiction is limited to the Department of Veterans Affairs and does not include DOD, but we could hold a joint hearing with another subcommittee to address DOD's negligent behavior. I commend your interest in this issue and hope that you are planning to continue looking into it, specifically DOD's irresponsible handling of this matter.

PREPARED STATEMENT OF CHRIS A. KORNKVEN

I have been seeking treatment at the Oklahoma City VAMC since early 1992, and stopped seeking treatment from the VA Medical system in February 1996.

During this period the following items have been discovered or reported to the VA.

I have reported blinding headaches for more than a year with only offers of aspirin. Eventually an MRI was reluctantly performed in which a nasal mass was discovered. There has been absolutely no treatment to date.

I have reported memory loss since returning from the Gulf. This has been dismissed as a result of stress with no other attempts at finding the cause or other treatment.

I have reported skin problems since returning. After a sample was taken of the many brown spots that have been appearing, I was told "it's not skin cancer yet" and I could "come back as needed". There has been no further treatment to date.

I have reported problems breathing and have had instances of Pneumonia and of Bronchitis since returning. I have been questioned by VA doctors about whether I have ever had surgery on my chest with no explanation. Other than antibiotics for the Pneumonia or Bronchitis the only other attempts at treatment have been frequent chest x-rays.

I have reported intestinal problems to include diarrhea, for more than a year before a strange type of bacteria was found. I was given a 2 week course of antibiotics in which the symptoms receded somewhat. When the symptoms resumed worse than before I reported this to the VA, for more than another year. During this time I also reported having rectal bleeding. I was eventually given an appointment in which the bleeding was described as hemorrhoids, after no examination. When the doctor found no evidence of this in my medical records he continued to dismiss the problem until I insisted something be done. By the time I left Oklahoma months later a follow-up still had not been performed. This bleeding continues.

I have reported joint pain for many months and had been given a follow-up to see a Rheumatologist in 1994. To date I have yet to see a Rheumatologist, and the

joint pain has been dismissed as being Fibro-Myalgia. No treatment other than Motrin has been given.

I have reported my wife and I having a miscarriage in which the fetus had to be surgically removed, and my semen burning her. There have been no attempts at finding the cause of either other than mysterious questions asked by some doctor from the Houston VAMP.

Other blood and urine samples have shown glaring abnormalities with no attempts to discover the problem. I have been told of these abnormalities months after the sample was taken.

I requested over several months that a urine test for Depleted Uranium be performed. After many excuses and attempts to ignore this I finally was successful after requesting Congressional help. After waiting the period needed for the results, I began inquiring about them from the Chief of Staff. 3 months went by during which I was told they had called the Baltimore facility performing the test, left messages, but Baltimore would not return their phone calls. I called the Baltimore facility, spoke with the Doctor overseeing the testing, and had him fax the results. During the conversation I was told I "had a higher DU count then those carrying around fragments in them". I was also told it was nothing for me to worry about and that I probably got it from the drinking water where I live. I believe the Environmental Protection Agency would be interested in hearing that one.

I understand DU contamination may cause kidney problems. I have been questioning for many months as to whether this may be the cause of urine abnormalities but they have been unanswered. I also question if this may cause liver problems, and the only response I have ever received is a question of whether I have ever had an Ultra-Sound of my stomach since it has been painful to the touch since I have returned.

I have reported chest pains since returning and instances of my heart racing as high as 160 beats per minute with no activity. After going through tests with results varying from "no problem" to not being able to start a test due to abnormalities shown, I was given an appointment with a Cardiologist. After the initial examination in which problems were discovered I was given a follow-up. Unfortunately this follow-up was scheduled for a year after the initial visit. Several attempts to correct this were ignored until once again I requested the help of my Congressman. When the appointment was held, after a couple failed attempts, I was told the heart problem I was having was due to an abnormal heart valve. After many physicals and no heart problems prior to the Gulf I was surprised to hear this. I was also told this type of problem was hereditary, nicely avoiding the VA's rating guidelines.

Many types of treatment at this facility consisted of providing a quick prescription for whatever the reported problem may be. The number of prescriptions that I had been given totaled 27 at one point. I began wondering the interaction of all of these medications and requested over several months, through the Chief of Staff, an appointment with a Pharmacist. I eventually had this appointment from my own doing without any attempts by the Chief of Staff. During this appointment I was told 2 of the medications I was given interacted causing heart arrhythmias and "some people have died from it".

To date my insurance has been billed more than $35,000.00 for those appointments ranging from a few minutes to half an hour. Most were with medical students. I have little wonder why claims are denied once a veteran reports having medical insurance.

Due to problems in obtaining treatment I have contacted the Persian Gulf Veteran's doctor, the Patient Advocate, the Assistant Chief of Staff, the Chief of Ambulatory Care, the Chief of Staff, the Congressional Liaison and finally the Director, all of the Oklahoma City VAMC. Since problems continued in obtaining treatment or appointments I have contacted 6 different members of Congress to include 3 Congressional Committees. The problems continue.

I then contacted the VA Inspector General's office which opened an investigation. This resulted in the Inspector Generals office requesting a response from the Director of the Oklahoma City VA. The Director provided excuses for each of the problems I had identified. After 2 months of waiting for results I called the Inspector Generals office and was told they were satisfied with the Director's response, and refused to investigate further.

Due to the publicly shown support of Gulf War Veterans by First Lady Hillary Clinton, and the continued gross negligence with no resolution, I contacted the First Lady's office with some of the issues I had raised. The result was her office referring the problem back to the same VA staffer's that had been the cause of all the problems in the first place. So much for continued support.

I have thought of filing an SF-95 claim for damages with the VA, but have given up, secure in the knowledge that it would end up in months of red tape.

I can no longer jeopardize my health by seeking treatment through the VA medical system, and so have given up any further attempts at seeking treatment for these problems.