

**GULF WAR ILLNESS RESEARCH:
IS ENOUGH BEING DONE?**

HEARING
BEFORE THE
SUBCOMMITTEE ON OVERSIGHT AND
INVESTIGATIONS
OF THE
COMMITTEE ON VETERANS' AFFAIRS
U.S. HOUSE OF REPRESENTATIVES
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GULF WAR ILLNESS RESEARCH: IS ENOUGH BEING DONE?

TUESDAY, MAY 19, 2009

U.S. HOUSE OF REPRESENTATIVES,
COMMITTEE ON VETERANS' AFFAIRS,
SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS,
Washington, DC.

The Subcommittee met, pursuant to notice, at 10:05 a.m., in Room 334, Cannon House Office Building, Hon. Harry E. Mitchell [Chairman of the Subcommittee] presiding.

Present: Representatives Mitchell, Walz, Adler, Hall and Roe.

OPENING STATEMENT OF CHAIRMAN MITCHELL

Mr. MITCHELL. Good morning and welcome to the Oversight and Investigations Subcommittee of the Veterans' Affairs Committee. This is a hearing on Gulf War Illness Research: Is Enough Being Done? This is May 19th and this meeting will come to order.

Unfortunately, Dr. Roberta White could not be in attendance today. I ask unanimous consent that her statement be submitted for the record. Hearing no objections, so ordered.

[The prepared statement of Dr. White appears on p. 73.]

Mr. MITCHELL. Thank you, everyone, for attending today's Oversight and Investigations Subcommittee hearing entitled Gulf War Illness Research: Is Enough Being Done?

We meet today to shed light on a topic that is critically important to the House Committee on Veterans' Affairs, the health and care of our Gulf War veterans. This hearing is not the first to address Gulf War illness and it certainly will not be the last.

Today's is a first in a series of Oversight and Investigations Subcommittee hearings examining the impact of toxin exposures during the 1990–1991 Persian Gulf War and the subsequent research and response by government agencies, including the U.S. Departments of Defense (DoD) and Veterans Affairs (VA).

It has been almost 19 years since the United States deployed some 700,000 servicemembers to the Gulf in support of Operation Desert Shield and Desert Storm. When these troops returned home, some reported symptoms that were believed to be related to their service.

Still today these same veterans are looking for answers about problematical treatment and the benefits that they bravely earned.

While we hear about numerous studies and millions of dollars spent on the Gulf War illness research, many questions remain unanswered. In the end, we still do not know how to respond to Gulf War veterans who ask am I sick or will I get sick.

Today we will attempt to establish an understanding of the research that has been conducted and the actions that have been taken in relation to the Gulf War illness. To better assess Gulf War illness and its impact on veterans, we will look at another at-risk population, veterans who were exposed to the harmful toxins, Agent Orange, in Vietnam.

In the past, we have seen service-related illnesses ignored, misunderstood, or swept under the rug. We must learn from these mistakes and ensure that our research and conclusions are accurate so that Gulf War veterans are assured of the right diagnosis and the care and benefits they richly deserve.

Subsequent hearings on this issue will take a multi-level view of the methodology and conclusions of Gulf War illness research and how the review of information was compiled and why certain methods were employed.

With a growing chorus of concern over the accuracy of existing research and with the new Administration leading the VA, it is time for us to make a fresh and comprehensive assessment of this issue and the body of research surrounding it.

We will hear testimony today from a Gulf War veteran, veterans service organizations (VSOs), a distinguished researcher from the Research Advisory Committee (RAC) on Gulf War Illness, as well as government officials.

I would like to thank all of our witnesses for appearing here today.

I would also like to extend my thanks to Jim Binns, who chaired the Research Advisory Committee on the Gulf War Veterans' Illnesses for his contributions to this hearing and to this issue.

I trust this hearing will provide useful insight to begin our evaluation of the existing research on toxic exposure and the work being done to care for Gulf War veterans and protect future generations of war fighters.

[The prepared statement of Chairman Mitchell appears on p. 43.]

Mr. MITCHELL. Before I recognize the Ranking Republican Member for his remarks, I would like to swear in our witnesses. I ask all of our witnesses from both panels to please stand and raise their right hand.

[Witnesses sworn.]

Mr. MITCHELL. Thank you.

I ask unanimous consent that Mr. Kucinich be invited to sit at the dais for the Subcommittee hearing today. He has joined us and if there are no objections, so ordered.

Thank you, Mr. Kucinich.

I would like to now recognize Dr. Roe for his opening remarks.

OPENING STATEMENT OF HON. DAVID P. ROE

Mr. ROE. Thank you, Mr. Chairman, for yielding.

My understanding is that this will be the first in a series of hearings on Gulf War illness to be held by our Subcommittee. It is my hope that we will not ignore other pressing oversight issues previously agreed upon in our oversight plan in order to flush out issues already discussed previously by other Committees and Subcommittees over the past 12 to 13 years.

This first hearing will focus on the historical context of the war in the Persian Gulf, Operation Desert Shield, Operation Desert Storm, which occurred from August 1990 through July 1991. This will be a review of the conflict and overview of the types of exposures and assistance made available to veterans from that conflict.

The Ranking Member of the full Committee, Congressman Steve Buyer of Indiana, is a veteran of the Gulf War and has invaluable historical and personal knowledge of the conflict and what Congress has done since the early 1990s to assist veterans of the Persian Gulf. I am sure he will be watching these proceedings with great interest.

Much of the historical background of the Gulf War veterans can be found in the wealth of materials available through printed hearings held by the Committee as well as a body of legislative work that has been done by Congress through the past two decades.

Over the past 20 years, Congress has held numerous hearings and passed several public laws extending back as far as the 103d Congress to address the needs of these particular veterans.

These efforts include mandating a study by VA through the non-partisan National Academy of Sciences and their Institute of Medicine on the effects of various chemical compounds, pesticides, solvents, and other substances on humans and in particular how these compounds may have affected veterans who participated in the Persian Gulf conflict.

Ranking Member Steve Buyer led the efforts in the 105th Congress by offering an amendment which ultimately was included in Public Law 105-85, "The National Defense Authorization Act" for fiscal year 1998.

Mr. Buyer's amendment authorized \$4.5 million to establish a cooperative DoD/VA program of clinical trials to evaluate treatments which might relieve the symptoms of Gulf War illnesses and required the Secretaries of both the Department of Defense and the Veterans Affairs to develop a comprehensive plan for providing health care to all veterans, active-duty members, and Reservists who suffer from symptoms of Gulf War illnesses.

I have been informed that the authority to conduct these studies mandated into law to be completed by the National Academy of Sciences, Institutes of Medicine (IOM) will expire this year. I believe this Committee should look at these hearings with an emphasis on whether the studies should be continued and, if so, what the parameters of any new studies on Gulf War illness should be.

I look forward to hearing our panel of witnesses today and anticipate the next hearing in this series.

And, Mr. Chairman, I bring a unique perspective being a physician, being a battalion surgeon, and also really looking at this completely objectively. I have not had any testimony one way or the other. So I can listen to these participants today completely objectively.

I yield back the balance of my time.

[The prepared statement of Congressman Roe appears on p. 43.]

Mr. MITCHELL. Thank you.

Mr. Walz.

Mr. WALZ. Thank you, Mr. Chairman. In the interest of time, I will just submit my opening statement for the record and I yield back.

[The prepared statement of Congressman Walz appears on p. 44.]

Mr. MITCHELL. Thank you.

Mr. Hall.

OPENING STATEMENT OF HON. JOHN J. HALL

Mr. HALL. Thank you, Mr. Chairman, Ranking Member Roe.

I also look forward to the testimony of our witnesses, but note with interest that after the Vietnam War passed, it reached a point where the VA decided that there was a need to provide a presumed stressor to connect Agent Orange-caused illnesses automatically to the exposure caused by being in theater.

Currently, I am sponsoring, and our Subcommittee is looking at, legislation to establish the same thing currently for Operation Iraqi Freedom/Operation Enduring Freedom (OIF/OEF) connections to post-traumatic stress disorder (PTSD) and other traumas that come from that particular type of conflict. And it may be that the same thing will be shown from the testimony here.

So I am looking forward to finding out exactly what kind of sacrifice and exposure our servicemen and women were exposed to and look forward to our doing right by them.

And thanks again for holding this hearing.

Mr. MITCHELL. Thank you.

Mr. Kucinich.

OPENING STATEMENT OF HON. DENNIS J. KUCINICH

Mr. KUCINICH. Thank you very much, Mr. Chairman. I want to thank you and Ranking Member Roe for affording me the opportunity to give a statement today and, more importantly, for doing a thorough examination into this topic.

At least one out of every four of the 700,000 soldiers sent to fight in the first Gulf War suffers from Gulf War veterans' illnesses.

One out of every four bears the permanent burden of at least one of the following: Persistent memory and concentration problems, chronic headaches, widespread pain, gastrointestinal problems, and other chronic abnormalities that are difficult to define, let alone treat.

One out of every four is faced with trying to work, sleep, love, learn, and grow despite not being able to think clearly, not being able to get rid of the pounding in their heads and despite being in a nearly constant state of general pain.

As these veterans begin to age, we are starting to see that they suffer elevated rates of amyotrophic lateral sclerosis (ALS), Lou Gehrig's disease. It is a disease that rewards their dedication to country with a long, slow, painful physical demise in which they watch their own arms and legs become decreasingly functional and their dependence on a caregiver grows. The toll is far more than physical.

I am sad to say that this is not entirely surprising. As has been the case again and again, our heroes are celebrated in time of war. They are elevated for their willingness to risk their lives for hundreds of millions of people, the vast majority of whom they have

never met, never seen. But several years down the road, if we are not still at war, they tend to be forgotten.

Such was the case with the Gulf War veterans. They endured years of denial that they even had a health problem. They then endured years of insistence from the very agencies that thrust them into war that their problem was psychological.

Then when it was finally admitted that Gulf War veterans' illnesses were real and more than a result of mental trauma, they continued to be denied care. By that time, they had been forgotten.

The tens of millions of dollars in research funds that were focused almost entirely on the wrong cause, mental trauma, began to dry up. Only the assiduous efforts on the part of my former colleagues in the House, Congressmen Shays and Sanders, kept a trickle of money flowing through the Department of Defense's Congressionally Directed Medical Research Program.

When my time came to pick up the mantle in 2005 and increase these funding levels, I was more than happy to do so. Though the amount we have won through our bipartisan efforts is nowhere near where we need to be, the money was well spent, attracting national research talent and dozens of exciting proposals.

With each passing year, I am more optimistic that treatment options will be identified for our Gulf War veterans.

This research will have the added benefit of informing efforts to treat and cure civilians who suffer from similar diseases.

Because we have the epidemiological luxury of knowing some of the main unique exposures these soldiers endured, we have already been able to identify two definite causes of Gulf War veterans' illnesses: exposure to pesticides and a drug given to troops to protect them from nerve gas.

Other possible causes include low-level exposure to nerve agents, close proximity to oil well fires, receipt of multiple vaccines, and combinations of these exposures.

These findings should lead to the reduction of the exposures, many of which are found in our everyday lives, in the general population, preventing similar diseases from ever happening. And this valuable information will help uncover the underlying biological mechanisms which could lead directly to new drug therapy for all who suffer from the same afflictions.

Clearly we need to get the research right. And the need to get it right is urgent and far overdue, which is why this series of hearings is so critical, Mr. Chairman. I want to commend you for your leadership.

I would also like to offer my gratitude to the scientists, advocates, and public servants giving testimony here today for their tireless work. I am looking forward to working with all of you to right this wrong.

Thank you, Mr. Chairman. Yield back.

Mr. MITCHELL. Thank you.

I ask unanimous consent that all Members have 5 legislative days to submit a statement for the record. Hearing no objections, so ordered.

At this time, I would like to welcome panel one to the witness table. Joining us on our first panel is Jim Bunker, a Gulf War veteran and President of the National Gulf War Resource Center; Paul

Sullivan, Executive Director of Veterans for Common Sense (VCS); Rick Weidman, Executive Director for Policy and Government Affairs for the Vietnam Veterans of America (VVA); as well as Dr. Lea Steele, Immediate Past Scientific Director for the Research Advisory Committee and Adjunct Associate Professor at Kansas State University School of Human Ecology.

And I would ask that all witnesses please stay within 5 minutes of their opening remarks. Your complete statements will be made part of the hearing record.

At this time, I would like to recognize first Mr. Bunker, then Mr. Sullivan, Mr. Weidman, and then Dr. Steele.

Mr. Bunker.

STATEMENTS OF JAMES A. BUNKER, PRESIDENT, NATIONAL GULF WAR RESOURCE CENTER, TOPEKA, KS (GULF WAR VETERAN); PAUL SULLIVAN, EXECUTIVE DIRECTOR, VETERANS FOR COMMON SENSE; RICHARD F. WEIDMAN, EXECUTIVE DIRECTOR FOR POLICY AND GOVERNMENT AFFAIRS, VIETNAM VETERANS OF AMERICA; AND LEA STEELE, PH.D., ADJUNCT ASSOCIATE PROFESSOR, KANSAS STATE UNIVERSITY SCHOOL OF HUMAN ECOLOGY, MANHATTAN, KS, AND FORMER SCIENTIFIC DIRECTOR, RESEARCH ADVISORY COMMITTEE ON GULF WAR VETERANS' ILLNESSES

STATEMENT OF JAMES A. BUNKER

Mr. BUNKER. Mr. Chairman and Members of the Committee, on behalf of the National Gulf War Resource Center and myself, I would like to thank you for letting me be here.

I want to first give you a brief background on myself. In 1977, I completed high school in 3 years. In 1984, I received my Bachelor's Degree in Mathematics with a Minor in Psychology and Computer Science.

And also I was able to get As and Bs through college without hardly opening a book. I was able to retain most information from class lectures with ease and translate it to exams. Computer and math were my best classes, and I started playing chess in the seventh grade and played in tournaments and continued up through and before the war.

After teaching for a few years, I applied for and was accepted to Officer Candidate School, was commissioned as a Field Artillery Officer. I went to Fort Sill for Officer's Basic Course where I was one of the top graduates and brought on to active duty and then stationed at Fort Riley, Kansas.

I deployed from Fort Riley, Kansas, to the Gulf War. In the beginning of the war, our M8 alarms sounded many times and we were being told that it was batteries, malfunctions, and what have you and that. So we finally just quit putting them up.

At the end of the war, we blew up large amounts of ammunition dumps and that was when I started to get sick. I became so ill, I started having convulsions and was treated with atropine and evacuated to the 410th Evac Hospital back in Saudi Arabia.

Later on, I found out the symptoms that I was having, the convulsions and all the other symptoms going with it, were actually

listed in a book for nerve agent problems, to look for as probable nerve agent poisonings.

And on June 22nd, I went to the VA for help for my problems because I was medically discharged from the Army. I was having problems in the Army with my legs, nerve problems in my legs and that. And they could not find the problem that was causing it, so they sent me before a medical evaluation board.

And while my records were before that board, I lost the use of my left hand due to the extreme pain that I had in it. And being left-handed, that left me with not much I could do. So the Army threw me out which ended my 15-year career. It was something that I always wanted to do and I would love to be back in doing again and that.

When I went to the VA, not only did I have problems with my left hand and my legs, I also since have had symptoms with numbness and weaknesses and tingling in my arms and legs, headaches, cognitive dysfunctions, gastric reflux diseases, fibromyalgia, sores and skin peelings in the roof of my mouth, skin rashes, and sinusitis.

My right hip pain wakes me up 2 hours almost every night. As I lay in bed with this problem, I have troubles with both my arms having that falling to sleep, numbing feeling.

All of these greatly limit my activities and continues to ensure that this issue—I am sorry. I do have problems when it comes to reading—my desire to ensure that these issues are addressed and a cure is found.

It is hard to live a life where when you are talking to someone normally one minute and then the next minute, you cannot make a sentence to save your life. It is also true when it comes to trying to write things out, when my cognitive problem starts to set in for that day. I may think I am typing one thing and then when I read it the next day, it turns out to be something that just does not make any sense at all.

I also no longer play chess, a game that I truly love. It is hard to play a game where you have to be able to think three and four moves ahead and now you can barely even think of the move that you were just about to make.

Along with many other veterans, we have sensitivity to smells like perfumes, colognes, hair sprays, and et cetera. Often when I went to test in clinics with the VA, some of the workers had so much of this stuff on, it made me sick.

In January of this year, I had my bedroom painted. I forgot to tell them that I needed them to use low odor paint. The fumes from the paint made me so sick for the next few weeks, I had to stay in my basement so that I was as far away from the smells as I could.

Often the VA likes to tell me that this is all in my head or it is depression. I tried to talk to one of my doctors about my problems and about new studies showing that the depression is not—and when I tried to give her the first RAC report to point out some of the studies, she told me that, Jim, we need to agree just that we have to disagree on this point. And I told her I needed a new doctor.

My psychiatrist, Mr. Rot, who talked to me about PTSD, had told me also that I should be like most veterans with PTSD and divorce my wife, which I refused to do.

In 1995, I went to the Gulf War Illness Clinic in Houston, Texas. This is a place that is to look at everything fresh to draw its own conclusion. I saw my charts before they even started and they already listed depression as my main problem. How can we get fair treatment before a doctor sees us and they say we are depressed?

The same doctor came one day to give me a report on a blood test. Some of the levels was off, but she told me it was because of excessive use of alcohol. She was surprised when I told her I do not drink. How can they give us any fair treatments when they are doing diagnosis like this?

At one point, I was concerned about the medication prescribed to me. With my wife's help, I were able to get off half of the medication being that they did not make me any worse when I am off of them.

Over the last few years, veterans called me about getting on the Gulf War Registry exam. Many of the veterans were having problems, so I went to my local VA to try and get on the exam and that. I got the runaround my from local VA about this exam.

A third person I went to on this exam told me he did not do it either and could send my name and the information to who did it. I asked who that person was. He refused to give me the information. I told them who I was. I was President for the Resource Center and investigating as to why veterans are having a hard time getting on this exam.

He went off on me and told me to behave myself, so I went to the Director and introduced myself. The Director assured me things would be taken care of. I had to fight hard. I would get a call from the patient affairs person, patient representative person who gave me a name and number. I called that name and number over 3 weeks. I never got a call back.

When I went to the office, she said she did not do it either and that. So the Director Office called me and I said the problem was not taken care of.

I finally got the exam paperwork. First question on the exam paperwork was, when were you in Vietnam. It really pissed me off because of the fact I am sitting there trying to get on the Gulf War exam and that.

The exam itself is a big joke. They asked me questions about dead, dying, and missing in action. They do not ask me questions about why do I have headaches. If so, how often and how long. They do not ask questions about cognitive dysfunctions and that. The questions should be addressed differently the way they are.

The results of these exams should be kept on file not only of what problems veterans are having under undiagnosed illnesses, they should be also put into listings of what they have been diagnosed with and given to the VA Secretary and the IOM and the RAC report so that there is a clear file showing the diagnosed illnesses so that presumptive service connection can be also given to us veterans who are having this, like my fibromyalgia and other things.

There are a lot of veterans I know who are having problems with Parkinson's disease and multiple sclerosis (MS), which is not service connected and it should be.

Finally, I deal with a lot of veterans daily who are having problems with their Gulf War claims and that. My claim went through relatively easy in 1993 when they decided to drop 12 issues I had, which are all now listed as part of Gulf War illness and they gave me 100 percent unemployability and that.

But I have got veterans whose claims right now are being denied because of chronic fatigue and fibromyalgia, two presumptive service connection for Gulf War veterans, and the raters are saying, well, you got that disease too far out of the timeframe and that. It is too late to put that as service connection. Well, the timeframe is not until December 31st, 2011. That is 2½ years from now.

You also have other veterans whose claims are being denied because the raters are telling them that you have to have a combat ribbon or you have to have a V for valor device in their 201 files.

That is bull. I am sorry. I am getting really personal about this. This is something that is really to me. And these are problems that are happening and not just to me but other veterans and that.

Mr. MITCHELL. Okay. Thank you.

Mr. BUNKER. Okay? This is not a requirement for Gulf War illness. It is not and that. And we need real help and real care.

This last commission that you guys passed that the VA is to have that is supposed to look into problems Gulf War veterans are having with their claims, it is not doing its job. When you have the Chairman of that board sitting there in a meeting saying that Congress should never have passed a law dealing with Gulf War illness and compensating veterans for Gulf War illness, how is he going to be really objective in what he has?

He is not going to look for problems. He is not going to these VAs that are doing this injustice to the Gulf War veterans. He is doing, though, a good job for the returning veterans. I do have to credit him for that. But I think that board needs to be relooked at and reworked and the people on it need to be kicked off and put on Gulf War veterans and not some of the people that are on that board.

Mr. MITCHELL. Thank you.

Mr. BUNKER. Thank you.

[The prepared statement and a post-hearing letter from Mr. Bunker, appear on p. 44.]

Mr. MITCHELL. Thank you. Thank you very much.

Mr. Sullivan.

STATEMENT OF PAUL SULLIVAN

Mr. SULLIVAN. Veterans for Common Sense thanks Subcommittee Chairman Mitchell, Ranking Member Roe, and Members of the Subcommittee for asking Veterans for Common Sense to testify today about Gulf War illnesses.

We are gathered here today to determine if VA is doing enough to assist our ill Gulf War veterans. The answer is no. We remain frustrated and angered at our government's lack of action.

As a Gulf War veteran, I have personally experienced VA denials and delays. In 1992, I applied for VA health care and was denied until a newspaper reporter printed my story in a local newspaper.

In 1992, I filed a disability claim against VA and VA repeatedly denied disability benefits until 2000. And again in 2007, VA tried to deny me health care one more time.

I am here as a Gulf War veteran because we have three questions where we need answers. Why are we ill? Where can we get treatment? Who will pay for our medical care and disability benefits?

Although we do have some answers why we are ill, there is far more to learn. Worse, there are few treatments for us. And VA disability benefits, they are very difficult to obtain.

While the military and the VA say they assist ill Gulf War veterans, they often fight against veterans. After 18 years of misleading comments, delays, and denials, here are four examples of where the government still tells Congress, VA doctors, and veterans that there really is nothing wrong.

First, VA's Web site now says experts conclude there is no unique medical condition. This is an attempt to downplay the illness.

Second, VA's 2007 Congressional testimony says veterans are suffering from a wide variety of common recognized illnesses.

Third, VA's 2002 training materials for doctors says discussing chronic illness with a Gulf War veteran or a woman with silicone breast implants is a different matter from discussing it with the average patient.

Fourth, in a 2008 statement, DoD says veterans suffer only minor wear and tear problems. However, the scientific facts reveal a critical health crisis.

In an April of 2009 study, "Health of U.S. Veterans of the 1991 Gulf War," VA concluded 25 percent more deployed Gulf War veterans suffer from multi-symptom illness than nondeployed veterans.

I am hopeful the 111th Congress, and the new Administration, will finally take decisive steps now to help resolve these problems and prevent future problems.

First, VA should publicly recognize our illnesses. VA should issue new training materials and a press release that Gulf War illness is real. And we ask that Congress continue oversight on this issue.

Second, Congress should fully fund the Congressionally Directed Medical Research Program to find treatments we urgently need. Again, one of our top priorities is finding treatments.

Third, Veterans for Common Sense asks Congress to investigate VA staff manipulation of Institute of Medicine reports mandated by "The Persian Gulf Veterans Act of 1998" to determine veterans' benefits. Documents reveal VA and IOM staff improperly fixed the results of the reports before they were ever written by restricting the evidence to be considered. If laws were broken, then VA must hold accountable those who would fight against our veterans. We urge Congress and VA to remove VA road blocks so veterans can move forward.

Fourth, VA should conduct more research to understand our illnesses, especially for the experimental Anthrax vaccine and depleted uranium (DU).

Fifth, VA should send letters to every veteran ever denied an undiagnosed illness benefit advising them of laws expanding eligibility.

Sixth, VA should explain why the number of veterans with approved undiagnosed illness claims, these are Gulf War disability claims from the 1994 law, fell from about 3,000 to about 1,000 during 2008.

Finally, Congress, DoD, and VA must prevent a repeat of the Gulf War illness debacle. We urge Congress to investigate why the military failed to perform mandatory pre-deployment and post-deployment medical exams required under the 1997 Force Health Protection Law.

DoD has jeopardized the health of our servicemembers, the safety of military units, and the success of the mission by deploying tens of thousands of unfit soldiers to Iraq and Afghanistan.

In conclusion, I ask you to please add the February 9, 2009 memo by James Binns, Chairman of the Research Advisory Committee, regarding the VA manipulation of IOM reports as a hearing exhibit.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Sullivan appears on p. 49. The memo by Mr. Binns will be retained in the Committee files.]

Mr. MITCHELL. Thank you.

Mr. Weidman.

STATEMENT OF RICHARD F. WEIDMAN

Mr. WEIDMAN. Mr. Chairman, I thank you for the opportunity to appear here today.

Many people have said why in the world are you talking about Gulf War vets being that you are all Vietnam veterans. Our founding principle was never again shall one generation of American veterans abandon another generation of American veterans.

And since 1994, though we are not a wealthy organization, we have provided office space and support for Gulf War veterans for many years and today continue to do so to the Veterans of Modern Warfare, which include Gulf War vets as well as OIF/OEF vets.

We pressed early on right after the Gulf War for some answers when it was clear that people were getting ill. And all you need, it is not rocket science stuff, in order to correct the things that are still wrong for Gulf War vets, you could pass or enact very prescriptive legislation that attempts to legislate people doing the right thing.

But, in fact, all you need is top leadership that says we have a covenant with the men and women who take the step forward pledging life and limb in defense of the Constitution, that where they are lessened by virtue of military service, we are going to do everything humanly possible to find out how they have been lessened and to remediate that, whether they have been lessened physiologically, neuropsychiatrically, emotionally, or economically.

That is all you need. And if you have that stance, then all else flows from that. Unfortunately, the history of Gulf War illness, both with DoD and with VA, is one of misdirection, denial, and some would suggest mendacity.

Where are we today and what can be done about this situation? First of all, I subscribe and VVA subscribes to the President's judgment that we need a transformational change at VA and nowhere is that more apparent than in the research and development area and in the whole way in which the entire agency, both Veterans Benefits Administration (VBA) and Veterans Health Administration (VHA), deals with the wounds, maladies, and injuries of war, particularly adverse health care conditions that derive from environmental exposures while in military service.

So once you have the proper stance, then you start to change it. We have great confidence and great hope for the number one and number two persons at the VA now. And very shortly, there will be a new Under Secretary for Health and from that will flow leadership changes at every level.

The timing on this hearing, and I know a lot of people raised some questions about why are we going back to this at this particular time, this set of three hearings is perfectly timed for a number of reasons.

Number one, last November, the RAC report, which was a complete and extraordinary report, was made public.

Secondly, just last month, the results of the long-term epidemiological study done by Dr. Han Kang, et al., was published. The article subsequent to that was published in a peer-reviewed journal.

And, third, we are in the process of getting that leadership change and a fresh look with new leadership at where do we need to go from here, where have we been and where do we need to go.

VVA recommends, first of all, the deep brain study done by Dr. Robert Haley at the University of Texas, Arlington (UTA), VA must stop interfering with that in an unwarranted way trying to get the UTA to violate the Institutional Review Boards (IRBs) and breach confidentiality of the people who participate in that study.

Similarly VA must be warned not to try and get other research institutions who are doing outside research funded by VA to ask them to breach their medical ethics and their research ethics by violating IRBs.

Secondly, VA needs to move quickly to modify the computerized patient treatment record to include a military history question, what branch did you serve in, when did you serve, where did you serve, what was your military occupational specialty, and what actually happened to you.

This needs to be searchable on a nationwide basis so that if I walk in and see Dr. Roe and I have a rare cancer, he can search and find out do other individuals who served in the same military unit at the same time I did, do they have that. And that is classic epidemiological methodology going right back to the original epidemiological study done on cholera in London. And we would have an invaluable epidemiological tool that costs virtually nothing.

Third, VA does not really have a Gulf War One Registry, they have a Gulf War One mailing list, just like they do not have an Agent Orange Registry, they have an Agent Orange mailing list, et cetera.

What we need are registries that are set up on the model of the Hepatitis C Registry where you can look and track the entire pattern of people's medical treatment and medical conditions on an on-

going basis and to have a protocol for a Gulf War One medical exam to get on that registry, same with a different one for Agent Orange, et cetera. Right now it is a let us not and say we did thing and we need to be honest about having real registries where we can do good epidemiological work on veterans of every generation.

Fourth, there needs to be a significant increase in VA research dollars. We would suggest more than \$2 billion. And there are several other recommendations, but I just want to mention one, Mr. Chairman, because I know I am out of time, and that is to extend the RAC to 2016.

Thank you very much, and I look forward to answering any questions, Mr. Chairman and Ranking Member.

[The prepared statement of Mr. Weidman appears on p. 53.]

Mr. MITCHELL. Thank you.

Dr. Steele.

STATEMENT OF LEA STEELE, PH.D.

Dr. STEELE. Good morning. I am Dr. Lea Steele.

The RAC that you have heard mentioned a few times is the Research Advisory Committee on Gulf War Veterans' Illnesses. I was formerly Scientific Director of that Committee. The current Scientific Director was unable to be with us today.

So I was Scientific Director during the period of time that we prepared this extensive, in-depth report that was issued last November. And so I will try my best in the brief time I have to just touch on some of the highlights of our scientific findings.

The report's primary focus is Gulf War illness or what has also been called Gulf War syndrome or Gulf War undiagnosed illness.

In contrast to diseases like cancer or diabetes, Gulf War illness is not explained by standard medical tests or diagnoses. The hallmark of Gulf War illness is, as you have heard, a characteristic pattern of multiple symptoms, typically widespread pain, memory and concentration problems, persistent headache, unexplained fatigue, persistent gastrointestinal problems, and other abnormalities. For many veterans, this illness is quite severe and has persisted for 18 years.

Here are our report's major findings on Gulf War illness.

First, Gulf War illness is real. Studies from all units and regions of the U.S. and several coalition countries show the same thing. The same types and patterns of excess symptoms are consistently identified in diverse groups of Gulf War veterans.

Second, Gulf War illness differs fundamentally from trauma and stress syndromes seen after other wars. Studies are consistent in showing Gulf War illness is not the result of combat or stress. In fact, rates of psychiatric disorders like PTSD are low in Gulf War veterans compared to veterans of other wars. And studies do not show a similar pervasive unexplained illness in veterans of more recent wars, including current Middle East deployments.

So Gulf War illness is a widespread problem. Multiple studies indicate that it affects at least one in four of the nearly 700,000 U.S. military personnel who served in the Gulf War.

What caused Gulf War illness? Well, as you may know, many presumed causes have been suggested over the years from stress, to oil well fires, to depleted uranium. Our review of the extensive

evidence related to each of these factors provides a clear conclusion. Scientific evidence points consistently to just two causal factors for Gulf War illness.

The first, pyridostigmine bromide or PB pills were given to protect troops from the effects of nerve agents. PB has only been used on a widespread basis in the 1991 Gulf War.

The second factor is extensive use of pesticides in theater. Both PB and pesticides that were used and overused in the Gulf War affect the same enzyme and neurotransmitter system which act in the brain and the nervous system.

Several other contributing factors cannot be ruled out due to limited or conflicting evidence. These include low-level exposure to chemical nerve agents and effects of combinations of neurotoxic exposures in theater like the PB pills and the pesticides.

Also, studies from different research teams have begun to provide for us an emerging picture of the biology of Gulf War illness. Dr. White would have explained this in more detail, but what I can share with you is that the identified differences between sick and healthy veterans most prominently affect the brain and the nervous system.

Now, aside from Gulf War illness, the undiagnosed symptom complex, there are other health issues of concern. The most serious diagnosed disease also affects the brain. Studies have found that Gulf War veterans have higher rates of ALS or Lou Gehrig's disease than other veterans and Gulf War veterans who were downwind from chemical nerve agent releases at Khamisiyah, Iraq, have died from brain cancer at twice the rate of other veterans in theater.

Our Committee also reviewed in detail Federal research programs on the health of Gulf War veterans. Historically these programs have not been managed to address high-priority issues.

About \$400 million have been spent by Federal agencies on projects identified as Gulf War research, but a substantial portion of those funds has been used for projects that have little or no relevance to the health of Gulf War veterans and projects focused on stress.

Promising changes have taken place at VA and DoD since 2006 due to Congressional actions. But overall, Federal funding for Gulf War research has declined dramatically since 2001.

Our Committee has called for a renewed Federal research commitment to identify effective treatments and diagnostic tests for Gulf War illness and to address other priority Gulf War health issues.

Now, if I may, I just have one more point about the question of Gulf War illness. In the past, Federal officials have tended to obscure or minimize Gulf War illness, often focusing on the largely semantic issue of whether or not it should be called a syndrome or a unique disease.

Our Committee viewed this question as relatively trivial. From a scientific perspective, the clear result from Gulf War studies is that a large number of veterans suffer from this consistent pattern of illness, however it is labeled, as a result of their military service in the Gulf War. This is not controversial scientifically. There are no findings to the contrary.

So despite the unusual and complex and difficult to diagnose nature of Gulf War illness, there is every justification from a scientific perspective for this problem to be clearly acknowledged and addressed in the same way as other long-term health problems that result from wartime injury.

Our Committee noted that this remains a national obligation made especially urgent by the many years that Gulf War veterans have waited for answers and for assistance.

Thank you.

[The prepared statement of Dr. Steele appears on p. 56.]

Mr. MITCHELL. Thank you very much.

The first question I have is for Mr. Sullivan. You mentioned in your testimony that there has been a dramatic drop in claims of patients with undetermined illness in 2008 and a dramatic drop in claims approved.

Do you have any thoughts of why this has happened?

Mr. SULLIVAN. Yes, Mr. Chairman.

I would first ask that this Committee ask VA to investigate this. But on the list of hypotheses, the first one that comes to mind is a possible computer malfunction. In other words, something is not counting the numbers properly to generate the correct counts for the Gulf War veteran information system report.

I also believe that there are other hypotheses. The first is that VA may have ordered new exams. If VA ordered a new exam, Mr. Chairman, and the veteran came in, VA may have found that an undiagnosed condition is gone. And if the condition is gone, then the veteran is no longer eligible for those benefits.

If there was an exam, maybe the undiagnosed condition was observed by a doctor to be a diagnosed condition and then the veteran is getting benefits for that. It is also possible that if VA ordered a new exam, the veteran no showed.

We think that in an investigation that VA should review the data from each office, not just the national numbers, and look at the number of grants and denials, the rating percentages for the grants and the dates of those ratings or denials and also take a look at the training and the backlog.

And the reason I can speak to this is because I prepared the Gulf War veteran information system reports for 6 years while I was at VA. I designed them. I prepared them. I briefed them.

We did a brief study in about 2002 that showed that offices that had training and a low backlog of claims approved more than 30 percent of the undiagnosed claims. However, in contrast, the VA Regional Offices that did not have training in processing undiagnosed illness claims and had a large backlog generally approved only about four or 5 percent of the undiagnosed claims.

Mr. MITCHELL. Thank you.

Mr. Weidman, sitting here today and listening to all the facts and the discussion revolving around the Gulf War illness, do you think that the VA and DoD have learned from the past mistakes regarding veterans exposed to Agent Orange?

Mr. WEIDMAN. No, sir.

Mr. MITCHELL. All right.

Mr. WEIDMAN. I could elaborate.

Mr. MITCHELL. No, no, no. That is fine. That is good enough. We will come back to some of these.

And, Dr. Steele, in your expert opinion, do you believe that the Gulf War illness is real, and you have kind of alluded to all this, and the count between 175,000 and 210,000 still suffering is accurate?

And the second part of this, do you believe the published peer-reviewed scientific research, especially Dr. Kang's study, supports this new conclusion?

Dr. STEELE. Yes. As I indicated in my testimony, there is no doubt that Gulf War illness is real and that study after study shows the same pattern of illness in all different groups of Gulf War veterans.

The estimate of 25 to 32 percent was found by six of seven large epidemiologic studies showing rates of multi-symptom illness in Gulf War veterans.

And so this recent study that was just published verifies that finding, a rate of 25 percent in Gulf War veterans.

Mr. MITCHELL. One last question before my time is up. For all the skeptics, what other information do you think is available that if publicized could benefit the public discussion and other scientists' views about the illness?

Dr. STEELE. That is an important question. There is an extensive amount of information on both what occurred during the Gulf War and from many, many research studies that look at the health effects of some of the exposures and the epidemiologic studies looking at what the health status of veterans is today.

Veterans by and large have not recovered over time. There are very few who have recovered according to five different longitudinal studies of Gulf War veterans.

So our report attempted actually to pull together everything that has been written from government reports, from research studies, et cetera. And so in a large part, there is not that much more besides what is in our report.

I think what would be of interest to people that have not followed this issue over the years is just how much data there are around this issue, how much research has been done, and that the research all points in the same direction and that is that these two exposures caused veterans to be ill. And their illnesses parallel what you would expect with these kinds of exposures.

Mr. MITCHELL. Thank you.

I would like to yield to Dr. Roe.

Mr. ROE. Thank you, Mr. Chairman.

Mr. Weidman, I understand you served as a combat medic in Vietnam. Thank you for your service.

Mr. WEIDMAN. Thank you very much, sir.

Mr. ROE. Appreciate that.

Dr. Steele—

Dr. STEELE. Yes, sir.

Mr. ROE [continuing]. I guess a couple of questions I have. Has anyone in the studies that have been done studied the Kurds or the Iraqi population, the indigenous population to see if they have any of these symptoms?

Dr. STEELE. There are very few studies of the local populations. We understand that there was one study of Saudi National Guard members and they did not have increased hospitalizations. But Gulf War veterans in the U.S. for the most part are not hospitalized for these conditions.

So we understand there is a study now being done by the Harvard School of Public Health to look at the people in Kuwait, comparing people that stayed in Kuwait to people that left the country during the war. We do not have results from that yet.

We do hear from other coalition countries, though, that the soldiers from other countries have similar conditions.

Mr. ROE. I was just thinking that another model to study would be the indigenous Iraqi population or the Kurdish population to see what—

Dr. STEELE. Very much so.

Mr. ROE [continuing]. Symptoms they had. And I guess one of the hard problems in studying a syndrome like this, if there is no objective data, it is very difficult to wrap your arms around it.

I know, you know, I can tell you what the cause of pneumonia is or swine flu or whatever. We have an identifiable source of information.

When these tests are done, are there any objective data on positron emission tomography (PET) scan, magnetic resonance imaging (MRI), nerve conduction studies, computed axial tomography (CATs), any of the—

Dr. STEELE. That is right.

Mr. ROE [continuing]. Typical diagnostic testing that we do?

Dr. STEELE. What we find is that when people come in for clinical exams, the standard kinds of clinical evaluations they get, like a standard MRI or a standard CAT scan of the head, typically do not show anything. You do a neuromuscular conduction test, you do not see anything for the most part.

Where you do start to see difference is in more specialized testing that is done in research studies, so now we have multiple studies showing abnormalities in the brain stem, the ganglia and the hippocampus from brain scans. There are a lot of neuropsychology studies showing deficits in cognitive function, memory, performance, things like that.

So these problems are too subtle for the most part to be detected on standard clinical testing. But now that more advanced studies have been done, we do see objective measures of differences between sick and healthy veterans.

The heart of the problem is that there is no clear diagnostic test yet to identify who has it and who does not have it. And that has been the source of so much difficulty both for veterans and for clinicians and for researchers.

Mr. ROE. For instance, in diagnosing ALS, there are some mild and chief problems and in MS, different diagnostic criteria that are in the spinal fluid or in the brain when you find these, but there has been no, to date, there has been no way you can—

Dr. STEELE. It is not unlike what we have seen with other neurological diseases, that for many of them, it takes a long time to find something objective like with Alzheimer's disease, how long before we actually were able to diagnose that with objective tests.

So effects of chemical exposures are often difficult to identify with objective tests. And that is certainly the case here.

Mr. ROE. Do we know how many soldiers, veterans were treated with the PB and the DEET?

Dr. STEELE. Yes. We have numbers for all of those. There have been several different investigations to try to retrace that and get a handle on that.

And multiple sources tell us that about 50 percent of all soldiers from the U.S. used the pyridostigmine bromide pill, some for just a short period, some for longer periods. It is the ones that used it for the longer periods that have the most problems.

The number of people that used what we call personal pesticides, things like DEET, permethrin, things that they have put on their skins and their uniforms, that is also in the range of 50 percent. We see higher use of both of these in Army personnel and ground troops generally, lower use in people that were on board ship or in the Air Force.

Mr. ROE. Is the data on ALS, for instance, if you go from one to two in a million, you have doubled?

Dr. STEELE. Exactly.

Mr. ROE. But the statistical odds of getting something are very remote, your chances. Are these data statistically significant when you say that the incidence of ALS or brain cancer, for instance, what kind of numbers are we talking about?

Dr. STEELE. Yeah. And that is an important point. Well, ALS and also brain cancer are very serious fatal diseases. The numbers that have these problems are relatively low compared to the very large number with these Gulf War illness problems.

So the last count that I had was 60 Gulf War veterans that have ALS and that is roughly twice as many as nondeployed veterans of the same era. For brain cancer, I think we are still in the range of 30 deaths due to brain cancer, which is, again, twice as high as people who were not exposed to nerve agents.

Mr. ROE. Thank you, Mr. Chairman.

Mr. MITCHELL. Thank you.

Mr. Walz.

Mr. WALZ. Well, thank you, Mr. Chairman and Ranking Member Roe. I very much appreciate you holding this hearing and focusing on getting answers based on data-driven research taking a look at this research because we are hearing testimony and every single one of us up here have heard from Members who are experiencing this. There is something happening.

And I should point out that the Majority Counsel's side, Lieutenant Colonel Herbert is a Gulf War veteran and was at Khamisiyah and has extensive history in this and is well versed and has brought us up to speed on this.

I just have a couple of questions trying to get at the heart of this.

First, Dr. Steele, you talk about self-reporting being relied on a lot in exposure. Can you explain that a little bit and where you think the pitfalls there are?

Dr. STEELE. Yes. There are a lot of pitfalls.

As you probably know, many of the exposures that veterans experienced during the Gulf War were not measured at the time. People were in war. They were not writing down how many pesticides

they used and things like that. So it has been important to use various sources of information to try to reconstruct what these exposures were.

Initially after the Gulf War, there were no efforts and so we really did not know. But by now there have been multiple very large surveys of Gulf War veterans that have asked them what they did, where they were, things like that. And so we can piece together a look at what we see across the spectrum of multiple studies.

In addition, there have been some very detailed investigations sponsored by DoD that have tried to reconstruct which pesticides were shipped to theater. They do in-depth interviews. RAND has done these and the Department of Defense as well, have done in-depth interviews of pesticide applicators, the professionals in the field that were familiar with the pesticides to find out the patterns of use and things like that.

And surprisingly the patterns that we see from the epidemiologic surveys that are self-reported are very consistent with what we see with the in-depth investigation. So that is how we have some numbers on what is going on.

When we look at the connections with the illness, again we rely on self-reported exposures often and these identified patterns. And we see across the spectrum of studies, we see very consistent findings.

Mr. WALZ. Very good.

Rick, you mentioned in your testimony very clearly when you said, have we learned anything, you said no. Something, though, I think you are hitting on that I think can have us learn something is this idea of incorporating the personnel file into an electronic medical record that transfers down, especially for research based.

Could you explain a little bit, especially in light of both Secretaries and the President and this Committee making a real push for this seamless transition and the ability to do that.

Mr. WEIDMAN. In 2000, as part of "The Veterans Benefits Improvement Act of 2000," which was—I do not remember the law number—but, anyway, this Committee when it passed the House had a provision in it that VA had to take a complete military history and incorporate that into the VistA system. Unfortunately, it was not incorporated on the other side of the Hill and, therefore, did not become law.

The cost to do it, we receive high-crust promises every year since 2000 at the end of the last Administration that they are going to do it, but it never seems to happen.

And so they do have the spectacle that if you want to know how many people have MS who served in a theater who are receiving medical care from VA, you cannot tell. Why? Because they do not have whether or not somebody served in a combat theater of operations keyed in as a field on the computerized patient treatment record.

This is nuts. We have a tremendous resource here. It is a veterans' health care system. It is not a general health care system that happens to be for vets. And we need to refocus on making this a system that focuses first and foremost on the wounds, maladies, injuries, illnesses, and conditions that emanate from military service. That is what the taxpayer is paying for.

Thank you, sir.

Mr. WALZ. Very good. I appreciate it.

Mr. Sullivan, I am running out of time, but just quickly because we are looking at the research on this and trying to get to it. And that was not shock on my face when you said we did something on this side and it ended up on the Senate side. Trust me, I am very appreciative of that.

But, Mr. Sullivan, I want you to elaborate where you think the failures went in some of this research. You talked about that they were predicated on some assumptions before they even began to discount any connection.

Can you explain just briefly how you see that happening.

Mr. SULLIVAN. The short answer is I would defer and ask this Committee to call Mr. Binns and the Research Advisory Committee to fully explain all that.

Essentially from the document that I asked be included as an exhibit of this record, it appears that VA and IOM staff manipulated the process so as to exclude information.

And I do not have all the documents. I do not have privy to everything. I do believe that we have asked, the Veterans for Common Sense has asked the VA Inspector General to investigate. So we hope that someone will find out what is going on.

I do not have all the facts. That is why we want an investigation on this, because we want to be able to move forward and not have anybody monkeying with the intent of "The Persian Gulf Veterans Act 1998," because there are a bunch of people behind me that walked the halls every day for months to get that bill passed. And it is a shame that a few people appear to have submarined it.

Mr. WALZ. Well, I appreciate that.

And I will just end before I yield back, Mr. Bunker, thank you for your service and please know that no one will minimize what you have given in support of this Nation.

And everyone in this room, I am working from the assumption, cares and wants the best quality of care for our veterans. We have got to make sure that our data is where it needs to be and that it is actually being used to enact policy for that.

So from one artilleryman to another, thank you for your service. And I yield back.

Mr. BUNKER. Thank you.

Mr. MITCHELL. Thank you.

Mr. Hall.

Mr. HALL. Thank you, Mr. Chairman, and thank you, Ranking Member Roe.

Mr. Bunker, I would follow-up Congressman Walz by saying if you remember or if you have a record of that VA caseworker or researcher, I am not sure which it was, who told you to behave yourself, I hope you will share that with me and my staff, not necessarily right now in open session, but I would like to know the name of that person.

Mr. BUNKER. I do not remember. I know his first name.

Mr. HALL. Well, maybe the memories will come and go. And if it comes back to you, write it down.

Mr. BUNKER. I will assure you that if you get a hold of the—

Mr. HALL. That should never happen.

Mr. BUNKER [continuing]. I know the Director—

Mr. HALL. It should never happen to anybody—

Mr. BUNKER [continuing]. Is very much aware of who it is.

Mr. HALL [continuing]. Who serves in uniform of this country and comes back with a legitimate problem that needs to be solved and presents themselves to a VA facility anywhere in this country that they are told—well, bad enough to be told it is in your head or, as Dr. Steele said, you know, that it is a psychiatric problem. But if I find out who that was, we are going to do something about it.

Mr. BUNKER. But if you read in my testimony, you will also find out that the person who is supposed to be doing the Persian Gulf exam, sir, does not even answer their voice mail phones when you call in like I did.

Mr. HALL. I was horrified with the whole thing. So I apologize on behalf of, I guess, on behalf of the country to you and others like you who served and have had so little response to your questions and your needs.

I wanted to ask you also, Mr. Bunker, if you would, if you are aware of any Web sites, hotlines, or other outreach measures that are being taken by your groups or other groups to educate veterans about this or the public about this problem.

Mr. BUNKER. There is our Web site called the National Gulf War Resource Center, ngwrc.org; Paul Sullivan's site, Veterans for Common Sense which has worked—

Mr. HALL. ngwrc.org?

Mr. BUNKER. Yes.

Mr. HALL. Okay. Thank you.

Mr. BUNKER. National Gulf War Resource Center. Paul Sullivan's site, Veterans for Common Sense, and the Veterans for Modern Warfare site.

Mr. HALL. Okay.

Mr. BUNKER. Those are about the only ones right now.

Mr. HALL. That is good.

Mr. WEIDMAN. VMW's site is vmwusa.org.

Mr. HALL. Okay. And they all have information about Gulf War syndrome?

Mr. BUNKER. Yes. We also have a self-help guide for veterans with Gulf War illness and also Gulf veterans who have PTSD problems.

Mr. HALL. Thank you. That is terrific.

I am curious, Dr. Steele. Are you aware if the RAND Corporation did a study on Gulf War syndrome?

Dr. STEELE. They did a series of reports. I do not remember. It is eight or nine reports on different topics related to the Gulf War issue, things like depleted uranium, oil well fires, smoke, nerve agent exposures, things like that. So they did a whole series. It was RAND that actually helped tease out what kind of pesticides were used in the Gulf War.

Mr. HALL. Okay. So those were helpful studies?

Dr. STEELE. Very much so, uh-huh.

Mr. HALL. One of the doctors who worked on that, a retired Major General, who is actually in my district, worked on one of

those, if not all of them, and he is a WMD specialist for three former Secretaries of Defense.

I am curious. Besides the two main causes that you list, the PB pills and the overuse of pesticides—

Dr. STEELE. Uh-huh.

Mr. HALL [continuing]. I know you said synergistic effect of other chemicals, can you reel off some of those other chemicals?

Dr. STEELE. Well, as I say, the two main things that evidence points to are those two. And then we have sort of limited evidence related to several other exposures. Those include low-level exposure to nerve agents, which we know occurred during the Gulf War, also high-level exposure to the oil well fire smoke. So we have some conflicting information about people who were close in to the oil well fires for an extended period of time.

There also are some indications that receiving a large number of vaccines for deployment could have contributed to this illness and also the synergistic effects of the neurotoxins. And the leading neurotoxins are the PB, the pesticides, and the low-level nerve agents.

There are a number of other things that people have suggested may have caused Gulf War illness, but we did not find evidence to support a link with depleted uranium, solvents exposure, fuel exposure, or the Anthrax vaccine.

Mr. HALL. Mr. Weidman, what would you say is the deviation from one area of let us say Kuwait or Iraq to another in terms of the intensity of these? How local were the effects or were they pervasive throughout the theater?

Mr. WEIDMAN. I would defer to Dr. Steele on that, but I will tell you what I do know of it is there was a big difference depending on where you were.

I mean, one example is there was a medical unit that the former President of Veterans of Modern Warfare, Julie Macht, was in and seven of those young people out of 150, I think it is seven out of 150 have MS. I mean, it is astronomical. I mean, it does not happen by chance.

I mean, the odds against it are billions to one, whereas just 75 miles away, people do not have problems and it had to do with the wind, we believe, or the cloud from Khamisiyah. They were directly in the path and were one of the heaviest exposed, most exposed units. And, therefore, that is what caused those degenerative nerve conditions to, diseases to come about.

So it made a big difference precisely where you were and when.

Mr. HALL. And last question. Overtime anyway, but this could go, I guess, to Mr. Sullivan and to Dr. Steele, if you would, Mr. Chairman, indulge me.

I want to ask, Mr. Sullivan, you mentioned depleted uranium and I know, you know, one can figure out half life and how long it would take for the diminution of radiation. But in regard to these other substances, do they break down in the environment and are they the same level of risk to our soldiers who are there now or a diminished risk? Is it something that we can identify how long it takes for them to degrade in the environment?

Mr. SULLIVAN. There are about ten questions there, Mr. Chairman.

Mr. HALL. I am sorry.

Mr. SULLIVAN. So the first question on depleted uranium, the biggest concern is that it is a toxic heavy metal as opposed to the radiological effects. And our President for Veterans for Common Sense, Dan Fahey, provided some briefing papers to the full Committee staff on this in 2007 and has testified about this extensively to the Institute of Medicine.

So what I would do is offer to provide that material to you and your staff.

I would say that there is a less of a depleted uranium exposure number and amount of exposure for the current Iraq War than there was for the Gulf War. And our biggest concern on depleted uranium is the failure of the Department of Veterans Affairs to actually do a study on it.

They "monitored" in a very weak manner only a handful of servicemembers. And then when some of those veterans came up with cancer and other problems, VA was quick to deny it or ignore it. So there are some questions, more questions about DU than answers is what we say now.

Dr. STEELE. I concur with that. While we did not find evidence linking depleted uranium specifically to Gulf War illness, there are still a lot of questions about whether it may contribute to cancer, birth defects, genetic things. There really has not been a comprehensive study of this in any generation of veterans. And because we do not see this Gulf War illness problem in current OIF and OEF veterans, you know, we do not see a link with Gulf War illness with depleted uranium for them either.

But there are still so many questions. There are a lot of animal studies, for example, showing effects on the brain, effects on tumors, things like that.

Mr. HALL. Thank you, Doctor.

I yield back.

Mr. MITCHELL. Thank you.

Mr. Adler.

Mr. ADLER. Mr. Chairman and Ranking Member Roe, I join the other Members of the Subcommittee in their sense of frustration, and even outrage, at the testimony of people who would want better for our brave heroes that have fought overseas in the Gulf War and previous wars and our ongoing wars for freedom.

I would like to start with Mr. Bunker and ask you to tell me what you feel could be done to address the need for a culture change that needs to take place regarding our Gulf War veterans and their health care providers at the VA.

Mr. BUNKER. I think there are some people at the top of the VA system that need to be replaced, who have been there for years on this, who I feel have been blocking a lot of the dissemination of the information and that.

I feel that every care provider who ever sees a veteran should be trained, treated, and given information about Gulf War illness and especially a briefing on the RAC report so that they fully understand that this is not a psychiatric problem, that this is not from PTSD, that there are real causes behind this such as what Dr. Steele has said, the nerve agents and everything.

And the researchers also need to be able to get a hold of veterans to do the proper research. One of the biggest problems in doing research with Gulf War veterans is they want them to come like to Washington where I came back in November to George Washington University to have a Gulf War study done with me. But we have to pay for this out of our own pocket. You are dealing with veterans who do not have the expense, the money to travel.

The other thing is this thing for the Gulf War exam, like we all have said, it is not worth anything. But there is a follow on clinic that specializes for Gulf War veterans and the hardest part is for these VAs to send these veterans. I was told at the clinic or in the Topeka VA that if they say I had one thing, then I would not be eligible to go to a follow on clinic and that.

And it has only been these follow on clinics that veterans have gotten real help and real diagnosis or are being told that it is undiagnosed, which helps their claims to get the compensation they need to help support their family.

That is just training for the care provider themselves.

Mr. ADLER. Respectfully, the more you speak, the more confused and dismayed I am. Maybe somebody could explain why the VA is not doing as you suggest, Mr. Bunker, in training all of its professionals.

Mr. BUNKER. It is the old model, like I was talking about on that one board right now that is supposed to be looking at problems that we have with our compensation, do not look, do not find.

Mr. ADLER. That is just not good enough.

Any of the other panelists want to comment about the culture change that seems to be so desperately needed to meet the medical needs of our Gulf War heroes?

Mr. WEIDMAN. I just want to say as an aside and I do not think that Jim meant this and what he seemed to imply is that neuropsychiatric diagnoses are not real. Neuropsychiatric diagnoses, including PTSD, are very real. And there are many of us who believe that ultimately research will lead to the understanding that it is a permanent change in electrical chemical reactions of the body to perceive threats.

So I do not think Jim meant to imply that it somehow was not real if it was PTSD, but I just wanted to correct that for the record.

In regard to what does not happen at the service delivery point, every single resident and intern who comes to the VA for training gets a military history card that also lists the conditions that you should be looking for depending on period of service. Most residents and interns do not get it.

The reason why they developed it for residents and interns by Dr. David Stevens before he left VA as the Head of Academic Affiliations to head up the American Academy of Medical Schools and Colleges was that everybody else was already asking these questions. And, in fact, nobody else is already asking these questions.

So I mentioned before that there is not a protocol for a Gulf War illness protocol, if you will, for those who served in the Gulf prior to going on a "registry" which is not really a registry.

We need to have a protocol and we need to have a real registry at least for those who use VA. The reason why they do not follow

through is to minimize the problem. If you do not have stats, you do not have a problem.

And the attitude is, and I mentioned earlier that this is not rocket science stuff, what you need is an understanding and the attitude that these are men and women who have pledged their life and limb in defense of their country and took that very seriously often at great cost.

And that is a covenant between the people of the United States and the men and women who take that step forward, that where injured or lessened by virtue of that military service, we do everything humanly possible.

Now, if you get that attitude at the very top, and we do have that attitude with General Shinseki, and you start to permeate it down through the structure, then the training follows as a natural consequence. And what we need is to get it at that third and fourth and fifth levels within the VA leadership down to the local medical center and Chief of Staff and Chief of Service level.

And that can be done and we believe that with Scott Gould as the number two, who is an expert in organizational transformation, that we at least have a shot over the next whatever many years we get in this Administration to begin that transformation, Mr. Adler.

Mr. ADLER. Thank you, sir.

Mr. Chairman, my time has expired, but I thank you for convening this hearing. You and the Ranking Member deserve credit for focusing attention on this outrage that we have to address.

Mr. MITCHELL. Thank you.

At this time, I would like to excuse the panel and get to panel two. We are running out of time. And I want to thank you again for coming today and your service to this country.

Mr. WEIDMAN. Thank you, Mr. Chairman.

Dr. STEELE. Thank you.

Mr. BUNKER. Thank you, sir.

Mr. MITCHELL. Thank you.

I welcome panel two to the witness table at this time. For our second panel, we will hear from Mr. Robert Walpole, the Principal Deputy Director for the National Counter Proliferation Center and former Special Assistant for Gulf War Illness Issues, at the Central Intelligence Agency (CIA).

Mr. Walpole is accompanied by Mr. Loren Fox, the Senior Technical Analyst for the Central Intelligence Agency and former Senior Analyst for Gulf War Illness Issues.

Also joining us is Dr. R. Craig Postlewaite, the Deputy Director of Force Readiness and Health Assurance at the Department of Defense, and Dr. Lawrence Deyton, Chief Public Health and Environmental Hazards Officer at the Veterans Health Administration, accompanied by Dr. Joel Kupersmith, Chief Research and Development Officer, and Dr. Mark Brown, Director of Environmental Agents Service at the Veterans Health Administration.

At this time, I would like to recognize Mr. Walpole and Dr. Postlewaite will be second and third Dr. Deyton. Please keep it to 5 minutes. Your complete testimony is part of the record. Thank you.

Mr. Walpole.

STATEMENTS OF ROBERT D. WALPOLE, FORMER SPECIAL ASSISTANT FOR PERSIAN GULF WAR ILLNESSES ISSUES, OFFICE OF THE ASSISTANT DIRECTOR OF CENTRAL INTELLIGENCE (DCI), CENTRAL INTELLIGENCE AGENCY; ACCOMPANIED BY LOREN J. FOX, JR., FORMER SENIOR ANALYST FOR GULF WAR ILLNESS ISSUES, CENTRAL INTELLIGENCE AGENCY; R. CRAIG POSTLEWAITE, DVM, MPH, DEPUTY DIRECTOR, FORCE READINESS AND HEALTH ASSURANCE, FORCE HEALTH PROTECTION AND READINESS PROGRAMS, OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE (HEALTH AFFAIRS), U.S. DEPARTMENT OF DEFENSE; AND LAWRENCE DEYTON, MSPH, M.D., CHIEF PUBLIC HEALTH AND ENVIRONMENTAL HAZARDS OFFICER, VETERANS HEALTH ADMINISTRATION, U.S. DEPARTMENT OF VETERANS AFFAIRS; ACCOMPANIED BY JOEL KUPERSMITH, M.D., CHIEF RESEARCH AND DEVELOPMENT OFFICER, VETERANS HEALTH ADMINISTRATION, U.S. DEPARTMENT OF VETERANS AFFAIRS; AND MARK BROWN, PH.D., DIRECTOR, ENVIRONMENTAL AGENTS SERVICE, OFFICE OF PUBLIC HEALTH AND ENVIRONMENTAL HAZARDS, VETERANS HEALTH ADMINISTRATION, U.S. DEPARTMENT OF VETERANS AFFAIRS

STATEMENT OF ROBERT D. WALPOLE

Mr. WALPOLE. Chairman Mitchell, Ranking Member Roe, and Members of the Subcommittee, I am pleased to appear before you today to review the intelligence community's support to the Departments of Veterans Affairs and Defense on Gulf War veterans' illnesses issues.

It has been a dozen years since I appeared before this Subcommittee on the issue. We knew then, and we know now, how important this is to our veterans and that our support has been important to ascertaining what happened during that war.

Before I move into a lot of technical assessments, I want to underscore the human side of our effort to help the veterans.

Our workforce includes veterans from the Gulf War and other conflicts. We have sincerely tried to uncover any intelligence that could help with veterans' illnesses.

In March 1995, as concern over the issue mounted, acting DCI Studeman directed the CIA to review relevant intelligence. CIA subsequently recognized that soldiers had conducted demolition at Khamisiyah and notified DoD, the Presidential Advisory Committee, and the public.

In February 1997, George Tenet, then acting DCI, appointed me as his special assistant on this issue to run a task force to help find answers to why the veterans were sick.

We provided intense and aggressive support to numerous efforts. We had 50 officers from across the intelligence community as well as the Department of Defense.

We managed and reviewed all intelligence aspects related to the issue with the goal of getting to the bottom of it, searching declassified, and sharing intelligence that could help, modeling support, communications with the government, veterans' groups, and others, and supportive analysis.

Our April 1997 paper provided details about the intelligence community's knowledge of Khamisiyah before, during, and after the war and included warnings to our military about the potential presence of chemical weapons at Khamisiyah before the unwitting destruction.

We also conducted document searches on other Iraqi chemical warfare sites as well as any intelligence related to potential biological warfare, radiologic exposure, and environmental issues.

Our expanded search efforts generated over a million documents, most of which did not relate. We declassified those that we identified as pertinent and provided DoD the entire volume of files electronically with the means to search as needed.

Our last task force paper on the issue was published in April 2002 on chemical weapons (CW).

I am aware this Subcommittee is very interested in CIA's computer modeling, recognizing the physical and chemical processes of the release and its dispersions are complex and have inherent uncertainties.

In 1996, the CIA was able to model the events of Bunker 73 at Khamisiyah where U.S. soldiers had unknowingly destroyed nerve agent filled rockets and Al Muthanna and Muhammadiyat where coalition bombing released nerve and sulfur mustard agents, largely because we had U.S. test data indicating how the agents would react when bombed or detonated.

But we had significant uncertainties regarding how rockets with chemical warheads would have been effected in open pit demolitions. We also were uncertain about the events and the pit and the weather.

When I was appointed and discovered these uncertainties, we created what I called the milk carton announcement, the picture, if you recognize this child, please call this number. We showed pictures of the pit and said please call this number. We got three additional soldiers that were part of the demolition.

We conducted several interviews with then five soldiers about the demolition and learned that we should only focus on the 10 March date.

We developed tests with DoD at Dugway to destroy rockets containing CW agent simulants in a manner that the soldiers described to provide data on agent reaction in open pit demolition.

And a panel of meteorological experts hosted by the Institute for Defense Analysis recommended using several mathematical models and modelers to address uncertainties.

Did these efforts eliminate all uncertainties? Absolutely not. In fact, prior to publishing the results of the modeling, we published on and commented on our continuing uncertainties. We had reduced them, but they were still there.

Also, the Presidential Advisory Committee had become impatient with the time we were taking to try to reduce the uncertainties and basically told us if we did not model in the very short term, they were going to draw a circle around Khamisiyah and be done with it.

Of course, epidemiologists should have ascertained whether veterans reporting illnesses were clustered in areas around Khamisiyah during the appropriate time frame. They did not need

a model or a circle to do that, but they did need troop locations. And the work on the model required DoD to ascertain those locations.

When we briefed the modeling conclusions in 1997, I noted even then with the uncertainties above we assessed the models would provide meaningful information to epidemiologists, but we did not intend the model area to be used to estimate the absolute number of troops exposed to CW agents.

Subsequent to 1997, CIA obtained additional information and was able to provide DoD better data.

Additional UNSCOM information from a 1998 inspection indicated that the maximum amount of nerve agent released was about half that modeled in 1997.

Then we had a CIA sponsored analysis of daytime Sarin and Cyclosarin degradation that helped.

And finally an interview with the senior explosives demolition expert at Khamisiyah helped with understanding the placement of the charges was less than optimal.

In 2000, DoD remodeled the Khamisiyah pit and the plume was about half the size of what we thought it was in 1997.

Did new information change other efforts? Yes, it did. But even in those efforts, it ended up reducing the amount of agent released, not increasing that agent released.

I see that I am out of time. Let me just conclude by saying a couple of points.

Intelligence and UNSCOM information provide no basis for suspecting that stores of undiscovered munitions of both agent were damaged during the Gulf War.

We assessed that additional Gulf War era releases of chemical agents large enough to threaten exposure to U.S. troops are unlikely, although additional small chemical releases are possible. The extent of previous modeling leads us to conclude that other unmodeled CW releases were too small and distant to expose troops.

In our review of intelligence reporting analysis of Iraq's chemical agent stockpiles, we found no credible evidence of CW use against U.S. troops in the Desert Storm timeframe.

In conclusion, I want to reiterate the intelligence community's commitment to the men and women who served in the Persian Gulf as well as those who serve our country in the world today. Intelligence support to help our soldiers and veterans is critical.

Thank you.

[The prepared statement of Mr. Walpole appears on p. 58.]

Mr. MITCHELL. Thank you.

Dr. Postlewaite.

STATEMENT OF R. CRAIG POSTLEWAITE

Dr. POSTLEWAITE. Good morning, Mr. Chairman and distinguished Members of the Committee. Thank you for the opportunity to visit with you today about the DoD's Gulf War Veterans Research Program.

During the war, which I will refer to as the Gulf War, nearly 700,000 troops were deployed to the theater. The mortality rates

from diseases and non-battle injuries were the lowest for any major U.S. conflict up to that date.

However, beginning while they were deployed or after returning from the war, some veterans developed chronic symptoms of a non-specific nature, such as fatigue, memory loss, difficulty concentrating, pains in muscles and joints, headaches, depression, and anxiety.

The Department of Defense agrees that these symptoms are real and that those veterans affected by them, such as Mr. Bunker, deserve the best care and treatment available.

The Departments of Defense and Veterans Affairs each established clinical evaluation programs to better understand the nature of these nonspecific symptoms and to provide our veterans with the appropriate treatments.

In 2002, the Departments of Defense and Veterans Affairs collaborated on the development and implementation of a clinical practice guideline for medically unexplained symptoms of chronic pain and fatigue.

Today, this clinical practice guideline remains a cornerstone of effective medical assessment and management, including treatment, for these conditions.

Since 1994, the Departments of Defense, Veterans Affairs, and Health and Human Services (HHS) have managed a coordinated Federal medical research effort to better understand the health concerns of Gulf War veterans.

From 1992 to the end of 2007, \$340 million was spent on 345 research projects. Of this, the Department of Defense funded 177 projects totaling \$219 million. The projects supported five research areas, brain and nervous system function, symptoms and general health, immune function, reproductive health, and environmental toxicology.

Among the 345 research projects were several treatment studies. One study indicated that cognitive behavioral therapy and aerobic exercise led to modest improvements in memory problems, pain, and fatigue.

A second controlled clinical trial used a 12-month course of an antibiotic known as Doxycycline to treat the same three symptoms. Doxycycline, however, was not effective in its treatment of these symptoms.

In 2006, the Institute of Medicine concluded that there were no differences in overall mortality or hospitalization rates in Gulf War veterans compared to nondeployed veterans nor were there any differences in overall cancer rates between the two groups. They also determined there was no pattern of higher prevalence of birth defects in the children of male or female veterans of that war.

The Institute of Medicine did, however, conclude that Gulf War veterans might be at a twofold increased risk of ALS or Lou Gehrig's disease, as we have heard, compared to those veterans who did not deploy.

Almost all of the previous studies have shown that Gulf War veterans reported nearly twice the rate of all medically unexplained symptoms compared to servicemembers who did not deploy.

However, based on many research studies, the Institute of Medicine concluded there was no unique symptoms, no unique pattern of symptoms found in Gulf War veterans.

In 2006, the Institute of Medicine recommended that in general, no further epidemiologic studies should be performed on Gulf War veterans.

The Institute did recommend, however follow-up studies for mortality, cancer, particularly brain cancer and testicular cancer, ALS, birth defects, and other adverse pregnancy outcomes, and for psychiatric conditions.

In fiscal years 2006 to 2009, the Department of Defense funded \$23 million specifically for research on illnesses, including \$8 million in 2009.

In conclusion, since 1992, the Department of Defense has funded extensive medical research focusing on the nature of medically unexplained symptoms and potential risk factors, including environmental exposures, and for studies on improved diagnostic techniques and treatments.

These studies have provided critical new information useful in preventing or minimizing illness and injuries of servicemembers who have deployed to the current conflicts in Iraq and Afghanistan.

After the military mission itself, the highest priority in the Department of Defense is for the protection of the health of the men and women in uniform and the provision for care for those who become ill or injured.

Mr. Chairman, I thank you for the opportunity to discuss the Department's research program with you this morning.

[The prepared statement of Mr. Postlewaite appears on p. 63.]

Mr. MITCHELL. Thank you.

Dr. Deyton?

STATEMENT OF LAWRENCE DEYTON, MSPH, M.D.

Dr. DEYTON. Good morning, Mr. Chairman, Dr. Roe. Thank you for this opportunity to discuss VA's research and programs to care for veterans of Operations Desert Storm and Desert Shield.

I am here today, as you know, with Dr. Joel Kupersmith, who is our Chief Research and Development Officer, also Dr. Mark Brown, who is Director of our Environmental Agents Service, and also Dr. Han Kang, who is Director of our Environmental Epidemiology Service, who is sitting behind us.

As you know, Dr. Kang really is one of the world's leaders in the epidemiology of deployment and military populations.

Mr. Chairman, within months of their return from service, some Gulf War veterans began to report a wide array of symptoms and illnesses. Then and today those veterans, their families, and VA health care providers continue to be concerned about the cause of these symptoms and how they may be related to their service. Those veterans' symptoms and their concern was also VA's call to action.

Today, my colleagues and I would like to talk with you about VA's multifaceted research and clinical care programs targeted to support these veterans.

More than 335,000 Gulf War veterans have come to VA for health care services. The majority of these veterans have come for

routine health care, but some have had symptoms and illnesses that despite thorough examinations have eluded easy diagnosis.

We have been, and continue to be, very concerned about these unexplained medical symptoms and illnesses. VA researchers, VA health care providers, and VA leaders have responded in a variety of ways to these veterans' health issues initiating research, clinical programs, education programs, and providing for service-connected benefits for these veterans.

After combat in the Gulf War, VA along with DoD and HHS has engaged in an aggressive research and epidemiology program with one goal, to understand the complaints and symptoms of these veterans in order to deliver to them the best possible care.

In between 1992 and 2007, 345 research projects related to the health problems affecting Gulf War veterans have been funded at nearly \$340 million devoted to the efforts.

But, Mr. Chairman, research is just the first step of the process. By turning that information into action, VA directly used what was learned from research to improve the care of these veterans.

VA health care providers received training in addressing the specific health care needs of Gulf War veterans, including these difficult to diagnose illnesses.

From our clinical practice guidelines for Gulf War veterans to our veterans' health initiative study guides, and other activities outlined in my written testimony, we are increasing the expertise of our primary care physicians and delivering the best possible care to these veterans.

In addition, VA established the War Related Illness and Injury Study Centers specifically to provide specialized health care for combat veterans who experience difficult to diagnose or undiagnosed but disabling illnesses.

In addition, VA's post-deployment integrated care initiative is establishing post-combat care teams to integrate the many services required to target returning soldiers' needs.

I want to close, Mr. Chairman, with a recognition that we as a nation, and VA as the tool of a grateful Nation, continue to look for ways to improve how we can best support our returned and returning soldiers.

I am pleased to tell you that Secretary Shinseki has challenged VA to become an even better advocate for the veterans we serve.

The system for assessment of long-term health effects of deployment and the process for consideration of presumptive service connection for those health effects are based on the scientific method for collection and assessment of a large body of research which emerges slowly.

The considerations of cause and effect of veterans' health concerns are sometimes not immediately obvious. Thus, we rely on the collection of scientifically validated data, convening experts, and at some point concluding if a positive association exists between the occurrence of an illness and some aspect of military service. The positive association is a term Congress asked us to use in making these determinations.

I think that we can all agree with Secretary Shinseki's assessment that the current procedures allows the objective scientific method to be our guide and that our decisions must be based on

good science, that the scientific process as is now used can take years or decades to come to conclusion if a positive association exists between an illness and some aspect of military service.

And although veterans with deployment-related health concerns can and do receive their health care from VA during those years and decades, for each veteran who feels he or she suffers from a condition related to their military service, that wait for the scientific process to confirm what she or he already suspects is intolerable.

The amount of time this process takes is both intolerable to veterans and places VA in an unnecessarily adversarial role with the very people for whom we are entrusted to provide care and comfort.

Thus, the Secretary has charged us to transform VA's process for determination of presumptive service connection into one that is based on good science, is substantially faster, and makes VA an advocate for veterans.

At his direction, we are working rapidly to assess the legal, regulatory, and scientific methods with which we can use to meet this charge. Meeting Secretary Shinseki's charge gives us all the opportunity to strengthen VA's mission and to fulfill our collective promise to our Nation's veterans.

Thank you very much, Mr. Chairman. We will be happy to take your questions.

[The prepared statement of Dr. Deyton appears on p. 68.]

Mr. MITCHELL. Thank you.

The first question I have is to all three gentlemen who have made a statement this morning. I would like to ask all of you, do you acknowledge that the Gulf War illness is a real major health threat affecting at least one in four Gulf members?

Let us start with you, Mr. Walpole, and then Dr. Postlewaite and Dr. Deyton.

Mr. WALPOLE. I do not see that as an intelligence question. I mean, I do not have expertise to even address that kind of issue. I am sorry.

Mr. MITCHELL. So you have no opinion on whether or not Gulf War illness is real or not?

Mr. WALPOLE. Well, I might have a personal opinion on it. But since I am representing an intelligence organization, that probably does not matter.

Mr. MITCHELL. Okay. Dr. Postlewaite?

Dr. POSTLEWAITE. Yes, sir. We do believe that Gulf War illnesses are real as was indicated in my testimony. We believe that the latest study that was published on health conditions in Gulf War in April 2009 that reported significantly higher rates, 25 percent above those who were nondeployed is a good estimate of the prevalence, yes, sir.

Mr. MITCHELL. And, Dr. Deyton.

Dr. DEYTON. Yes, sir. VA has recognized for over 15 years that the basic fact that continues to be confirmed as recently as Dr. Kang's most recent publication, there does exist a significantly higher rate of unexplained multi-system illnesses among deployed veterans who served in these conflicts when compared to non-deployed veterans.

Mr. MITCHELL. Dr. Postlewaite, in your testimony, your written testimony, it says in 2006, the IOM recommended that further epidemiological studies should not be performed.

And do you concur with that? The first panel says they should be.

Dr. POSTLEWAITE. Yes, sir. I said in general should not be performed and should be concentrated on areas like mortality and cancer, certain psychiatric conditions. We concur with that.

DoD actually does have an epidemiologic study, perhaps you have heard of it before, called the Millennium Cohort Study. It has been going on for a number of years. There are about 9,000 Gulf War veterans in that particular study that we continue to monitor their health.

Mr. MITCHELL. Okay. Mr. Walpole, the CIA models are the foundation for DoD's determination that the Gulf War veterans were not exposed to various chemicals, pesticides, and so on. Is that correct?

Mr. WALPOLE. Were not exposed?

Mr. MITCHELL. Yes. The models that you used.

Mr. WALPOLE. The CIA participated in the DoD modeling, provided information on where releases might have occurred. But in the case of Khamisiyah, we felt that troops would have been exposed or were likely to have been exposed.

Mr. MITCHELL. Okay. One of the things I find interesting in some of the papers I have in front of me, you stated that there was uncertainty with the models. There were inaccurate logs for very important dates and still today continuing uncertainties.

If you were a Gulf War veteran, would you want the basis of your health care benefits after serving selflessly to be based on uncertainty?

Mr. WALPOLE. I would not. And I would say to those veterans that modeling is only part of a larger equation. I think the public would expect us to model potential terrorist, biological, or radiological effects knowing that those models are only part of a larger equation to protect the Nation.

It is also the case here. Those models are only part of the equation. As I said in my opening remarks, we did not intend for that modeling effort to be an estimate of the absolute number of troops that were exposed.

Mr. MITCHELL. Okay. Dr. Postlewaite, in view of all the scientific evidence compiled by the RAC report that pyridostigmine bromide was a causal factor, has DoD made any change in its policy regarding the use of PB?

Dr. POSTLEWAITE. Sir, we have not made any changes in the use of PB. We view that as a very, very important tool in our armamentarium to protect our troops against nerve agent exposure.

The only change that we have made is that we are better at our documentation now for all force health protection prescription products so that we can track who was given these medications so that if we ever need to go back and do an analysis, we will have better data.

Mr. MITCHELL. Thank you.

My time is about to expire, so I would like to defer to Dr. Roe. Then I have a few more questions.

Dr. Roe.

Mr. ROE. Thank you, Mr. Chairman.

Just a couple of questions. One is why was Doxycycline used? That sounds sort of goofy to me.

Dr. POSTLEWAITE. Yes, sir. Let me explain that. That is a good question.

The reason it was chosen was that there were some indications that our deployed personnel may have been exposed to mycoplasma based on serologic studies, sir, which you will understand. And it was decided that that was the best indication of a potential infectious agent. And so Doxycycline, which is effective for mycoplasma, was chosen.

Mr. ROE. So that is why initially these symptoms were thought possibly related to mycoplasma?

Dr. POSTLEWAITE. I am sorry, sir?

Mr. ROE. The initial symptoms were thought to be related to mycoplasma.

Dr. POSTLEWAITE. Well, it was one of the theories, one of the possibilities. In terms of nondescript symptoms, it seemed to fit.

Mr. ROE. It obviously was not correct, but I can understand it.

Now, in your testimony, the Institute of Medicine, it sounded like it contradicted what Dr. Steele said just a minute ago, that there was not, their conclusion, there was no Gulf War Syndrome. Am I correct on that?

Dr. POSTLEWAITE. That there was no Gulf War illness?

Mr. ROE. Syndrome, yes.

Dr. POSTLEWAITE. Let me clarify, sir. No Gulf War syndrome. They found no unique pattern of symptoms, no unique set of symptoms. They acknowledged that the symptoms were there, but they varied among different people who were ill. And there was not a preponderancy of a group of symptoms that would indicate a syndrome.

Mr. ROE. I think one of the things that I have done over the years as a physician, and I am sure you have, too, is that when I have a patient that comes to me, and, of course, that is different than all the epidemiologic, the way I look at it is I am to prove you do not have something. When you come to me and give me your symptoms, I am going to try to figure it out and prove you do not have it and I am going to assume you do.

And just a couple of things that come to mind is that I have had patients, I have practiced over 30 years in Johnson City, Tennessee, and I would see patients with vague symptoms and I would see them back again another year and I would see them back another year and then it dawns on you at 10 years they have MS. And it took you that long to finally figure it out.

And I think that these studies should go on because you do not know the long-term effects of these conditions and what they are ultimately going to be.

I was interested especially in ALS and brain cancer data, not that it increased, but was it a statistically significant increase. That is very, very important. I know a lot of people do not—if you have it, it is a hundred percent. I understand that. But when you are dealing with hundreds of thousands of people, a few more may not range outside the standard deviation.

Dr. POSTLEWAITE. Yes, sir.

Mr. ROE. Have you looked at that? I asked Dr. Steele that and she is shaking her head no.

Dr. POSTLEWAITE. Well, we agree that looking at this data over the long term is important.

And the Institute of Medicine will begin a study here in 2009, in fact, I think they had their first public meeting on it already, to review all the health outcome data once again to see if there is anything that has transpired looking at all the research studies that have happened in the interim.

So we continue to say, yes, let us relook at this. We have got our Millennium Cohort Study within DoD. We are not intending to sweep this under the carpet and make it go away.

Mr. ROE. And I have had, I guess, a couple of other things. Wasn't Sarin gas used in Japan?

Dr. POSTLEWAITE. Yes, sir.

Mr. ROE. Has anyone studied that population?

Dr. POSTLEWAITE. They have. There have been a number of studies that have—

Mr. ROE. What has that shown?

Dr. POSTLEWAITE. Well, it has shown that these individuals who experienced acute symptoms at the time of exposure did have some long-term health effects.

The thing that is missing here with our Gulf War situation, as Mr. Walpole talked about the modeling, we have no indication of any of those troops that may have been under those plumes that were modeled, that any of them experienced any acute symptoms of Sarin exposure or Cyclosarin.

Mr. ROE. Well, I think we just had testimony a minute ago that someone did. I mean, I think Mr. Bunker just said he had—I think he was documented to have seizures and so on. That would seem to me to be symptoms.

Dr. POSTLEWAITE. We have not been able to link that with the actual exposure, sir. I am not controverting his testimony at all that he may have had seizures. As you know, there are a lot of different reasons for seizures.

We have been unable to link the Khamisiyah event with the kind of health effects that we would see in the group in Japan that had the acute health effects.

Mr. ROE. And I think the other thing, I think this does scream for an electronic medical record where you can more accurately follow these. This is a fascinating epidemiologic study and I certainly 100 percent agree that we need to be sure that we err on the side of taking care of our veterans. And I know everyone in this room believes that.

Mr. Chairman, thank you for holding this Committee hearing and I look forward to the next two.

Mr. MITCHELL. Thank you.

I just would like to ask a few more questions and you can join in also.

I want to get this straight, Mr. Walpole. The CIA's models, were they, and I think I asked this and maybe I did not quite hear it right, were they the foundation for the DoD's determination about Gulf War veterans who were not exposed? What was the modeling

that the CIA did and who used that model after you created the model?

Mr. WALPOLE. Yeah. We modeled several different places. We modeled the bunker at Khamisiyah and it appeared that with that model, even using the 1997, 1996 data, did not reach troops. When we got better information, it was even less in the plume, so it would not have reached troops.

We modeled the pit at Khamisiyah. We modeled Al Muthanna and Muhammadiyat and the Al Muthanna, Muhammadiyat cases would not have reached troops. The only case where the modeling suggested that troops would have been exposed was the Khamisiyah pit.

Now, we participated in the pit modeling and then the remodeling of Al Muthanna and Muhammadiyat with DoD with the new information, so, yes, they would have used that information.

Is that what you were getting at?

Mr. MITCHELL. I want to ask, do you think this model, the criteria of the modeling you used is a good model? Would you use it again, because I keep hearing that there were uncertainties, there were incomplete data?

In fact, in the report I saw here that in 1993, DoD and CIA concluded that no troops had been exposed. Then in 1996, the CIA released a report that says they may have been exposed. And then in 2004, the Government Accountability Office report, they cannot adequately support. This leaves an awful lot in the air about the modeling.

And I am just curious. Are you going to continue to do this?

Mr. WALPOLE. Well, as you noticed, in 1995 is when CIA began to become very involved in this effort. So I am not going to comment on the 1993. But post 1995, did the modeling at the Bunker 73, 1996, and it blew away from the troops. So, I mean, that one is fairly easy. I am not concerned about the model there.

The Khamisiyah pit event was the one I talked about in terms of the uncertainties. In 1997, and then again in 2000, we are trying to model something that happened in the past. We did not have complete weather information. We did not have complete plume information. We had soldiers telling us how they thought they placed the charges and so on. There are uncertainties involved in that.

But we felt that that was providing a tool to epidemiologists to work the issue, a better tool than simply a circle drawn around Khamisiyah. It would have been a lot less work for us, but it is only an input to a larger equation in the picture because as you study this, as somebody studies the symptoms the soldiers are reporting, if a cluster is noticed within one of these plumes or even off to the side of one of the plumes, that would tell you some important information from an analytical perspective.

So we were trying to put together that modeling to help simply in that regard, but not to estimate the absolute number of troops that were exposed.

Your last part of your question was, would we use modeling today. Absolutely. We continue to use modeling. We have to model potential effects for if a terrorist does something somewhere not because that model itself is going to stop the terrorist threat but be-

cause it helps us prepare for managing consequences, so on. So, yeah, we will continue to model.

Mr. MITCHELL. Dr. Postlewaite, knowing the uncertainties with the models that the CIA has, what would you base your recommendations on now?

Dr. POSTLEWAITE. For that event, sir, for the—

Mr. MITCHELL. Well, any future ones. We wanted to go forward too.

Dr. POSTLEWAITE. Well, yeah. That is a very good question.

Mr. MITCHELL. Would you need more information from the field—

Dr. POSTLEWAITE. Yes, sir.

Mr. MITCHELL [continuing]. Continually, weather and all the things that go into it which—

Dr. POSTLEWAITE. Yes, sir.

Mr. MITCHELL [continuing]. You did not have before?

Dr. POSTLEWAITE. We would want to reduce that uncertainty and the factors that Mr. Walpole just indicated. And based on the lessons learned from the 1991 Gulf War and other conflicts, I can assure you that our environmental surveillance program is much strengthened over what existed in 1991.

We have, for example, collected over 11,000 air, water, and soil samples in the theater. We know the conditions, environmental conditions there in some cases better than we know here in certain areas of the United States. We have got better documentation so that that data is retrievable and it can be analyzable.

We can reduce the uncertainties that Mr. Walpole spoke about. We have got better instrumentation, better trained individuals in theater to monitor that.

Mr. MITCHELL. One of the things mentioned by one of the first panelists was that if you go to the VA, they do not even have records of where some of these soldiers served.

So even if you had all that information, if there is no record that goes on to VA, which should be a part of their record, there we have another conflict and a dispute.

Dr. POSTLEWAITE. Your point is well taken, sir, and we are working hard to correct that.

Three years ago, we put into policy a requirement that each deployed troop will have a daily location documented when deployed. There is a system out there called the DTAS or the Deployment Theater Accountability System that is being populated as we speak. Services have had a couple years to implement this.

As we move forward, we are going to have much better data on location of our troops. We want to link that with our electronic medical record as well and we want to make that available to the VA in the future.

Mr. MITCHELL. Terrific. Thank you.

Dr. Roe.

Mr. ROE. I will just ask a couple real quick questions. One is the PB and pesticides, according to Dr. Steele's testimony, she feels like through her research that this is causative in Gulf War syndrome. Do you agree with that?

Dr. POSTLEWAITE. No, sir, we do not.

Mr. ROE. You do not agree with that? Why do you not? Why don't you?

Dr. POSTLEWAITE. We ascribe to the Institute of Medicine's extensive review on all of the exposure agents, including PB and pesticides.

We know that the data is conflicting. We know there are lots of confounders in the studies. We know that it is open to interpretation.

We feel that the Institute of Medicine is the preeminent medical institute and group in this country. We rely on their expertise and their conclusions and we feel like their assessment was complete.

Mr. ROE. Now we are getting down to it. We have two separate, I thought that is what I heard you say, so we have got Dr. Steele who feels like that through her research that she has nailed down the causative agents in this problem and the Institute of Medicine, IOM, says no, their data does not support that.

Now, I have got to obviously dig a little deeper here and read this because I will read these papers before the next meeting to come to some conclusion of my own.

So the military, you would still recommend using the PB and not atropine?

Dr. POSTLEWAITE. Yes, sir. When we need to use PB for the safety of our troops, operational commanders will indicate when it should be used.

Mr. ROE. Even with this potential risk? Of course, obviously risk of dying of a nerve gas right then, you do not have much choice right there in the field.

Dr. POSTLEWAITE. Yes, sir.

Mr. ROE. Thank you, Mr. Chairman. I yield to Congressman Walz.

Mr. MITCHELL. Thank you.

Mr. Walz.

Mr. WALZ. Thank you, Mr. Chairman.

And thank you, all of you, for the work you have done.

This one, Mr. Walpole, a question to you. Can you explain just briefly to me some of your modeling? Maybe take specifically the Khamisiyah pit. How did you do that? How did you model that?

Mr. WALPOLE. I am going to let Larry Fox, who is much more closely associated with the model itself.

Mr. WALZ. Very good.

Mr. FOX. It is important to understand that a lot of what CIA and the rest of the intelligence community did on this modeling effort was trying to determine from intelligence information how much agent was released and what were the actual circumstances out in the Gulf at the time.

The actual modeling of the weather and the actual information that came out of that modeling was done primarily by DoD after 1997.

So we worked really hard at trying to determine the actual amount released, the amount absorbed in by the wood, the amount that would degrade over time that was in the rockets.

So we were trying to determine to the best of our knowledge what were in those rockets, what happened to the agent right after it was released, understanding that there is no way to perfectly

know that because the only way to know exactly what happened downwind at that time would be to have an actual contemporaneous sensor, you know, collecting—

Mr. WALZ. Did you change your modeling variables to indicate what would happen? How much of a change would it take in the variables to have a dramatic change in exposure?

Mr. FOX. Quite a bit to be honest. We changed the inputs from 1997 to 2000. And the reason we changed it was based on information that we got in 1998 about the actual placement of charges and things like that that were different than what we had learned and information we got about the agents.

So it was a factor of too small and subsequently the plume that was modeled was a factor of too small. But that is still small in comparison to the uncertainty in the weather and the winds and things like that.

So our input, I think, is a small factor in the overall uncertainty on where this agent went. It is more typical things with weather and understanding where the winds blew the stuff is a larger uncertainty.

Mr. WALZ. So you are pretty confident in your modeling? I mean, they were confident enough that Mr. Herbert received a letter from DoD that said, however, our analysis shows exposure levels have been too low to indicate any symptoms that you may be experiencing. I mean, they were confident enough in their modeling that they sent a letter out to a veteran who was at Khamisiyah and said, nope, do not worry about it.

Are you that confident in the modeling? Even though you said you went back in and changed them from 1997 to 2000, should—did you get an update on this, by the way?

Mr. HERBERT. I got a follow-up letter.

Mr. WALZ. That said that the new modeling—

Mr. WALPOLE. Yeah. Actually, as I indicated in my written statement, I indicated in the beginning here and I have also said in one of the questions, in participating in this modeling activity, we did not intend for this to estimate the absolute number of troops that were exposed. The uncertainties that we described here, I mean, where would you draw the line on, if I were sending the letter, who does and does not get a letter? So that was our view from the beginning.

Mr. WALZ. Okay.

Mr. FOX. I think it is important to note that I think there is in the remodeling that happened from 1997 to 2000, the position of where the troops were was better refined. I do not want to speak for DoD, but there were other things that ended up causing 30,000 veterans to get a letter that said, well, we thought you might have been exposed before, but now we do not think you were exposed. Those are, I think, the letters you are talking about.

Mr. WALZ. Yeah.

Mr. FOX. In addition, though, 30,000 people that previously had not gotten a letter then got a letter. And so it is not that we do not think anybody was exposed anymore. It is these potential exposure letters that went out changed based on refinements in the models.

Mr. WALZ. Okay. Thank you.

Dr. Deyton, just one for you. Do you know how many veterans receive compensation for Gulf War-related symptoms?

Dr. DEYTON. Sir, I do not. But we are happy to go back and ask our colleagues in VBA, the benefits side, to give us the most updated number.

[The VA supplied the information in response to Question #2 in the Post-Hearing Questions and Responses for the Record, which appears on p. 88.]

Mr. WALZ. Do you know how many are on the registry then or is it the same thing?

Dr. DEYTON. About 111,000 are on the registry.

Mr. WALZ. When it was characterized earlier by one of our representatives from one of our veterans service organizations as an e-mail list more than a registry, do you think that is a fair characterization?

Dr. DEYTON. It is a great communication tool. It is important to reach out to these veterans and their families and communicate to them what we know and as the medicine and science evolves—

Mr. WALZ. But it is not necessarily being used as a research base or universe of research?

Dr. DEYTON. I would never characterize the registries as an adequate research base. We do collect information, absolutely, and that information is likely useful for that individual veteran's clinician. When we want to amass a population base, we have to go to good standard epidemiology studies like Dr. Kang does.

Mr. WALZ. Very good. Thank you for your time.

I yield back, Mr. Chairman.

Mr. MITCHELL. I would just like to ask, if you do not mind, just a couple more questions to Dr. Deyton.

First of all, how does the VA train its health care providers to address the Gulf War veterans and their unexplained illnesses or symptoms? And would you agree that training material needs to be dramatically revised?

Dr. DEYTON. We do have multiple training materials, including a self-guided tool, the Veterans' Health Initiative which focuses on many aspects of deployment-related health. There are also individual sessions and trainings for providers.

And I am a practicing physician, too, and I think education and training for front-line providers always can be improved. As the science and medicine evolves, these kinds of materials have to be updated as new diagnostics and new potential treatments are discovered. Updating is always very important. So I agree, absolutely, that updating is a positive thing to do.

Mr. MITCHELL. Kind of a follow-up with that is how do you propose to change the culture so that the health care providers that are in the field are administering care and reassuring the Gulf War veterans that they are not crazy and their complaints are surrounded by some facts?

Dr. DEYTON. I think Dr. Steele hit the nail on the head. This really is a complex set of illnesses and symptoms that requires a very intense set of diagnostics and a personal clinician-patient relationship.

So the education and training we provide to our doctors, our nurses, our pharmacists, our social workers about what the medi-

cine, what the science says about these syndromes is very important.

I think we need to continue to update those educational guides. Changing the culture, I think, is, as several Members have said today, a very important thing.

And I think Secretary Shinseki has set us on a very important new course that I alluded to at the end of my opening statement and that is to look at the process that we use for determining presumptive service connection and the scientific evidence and base of that and determine ways to make that more rapid and, in fact, change the culture of VA so that VA becomes much more an advocate for our veterans as opposed to the current process which, granted, based in good science, but puts VA in an uncomfortable adversarial relationship with the men and women who, quite frankly, we are dedicated to serve.

So as we move into that set of discussions with the Secretary, I know he will want to come back to this Committee and talk about how he is going to be doing that and if there is any need for legislative change or remedy to move us into that direction.

Mr. MITCHELL. Thank you.

Does any other Member have any other comments?

Mr. ROE. One brief comment, Mr. Chairman.

One of the things I think it is very important to continue to study the natural history and epidemiology of, this is what patients of mine fear, the unknown, if you do not know what is going to happen to you.

You can prepare for the known. If you know you have cancer of the thyroid, you can prepare a treatment plan and take care of it. I think the problem here is the unknown or what is going to happen to me over time.

And I think that is why it is extremely important because right now we do not know. Maybe the Institute of Medicine is right. Maybe Dr. Steele is right. I do not know the answer.

But I know that continued studies is absolutely essential to find out what is going to happen because I think if I am a veteran out there and I have been exposed, what is going to happen to me and my family. Well, we know birth defects are not higher. You do know that. That is a known. You can tell someone. Do not have to worry about that. But there are some other things that are unknown.

So I would just simply, just a personal viewpoint there, would continue to study this problem.

I yield back, Mr. Chairman.

Mr. MITCHELL. Yes.

Dr. DEYTON. May I respond?

Dr. Roe, you are absolutely correct. And the power that again several of the panel members have spoken about, the power of the electronic health record, the linkage, the much better granular linkage with the Department of Defense medical and deployment record is huge in terms of our power to predict and to understand the evolving nature of these health risks.

So by doing what I call population-based surveillance and epidemiology, we hope to be able to identify trends much, much earlier

in the process and then act on those trends to improve and target our veterans' health before bad things really happen.

Mr. MITCHELL. I want to thank all of you for being here today and all of your service to our veterans and to this country.

Just one last comment, and I know this is a real generalization. But when I was Mayor of the city that I was in, we decided to self-fund our health care and—well, all of our liabilities, not health care.

And so we hired a risk manager. And, of course, what he did automatically, any claim that came in was no and then you had to appeal it. This saved the city a lot of money, but it was not always the best thing and right thing to do.

And sometimes I get the feeling that either the DoD or VA, it is very easy just to say no and let people appeal it. And I really am very pleased to hear, Dr. Deyton, your comment about we need to be more of an advocate instead of an adversary for veterans because that is exactly what I would hope the VA is about. And I think that is what all of us agree with.

So I want to thank all of you for appearing today, our first panel as well as our second. And this is just the first. We are going to have a series of hearings so we can look at the methodology and how we are arriving at this because there are a lot of people that when it gets to the human side that are really affected way after the studies come out and it may too late.

Thank you very much, and this concludes the hearing.

[Whereupon, at 12:09 p.m., the Subcommittee was adjourned.]

A P P E N D I X

Prepared Statement of Hon. Harry Mitchell, Chairman, Subcommittee on Oversight and Investigations

Thank you to everyone for attending today's Oversight and Investigations Subcommittee hearing entitled, *Gulf War Illness Research: Is Enough Being Done?*

We meet today to shed light on a topic that is critically important to the House Committee on Veterans' Affairs: The health and care of our Gulf War veterans.

This hearing is not the first to address Gulf War Illness, and it certainly will not be the last. Today's is the first in a series of Oversight and Investigations Subcommittee hearings examining the impact of toxin exposures during the 1990–1991 Persian Gulf War and the subsequent research and response by government agencies including the Departments of Defense and Veterans Affairs.

It has been almost 19 years since the United States deployed some 700,000 servicemembers to the Gulf in support of Operations Desert Shield and Desert Storm. When these troops returned home, some reported symptoms that were believed to be related to their service. Still today, these same veterans are looking for answers about proper medical treatment and the benefits that they bravely earned. While we hear about numerous studies and millions of dollars spent on Gulf War Illness research, many questions remain unanswered. In the end, we still don't know how to respond to Gulf War veterans who asks: "Why am I sick or will I get sick?"

Today, we will attempt to establish an understanding of the research that has been conducted—and the actions that have been taken—in relation to Gulf War Illness. To better assess Gulf War Illness and its impact on veterans, we will look at another at-risk population, veterans who were exposed to the harmful toxins Agent Orange in Vietnam. In the past, we have seen service-related illnesses ignored, misunderstood, or swept under the rug. We must learn from those mistakes and ensure that our research and conclusions are accurate so that Gulf War veterans are assured of the right diagnosis and the care and benefits they richly deserve.

Subsequent hearings on this issue will take a multi-level view of the methodology and conclusions of Gulf War Illness research and how the review of information was compiled and why certain methods were employed.

With a growing chorus of concern over the accuracy of existing research, and with a new Administration leading the VA, it is time for us to make a fresh and comprehensive assessment of this issue and the body of research surrounding it.

We will hear testimony today from a Gulf War veteran, Veterans Service Organizations, two distinguished researchers from the Research Advisory Committee on Gulf War Illnesses, as well as government officials. I would like to thank all of our witnesses for appearing here today. I'd also like to extend my thanks to Jim Binns, who chaired the Research Advisory Committee on Gulf War Veterans' Illnesses, for his contributions to this hearing and this issue.

I trust this hearing will provide useful insights to begin our evaluation of the existing research on toxic exposure and the work being done to care for Gulf War veterans and protect future generations of war fighters.

Prepared Statement of Hon. David P. Roe, Ranking Republican Member, Subcommittee on Oversight and Investigations

Thank you for yielding, Mr. Chairman.

My understanding is that this will be the first in a series of hearings on Gulf War Illness to be held by our Subcommittee. It is my hope that we will not ignore other pressing oversight issues previously agreed upon in our Oversight plan in order to flush out issues already discussed previously by other Committees and Subcommittees over the past 12 to 13 years.

This first hearing will focus on the historical context of the War in the Persian Gulf—Operation Desert Shield and Operation Desert Storm, which occurred from

August 1990 through July 1991. This will be a review of the conflict and an overview of the types of exposures and assistance made available to veterans from that conflict. The Ranking Member of the full Committee, Congressman Steve Buyer of Indiana is a veteran of the Gulf War, and has invaluable historical and personal knowledge of the conflict and what Congress has done since the early 1990's to assist veterans of the Persian Gulf. I am sure he will be watching these proceedings with great interest.

Much of the historical background on Gulf War veterans can be found in the wealth of materials available through printed hearings held by the Committee, as well as the body of legislative work that has been done by Congress through the past two decades. Over the past 20 years, Congress has held numerous hearings and passed several public laws stemming back as far as the 103rd Congress to address the needs of these particular veterans. These efforts included mandating a study by VA through the non-partisan National Academy of Sciences (NAS) and their Institute of Medicine (IOM) on the effects of various chemicals, compounds, pesticides, solvents and other substances on humans, and in particular how these compounds may have affected veterans who participated in the Persian Gulf conflict.

Ranking Member Steve Buyer led the efforts in the 105th Congress by offering an amendment which ultimately was included in Public Law 105-85, the National Defense Authorization Act for Fiscal Year 1998. Mr. Buyer's amendment authorized \$4.5 million to establish a cooperative DoD/VA program of clinical trials to evaluate treatments which might relieve the symptoms of Gulf War illnesses; and required the Secretaries of both the Department of Defense and the Department of Veterans Affairs to develop a comprehensive plan for providing health care to all veterans, active-duty members and reserves who suffer from symptoms of Gulf War illness.

I have been informed that the authority to conduct the studies mandated in law to be completed by the National Academy of Sciences Institute of Medicine will expire this year. I believe this Committee should look at these hearings with an emphasis on whether the studies should be continued, and if so, what the parameters of any new studies on Gulf War Illness should be.

I look forward to hearing from our panel of witnesses today, and am anticipating the next hearing in this series.

Thank you again, Mr. Chairman and I yield back the balance of my time.

Prepared Statement of Hon. Timothy J. Walz

Chairman Mitchell, Ranking Member Roe, Members of the Subcommittee, and witnesses, thank you for being here for this important hearing, the first in a planned series. I am going to operate on the assumption that we are all here together in our commitment to those who serve our country in the military and become veterans to whom we owe an unpayable debt. And I am going to operate on the assumption that we all share the belief that our judgments about what we should do in order to seek to repay that debt we owe our veterans must be shaped by the best, most reliable knowledge and the most complete information possible, and that rigorous scientific research is a necessary repository of that knowledge and information. If I understand the nature of this series of hearings, we are looking into how the research that has contributed to policy decisions on Gulf War illness has been conducted, and to make our best judgments about whether it is as complete as it should be. This is, of course, a very controversial topic. But there is no need to attribute bad faith to anyone to have this controversy. Scientific research, like everything else, is a human endeavor. And it is an endeavor that is committed to endless assessment and reassessment. We are doing nothing other than that here. And I take it that is both in the spirit of science itself, and in the spirit of making sure we are best serving our veterans. Thank you.

Prepared Statement of James A. Bunker, President, National Gulf War Resource Center, Topeka, KS (Gulf War Veteran)

Mr. Chairman and Members of the Committee, on behalf of the National Gulf War Resource Center and myself, I would like to thank you for giving me time to address you about the issues of Gulf War illness and the problems we experience getting care and benefits from the Veterans Administration.

First, let me take a moment to briefly provide background about myself and my interest in Persian Gulf Illness.

I had a relatively normal childhood. In 1977, I completed high school in 3 years. In 1984, I received my Bachelor's degree in Mathematics with a minor in Psychology

and Computers. Throughout my educational career, I had A and B's barely opening a book. I was able to retain most information from class lectures with ease and translate it to exams. Computers and math classes was the easiest for me. I started to play chess in the 7 grade and took part in chess tournaments.

After teaching for a few years, I applied for and was accepted to Officer Candidate School where I was commissioned as a Field Artillery Officer. I then went to Fort Sill and received training in the Officer Basic Course for Field Artillery officers. As one of the top graduates of the course, I was brought on to active duty and given my choice of duty stations. I chose Fort Riley in Kansas and moved there in March 1989.

I deployed to the Persian Gulf with the Fourth Battalion—Fifth Field Artillery Regiment of the First Infantry Division commonly called "The Big Red One". While in the war zone and right after the air war began, the M8 chemical alarms sounded. We were told it was a false alarm, an equipment malfunction. At the end of February, the Big Red One blew up a large Iraqi ammunition storage area in Safwah, about 30 kilometers from Basrah. Not long after this I became very ill. I was having problems breathing, muscle twitches, and cramps in my legs, vomiting up everything, and then convulsing. I was treated for all of the now classic symptoms of nerve agent poisoning, including convulsions. Then, I was given the antidote for the nerve agent and medically evacuated to the 410th EVAC hospital. Then back to the States arriving at Ft. Riley on May 4th 1991.

As time went on I started to have problems with my right leg. The army hospital at Fort Riley and army medical hospital at Fitzsimmons did many tests but could not find out why my leg was having the nerve problems. When my leg did not improve, I was sent before a medical evaluation board. While my records were before the board, I lost the use of my left arm, and being left handed, life became harder for me. The army did not seem to care about my arm problem as they only told me that when I got out, the VA would take care of it. I was medically discharged in June 1992.

On 22 June 1992, I went to the VA for help with the many problems I continued experiencing since the war. Thus began the second phase of my life—the push for answers and recovery from what's now known as Persian Gulf Illness.

Since the war, the symptoms I have experienced include:

- Numbness, weakness, and/or tingling in arms and legs
- Headaches
- Cognitive dysfunction
- Gastric reflux disease
- Fibromyalgia
- Mouth sores and skin peeling from roof of mouth
- Skin rashes
- Sinusitis

The right hip pain wakes me up every 2 hours almost every night. As I lay in bed with these problems, I have trouble with both of my arm having that "falling to sleep" numbing feeling. All of these greatly limit my activities and contribute to my desire to ensure that this issue is addressed and a cure is found.

It is hard to live a life where you can be talking to someone normally one minute and the next you cannot make a sentence to save your life. This is also true when it comes to trying to write things out. When my cognitive problem starts to set in for that day, I may be thinking I am typing one thing, but when I read it the next day it will make no sense at all.

I, along with many other veterans, have sensitivity to smells like perfume, cologne, hairspray, etc. Often when I went in for tests at the clinic, some of the workers had so much on it made me and other veterans sick. In January of this year, I had my bedroom painted. I forgot to tell them that I needed them to use low odor paint. The fumes of the paint made me sick for the next few weeks; I had to stay in my basement so as to be as far from the new paint smell as I could.

Often the VA likes to tell me is that it is in my head, or it is depression. I tried to talk to one of my doctors about my problems and about new studies showing that depression has nothing to do with Gulf War veterans being sick; she just said I needed more medication for depression. One day I gave her the first RAC report and was going to point out some studies in it. Before I could start she told me "Jim we just need to agree that we will always disagree on this." At that point I told her I wanted a doctor that will look at everything and not just one thing. She agreed to that. At the same time I was seeing a Psychologist for PTSD. The VA doctor saw me about once a week. Many times I felt the counseling was going no where. One day while I was there, he told me I should divorce my wife like other veterans with PTSD. I informed him that was not something I would do. I felt that his many times

of saying I was not like other veterans with PTSD leads me to wonder about it. I know when I received my rating, I was asked to drop 12 issues, and all of them are now part of the Gulf War illness problems.

In 1995 I was sent to the Gulf War Illness clinic in the Houston Texas VA. This was a place that was to look at everything fresh to draw its own conclusions. I saw my chart before they even started and they already listed depression as my main problem. How can we get fair treatment if before a doctor sees us they say we are depressed? This same doctor came one day to give me a report on blood tests. Some of the levels were off, but she stated to me it was to be expected because I was a heavy alcohol user. She was a bit surprised when I told her I did not drink. So if they were looking at everything new, why was I already diagnosed as a depressed alcoholic? It's these preconceived assumptions that irritate veterans. Often irritating them to the point they stop seeking medical help.

At one point I was concerned about the number of medications I was prescribed. My wife and I worked as a team to get off some of them. I would stop them one by one, and if I got better I got rid of it. If however I got worse, I went back on it. With this I was able to get off half of the pills that I was on.

Over the last year many veterans have called me about how they could get on the Gulf War registry. They informed me that when they went to their VA they could not get any information about the Gulf War registry nor find anything on the VA's Web site for it. Since some of the veterans were using the same VA as I, so I decided to go and see just how hard it would be. The first two places I was sent told me that they did not do them anymore and sent me on to a new place. The third place told me the same thing; but a man took my information and said he would get it to the right place. When I asked who it was and their room number, he would not give it to me. I told him that I was the president for the NGWRC and was following as to why veterans felt they were getting the run around on this. He started to yell at me about how he is not giving me a run around and I better behave. My thought at that time is why a hot head like this was working in the compensation and pension exam area of the Topeka VA. I left there and went to the directors' office to complain about him and the problems with the Gulf War registry.

They took my name and number and informed me someone would call me. The next week the PR office called me and gave me Ms. Strickland's name and number. I called the number for a few weeks with no return call, so I went to her office. She informed me she is no longer doing the Gulf War registry any more. After asking her who is, she said that the person was in training at the time.

The next week I received a call from the director's office asking if everything was taken care of. I told her no, that the problem was still there. She assured me it would be and I would get the paperwork soon. The paperwork did come the next week; but it was the wrong paperwork. Just think how I felt when I opened it and had a form to fill out where the first line asked "when were you in Vietnam?"; this after all the asking about the Gulf War registry. When I went in for the exam, I was given the right paperwork, but still wondering if the blood test were the right one for the Gulf War and not for Vietnam.

I felt the whole exam was a waste of my time, and thus any veteran taking it, not to say it does not gather information that would be of any help. Most of what I was asked about was: see anyone dead, anyone going MIA, hand to hand combat, and a few dealing with smoke.

Why wasn't I asked about some of the symptoms of Gulf War illness? Questions like:

1. Do you suffer headaches? If so how often and for how long?
2. Do you get fatigued? If so, how often and to what degree?
3. Do you have any problems involving your skin? What kinds and how often?

This list can go on for all of the others like:

- Joint pain
- Neurological signs and symptoms
- Neuropsychological signs or symptoms
- Respiratory system (upper or lower)
- Sleep disturbances
- Gastrointestinal signs or symptoms
- Cardiovascular signs or symptoms
- Abnormal weight loss
- Menstrual disorders

The registry should be set up to track these problems in the veterans along with all diagnosed illness like MS, cancers and Parkinson's. Then this information should be given in a report to the RAC, IOM and the Secretary of the VA.

I feel it is because the VA headquarters is telling everyone that it must be stress or depression. All of the information for the doctors caring for us veterans supports this even though stress, depression and PTSD have been ruled out by many studies over the last 10 years. Yet still my doctors seem to blow off any symptoms I see them about. From a VA press release one finds "The report found that Gulf War illness fundamentally differs from stress-related syndromes described after other wars." "Studies consistently indicate that Gulf War illness is not the result of combat or other stressors, and that Gulf War veterans have lower rates of post-traumatic stress disorder than veterans of other wars," the Committee wrote. Yet when I went to my exam the Nurse doing the exam did not know anything about the new report. Why?

When my left shoulder was giving me a lot of problems with pain, it took months before I was sent to an orthopedic doctor in December of 2008. He set me up for a rotator cup operation to fix a tear and to remove some calcium buildup in that shoulder. I still try to get the VA to look at other problems I am having, but I get the brush off on many of them. The last time I tried to talk to a doctor about my pain in my lower legs, I mentioned that when I use a heating blanket, I do not feel the heat. Most of the time it just makes my leg pains worse.

It is to a point that most of the problems I have, I do not even talk to my doctors about. I have kept track of the things that make me sick during the day, and I work to avoid them the best that I can. I also try to keep a healthy lifestyle by eating right, not drinking or smoking, and only having drugs in my system prescribed to me by the VA.

Working to help veterans over the year has resulted in many fellow Gulf War veterans calling me to get understanding about their illnesses and advice with their VA claim for benefits. Many of the veterans' claims were denied for unjust causes. Some of the regional offices tell the veterans with Fibromyalgia and Chronic Fatigue Syndrome that it started outside the timeframe. The guideline set for presumptive service connection in Gulf War veterans is: onset of the signs or symptoms by December 31, 2011. That date is still 2½ years in the future.

Other veterans are being told that they do not have a combat ribbon or a 'V' device on any of their ribbons. This is not a prerequisite for Gulf War veterans to receive compensation for Gulf War illness. Yet these are tactics that many of the raters are using to deny veterans their claim. There is a new committee that was to look into these problems; but they are not. They have been doing a good job at helping the new vets, but have not been looking at the problems with Gulf War vets. This might be that the chairman does not want to find or fix the problem. On two of the meetings I was at he has stated he did not like the Gulf War illness law, and Congress should not have passed it. This once again goes back to the "Don't look, don't find" motto.

Conclusion

While in the service, I was trained that the mission came first. I was also trained to take care of our men to make sure the mission was done.

Now that I and many like me are no longer in the service, and knowing that we were injured by our service, my personal mission is to ensure as many veterans as possible receive just and proper care and compensation for their injuries and illnesses. The mission of our government should be the care of its veteran and making sure they have the best treatment for anything that happened to them while serving our country. The mission we have can be best accomplished by:

1. Illnesses that are being diagnosed at a higher rate in Gulf War veterans' will be presumptively service connected for them.
2. Track known disease groupings within the veterans' populations in correlation with civilian entities to include death rates.
3. Have all of the VA's place signs in their waiting areas telling veterans about the Gulf War registry exam, and how to get on it.
4. Work to disseminate all the data on the other NBC sites we blew up and a new death rate table set by unit.
5. Update the VA education program and all other data so it reflects the facts that it is not stress, depression or PTSD causing Gulf War illness.
6. Insure that all of the raters are doing the claims right, and have remedial training for those that are doing a poor job on these types of claim.

Thank you.

National Gulf War Resource Center
Topeka, KS.

Dear Chairman Mitchell and Members of the Committee,

I feel I need to write this letter as a follow-up to the Committee meeting of May 19, 2009, dealing with Gulf War illness.

My testimony dealt with problems I have had for the last few years and problems that veterans themselves have had, too. The testimony focused my health issues. I went into detail on how I became extremely ill in the Gulf War. I talked about how my abilities to think to rationalize and how it has changed as well as how my playing chess has diminished greatly since the war.

One point I really wanted to bring out to the Committee was how hard it was for Gulf War veterans in Topeka, Kansas, to get on the Gulf War registry. I had experienced much difficulties getting on the registry and on getting any information for veterans about getting on the registry in Topeka. This was unacceptable for me and it should be unacceptable to the director of the VA here in Topeka and the Secretary of Veterans Affairs. Veterans should have clear instructions as on how to get on the registry and who to contact. After 6 months, there still are no signs anywhere in the VA that will direct veterans of the Gulf War as to where to go for the registry or even any information that there is a registry available to them for their undiagnosed health issues.

I was greatly upset over the fact that the Department of Defense still denies that veterans have become ill while in the Gulf region due to nerve agents. Even after my testimony about how I became ill and the symptoms that I had addressed which are the same symptoms in the RAID report for exposures to sarin and gas or overdosing of the PB pills. Since I was no longer taking the PB pills for at least a month we could rule out that. That would mean that my illnesses had to of been from the low-level exposure of sarin gas and/or the insect repellents we used. When the Department of Defense person was asked about my problems, his reply was simply was well it is too late to determine what really happened to Mr. Bunker. Simple logic is easy to look at as determining what happened to me yet the Department of Defense still refuses to acknowledge that veterans have become ill because of the low-level exposures of sarin gas. This approach does more to block efforts of come up with treatment processes for the veterans than anything else does.

Veterans are sure that between the nerve agent pills, the nerve agent itself, and the pesticides used along with other toxins that were exposed to that greatly lead to the problems that they are facing known as Gulf War Illnesses (GWI). It is time to set aside the denials or the misinformation and work to solve the issue at hand. What the National Gulf War Resource Center wants to express with this issue.

It is now time for the Department of Defense, the Department of the Veterans Administration and the Institute of Medicine to all work together to find treatments that will help veterans of the Gulf War live the more productive life and to relieve the pain that we are having due to undiagnosed illness.

There have been many problems with the IOM over the years. I feel one of the problems that the IOM had was the directions given to them by the VA. The IOM in all of its reports states how they are following the same protocol as for Agent Orange. The problem with this is that the criteria set before them for Agent Orange said that the evidence had to be the on the reasonable doubt. Better yet the evidence had to be overwhelmingly proving that the illnesses were caused by Agent Orange. This took away any benefit of the doubt that the Vietnam veterans have when they dealt with their agent orange illnesses.

This same mentality as leading to the problems that Gulf War veterans and researchers are having on getting illnesses service-connected due to undiagnosed illnesses and their service in the war. Since the Department of Defense keeps saying that, nobody was exposed or no illnesses can be attributed to Sarin and gas. Then IOM may never find any problems within the Gulf War community for the undiagnosed illness. The IOM and all researchers should use the modeling that was done by Dr. Lea Steele when she did the Kansas study. This study is well known by everybody and her modeling has since been used by many other researchers. Because of her work in attentions to details and leaving nothing for granted, she has shown that Gulf War veterans are ill at a higher rate and that the rate of the illness among the veterans group is determined by where and when a soldier was.

The National Gulf War Resource Center calls on the Department of Defense, the Department of Veterans Affairs and the IOM all to start working at finding a treatment for the problems that veterans of the Gulf War are having. They need to look at the possibility that more likely than not a lot of the veterans did suffer from Sarin nerve agent poisoning even though medical doctors did not write it in medical records or believe it to be happening. Many of the problems as to why this was not

done were that the higher headquarters could not believe that after the end of the war veterans would have been exposed to Sarin nerve gas. However, this was highly probable. It was later proven a fact that we blow up stockpiles of ammunition with-in bunkers; not knowing what some of those types or rounds are sarin and mustard gas that was actually blown up.

By considering this as a hypothesis while looking into the illnesses, a better picture will emerge. We need to look at every possible causes and effects that is causing the illness of the war that these veterans served. Also by looking at the pictures in this fashion, we may have a better probability at finding a treatment for these veterans. We may also develop a good treatment for if ever we suffer a terrorist attack like that which happened in the Tokyo subway bombing.

Sincerely,

James J. Bunker
President

**Prepared Statement of Paul Sullivan,
Executive Director, Veterans for Common Sense**

Veterans for Common Sense (VCS) thanks Subcommittee Chairman Harry Mitchell, Ranking Member David Roe, and Members of the Subcommittee for inviting us to testify about Gulf War veterans' illnesses.

VCS applauds your attention to the serious health challenges facing as many as 210,000 Gulf War veterans for the past 18 years. We especially thank Chairman Bob Filner for his diligent advocacy for all our veterans, including the nearly 700,000 veterans who deployed to the Gulf War between August 1990 and July 1991.

Is Enough Being Done?

Today's hearing brings us here to answer a critical question haunting as many as 210,000 Gulf War veterans who have struggled with chronic illnesses for the past 18 years: "Is Enough Being Done?" As an ill Gulf War veteran who has worked on this issue for 17 years both inside and outside government, the answer is no. Absolutely not.

While the Department of Defense (DoD) and the Department of Veterans Affairs (VA) *say* they will assist our ill Gulf War veterans, the two agencies often *fight* against our veterans. The two agencies fight against scientific research into toxic exposures. VA and DoD repeatedly mislead Congress, scientists, the press, and veterans about the adverse health consequences of deployment to Southwest Asia during Operations Desert Shield, Desert Storm, and Provide Comfort during 1990 and 1991.

I speak from experience about this issue. Nearly 11 years ago, I testified on behalf of fellow Gulf War veterans about this serious public health crisis. Although Congress held several hearings on this issue, reached conclusions that VA and DoD were not credible to investigate the illnesses, and then ordered independent research and independent research reviews, not much has changed at DoD and VA since I walked the halls of Congress and pressed for passage the "Persian Gulf Veterans Act of 1998." On a personal level, I am deeply disappointed and troubled by VA's actions.

Today, all of the scientific evidence and the only independent review of Gulf War research overwhelmingly conclude the illnesses are real and related to Gulf War deployment exposures. The bottom line is that between 175,000 and 210,000 Gulf War veterans remain ill. While there are some answers about why we are ill, there are no effective treatments, and disability benefits are very difficult to secure.

Therefore, VCS concludes that not enough is being done for our Gulf War veterans and their families. VCS urges Congress and VA to take immediate action. VA should hire pro-active veterans to work on this issue at VA, formally recognize our illnesses, conduct more research to understand our illnesses, begin treatment programs, provide disability benefits, and be more transparent on this issue.

Veterans Ask Three Questions

Since the medical puzzle of Gulf War illnesses first appeared nearly two decades ago, Gulf War veterans have continued asking three fundamental questions.

1. Why are we ill?
2. Where can we get treatment?
3. Who will pay for our medical care and benefits?

These three questions demonstrate the stakes for today's hearing are very high. The stakes are high because Congress can, and must, force the Administration to admit full liability for the toxic exposures and illnesses among Gulf War illnesses.

The stakes are high because Congress can, and must, appropriate adequate funds soon for desperately needed scientific research, medical treatment, and disability compensation for the estimated 210,000 Gulf War veterans who remain ill 18 years after the Gulf War cease fire.

The stakes are high because Congress can, and must, crush the Administration's notorious myth that the Gulf War was low-cost and casualty-free.

The stakes are high because Congress can, and must, begin the difficult process of restoring the stained reputation of DoD and VA by admitting the Gulf War caused hundreds of thousands of friendly fire casualties and was, therefore, very expensive.

The stakes are high because the dignity and health of our veterans is something the Administration cannot gamble with any longer. The hopes and sacrifices of our former servicemembers and their families is not something to be gambled with, and the abuses we have suffered must end now.

VA's and DoD's Efforts to Minimize the Reality of Gulf War Illness

The tragic and painful days of misleading VA policies toward Gulf War veterans must end. Our families are tired of the delays and denials in research, treatment, and disability benefits suffered by Gulf War veterans for 18 long and tortured years.

During a public presentation to the RAC I attended in October 2002, then Deputy Secretary Leo Mackay said, "Clearly, the past decade has not covered VA in glory . . . [As the RAC's] interim report of June 25 [2002] pointed out, there is increasing objective evidence that a major category of Gulf War Illnesses is neurological in character."

Mackay's comments appeared to be a watershed event where VA finally admitted Gulf War illness was real and would require extensive research, treatment, and benefits. Mackay's comments appeared to have reversed VA's propaganda claiming the Gulf War was a "public health success" and that the only illnesses were psychological.

Unfortunately, this appearance proved to be illusory, and VA staff soon returned to the old party line. Time after time since 2002, VA staff told VA health care providers, Congress, scientists, veterans, and our families that Gulf War veterans have no special health problems. Here are some examples:

- VA's Web site with questions and answers for Gulf War veterans, asks, "Is there a . . . 'Gulf War Syndrome'?" VA answers, "Experts conclude that . . . there is no . . . unique medical condition affecting Gulf War veterans."
- VA's training materials for physicians makes the following claim: ". . . [D]iscussing chronic illness with a Gulf War veteran or a woman with silicone breast implants is a different matter from discussing it with the average patient."
- VA's 2007 testimony to the House Veterans' Affairs Committee's Subcommittee on Health stated, "After 15 years, the principal finding . . . is that [Gulf War veterans] are suffering from a wide variety of common, recognized illnesses." VA made a similar statement in January 2009 to the Institute of Medicine.

DoD staff also consistently minimize the existence of Gulf War illness. In November 2008, the deputy director of health affairs for force health protection and readiness characterized the symptoms of ill Gulf War veterans as "wear and tear problems." VCS remains highly distressed that our government says there is no unique medical condition, these are common, recognized illnesses, and these are wear and tear problems.

Compare these statements with the scientific findings of VA's own major survey on the health of Gulf War veterans. In April 2009, VA wrote, "25% more [deployed] Gulf War veterans reported suffering from multisymptom illness compared with their [non-deployed] Gulf Era military peers." That study, by VA's Environmental Epidemiological Service under Dr. Han Kang, was published last month, but VA has known its results since 2005 when Dr. Kang briefed the RAC.

What's important to focus on here is Gulf War veterans remain ill in very large numbers, something VA refuses to admit, and our veterans need treatment and disability benefits, something VA has yet to provide. I am hopeful the new Administration may take a more objective and pro-veteran approach to Gulf War illnesses. However, it is abundantly clear that the government needs a dramatic shakeup after 18 years of systematic misrepresentation and neglect. We need to do more than correct the record. To the extent possible, we need to make up for those two lost decades while veterans and our families suffered.

There is one piece of good news that we want to mention. On April 2, 2009, VA published a statement in the Federal Register that VA intends to publish regulations linking nine diseases with deployment to the Gulf War. VCS awaits word from VA on the list specific conditions for which VA will grant a presumption of service connection, and the level of disability for those conditions.

Our Requests for Gulf War Veterans

VCS presents the following six requests for Congress and VA.

Our First Request: Pro-Veteran Advocates Working on Gulf War Illness Issues.

VCS urges VA Secretary Shinseki to immediately replace current VA staff dealing with Gulf War issues with pro-veteran and pro-VA advocates. In an unconscionable effort to save money and preserve the bogus myth of a low-cost and casualty-free war, VA appears to have undermined the integrity of the Institute of Medicine (IOM) scientific review process, thereby illegally blocking disability benefits for Gulf War veterans. These actions undermine VA's reputation.

According to documents recently released, VA's staff is directly responsible for the manipulation of IOM reports ordered by Congress for the determination of Gulf War veterans' health care and benefits. Let us make this very clear: VA employees who failed to fully implement the law must be held accountable for their egregious conduct.

These actions are detailed in a February 9, 2009, memo from RAC Chair James Binns. He concluded that "[b]ecause of the stature of the IOM, these reports have also misled researchers, lawmakers, physicians, and the public regarding the health problems of Gulf War veterans."

VCS has attached a copy of Mr. Binns' memo to our statement, and we ask that it be included in the record of this hearing in its entirety.

Our second request is for a formal VA and DoD recognition of Gulf War illnesses.

VCS requests that DoD and VA immediately, officially, jointly, and unequivocally recognize that Gulf War illness exists based on the overwhelming scientific evidence. Congress already recognized our toxic exposures and illnesses with the passage of Public Law 103-446, section 102, on November 2, 1994, as well as with Public Law 105-277, section 1602, on October 21, 1998.

Now is the time for the Administration to get in line with the scientific evidence. This also means Presidential Review Directive Number 5, dated August 1998, should be updated so that Gulf War veterans' illnesses are treated as a *public health concern* instead of a *public relations issue*.

Deputy Secretary Leo Mackay began a science-based examination of the problems facing Gulf War veterans in 2002. He and Secretary Anthony Principi should be commended for their pragmatic and honest assessments of the situation and their dedication to finding a solution. Our request means that VA must issue public statements that Gulf War illness is real. There must be an update of all other communications to veterans, families, doctors, Congress, and scientists on this subject. A strong statement must be issued to all VA staff that Gulf War veterans were correct about their exposures and illness. VA must also publicly apologize for the delays and denials in research, treatment, and benefits.

Our third request is to find out why we are ill.

Due to the 1998 law, scientists now know a great deal about pesticides, pyridostigmine bromide, and Sarin chemical warfare agent exposures. VCS urges VA and DoD to move forward with new scientific research to understand Gulf War illness. Areas that need specific research include the experimental anthrax vaccine, now linked with serious adverse reactions and long-term health conditions.

VCS also supports additional research into depleted uranium. Our President, Dan Fahey, presented his views to the Committee on this issue, and we ask that his recommendations become an exhibit for this hearing. In addition, we support research to better understand undiagnosed illnesses as well as research investigating the adverse health outcomes of multiple (and often simultaneous) toxic exposures.

Our fourth request is to find new treatments.

VCS wants the military and VA to move forward together with medical research that can lead to treatments for veterans. VCS believes the best place to start is by fully funding the Congressionally Directed Medical Research Program (CDMRP). The CDMRP is a highly effective approach to identifying effective "off the shelf" treatments for ailing Gulf War veterans. Most of us are in our 30s and 40s, so treatments that start now may make a substantial difference in how we spend the rest of our lives.

Our fifth request is to obtain disability benefits.

VCS wants Congress to mandate that the IOM revisit prior Gulf War and Health reports so they can include consideration of animal studies and other scientific information that Congress specified in the “Persian Gulf Veterans Act 1998.” The literature reviews should be done quickly, and many can be obtained from the RAC. We commend the RAC for their work, as the RAC has already identified many scientific studies in their landmark November 2008 report, “Gulf War Illness and the Health of Gulf War Veterans: Scientific Findings and Recommendations.”

VCS wants VA to move forward with contacting approximately 15,000 Gulf War veterans denied benefits under the 2001 expansion of Undiagnosed (UDX) illnesses, Public Law 107–103. The 2001 law expanded disability compensation benefits initially established under Public Law 103–446. The new law mandated benefits for chronic fatigue syndrome, fibromyalgia, and irritable bowel syndrome. When notices are published in the Federal Register expanding benefits, science must be the deciding factor and our veterans must be **individually** notified of changes so they can reapply for disability benefits.

VCS again urges VA to promulgate regulations, based on IOM’s scientific review of medical research (Gulf War and Health, Volume 6, Physiologic, Psychologic, and Psychosocial Effects of Deployment-Related Stress), to grant a presumption of service connection for post traumatic stress disorder among Gulf War veterans. We wrote VA in January 2009 and requested such a rule based on scientific merit, and VA rejected our request. If VA will not act, then we urge Congress to act.

Our sixth request is transparency.

On the issue of Gulf War toxic exposures, the activities of the VA, DoD, and Central Intelligence Agency (CIA) remain shrouded in secrecy. VA should actively seek input from Gulf War veterans, as it is now doing with two Gulf War-related advisory panels. We encourage VA to continue the work of these two groups.

We also ask VA, DoD, and CIA to release information about toxic exposures during the wars, about the health care use and claim activity of veterans, and the complete financial costs of the Gulf War. With this information in the public domain, as it rightly should be under the Freedom of Information Act, then our veterans, families, researchers, Congress, and journalists can search for and obtain information about what happened in the Gulf War so that we can continue to improve VA for current and future veterans.

VCS is deeply concerned that number of UDX claims filed fell from 13,189 in February 2008 to 7,478 in August 2008, a sharp drop of 43 percent in 6 months (based on the Gulf War Veterans Information System reports). For UDX claims approved, the number fell from 3,150 to 1,270 during the same brief period, an even sharper drop of nearly 60 percent. VCS urges Congress to ask VA to explain these precipitous declines.

Avoiding a Repeat of Past Mistakes

Veterans for Common Sense has a solemn obligation to set the record straight in order to avoid repeating the same mistake for future generations of veterans. Sadly, veterans of recent wars have fallen into a trap where history repeats itself. The last three major wars our Nation fought followed a similar pattern where the executive branch lied to start the war and then failed to take care of our veterans who fought in the war.

Today, Congress, VA, and DoD may be able to prevent a repeat of the Gulf War illness debacle. DoD and VA are currently delaying and denying research, treatment, and benefits for Iraq War veterans exposed to toxins, especially those stationed near Balad, Iraq, the site of an enormous burn pit recently profiled by journalist Kelly Kennedy for *Army Times*.

One lesson learned from the Gulf War was the need to have accurate and complete medical records. We are pleased to see President Barack Obama and VA Secretary Eric Shinseki moving forward with establishing a seamless DoD–VA record for each servicemember starting on their first day of military service. VCS advocated for single record in prior testimony before Congress.

However, the military repeatedly failed to create complete and accurate records. For example, under the 1997 Force Health Protection law (Public Law 105–85), the military is required to perform pre- and post-deployment medical exams. The military asks soldiers to complete only a brief self-reported assessment without a face-to-face exam, and that is unacceptable. The goal of the 1997 law was to make sure a medical professional had a face-to-face encounter before and after deployment to identify medical conditions early, when treatment is most effective and least expensive. A failure to examine our servicemembers is negligent, as it has led to the re-

peated deployment of unfit servicemembers who jeopardize their health, the safety of their unit, and the success of the mission.

Our goal at Veterans for Common Sense is to highlight the pattern of government abuse and betrayal in an attempt to break the cycle that has plagued our veterans for more than four decades, including the poor treatment our Atomic, Agent Orange, SHAD, and Gulf War veterans needlessly endured.

Letters from Veterans to VCS About Gulf War Illness

May 11, 2009

Hi Paul,

I'm a Gulf War Vet suffering from Gulf War Syndrome. If you're speaking to Congress on Tuesday, you could tell them that we are **still** sick and have not been contacted by the VA about anything in years.

The DoD allegedly determined that there were chemical munitions at Khamisiyah, but the VA has been mum. The guys in my former unit have not been successful in getting medical treatment or compensation for our illnesses. Most of us just gave up, and feel abandoned by the government and the Army.

Chris

May 13, 2009

Paul,

First of all I want to thank you for all you do for veterans. . . . I am a Gulf War Vet. . . . The VA Hospital in [location removed] is really trying to do a good job in treating me but not for my Gulf War symptoms. The problem I see and am going through, is they are testing me for all the different problems I am having and can find nothing in my blood, x-rays, throat scopes and lung tests.

BUT they cannot tell me why I'm suffering from Chronic Fatigue, Chronic Pain, Coughing Spells, Choking, Blacking Out, Sleep Apnea, Nightmares, Loss of Memory, Chronic Headaches, Anxiety and Psychological Problems. I have very little quality of life since coming home from the Gulf. They tell me all my tests are inconclusive but yet they have me seeing a PTSD doctor and have me taking [medications]. I have been dealing with Gulf War Symptoms but yet my doctor because of Guidance from his superiors, will not even utter the words "Gulf War Syndrome!"

I have tried filing claims to the VA but they come back "denied" because of insufficient evidence!! I AM THE EVIDENCE! I am the one suffering! And all they can say is "your claims have been denied?!" They didn't deny me when I gave them the prime of my life and was awarded (2) Army Commendation Medals during the Iran/Iraq war and the Bronze Star for combat valor during Desert Storm!

But now they turn their back on me because it may cost them a few thousand dollars to say "Yes Steve you have Gulf War Syndrome, we're sorry for what your having to go through the least we can do is treat you properly at our medical facility and compensate you for all the hell you've had to go through and medical problems you currently have to live with."

Instead, I sit here mostly defeated and feeling sorry for the poor bastards that will be coming back from Iraq and Afghanistan. They have no idea what kind fight they are in for when they have to start dealing with the VA Hospitals and the Veterans Administration when they file claims. It is a travesty. . . .

Sincerely,

Steve

**Prepared Statement of Richard F. Weidman, Executive Director for
Policy and Government Affairs, Vietnam Veterans of America**

Good afternoon, Mr. Chairman, Ranking Member Roe and distinguished Members of the Subcommittee. Thank you for giving Vietnam Veterans of America (VVA) the opportunity to offer our comments on the Gulf War Illness, the extent of the problem as we see it, whether the manner and extent to which the Federal response to this significant problem of literally tens of thousands of veterans as currently being operated is adequate or even honest, and what should be done to properly address the needs of the veterans affected, and their families.

Vietnam Veterans of America (VVA) has been striving for the entire 30 years we have existed as an organization to get the Department of Defense (DoD) and the Department of Veterans Affairs (VA) to deal honestly and forthrightly with the wounds, maladies, conditions, and injuries that often result from military service because of environmental exposures of one nature or another, or that are just not as readily apparent as gunshot wounds or shrapnel injuries. However, as of this year we still have a long way to go in this regard, although we do have hope that the new Administration, with bipartisan support of the Congress, will finally force the VA (and the DoD) to restore integrity to the elements of their organization that deal with these matters, and join with us in pursuing the truth, wherever that may lead.

VVA salutes you in launching this set of three hearings into Gulf War Illness at this time. The timing is particularly apt. As noted above, we have a new Administration. We have a new Secretary of Veterans Affairs, and a new Deputy Secretary of Veterans Affairs. We will have new Under Secretary of Veterans Affairs for Health this coming summer, and likely a new Deputy Under Secretary of Health as well. It is likely that there will also be other very significant changes in personnel within the Veterans Health Administration as well in the coming months.

Last month the survey results by Dr. Han K. Kang, et. al. was published as a peer reviewed article in the Journal of the American College of Occupational and Environmental Medicine. The scientific findings of the Research Advisory Committee on Gulf War Veterans' Illnesses, "Gulf War Illness and the Health of Gulf War Veterans—Scientific Findings and Recommendations" was published in November of 2008. There has been a resurgence of interest in the health of veterans of every age, given the needs of the newest generation of veterans who are returning from Iraq today, many of who have significant health problems. These returnees not only have problems with the obvious effects of hostile fire, but also the less immediately obvious effects of Traumatic Brain Injuries (TBI) and Post Traumatic Stress Disorder (PTSD). It is also useful to remember that those serving in Iraq and Kuwait in the past 7 years lived and fought in areas where the many toxins from the 1991 war were initially used and spread, and that those toxins generally were never cleaned up or remediated. In many cases have additional toxic exposures due to the burn pits and other sources.

Because of the changes in leadership that are starting to take hold, and the fact that all of the documentation in the two studies mentioned above is now available the time is right to review where we are and start to get it right not only for the fine men and women who fought in Gulf War I, but to get it right in terms of the institutional set up at VA. The leadership in key areas at VA needs to be staffed with individuals who will adhere to the highest medical efforts and not attempt to violate Institutional Review Board (IRB) guidelines on confidentiality of study participants in rather naked and crass attempts to delay and destroy the validity of vital research studies. That is precisely what is happening now in regard to the "deep brain" studies regarding Gulf War veterans currently being performed at the University of Texas by Dr. Robert Haley.

This is the third instance of VA trying to use ugly and crass abuse of power to breach confidentiality of test subjects at VA that has come to the attention of VVA in the last 3 years. (One of our colleagues called it the research world version of analogous behavior to asserting that "water boarding" and other harsh tactics of "enhanced interrogation" were somehow not torture. Wrong is wrong, and unethical is unethical. It is still wrong no matter who is in power, or what sophistry is promulgated by unscrupulous attorneys to attempt justification for such behavior.) This type of behavior on the part of the VA must be ended immediately, and those that have both instigated as well as those who have permitted such abuses (and many other abuses) must be removed from positions where they can continue to inflict damage and harm on both the institution, and more importantly, removed from where such people can continue to inflict both direct and indirect harm on individual veterans.

In regard to Gulf War Illness, VA has known the basic outline as to what was wrong with up to 200,000 of those who served in the Gulf for a decade. Yet they continue to drag their feet in addressing the justifiable compensation requests of these veterans, and to give them the runaround on medical care.

One has to ask, what is wrong with this institution (VA) that it would treat the men and women who are literally its very reason for existing in such a high-handed and disrespectful manner, even in the face of consistent scientific advice and good judgment?

There is in fact, as President Obama has stated on many occasions, a need for radical transformation of the corporate culture at the VA. Secretary Shinseki is correct when he says that what is needed is better leadership and much better accountability at the VA.

We suppose that one can try to fashion complicated legislation that would be highly prescriptive in nature to try to force the VA to do what is right by the men and women who are suffering adverse health consequences of exposure to environmental hazards while in military service, but that would be an arduous and ultimately highly frustrating path to pursue.

All that is really needed is for VA leadership to say that our very existence as an institution is to care for these men and women who have been harmed by virtue of military service, and we are going to do it right. Further, those in charge of specifics will pursue the truth and maintain the highest ethical standards, and will tell me the truth when I inquire about a matter. If they do not tell the truth, or if they mislead me or the Congress, they will be relieved from duty. All that is needed flows from this simple commitment.

VVA believes that we have the right top leadership in the #1 and #2 slots at VA. Now we just need to follow that through, to get honest leaders who are committed to the well-being of veterans, and who are respectful of veterans as individuals, at every level at VA.

As to specifics of what needs to be done regarding Gulf War veterans, some of what needs to be done is in the context of restoring integrity to research at the VA overall, and some is in the context of moving VA toward becoming an institution that is a true "veterans' health care organization" as opposed to a general health care institution that happens to be for veterans and is "good enough for government work."

VVA recommends:

First, VA must continue to fund the study in deep brain problems at the University of Texas. They must stop trying to get a respected research institution to violate the IRB safeguards and assurances of privacy in that instance, and in all other instances.

Second, VA needs to move quickly to modify the Computerized Patient Records System (CPRS) or VISTA, to incorporate a military history that will include branch of service, periods of service, places assigned and when, military occupational specialties, and notes on what happened to the individual that may be of note. This also needs to be searchable on a nationwide basis, so that if an individual has an unusual medical condition, then the physician can search and find out if others who served in their unit at the same time have the same or similar conditions.

This would be an invaluable epidemiologic tool that could/would point VA in the direction of where there needs to be research that is directed where there are obviously problems. You may ask why they never did this before?

Well, we have come to the inescapable conclusion that they never did it because they did not want the information. As the cost to make this change to the CPRS is really minimal, we can come up with no other explanation that makes any sense whatsoever.

Third, VA does not really have a Gulf War I Registry, just as they do not really have an Agent Orange registry. What we have is a mailing list for Gulf War I veterans, a mailing list for Agent Orange, etc. All they have is a general physical (no special protocol) and then they put them on the mailing. VA needs to establish *real* registries that are modeled after the Hepatitis C registry for Gulf War Illness, Agent Orange, Radiation Exposure, OIF, and OEF, as well as possibly others. That way those who use the VA medical facilities can be monitored for their overall health, particularly in relation to the conditions that appear to be particular to those who served in a particular theater of war at a particular time. This is the only honest way to do it. What we have now is something that is dishonest sophistry.

Fourth, there needs to be a significant increase in the VA Research budget over the next 5 years. VVA recommends that we increase it to greater than \$2 Billion per year in increments over the next 5 years. In order to ensure that these additional funds are spent correctly there needs to be new leadership in VA Research & Development that understands that what is paramount in a democracy is the individual who voluntarily takes the step forward pledging life and limb in defense of the Constitution. What is NOT paramount is escaping culpability for injuries or illnesses nor "holding down costs." The cost of taking care of veterans is part of the cost of war and defending the nation.

As part of this renewed commitment, there must be robust mortality and morbidity studies started for OIF, OEF, and Gulf War veterans started now that are keyed back into the registries, but which go beyond the scope of only those who use the VA for their health care.

In a similar vein, those who do not adhere to the laws and move forward with directed studies as specified by the Congress must be fired.

Fifth, Congress should extend the sunset for the RAC and for Gulf War illness from 2011 to at least 2016.

Sixth, Congress should press until all of the recommendations of the RAC report of last Fall are implemented.

Thank you for the opportunity to share our views here today. I will be happy to answer any questions.

**Prepared Statement of Lea Steele, Ph.D., Adjunct Associate Professor,
Kansas State University School of Human Ecology, Manhattan, KS, and
Former Scientific Director, Research Advisory Committee on
Gulf War Veterans' Illnesses**

Good morning, Mr. Chairman and Members of the Subcommittee. I'm Dr. Lea Steele. I am an epidemiologist, and have conducted studies on the health of Gulf War veterans since 1997, when I directed a Gulf War research program sponsored by the State of Kansas. I have also served on the Congressionally-mandated Federal Research Advisory Committee on Gulf War Veterans' Illnesses since its inception, and was the Committee's Scientific Director from 2003 to 2008. During that time, I oversaw preparation of a major scientific report on the health of Gulf War veterans, issued by the Committee in November of 2008.¹

In my brief remarks this morning, I will provide highlights of the Committee's scientific findings from the report. This is an extensive and in-depth report, over 450 pages in length, which reviewed and synthesized findings from hundreds of scientific studies, government investigations, and other documents. Our charge was to review available evidence to determine what had been learned about the nature, causes, and treatments for health problems affecting veterans of the 1991 Gulf War.

The report's primary focus is on Gulf War illness, the multisymptom problem previously referred to as Gulf War Syndrome, or Gulf War-related undiagnosed illness. It is important to distinguish this multisymptom condition from diagnosed diseases such as cancer or diabetes, which are well defined and readily diagnosable using standard medical testing methods. In contrast, "Gulf War illness" refers specifically to the symptomatic illness that affects Gulf War veterans at excess rates, but is not explained by well-established medical or psychiatric diagnoses. This condition is characterized by a complex of multiple symptoms that typically includes headache, persistent memory and concentration difficulties, widespread pain, unexplained fatigue, gastrointestinal problems, and other abnormalities.

Here are the major findings from the Committee's report concerning Gulf War illness:

- **Gulf War illness is real.** Scientific studies of Gulf War veterans from different units and regions of the U.S. consistently identify this pattern of illness at significantly excess rates. All Gulf War studies show the same thing—that is, the same types and patterns of excess symptoms are consistently identified in different groups of Gulf War veterans. Illness rates vary with the areas where veterans served during deployment, and with their branch of service. Generally, Gulf War illness is most prevalent among ground troops who served in more forward areas of theater, and less common in Air Force and Navy personnel.
- **Gulf War illness differs fundamentally from trauma and stress-related syndromes seen after other wars.** Studies consistently show that Gulf War illness is not the result of combat or other psychological stressors, and that rates of psychiatric disorders such as posttraumatic stress disorder (PTSD) are relatively low in Gulf War veterans, compared to veterans of other wars. No similar widespread, unexplained symptomatic illness has been identified in studies of veterans who have served in war zones since the Gulf War, including current Middle East deployments.
- **Gulf War illness is a serious problem. It affects at least one fourth of the nearly 700,000 U.S. military personnel who served in the 1990–1991 Gulf War.** Studies of different veteran populations consistently indicate that between 25 percent and 32 percent of Gulf War veterans have this multisymptom condition, over and above symptom rates in veterans from the same time period who did not serve in the Gulf War. The extent of this problem was again verified last month, with publication of a VA study of a nationwide sample of

¹Research Advisory Committee on Gulf War Veterans' Illnesses. *Gulf War Illness and the Health of Gulf War Veterans: Scientific Findings and Recommendations*. Washington, DC: U.S. Government Printing Office, November 2008. Available online at: www.va.gov/RAC-GWVI.

over 6,000 Gulf War veterans. It identified an excess of 25 percent of Gulf War veterans with multisymptom illness, compared to nondeployed era veterans.²

- **Most veterans with Gulf War illness have not recovered or substantially improved with time.** All studies that have evaluated veterans' health longitudinally have reported little improvement. The largest study, conducted by VA, indicated that after 10 years of follow-up, only 2 percent of veterans with Gulf War illness had recovered. As a result, many veterans have now been ill for over 18 years.
- **Of the many Gulf War experiences and exposures suggested to have caused Gulf War illness, scientific evidence consistently points to just two causal factors: (1) pyridostigmine bromide (PB) pills, given to protect troops from effects of nerve agents, and (2) use of pesticides in theater.** Both PB and many of the pesticides of concern can act as neurotoxicants through effects on an important neurotransmitter, acetylcholine, in the brain and nervous system.
- **Several other contributing factors cannot be ruled out, due to evidence that is either inconsistent or limited in important ways.** These include: (1) low-level exposure to chemical nerve agents in theater, (2) higher-level exposure to smoke from oil well fires, (3) receipt of a large number of vaccines, and (4) effects of combinations of neurotoxicants such as PB, pesticides, and nerve agents. Other wartime exposures are not likely to have caused Gulf War illness for the majority of ill veterans. These include depleted uranium, anthrax vaccine, fuels, airborne particulates, infectious diseases, and CARC (chemical agent resistant coating) paint used on combat vehicles.
- **Multiple studies from different research teams provide an emerging picture of the biological nature of Gulf War illness, that is, the physical mechanisms that underlie this condition.** Identified differences most prominently affect the brain and nervous systems of ill veterans, with additional findings related to endocrine and immune function. The exact biological mechanisms that cause veterans' symptoms are not yet known, however, and clinical diagnostic tests are not yet available.

Although Gulf War illness is, by far, the most prevalent health problem affecting Gulf War veterans, it is not the only health issue of concern. The most serious diagnosed diseases associated with Gulf War service also affect the brain. Studies indicate that Gulf War veterans have significantly higher rates of amyotrophic lateral sclerosis (ALS, or Lou Gehrig's disease) than other veterans. In addition, veterans identified by Department of Defense models as being downwind from chemical nerve agent releases at Khamisiyah, Iraq, in March 1991, have died from brain cancer at twice the rate of other veterans in theater. These very serious neurological conditions affect relatively few veterans, but are clearly cause for concern. Rates of other neurological diseases have not yet been evaluated by research studies.

Important questions remain about other important Gulf War health issues. Studies have indicated that, overall, Gulf War veterans have not had an increased rate of death due to disease. But comprehensive information on mortality among U.S. Gulf War veterans after 1997 has not yet been published. There are also important unanswered questions concerning rates of cancer and other diseases in Gulf War veterans, and health problems affecting veterans' children.

The Committee also reviewed, in detail, information on Federal research programs and funding related to the health of Gulf War veterans. The report found that, historically, these research programs have not been effective in addressing priority issues related to Gulf War illness or other health problems affecting Gulf War veterans. Between 1994 and 2007, Federal agencies report spending \$340–\$440 million on projects identified as “Gulf War research.” While this supported a number of extremely important studies and research breakthroughs, overall, Federal programs were not focused on addressing Gulf War research issues of greatest importance, for example, studies to identify causes and treatments for Gulf War illness, and rates of other diseases.

Historically, a substantial portion of the Federal research funding identified by interagency reports to Congress as supporting “Gulf War research” has been used for projects that have little or no relevance to the health of Gulf War veterans, or projects focused on stress and psychiatric conditions. While Congressional actions since 2006 have brought about promising new program developments at both the

²Kang HK, B Li, CM Mahan, SA Eisen, and CC Engel. Health of U.S. Veterans 1991 Gulf War: A Follow-Up Survey in 10 Years. *Journal of Occupational and Environmental Medicine* 2009 Apr; 51(4):401–410.

Department of Defense and the Department of Veterans Affairs, overall Federal funding for Gulf War research has declined dramatically since 2001.

A renewed Federal research commitment is needed to identify effective treatments for Gulf War illness, improve understanding of this condition, and address other priority Gulf War health issues. Adequate funding and appropriate program management is required to achieve the critical objectives of improving the health of Gulf War veterans and preventing similar problems in future deployments. As noted by the Committee this is a national obligation, made especially urgent by the many years that Gulf War veterans have waited for answers and assistance.

**Prepared Statement of Robert D. Walpole, Former Special Assistant for
Persian Gulf War Illnesses Issues, Office of the Assistant Director of
Central Intelligence, Central Intelligence Agency**

Chairman Mitchell, Ranking Member Roe and Members of the Subcommittee: I am pleased to appear before you today to review the Intelligence Community's support to the Departments of Veterans Affairs (VA) and Defense (DoD) on Gulf War veterans' illnesses issues. It has been a dozen years since I appeared before this Subcommittee on the issue; we knew then, and we know now, how important this is to our veterans and that our support has been important to ascertaining what occurred during that war. Before I move beyond my introductory comments and begin to cover a lot of technical assessments and figures, I want to underscore the human side of our effort to help the veterans. Our workforce includes veterans from the Gulf War and other conflicts. We sincerely have tried to uncover any intelligence that could help explain veteran illnesses via exposure, including helping to identify 17 possible releases all the way down to small chemical agent leaks.

Background

In March 1995, as concern over Persian Gulf War illnesses mounted, Acting Director of Central Intelligence (DCI) Studeman directed the Central Intelligence Agency (CIA) to conduct a comprehensive review of relevant intelligence information. That summer, a CIA analyst identified for review an UNSCCM document about an inspection of Khamisiyah. After further review, CIA informed DoD of Khamisiyah's potential relevance and queried whether forces had been at the site. Concerns continued to grow. In January 1996, CIA briefed the National Security Council staff on Khamisiyah. On 10 March 1996, a CIA analyst heard a tape recording of a radio show in which a veteran described demolition activities at a facility the analyst immediately recognized as Khamisiyah. DoD and the Presidential Advisory Committee (PAC) on Gulf War Veterans' Illnesses were notified the next day. On 1 May 1996, CIA publicly announced at a PAC meeting that it had credible information that U.S. troops had unwittingly destroyed Iraqi chemical weapons. Subsequently, UNSCOM inspected the site and indicated a possible release.

On 27 February 1997, in response to President Clinton's tasking to the PAC and after determining that the issue required additional resources, George Tenet, then Acting Director of Central Intelligence, appointed me the DCI's Special Assistant for Persian Gulf War Illnesses Issues and asked me to have a Task Force running by 3 March. Our purpose was to help find answers to why the veterans were sick. We provided intensive, aggressive intelligence support to the numerous U.S. Government efforts investigating the issues. Fifty officers served on the Task Force, drawn from across the Intelligence Community—CIA, the National Security Agency, the Defense Intelligence Agency (DIA), and the National Imagery and Mapping Agency—as well as from DoD's Offices of the Special Assistant for Gulf War Illnesses and Assistant to the Secretary for Intelligence Oversight.

The Task Force managed and reviewed all intelligence aspects related to the issue with the goal of "getting to the bottom" of it, providing support across several fronts:

- Searching, declassifying, and sharing intelligence that could help;
- Modeling support to DoD;
- Communications with DoD, the PAC, Congress, veterans' groups, and others; and
- Supportive analysis.

Papers and Declassification

During our initial efforts on Khamisiyah, we determined that certain intelligence documents were critical to answering the questions—what did the Intelligence Community know and when and what did we do with that information. We began briefing these documents to the PAC and appropriate Congressional Committees. We

also began simultaneous efforts to declassify key papers and to search for other material relevant to the questions. As this work progressed, We determined that a paper detailing the historical perspective would be useful to accompany the release of the documents we were declassifying.

That paper, released on 9 April 1997, provided details about the Intelligence Community's knowledge of Khamisiyah before, during, and after the war. The documents released and the Khamisiyah paper written to accompany, them did not change our judgment that Iraq did not use chemical weapons during Desert Storm, or our warnings that Iraq would likely deploy chemical weapons to the theater, would be prepared to use them, and did not mark its chemical munitions. In detailing the historical perspective, the paper and documents illustrated warnings the Intelligence Community provided to CENTCOM elements—including J-2, targeting, ARCENT, and U.S. Marine Corps and Air Force representatives prior to demolition activities in March 1991. These included warnings to our military about the potential presence of chemical weapons at Khamisiyah before the unwitting destruction.

We also conducted document searches on other Iraqi chemical warfare (CW) sites, as well as any intelligence related to potential biological warfare and radiological exposure, and environmental issues. We used search criteria developed by previous task forces and expanded them by adding related topical search terms and increasing the range of dates to be searched. Intelligence that shed light on or could help the PAC, Persian Gulf Veterans Coordinating Board, veterans and the public understand Gulf War illnesses issues were identified and declassified. This expanded search generated over a million documents; most of which did not relate. Given that overwhelming volume, we provided DoD all of these files electronically along with the means to search them as it proceeded with its studies and Case Narratives.

The last paper we produced on the issue was published in April 2002, *Chemical Warfare Agent Issues During the Persian Gulf War*. It reflected the results of our multifaceted investigation into the CW issue examining information on CW releases, Gulf War Iraqi CW deployments, and Iraqi chemical agents and weapons. Results of our studies on biological and radiological agents had been published in separate reports.

Modeling Support

I am aware that this Subcommittee has been very interested in CIA's computer modeling of chemical releases to simulate what happens in the environment when chemical agents are introduced. Many of the physical and chemical processes of a release and its downrange dispersion are complex and have inherent uncertainties. To allow for these uncertainties, reasonable worst-case, source inputs to models were used on events of highest concern to avoid underestimating potential exposure.

In 1996, CIA was able to model the events at Bunker 73 at Khamisiyah where U.S. soldiers had unknowingly destroyed nerve-agent-filled-rockets on 4 March 1991; Al Muthanna, where Coalition bombing released nerve agent from a large storage bunker; and Muhammadiyah, where Coalition bombing released nerve and sulfur mustard agents—largely because we had U.S. test data indicating how the agents would react and be released when structures in which they were stored were bombed or detonated. However, when CIA turned to modeling demolitions at the pit, it quickly realized we had significant uncertainties regarding how rockets with chemical warheads would have been affected by open-pit demolitions. We also were uncertain about the number of demolition events and the weather conditions at the time. We believed in 1996, based on the limited and often contradictory data we had, that two demolition events were more likely than one. These data included a military log entry for destruction on 12 March 1991, the contradictory stories from two soldiers, and an UNSCOM video tape.

Khamisiyah Pit. When I was appointed Special Assistant and discovered these uncertainties, I immediately tasked the development of what I called "the milk carton ad." In essence, similar to the question, "Have you seen this person?" we distributed a flyer with two pictures of the "pit" and a 1-800 number veterans could call to provide help if they recognized the pit. The ad helped us identify three additional soldiers who had been part of the demolition.

We conducted several interviews with the soldiers for important information about the demolition event, particularly how and when it occurred. These interviews called into serious question the log's credibility; we learned it was prepared after the fact and that we should not rely on the 12 March date. With the log's credibility in question, the prudent approach was to model one event that occurred on 10 March. We also jointly developed tests with DoD at Dugway to destroy rockets containing CW agent simulants in the manner the soldiers described to provide data on how the agent would react in an open-pit demolition, similar to the data earlier testing had provided for detonations in buildings. Finally, then Deputy Secretary of

Defense John White and then DCI John Deutch, after CIA's 1996 modeling efforts, had requested that the Institute for Defense Analysis (IDA) host a panel of experts to review previous modeling attempts at the pit and to make recommendations for proceeding. The IDA panel consisted mostly of meteorological experts. They provided important recommendations regarding meteorological aspects of the modeling, including the use of several different mathematical models and modelers in an effort to try to address uncertainties.

Did these efforts eliminate all of our uncertainties? Absolutely not! In fact, prior to publishing the conclusions of the modeling effort, we briefed on, and published a paper on, our continuing uncertainties. We had reduced them, but there were still uncertainties on the source term, weather, and how the agent reacted during the destruction in 1991. I also must note that the PAC had become impatient with the time we were taking to try to reduce the uncertainties and indicated that if modeling were not completed in the very short term, they would simply draw a circle around Khamisiyah and leave it at that.

Of course once a release had been confirmed at Khamisiyah at a specific date and time, epidemiologists could and should have ascertained whether veterans reporting illness concerns were clustered in areas near Khamisiyah during the appropriate timeframe. They did not need a model for that. But they did need troop locations for such an effort. And, as CIA worked to reduce uncertainties in the source term, DoD was working aggressively to ascertain troop locations for the days in question. So, at a minimum, continuing to pursue the modeling effort despite the PAC's impatience helped ascertain critical troop locations for epidemiologists trying to help the veterans.

Moreover, although drawing a circle around Khamisiyah would have been much less work for us than modeling, we felt that the epidemiologists needed a better effort from us to be able to help the veterans. CIA and DoD believed a model would be of more value than a circle. And even if one favored a circle, how large should it be? How many days should be included? Indeed, modeling would provide data even for the simple circle approach.

When we briefed the modeling conclusions at the Pentagon press conference in July 1997, I noted that even given the uncertainties involved, we assessed that the model would provide meaningful information to epidemiologists. But we did not intend the modeled area to be used to estimate the absolute number of U.S. troops exposed to CW agents. Also, the area depicted by the 1997 DoD models was much larger than we would have expected the actual extent of contamination to have been. To account for differences in models, the published area represented a composite of contamination areas from multiple separate models. In addition, most of the modeled areas were enlarged to account for uncertainties in weather and troop location. The IC agreed to the combined contamination area to account for some modeling differences and to provide epidemiologists our best estimate of which us troops were more likely at risk of exposure to CW agents for their studies, given the modeling uncertainties involved.

Subsequent to the 1997 modeling effort, CIA obtained additional information and was able to provide DoD with updated information.

- Additional UNSCOM information—including a 1998 inspection—indicated that the maximum amount of nerve agent released was about half of the amount modeled in 1997. With this information, we assessed that only 225 rockets released agent rather than the 500 we estimated in 1997.
- A 1998 CIA-sponsored analysis of daytime sarin and cyclosarin degradation allowed daytime decay estimates to be included in subsequent modeling, reducing contamination compared to 1997 models that excluded such factors.
- An interview with the senior explosive ordinance demolition officer at Khamisiyah indicated that the placement of the charges was less than optimal in 1991 because of time constraints.

In 2000, DoD remodeled the Khamisiyah pit event using CIA's updated source term. The result indicated that the potential contaminated area—derived from combined models—was about half the size of the 1997 modeling results. DoD's reassessment of the threshold general population limit dosage values for Sarin and cyclosarin also contributed to reducing the area.

Again, as with the 1997 modeling effort, the area depicted by the 2000 DoD model is larger than we would expect the actual extent of contamination to have been, representing a composite of contamination areas from multiple models. In addition, most of the modeled areas were enlarged to account for uncertainties in weather and troop location. Again, the IC did not intend the model to be used to estimate the absolute number of U.S. troops exposed to CW agents. Nevertheless, given the

modeling uncertainties involved, we continued to assess that a composite provided more meaningful information to the epidemiologists involved in this effort.

Khamisiyah Bunker 73. Did new information change other earlier modeling efforts? Yes. CIA's 1996 analysis and weather modeling of the demolition at Bunker 73 at Khamisiyah had indicated that the wind carried nerve agent to the northeast, away from troops, and that U.S. troops were not exposed. On the basis of UNSCOM information from 1998, we updated our assessment in 2002, reducing the amount of agent released from 1,060 kg to 51 kg—about one-twentieth that used in the 1996 contamination modeling. UNSCOM found that hundreds of nerve-agent-filled rockets still remained in the bunker in 1998; in addition, we were able to derive better estimates of the percentage of nerve agent actually released when munitions were destroyed.

Al Muthanna. Previous CIA assessments indicated that nerve agent was released only from Bunker 2 at the huge chemical agent production, storage, and filling facility at Al Muthanna. CIA's 1996 worst-case modeling of this release indicated that low levels of nerve agent would not have reached U.S. troops. Moreover, subsequent UNSCOM information and detailed bunker fire modeling by a CIA contractor indicated that about 40 times less agent probably was released than estimated in 1996. 2001 DoD modeling using this new release amount continued to indicate that U.S. troops were not exposed to even low levels of nerve agent.

As part of the IC's comprehensive study, however, we identified additional releases of chemical agents from the Al Muthanna facility. But we assess these releases were too small, slow, and distant to reach U.S. troops. UNSCOM information leads us to conclude that mustard agent was released as a result of Coalition bombing of the mustard production plant at Al Muthanna. In addition, small amounts of chemical agents leaked from defective munitions and containers at various locations at Al Muthanna. Release of chemical agents from other production plants and filling facilities is unlikely, but releases of small amounts from incompletely cleaned production and filling equipment cannot be ruled out. UNSCOM information indicated that Al Muthanna's bulk containers—which held tons of chemical agent—were undamaged because Iraq buried most of them away from structures to protect them from Coalition bombing.

Muhammadiyah. On the basis 1996 modeling of contamination from the Muhammadiyah nerve and mustard agent releases—even with such worst case assumptions as 100 percent pure agent, complete release of the agent from all damaged bombs, and favorable cloud transport conditions—we assessed that U.S. troops probably were not exposed to even low levels of chemical agents from this site. Subsequent joint DoD/CIA analysis of intelligence and information from UNSCOM has refined our estimates of the amount of nerve and mustard agents released as a result of Coalition bombing.

- Better information on agent purity, number of bombs, and release percentage led us to reduce the estimated amount of nerve agent released from 290 kg to 180 kg. 2001 DoD modeling using the new release amount indicates U.S. troops were not exposed to low levels of nerve agents released from Muhammadiyah, although DoD notes that it is possible that fewer than 70 special operations forces may have been exposed to low levels of nerve agents released.
- The amount of mustard agent released has increased from about 1,500 kg to 3,000 kg, because contrary to previous Iraqi declarations, 266 additional mustard bombs burned because of Coalition bombing. 2001 DoD modeling using the larger mustard release amounts indicates U.S. troops were not exposed.

Ukhaydir. In 1997, we had assessed that Coalition bombing of Ukhaydir may have released mustard from 155-mm artillery munitions, although we acknowledged that it was possible that none had been released. In 2002, we judged that a release was unlikely based on several factors:

- Lack of any indications of damaged munitions during a thorough 1998 UNSCOM excavation at Ukhaydir, including searches with sophisticated ground-penetrating radar;
- Iraqi denial of any wartime damage to mustard shells at Ukhaydir, despite pressure to account for 550 shells Iraq declared were damaged during the Gulf War; and
- Indications from intelligence information that likely stacks of mustard shells were probably not directly damaged by a nearby bombing-induced bunker fire or a separate bomb explosion under a road.

In addition, we no longer believe that empty 155-mm shells found by UNSCOM are related to Desert Storm aerial attacks at Ukhaydir—a worst-case assumption we made in 1997. On the basis of their external appearance and Iraqi declarations,

we conclude that these munitions—some empty green shells and others burned shells—probably were holdovers from the Iran-Iraq War or were damaged elsewhere.

Additional Releases?

Intelligence and UNSCOM information provide no basis for suspecting that stores of undiscovered munitions or bulk chemical agent were damaged during the Gulf War. Iraq declared—and UNSCOM corroborates—that no Iraqi bulk chemical agent storage container was damaged. Most were buried at a safe distance from expected Coalition bombing targets. We believe that Iraq generally tried to declare all damaged—and, therefore useless—chemical munitions to demonstrate compliance with UN resolutions. In addition, given the detailed reliable information available on many aspects of Iraq's CW program, it is unlikely that during Desert Storm there were additional chemical-agent-filled munitions close to or within the Kuwait Theater of Operations. Thus, we assess that additional Gulf War-era releases of chemical agents large enough to threaten exposure to U.S. troops are unlikely, although additional small chemical releases are possible.

Extensive previous modeling leads us to conclude that the other unmodeled CW releases and suspect releases were too small and distant to expose U.S. troops. Using previous modeling of potential release events throughout the entire air war, we can estimate—without formally modeling—a worst case of how far contamination from a given amount of chemical agent would extend. Comparing the modeled events to the unmodeled events indicates that unmodeled release sites are too remote for chemical contamination to have reached U.S. troops for the estimated release amounts.

Al Walid. UNSCOM examination of its inspection photographs at Al Walid Airbase indicates a few of the approximately 160 binary (alcohol-filled) bombs may have released nerve agent. Photographs show that several bombs were split open—most likely because of internal pressure—indicating that they may have been full and, by implication, contained nerve agent instead of just alcohol (a binary component of the agent). UNSCOM believed that a bomb only partially filled with alcohol would not burst because the additional empty volume would allow for heat expansion. We assess that defects in the welding or other factors could also have caused the rupture. These bombs probably were damaged as a result of Coalition bombing—consistent with Iraqi claims. Nevertheless, even if a release did occur, we assess it would have been too small to reach U.S. troops in Saudi Arabia.

Unilateral Destruction. As at Al Walid, we note that binary bombs at four other airfields may have been filled with chemical agents when Iraq unilaterally destroyed them. In addition, degradation products and a stabilizer of the nerve agent VX were found on some of the fragments of Iraqi warheads for the Al Husayn missile, indicating that a few were filled with VX nerve agent before Iraq destroyed them in the Al Nebal area. If releases occurred, the amounts probably were too low to reach U.S. troops.

Leaks. UNSCOM inspectors found leaking munitions at six different facilities; most leaks resulted from munition defects and harsh storage conditions and released small amounts of CW agent from sites far from deployed U.S. troops. The most significant CW leak involved release of mustard at the Al Tuz Airbase—the most northerly of the leakage sites. This probably resulted from Iraqi bulldozing of munitions during burial.

No Chemical Weapons Use

We continue to assess that Iraq did not use chemical weapons against Coalition forces during Desert Storm. In our review of intelligence reporting and analysis of Iraq's chemical agent stockpiles, we found no credible evidence of such use and we were unable to corroborate any of the reported allegations of CW use in the Desert Storm January–February 1991 ground war timeframe. As reported in 2004, investigations by the Iraq Survey Group (ISG)—after the March–May 2003 ground war against Iraqi military forces during Operation Iraqi Freedom—show that Iraq attempted to use CW nerve agent bombs against Shiites in southern Iraq following Desert Storm, which had been a concern in a Gulf War illnesses context because of the possibility of downwind exposure to nearby U.S. troops. ISG reported that the bombs failed to detonate. This was probably because they were not designed to be dropped from helicopters, which leads us to conclude that any release would have been very small and unlikely to affect troops. The ISG information confirmed our previous assessment that Iraq successfully used tear gas. According to DoD, none of the more than 100 Desert Storm frontline medical personnel interviewed saw or treated any individual they believed was a chemical agent casualty—even though large numbers of Iraqis sought medical help from Coalition units.

Coalition Reports of CW. On numerous occasions, Coalition troops reported potential detection of, or exposure to CW agents during military operations in the Persian Gulf. After reviewing DoD investigations, intelligence information, testimony or reports to Congress and Presidential Committees, and the press, we have not found any event we assess to be related to chemical agents or weapons. On the contrary, we assess these reports were a result of false alarms, conventional munitions, other chemicals such as missile propellants, and other factors. Of note, we assessed in 2002 that two Coalition incidents that we previously considered credible CW events—Czech CW detections in January 1991 and the blistering of a U.S. soldier at the Iraq-Kuwait border in early March 1991—are unlikely to have involved chemical agents.

- Our extensive investigations into possible release locations of chemical agent failed to identify a plausible source of release for any of the well-known Czech detections in Saudi Arabia and essentially rule out releases from aerial bombing of Iraqi facilities. In addition, new information indicates the Czech detections were not as foolproof as previously believed, leading us to assess that the detections more likely resulted from other causes associated with detection equipment design and operational constraints or defects. For example, Czech officials recently inferred that a nerve agent system contained degraded buffers. Buffers were added to avoid false detections from many common chemicals, and their deterioration might have triggered inaccurate results.
- We now assess that the U.S. soldier's blisters were not caused by mustard agent because intelligence and UNSCOM information indicate that mustard was not at this location. In addition, we assess that the Fox mobile detector information and initial medical evaluation were less compelling than later laboratory testing on garments and analyses of the Fox data, which indicate that mustard was not involved.

After conducting a multi-year study, the Khamisiyah Pit demolition of 10 March 1991 remains the one CW agent release where troops probably were exposed to low levels of nerve agent, although as already noted, DoD reported in 2001 that its modeling of the Muhammadiyat nerve agent release indicates the possibility of exposure of special operations forces behind enemy lines.

Conclusion

In conclusion, I want to reiterate the Intelligence Community's commitment to the men and women who served in the Persian Gulf, as well as those who serve our country around the world today. Intelligence support to help our soldiers and veterans is critical.

**Prepared Statement of R. Craig Postlewaite, DVM, MPH,
Deputy Director, Force Readiness and Health Assurance,
Force Health Protection and Readiness Programs,
Office of the Assistant Secretary of Defense (Health Affairs),
U.S. Department of Defense**

Mr. Chairman and distinguished Members of the Committee, thank you for the opportunity to discuss the Department of Defense (DoD) Force Health Protection Research program, with an emphasis on the research program related to illnesses in veterans of the 1990–91 Gulf War.

During the 1990–91 Gulf War, 697,000 U.S. servicemembers were deployed. There were 148 combat deaths and 224 deaths due to diseases or non-battle injuries. The mortality rate from diseases and non-battle injuries were the lowest for any major U.S. conflict up to that date. However, some veterans developed chronic symptoms of a non-specific nature, starting while they were deployed or after returning from the war. These symptoms included fatigue, memory and concentration problems, sleep difficulties, headaches, muscle and joint pain, digestive symptoms, and skin rashes.

DoD agrees that the symptoms in these veterans are real and they deserve our best care and treatment. DoD and the Department of Veterans Affairs (VA) established clinical evaluation programs to understand the nature of the symptoms in these veterans and to provide appropriate treatment. In 1992, VA began the Gulf War Registry Health Examination Program; and in 1994, DoD began the Comprehensive Clinical Evaluation Program. More than 170,000 of the 697,000 veterans of the 1990–1991 Gulf War were evaluated in these programs. Approximately 80 percent of the individuals received diagnoses that readily explained their symptoms.

About 24,000 or 20 percent had medically unexplained symptoms. In 2002, DoD and VA published a detailed analysis of the symptoms and medical diagnoses of slightly more than 100,339 veterans of the 1990–1991 Gulf War, who had participated in the Registries by 1999 in a comprehensive report entitled, “Combined Analysis of the VA and DoD Gulf War Clinical Evaluation Programs.” The report found that no single type of illness predominated.

In 2001, the Institute of Medicine (IOM) published a report on effective treatments for medically unexplained symptoms, entitled “Gulf War Veterans: Treating Symptoms and Syndromes.” The IOM report described treatments for several of the symptoms experienced by some Gulf War veterans, including chronic unexplained fatigue, chronic widespread pain (also called fibromyalgia) in muscles and connective tissue, persistent headaches, and chronic digestive symptoms. In 2002, DoD and VA developed and implemented a joint treatment guideline entitled “VA/DoD Clinical Practice Guideline for Medically Unexplained Symptoms of Chronic Pain and Fatigue.”

In 1994, Congress directed VA to implement a policy to provide a presumption of service connection for a list of 13 medically unexplained symptoms and to provide disability compensation to individuals with these symptoms. Later, VA added chronic fatigue syndrome, fibromyalgia, and irritable bowel syndrome to the list of presumed service connected conditions. In 2008, VA determined that amyotrophic lateral sclerosis (ALS) should receive a presumption of service connection.

Research on Illnesses in Veterans of the 1990–91 Gulf War

Since 1994, DoD, VA, and the Department of Health and Human Services have managed a coordinated Federal research effort to better understand the health concerns of Gulf War veterans. From 1992 to the end of 2007, 345 research projects were funded at a total cost of \$340 million. Of this amount, DoD provided \$219 million for 177 projects. The projects address five categories: Environmental Toxicology, Brain and Nervous System Function, Symptoms and General Health, Immune Function, and Reproductive Health. In 2002, DoD launched a research Web site called DeployMed ResearchLINK to inform servicemembers, researchers, health care providers, leaders, and others about the research projects supporting Gulf War veterans’ health. The Web site includes research projects and publications and information about each of the 345 research projects. Projects and publications related to the current conflicts in Iraq and Afghanistan were included a few years ago.

Among the 345 research projects, DoD and VA have funded several treatment studies at a cost of more than \$20 million. A controlled clinical trial was performed at 18 VA hospitals and at one DoD hospital, which used cognitive behavioral therapy and aerobic exercise to treat chronic symptoms of fatigue, musculoskeletal pain, and memory problems. Both treatments led to modest improvements in memory problems and other symptoms. A second controlled clinical trial was performed at 26 VA hospitals and two DoD hospitals, which used a 12-month course of an antibiotic, doxycycline, to treat the same three chronic symptoms. Doxycycline was not effective in eliminating or controlling symptoms. A number of smaller treatment studies for medically unexplained symptoms were completed, including research at several leading research centers across the United States.

The largest VA Gulf War veterans’ health study was the “National Health Survey of Gulf War Era Veterans and Their Families.” The first part of this study was a survey conducted from 1995 to 1998 of 11,441 veterans of that war and 9,476 non-deployed veterans that asked about 48 different symptoms. The second part of this study conducted in 1999 to 2001 included comprehensive medical and psychiatric examinations of 1,061 Gulf War veterans and 1,128 non-deployed veterans. In the survey portion, Gulf War veterans reported an increased frequency of each of the 48 symptoms compared to the non-deployed veterans; the non-deployed veterans reported the same types of symptoms but at a lower rate. None of the symptoms were unique to Gulf War veterans.

The medical examinations in the second part of the National Health Survey focused on twelve diseases. The rates of chronic fatigue syndrome and fibromyalgia were significantly higher in the Gulf War veterans compared to the non-deployed veterans. There were no significant differences in the rates of the other diseases. The overall conclusion of the authors was: “Ten years after the Gulf War, the physical health of deployed and non-deployed veterans is similar.” The psychiatric examinations in the second part of the National Health Survey used structured clinical interviews to diagnose depression, post-traumatic stress disorder (PTSD), alcohol dependence, and several other conditions. Overall, Gulf War veterans were diagnosed with a significantly higher rate of psychiatric conditions (18.1 percent), compared to the rate in the non-deployed veterans (8.9 percent). Gulf War veterans

were diagnosed with significantly higher rates of depression, PTSD, and panic disorder.

Following the 1990–1991 Gulf War, DoD identified research gaps related to the potential human health effects on a variety of topics, including low-level exposures to chemical warfare agents. The effects of high concentrations of chemical agents had been well understood for decades, but the long-term effects of low-level exposures that were too low to cause symptoms were not clear. The DoD research portfolio on illnesses among veterans of the 1990–1991 Gulf War included many research projects related to the effects of chemical warfare agents, particularly Sarin. In addition to the Gulf War-related projects, DoD has recently performed other research on chemical warfare agents. In 2003, DoD implemented a Low-Level Chemical Warfare Agent Master Plan that identified and prioritized major gaps in knowledge. DoD has completed several studies to fill the research gaps. The results of the studies have been used in a number of DoD guidance documents that impact first responder safety, cleanup decision making for chemical incidents of national significance, interior decontamination, and re-evaluation of the potential effects of exposure levels in operational environments. These guidance documents have had significant effects on national and homeland defense.

In 2006, the IOM published a comprehensive review of 850 studies, which included research on Gulf War veterans from the U.S., U.K., Canada, Denmark, and Australia, entitled “Gulf War and Health, Volume 4: Health Effects of Serving in the Gulf War.” The IOM concluded that there were no differences in overall mortality or hospitalization rates in Gulf War veterans, compared to non-deployed veterans. It concluded there were no differences in the overall rates of cancer between the two groups of veterans. Studies of two types of cancer, testicular cancer and brain cancer, showed inconsistent results. IOM also stated that veterans of the Gulf War might be at a two-fold increased risk of amyotrophic lateral sclerosis (ALS), compared to non-deployed veterans. Overall, there was not a higher prevalence of birth defects in the children of male or female veterans of that war. IOM concluded that the war veterans were at increased risk for post-traumatic stress disorders, anxiety disorders, depression, and substance abuse. The rates of these psychiatric disorders were consistently two to three times higher in Gulf War veterans, than the rates in non-deployed veterans.

Almost all of the previous studies have shown that these war veterans reported nearly twice the rate of all symptoms, compared to servicemembers who did not deploy. However, based on many research studies, the IOM concluded that there are no unique symptoms or a unique pattern of symptoms in the veterans of that war.

In 1998, Congress directed VA to contract with IOM to perform comprehensive reviews of the medical literature on 33 different exposures and force health protection measures. These included the pyridostigmine bromide (PB) nerve agent antidote tablets, immunizations, pesticides, chemical nerve agents, depleted uranium, infectious diseases, oil well fire smoke, anthrax vaccine, oil well fire smoke, fuels, and solvents. Since 1998, IOM has published a series of 10 related reports on these topics. IOM was unable to identify a cause and effect relationship between any of the 33 exposures and force health protection measures and illnesses in Gulf War veterans.

In 2006, IOM recommended that further epidemiological studies should not be performed, in general. IOM stated: “Our committee does not recommend that more such studies be undertaken for the Gulf War veterans, but there would be value in continuing to monitor the veterans for some endpoints.” IOM recommended follow-up studies that were targeted to a few specific health outcomes, namely: mortality, cancer (particularly brain cancer and testicular cancer), ALS, birth defects, other adverse pregnancy outcomes, and psychiatric conditions.

Nearly all servicemembers who were on active duty in 1991 have separated from the military; and VA is performing the medical surveillance studies that IOM recommended in 2006. DoD continues to be an active collaborator with VA on health research on deployed personnel. The DoD research portfolio on 1990–1991 Gulf War veterans’ illnesses was renamed “Force Health Protection Research” in 2002. This program continues to include medical issues of veterans of the 1990–1991 Gulf War, as well as health issues of servicemembers returning from current conflicts. In Fiscal Years 2006 to 2009, DoD funded \$23 million specifically for research on illnesses in 1990–1991 Gulf War veterans, including \$8 million in 2009. The recent focus of DoD-funded research related to veterans of that war has been on improvement of diagnostic methods and identification of effective treatments.

DoD Force Health Protection: Current Research and Medical Lessons Learned from the 1990–1991 Gulf War

The medical lessons learned from the 1990–1991 Gulf War led to the implementation of the Force Health Protection concept, policies, and programs. These policies and programs are designed to ensure that servicemembers are:

- Medically ready for duty when they join the military and throughout their military careers;
- Medically ready to perform their missions when deployed to combat operations;
- Protected against disease and illness to the maximum extent possible; and
- Educated and motivated to prevent or minimize the risk of injury and illness.

DoD force health protection research focuses on prevention of illnesses and injuries in deployed servicemembers. Many of these prevention studies are funded through the Army Medical Research and Materiel Command, which includes the Military Operational Medicine Research Program. Current research areas include prevention of endemic infectious diseases, nutritional sustainment in austere environments, prevention and treatment of traumatic brain injuries, physiological interventions to prevent musculoskeletal injuries, injury prevention in extreme environments, new methods of environmental monitoring, and biological markers of environmental exposures.

A major lesson learned following the 1990–1991 Gulf War was the need to systematically assess the health of servicemembers before and after deployments. Starting in 1998, DoD implemented pre- and post-deployment and periodic health assessments for every deploying servicemember.

The pre-deployment health assessment enables the medical provider to determine if any further medical evaluations are needed before making a recommendation on an individual's deployability. This assessment is performed within 60 days before the deployment date to check for any recent changes in health. The health care provider conducts the assessment in conjunction with a review of the individual's medical record. Referrals are made for medical evaluations, immunizations, dental care, and other care, as needed.

The post-deployment health assessment (PDHA) was enhanced in 2003 to collect a standardized set of information about medical symptoms and exposure concerns, and it is administered at the time of return from deployment. The post-deployment health reassessment (PDHRA) was begun in June 2005 to re-evaluate the health of servicemembers three to 6 months after their return from deployment. DoD initiated the PDHRA because military medical research showed that physical and mental health symptoms and concerns in servicemembers often appear after war veterans returned home and were reintegrating with their families and their work.

The Periodic Health Assessment, first required in 2006, is currently accomplished on all active and selected reserve servicemembers on an annual basis. It is a comprehensive evaluation that follows the recommendations of the U.S. Preventive Services Task Force's assessment for disease when indicated based upon age and other risk factors. It includes a medical record review, identification and treatment of any medical problems, and identification of health risks and plans to manage the risks.

The overall purpose of the PHA, PDHA, and PDHRA is to assess servicemembers' overall health, including deployment-related physical health, mental health, and exposure concerns. These assessments assist the health care provider in determining current health status, in identifying potential health problems and risks, and in providing brief education and risk communication. The PHA, PDHA, and PDHRA include a one-on-one interaction of each servicemember with a health care provider to review any concerns identified on the assessments and to make a determination of any need for referral for further evaluation and diagnostic work-up. The assessments are not medical diagnostic tools or research surveys. Instead, they are clinical tools used to identify the need for further medical evaluation. An important aspect of the assessment process is education of the servicemember about medical conditions, both physical and mental, and the symptoms or exposures that could indicate the need for further evaluation.

Occupational and environmental health surveillance is a key component of the preventive medicine activities that take place during deployments, including Operation Iraqi Freedom and Operation Enduring Freedom. DoD recognizes the need to monitor the deployed environment for potentially hazardous materials and to document and archive the results so that they can be used as an aid in the diagnosis and medical care of exposed personnel. Following the 1990–1991 Gulf War, it was quickly recognized that there was a lack of environmental monitoring data to document the types and concentrations of hazardous exposure agents to which Gulf War veterans were possibly exposed. Gulf War veterans expressed concerns about several

types of possible exposures, including pesticides, chemical nerve agents, depleted uranium, oil well fire smoke, and diesel fuel exhaust. In addition, there were very poor records kept of the locations of deployed servicemembers throughout the war, making it difficult to ascribe possible environmental exposures to specific groups of servicemembers.

After the 1990–1991 Gulf War, DoD implemented many directives, instructions, and policies to improve DoD's deployment health program to ensure servicemembers were adequately protected during and after deployment. Some of these measures include:

- Comprehensive pre-deployment health threats and countermeasures briefings;
- Completion of a pre-deployment health assessment, including providing a serum sample before deployment;
- Completion of all necessary immunizations and the dispensing of preventive medications including documentation in the medical records;
- Ensuring all required personal protective equipment is issued before deployment;
- Recordkeeping of the locations of deployed individuals on a daily basis;
- Documentation in the medical records of any hazardous exposures encountered during the deployment;
- Completion of a PDHA, including questions about health concerns and occupational and environmental health (OEH) exposures, and providing a serum sample within 30 days of returning home;
- Completion of a PDHRA 3 to 6 months after returning from deployment, including questions about health concerns and OEH concerns; and
- Referral to a health care provider, as appropriate, for further evaluation of health or exposure concerns reported on the PDHA or PDHRA.

Increased emphasis was also placed on improving deployment OEH surveillance. As a result, the Services, the Joint Staff, and the Combatant Commands have made great progress in better addressing the immediate and long-term health issues associated with deployment occupational and environmental exposures.

Well-trained and equipped Service medical personnel conduct ongoing, in-theater OEH surveillance, and closely monitor air, water, soil, food, and disease vectors for health threats. Three general types of OEH data are collected:

- “Baseline data,” which are collected on air, water, and soil samples at the time base camps are established;
- “Routine (or periodic) data,” such as follow-up air, soil, and water monitoring data that are used to detect any changes in concentrations of potential contaminants over time; and
- “Incident-related data,” which includes data acquired during investigations of chemical spills, industrial accidents, and food or waterborne illness outbreaks.

More than 11,000 air, water and soil samples have been taken and analyzed during the current conflicts in Iraq and Afghanistan. All OEH monitoring data are documented and archived in a systematic manner, so that they are retrievable:

- All environmental samples are identified with a date, time, and location that can now be linked with individual personnel who were at a particular location at a specified date and time, thus providing us with the ability to create exposure registries.
- Possible hazardous exposure incidents are thoroughly investigated, extensive environmental monitoring is accomplished, appropriate medical tests are ordered, and rosters of exposed personnel are assembled and archived.
- Area and date-specific environmental monitoring summaries are developed by the Services to document environmental conditions potentially affecting health and also to serve as means to inform health care providers and VA of those environmental conditions and possible health risks associated with the conditions.
- For complex exposures where the health implications may not be clear, we call on the Defense Health Board, a board that serves the Secretary of Defense with esteemed medical and scientific experts, to provide DoD with their recommendations.
- DoD routinely briefed VA on exposures of concern and provided VA members who have security clearances access to any exposure data that is classified.

Conclusion

Along with the military mission itself, the highest priority in DoD is the protection of the health of the men and women in uniform and the provision of the best possible care to those who become ill or injured. DoD has funded extensive research

related to illnesses in Gulf War veterans since 1992. These studies have clarified the nature of these illnesses and the possible risk factors; and have investigated improved diagnostic techniques and innovative treatments. In addition, these studies have provided critical new information that is needed to prevent or minimize illnesses and injuries of servicemembers who have deployed to the current conflicts in Iraq and Afghanistan.

Mr. Chairman, thank you for the opportunity to discuss the DoD research program related to Gulf War illnesses in our servicemembers and veterans.

**Prepared Statement of Lawrence Deyton, MSPH, M.D.,
Chief Public Health and Environmental Hazards Officer,
Veterans Health Administration, U.S. Department of Veterans Affairs**

Mr. Chairman and Members of the Subcommittee, thank you for providing the Department of Veterans Affairs (VA) this opportunity to discuss VA's work in research and response to Gulf War Veterans' Illnesses. I am accompanied today by Dr. Joel Kupersmith, Chief Research and Development Officer, Veterans Health Administration (VHA), and Dr. Mark Brown, Director, Environmental Agents Service, Office of Public Health and Environmental Hazards, VHA.

VA recognizes that veterans returning from combat often face unique medical conditions; indeed, providing health care for these conditions is part of our core mission. Research supported directly or indirectly by VA has identified a number of health problems for which deployed veterans face greater risks. In response to these findings, VA has adapted its health care system to provide support, treatment and counseling for affected veterans and their dependents. After providing some general background information about the nature of deployments in the Gulf War, my testimony will cover these two themes by first describing VA's research base and previous findings related to Gulf War veterans, as well as our clinical approaches to improve health care for veterans.

Background

The United States deployed nearly 700,000 military personnel to the Kuwaiti Theater of Operations (KTO) during Operations Desert Shield and Desert Storm (August 2, 1990, through July 31, 1991). Within months of their return, some Gulf War veterans reported various symptoms and illnesses they believed were related to their service. Veterans, their families, and VA subsequently became concerned about the possible adverse health effects from various environmental exposures during Operations Desert Shield and Desert Storm.

Of particular concern have been the symptoms and illnesses that, to date, have eluded specific diagnosis. To date, 111,000 Gulf War veterans have enrolled in VA's health registry, and approximately 59,000 have enrolled in the Department of Defense's (DoD's) registry. In addition, more than 335,000 have been seen at least once as patients by VA. Although the majority of veterans seeking VA health care had readily diagnosable health conditions, we remain very concerned about veterans whose symptoms could not be diagnosed. VA continues to compensate and treat these conditions, even without a clear diagnosis.

Research

VA's Office of Research and Development (ORD) recognized soon after veterans began returning from the 1991 Gulf War that while there were few visible casualties, many individuals returned from this conflict with unexplained medical symptoms and illnesses. ORD supports a research portfolio consisting of studies dedicated to understanding chronic multi-symptom illnesses, long-term health effects of potentially hazardous substances to which Gulf War veterans may have been exposed during deployment, and conditions or symptoms that may be occurring with higher prevalence in Gulf War veterans, such as Amyotrophic Lateral Sclerosis (ALS), Multiple Sclerosis and brain cancer. VA's research focus in this area considers three principal questions:

- First, what, if any, conditions do Gulf War veterans report at a disproportionate rate to the civilian population or to non-deployed veterans?
- Second, what are the causes of these conditions?
- Third, what is the best approach for treating these conditions?

These research agendas are supported and complemented by the work of a range of partners, both inside government and out. For example, the VA/DoD Health Executive Council oversees the Research Subcommittee of the Deployment Health Work Group, and the Department of Health and Human Services participates in both the

Deployment Health Work Group and its Research Subcommittee. This cooperation provides essential data on military and civilian populations and reflects some of the best research from across the country. Some exposures servicemembers face while deployed in combat are actually quite similar to domestic exposures, so inclusion of civilian studies provides an important perspective on what risks exist under different situations or at different levels of exposure. For example, pesticides are commonly used by citizens everyday, and these same pesticides are also often used in military theaters of combat. Moreover, data from DoD have proven essential to VA's epidemiological studies of the veteran cohort. Specifically, following the end of active hostilities in the Gulf War, DoD provided VA with data on approximately 690,000 returning veterans. This data establishes a broad research base that improves its validity and reliability concerning health risks for veterans. This research is not purely academic; policymakers use these findings to make health care decisions regarding resources, treatment and presumptive connections to military service.

Following the end of active combat in the Gulf War, VA quickly established a clinical registry to screen for health problems attributable to intense smoke from oil fires. The voluntary health registry examination also encouraged new combat veterans to take advantage of VA health care programs. VA has long maintained health registries on other at-risk populations, including veterans exposed to ionizing radiation and Vietnam veterans exposed to Agent Orange. Formally established by law in 1992, VA's Gulf War Veterans' Health Examination Registry is still available to all Gulf War veterans, including veterans of the current conflict in Iraq. It offers a comprehensive physical examination and collects data from participating veterans about their symptoms, diagnoses, and self-reported Gulf War hazardous exposures.

As of March 2009, this program evaluated over 110,000 Gulf War veterans, or about 1 in 7 veterans. The program has also seen nearly 7,000 veterans who served in the current conflict in Iraq, who as Gulf War veterans themselves are eligible for this program.

After 15 years, the principal finding from VA's systematic clinical registry examination of about 16 percent 1991 Gulf War veterans is that they are suffering from a wide variety of common and recognized illnesses. However, no new or unique syndrome has been identified. VA recognizes that registry data has significant limitations. Registry participants are self-selected and do not necessarily represent all veterans. Additionally, any findings from a Registry are limited to that population and do not demonstrate whether veterans are receiving any diagnoses at rates different than expected. High quality epidemiological research studies are the best approach for evaluating the health impacts of service in the 1991 Gulf War (or in any deployment). These studies are greatly facilitated by VA's electronic medical record, which summarizes every visit by a veteran and includes all medical diagnoses.

VA also works closely with the National Academy of Sciences' (NAS) Institute of Medicine (IOM) to evaluate potential associations between environmental hazards encountered during military deployment and specific health effects. Since 1991, IOM has completed nineteen independent reviews of Gulf War veterans' health issues. VA has pursued this relationship with IOM at its own discretion and upon recommendation by Congress for Vietnam and Gulf War veterans, as well as veterans of other eras such as today's conflicts in Iraq and Afghanistan. IOM's work has allowed VA to recognize approximately a dozen diseases as presumed to be connected to exposure to Agent Orange and other herbicides used during the Vietnam War, and to the dioxin impurity some contained. IOM's opinion is regularly sought to address a range of health care issues. Their independent stature and collection of internationally recognized scholars and researchers uniquely positions the IOM to provide expert, well-informed findings free of conflicts of interest. When VA works with IOM, we generally defer to their professional opinions concerning methodology to support this independence. Their reports consider all available research, including both human and animal studies, to guide their findings about whether there is a connection between exposure to a substance or hazard and the occurrence of an illness and whether there is a plausible biological mechanism or other evidence to support that connection. IOM bases their recommendations upon formal findings and scientific evidence, and each IOM report is reviewed internally and externally in an exacting and thorough process.

In 1998, in response to increasing health concerns among veterans of the 1991 Gulf War, Congress enacted Public Law 105-368 requiring VA and DoD to seek to contract with the National Academy of Sciences under which IOM would provide an independent analysis of the published peer-reviewed literature on possible long-term health effects from environmental and occupational hazards associated with the 1991 Gulf War. This process has generated nine comprehensive IOM Committee reports on a wide variety of Gulf War health issues including long-term health effects from vaccines, depleted uranium, nerve agent antidotes, chemical warfare agents,

pesticides, solvents, fuels, oil-well smoke, infectious diseases, deployment-related stress, traumatic brain injury, and Gulf War veteran epidemiological studies.

At the direction of Congress, VA, in 2002 chartered the VA Research Advisory Committee on Gulf War Veterans' Illnesses (RACGWVI) to advise the Secretary on the overall effectiveness of federally funded research to answer central questions on the nature, causes, and treatments of Gulf War-associated illnesses. The RACGWVI's charter stipulates that they are to provide information to the VA and not to independently release information. Despite their charter restrictions, the RACGWVI has published and released an independent report, including recommendations, in 2004 and again in 2008. The 2008 RACGWVI Report and recommendations from the RACGWVI were presented to the former Secretary in November 2008.

In November 2008, VA requested that the IOM explain discrepancies between findings contained in nine congressionally mandated IOM Committee reports on Gulf War health issues completed since 1998, and the October 2008 report released by the RACGWVI. On January 23, 2009, VA received a response from Dr. Harvey Fineberg, President of the IOM.

- In summary, these nine independent IOM committee reports have found that Gulf War veterans experience greater rates of symptom-based illnesses compared to their non-deployed peers, but no unique illness has been identified. Further, most of the environmental hazards reviewed have not been found to explain illnesses experienced by Gulf War veterans.
- In contrast, the October 2008 RACGWVI report concluded that a unique neurological illness has caused significant morbidity (25 percent) among Gulf War veterans, and that this is "causally" (the highest possible level of association) linked to nerve agent antidote Pyridostigmine Bromide and pesticides used in the 1991 Gulf War.

IOM's response made several key points:

- Both RACGWVI and IOM reports acknowledge that Gulf War veterans report greater rates of illnesses and a wide range of environmental exposures.
- Nine IOM committees, however, were not able to link any specific environmental cause for increased reported symptoms in this group.
- Each IOM committee specifies in its report the criteria establishing an association, and its strength. However, the IOM was not able to evaluate the criteria used by the RACGWVI from its report, which might underlie differences in its conclusions.
- Although the RACGWVI states that IOM committees have failed to use animal studies as part of its analyses, examination of actual IOM reports demonstrate they include thorough reviews of hundreds of animal studies.
- Speculation that the RACGWVI report reached different conclusions due to access to more recent scientific studies can not be ruled out. This possibility should be answered in the current IOM full literature review on Gulf War veterans' health, which will be completed in February 2010.

Since the IOM cannot completely explain differences in findings contained in the nine IOM Committee reports and the RACGWVI report, in a letter dated February 13, 2009, VA formally requested that the IOM, as part of the current congressionally mandated Gulf War veteran health review, extend a formal invitation to the RACGWVI to present its key findings and the background for those findings to the new IOM Committee. The IOM Committee on Gulf War and Health: Health Effects of Serving in the Gulf War, Update 2009 held a public meeting on Tuesday, April 14, 2009 at the Keck Center of The National Academies in Washington, DC. The invited speakers included three members of VA's Research Advisory Committee on Gulf War Veterans' Illnesses: Mr. James Binns, Chair; Dr. Lea Steele; and Dr. Roberta White, who discussed that Committee's approach and findings.

VA believes this will ensure that the basis for any differences between these reports can be efficiently and accurately communicated and considered by the latest IOM Committee. The IOM Committee's formal report is due February 2010.

VA has traditionally and by law relied upon the IOM for independent and credible reviews of the science behind these particular veterans' health issues, therefore, VA will consider the IOM review of the Advisory Committee's report before the Department officially responds to its conclusions.

VA prepares an Annual Report to Congress that describes federally sponsored research on Gulf War veterans' illnesses and has done so every year since 1997. In the 2007 Report, VA provided updated information on 19 research topics in 5 major research areas and a complete project listing by research focus area. The research areas include: brain and nervous system function, environmental toxicology, im-

mune function, reproductive health, and symptoms and general health status. The 2007 report noted that between fiscal year (FY) 1992 and FY 2007, VA, DoD, and HHS funded 345 distinct projects related to health problems affecting Gulf War veterans. Funding for this research on the health care needs of Gulf War veterans has totaled nearly \$350 million over this period of time. These projects varied from small pilot studies to large-scale epidemiological surveys. Nine projects were funded through the Gulf War Veterans' Illnesses Research Program and three were funded through the Peer Reviewed Medical Research Program. Both programs are managed by the Congressionally Directed Medical Research Program at DoD. VA funded two new projects in FY 2007, with one focused on Environmental Toxicology and the other on Symptoms and General Health.

Treatment and Care

Research is only the first step of the process; by turning information into action, VA directly improves the care of veterans. As noted before, veterans face both common and unique health care concerns when compared with the private sector, and VA physicians are prepared to deal with both. VA trains its providers to prepare to respond to the specific health care needs of all veterans, including Gulf War veterans with difficult-to-diagnose illnesses. For Gulf War veterans, VA developed a Clinical Practice Guideline on post-combat deployment health and another dealing with diagnosis of unexplained pain and fatigue. Also, VA has established three War Related Illness and Injury Study Centers to provide specialized health care for combat veterans from all deployments who experience difficult to diagnose or undiagnosed but disabling illnesses. Based on lessons learned from the Gulf War, VA anticipates concerns about unexplained illness after virtually all deployments, including Operation Enduring Freedom and Operation Iraqi Freedom (OEF/OIF), and we are building our understanding of such illnesses.

This approach now includes OEF/OIF veterans with mild to moderate traumatic brain injury (TBI). VA's third War Related Illness and Injury Study Center at the Palo Alto VA Health Care System utilizes the advantages of the Polytrauma Rehabilitation Center, interdisciplinary program on blast injuries, and other specialty areas. VA has found combat injuries among OEF/OIF veterans are more likely to involve some degree of TBI than veterans of previous combat eras, and many of the long-term chronic health effects of TBI appear similarly difficult to diagnose.

Following the Gulf War, VA developed the Veterans Health Initiative Independent Study Guides for health care providers as one of many options to provide tailored care and support of veterans. This Study Guide was principally designed for veterans of that era, but has proven highly relevant for treating OEF/OIF veterans since many of the hazardous deployment-related exposures have proven to be the same. VA developed other Independent Study Guides for returning veterans from Iraq and Afghanistan that cover topics such as gender and health care, infectious diseases of Southwest Asia, military sexual trauma, and health effects from chemical, biological and radiological weapons. Study Guides on post-traumatic stress disorder and TBI were also developed and made available for primary care physicians to increase understanding and awareness of these conditions. It is important to remember that the Veterans Health Initiative Study Guides are only one resource for providers. Dedicated staff members in VA medical centers are available to discuss any concerns veterans or providers may have regarding exposures they experienced while in a combat theater. VA distributes similar information through newsletters, brochures, conference calls and Study Centers to sensitize providers to the unique needs of combat veterans.

VA operates a range of programs that offer additional services and benefits to veterans and their dependents because of evidence that suggests a connection between military service and a health care deficit. For example, VA extends benefits to children of Vietnam veterans born with spina bifida as a presumed service connected condition. Spina bifida is a devastating birth defect resulting from the failure of the spine to close. Depending on the extent of spinal damage, problems resulting from spina bifida may include permanent paralysis, orthopedic deformities, cognitive disabilities, breathing problems or impaired basic bodily functions. Likewise, the Children of Women Vietnam Veterans program provides hospital care and medical services for children with specific birth defects related to their veteran parent's military service. A monetary allowance is payable under both programs based on the child's degree of permanent disability.

Conclusion

VA is an evolving organization that operates in a rapidly changing environment. Veterans from a broad background with unique needs come to us for care, and their military service sometimes exposes them to substances that may not be common in

the civilian community and that may have unknown health effects. We have established a wide variety of programs to address these health concerns. At the same time, VA continues to learn new lessons to provide better care to all veterans, past, present and future.

Thank you again for the opportunity to testify. My colleagues and I are prepared to answer any questions you may have.

**Statement of Adrian Atizado,
Assistant National Legislative Director, Disabled American Veterans**

Mr. Chairman and Members of the Subcommittee:

Thank you for inviting the Disabled American Veterans (DAV) to submit testimony for the record for this hearing by the Subcommittee on Oversight and Investigations. We appreciate the opportunity to offer our views on the state of Gulf War Illness (GWI) research on meeting the health needs of ill Gulf War veterans.

Studies have made clear that veterans who served in the Persian Gulf War suffer from GWI and at greater rates than their non-deployed counterparts. Thus, approximately 175,000 to 200,000 veterans who served, remain seriously ill. Since the Gulf War, Federal agencies have sponsored numerous research projects related to Gulf War illnesses. Since 1994 the Departments of Defense (DoD) and Veterans Affairs (VA) have spent \$440 million on Gulf War illness research; however, VA has broadened the scope of GWI research to include all other "deployment-related health research," which we believe dilutes the focus of VA's research into GWI.

The DAV is also concerned about the issues raised by the Research Advisory Committee on Gulf War Veterans' Illnesses (RACGWVI), which is directed to evaluate the effectiveness of government research on GWI. The RACGWVI questions the nature of some VA-funded research as to whether these research projects will directly benefit veterans suffering from Gulf War illnesses by answering questions most relevant to their illnesses and injuries. In addition, we are equally concerned as with the RACGWVI that the Institute of Medicines (IOM's) Gulf War and Health reviews were not conducted in accordance with the laws that mandated them.

In addition, subsections 1603(c)(B) of P.L.105-277 and 101 (c)(C) of P.L. 105-368 requires the agreement between VA and IOM to review the scientific evidence for associations between service in the Persian Gulf War and illnesses Gulf War veterans suffer from that are both diagnosed and undiagnosed. The Gulf War and Health series however, have not directly addressed those relevant undiagnosed health conditions that affect Gulf War veterans. Another example is that it appears the Gulf War and Health Committees are not using the same standards in evaluating the existence of an association for GWI to exposure as those previously established to evaluate diseases affecting Vietnam veterans in relation to Agent Orange. Notably, the variation places a higher burden when categorizing scientific evidence for Gulf War illnesses (Agent Orange Reports: <http://veterans.iom.edu/subpage.asp?id=6159>, Gulf War Illnesses Reports: <http://veterans.iom.edu/subpage.asp?id=6049>). For example, the RACGWVI points out the omission of animal studies in IOM Gulf War and Health reports. The DAV is concerned that diluting GWI research and the biased process for reviewing the evidence base, will not give proper attention and relief to those issues veterans suffering from GWI.

Despite these concerns, we believe that taken as a whole, the status of research on GWI provides a way forward to improving the lives of ill Gulf War veterans. The RACGWVI report outlines studies that consistently indicate GWI is not significantly associated with serving in combat or other psychological stressors, further citing that Gulf War veterans have lower rates of post-traumatic stress disorder than veterans of other wars. In fact, then-VA Secretary Principi pledged that VA Gulf War research funding would no longer be used for studies focused on stress as the central cause of Gulf War illness. The uses of pyridostigmine bromide (PB) pills and pesticides however, have been consistently identified as significant risk factors for GWI. In addition, limited research on other deployment related exposures currently exists and its association with Gulf War illness cannot therefore be ruled out.

Although more is known today about the nature and causes for GWI, important questions remain. The DAV directs the Subcommittee's attention to an important gap in our knowledge about GWI—the availability of effective evidence based treatment. The DAV believes more research is needed to advance the knowledge, and promote innovative and effective evidence-based care, to improve the health and quality of life of ill Gulf War veterans. Over 18 years after the war, studies indicate that few veterans with GWI have recovered or substantially improved over time, and only a small minority has substantially improved. To address this matter, VA

providers who are treating Gulf War veterans' illnesses, must have effective evidence-based treatment protocols supported by evidence-based research studies. The myriad symptoms experienced by Gulf War veterans makes it very difficult for physicians to diagnose and treat a specific illness. Correspondingly, Gulf War veterans who experience little to no relief from their unique health problems are frustrated at best.

Gulf War illness research is handled exclusively by VA and the DoD, and we thank Congress for their support in providing the resources for VA and DoD to conduct GWI research. However, very little money has been invested in treatment research. Through the Fiscal Year 2009 Gulf War Illness Research Program (GWIRP), DoD's Congressionally Directed Medical Research Programs (CDMRP) is soliciting applications for the Innovative Treatment Evaluation Award (ITEA). Notably, a similar effort is underway at a center of excellence for Gulf War research at the University of Texas Southwestern, sponsored by VA. We are hopeful these efforts will identify diagnostic tests and treatments for Gulf War illness.

In light of a decline since 2001 in the overall Federal funding for Gulf War illness research, and that important questions surrounding GWI remain, the DAV urges Congress, VA, and the DoD, to renew their commitment by conducting strict oversight such as this hearing, and providing adequate funding of Federal research programs related to the health of Gulf War veterans.

Mr. Chairman, again, DAV appreciates the Subcommittee's interest in these issues and we appreciate the opportunity to present the DAV's views.

**Statement of Roberta F. White, Ph.D., Scientific Director,
Research Advisory Committee on Gulf War Illnesses, Professor and Chair,
Department of Environmental Health, and Associate Dean for Research,
Boston University School of Public Health, Boston, MA**

Thank you for the opportunity to provide a brief overview of research on Gulf War veterans' health problems.

I will be focusing this morning on 18 years of effort on this issue conducted in Boston at the Boston University School of Public Health and the VA Boston Health care System Medical Center.

Research on Gulf War veterans' health began in Boston through the Center for Post Traumatic Stress Disorder (PTSD) at VA Boston Medical Center in 1991. Through the foresight of a chaplain, it was decided to interview and survey about 3000 Army veterans upon their return from deployment to the Gulf War theatre at the Ft. Devens military base. The methods conducted focused on symptoms of PTSD and a 20-item health symptom checklist was included in the data collected. These baseline health data collected on the Devens cohort have been used repeatedly in subsequent research on Gulf War veterans' illnesses, including longitudinal assessment of the health complaints of this cohort.

In 1993 VA Central Office contacted researchers in the PTSD Center about the fact that Gulf War veterans were complaining in large numbers of health symptoms that did not fit typically diagnosed medical disorders. The VA officials wondered whether this might be due to PTSD or some other factor. Dr. Jessica Wolf and I were given clinical funding to try to help figure out what was going on. Dr. Wolf's expertise is in PTSD, while mine is in the effects of chemical exposures on brain function and structure. We were well aware that chemical exposures of several types occurred in the Gulf War theatre.

We used the health symptom data collected in 1991 from the Devens cohort as a baseline to select sub-groups of veterans with high and low numbers of symptom complaints. Known as the Time 3 Devens cohort, these veterans underwent in-depth examinations, including health symptom checklists, exposure assessment questionnaires, neurological examinations, cognitive testing, PTSD questionnaires, and interviews allowing psychiatric diagnosis if one existed. At this stage of our research, we knew quickly that PTSD was an unlikely explanation for the health symptoms of Gulf War veterans: it occurred in much fewer numbers of veterans from this conflict than previous conflicts and the rates of PTSD were also lower than the rates of high health symptom complaints.

After we began this research, the VA established three Environmental Hazards Research Centers focused on the health problems of Gulf War veterans. The funded centers were selected following peer review of proposed research protocols. The Boston center, of which I was Research Director, was a collaborative effort of the Boston VA Medical Center and the Department of Environmental Health at Boston University School of Public Health.

Building on the research begun by Dr. Wolf and myself, in-depth examinations of Devens cohort members were conducted, with additional laboratory tests and systematic efforts to quantify theatre exposures from air modeling and troop location data. Our work was focused on exposure-outcome relationships as predictors of Gulf War illness symptomatology.

Using self-report data on chemical exposures in the Gulf, these examinations found systematic relationships between self-reported exposures to pesticides and to nerve gas agents and health complaints in specific body systems. Performance on objective tests that assess cognitive and behavioral function was also related to these self-reported exposures: exposed veterans performed more poorly than unexposed veterans. Rates of PTSD and psychiatric disorder were low, and diagnosis of these disorders did not explain the health symptom or neuropsychological test outcomes. In addition, rates of symptom-based disorders like chronic fatigue syndrome and multiple chemical sensitivity were low in this cohort.

From 1997–2001, the Centers for Disease Control funded research efforts to collect brain imaging data on some of the Time 3 Devens cohort members. Using DoD-generated data on the likely release of Sarin/cyclosarin gas following detonation of the Khamisyah supply depot, we examined the relationship between brain imaging findings and estimated nerve gas agent exposure. Differences in the volumes of white matter in the brain were identified based on severity of exposure: higher exposure veterans had smaller white matter volumes than those with lower exposure to Sarin/cyclosarin. Similarly, objective neurobehavioral test data collected during the Time 3 Devens examinations were evaluated in a larger sample of veterans, with the finding that higher exposures were associated with poorer test performance on specific tasks assessing visual-motor and motor functions.

A structural MRI study was funded through the VA Merit Review program. Analyses of these results have not yet been published, although they have been presented to the Research Advisory Committee. This research showed smaller white matter volumes in the brains of high-symptom Gulf War veterans than low-symptom veterans.

Projects with funding from the Department of Defense conducted in 1996–2003 compared the health of treatment-seeking deployed Gulf War veterans to that of treatment-seeking Gulf War-era veterans who were not deployed to the Gulf. This research indicated that both pyridostigmine bromide and pesticide exposures are associated with illness in deployed veterans. The research also indicated that the health complaints of ill Gulf War veterans remained fairly stable over time, as did their cognitive test performance.

This study was followed by another Department of Defense funded investigation in which pesticide applicators from the Gulf War were examined in-depth using health symptom checklists, PTSD measures, psychiatric diagnosis interviews, exposure interviews, and objective cognitive tests. An advantage of this study was that quantified evaluation of pyridostigmine bromide and pesticide exposures was possible for the subjects evaluated. Results indicated that pyridostigmine bromide and pesticide exposures, especially in combination, were related to cognitive test performance: higher exposure was associated with poorer performance on a number of neurobehavioral tests. Currently, an investigation is underway in which a subgroup of the pesticide applicators will undergo brain imaging.

Mechanistic and etiologic explanations for the health symptoms of Gulf War veterans have emerged and continue to emerge. An extensive review of the existing literature published by the Research Advisory Committee on Gulf War Illnesses in November, 2008, and reviewed today by Dr. Lea Steele reaches conclusions that are very similar to those produced by Boston researchers. Clear convergence is apparent regarding the importance of pesticide, pyridostigmine bromide and possibly nerve gas agent exposure as etiologically linked to ill health in Gulf War veterans. In addition, the central nervous system appears to play a role in expression of symptoms related to Gulf War illness. Finally, it is clear that this illness is not psychiatric in origin.

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POST-HEARING QUESTIONS FOR THE RECORD

Committee on Veterans' Affairs
 Subcommittee on Oversight and Investigations
 Washington, DC.
 May 27, 2009

Paul Sullivan
 Executive Director
 Veterans for Common Sense
 5434 Burnet Road, Suite B
 Austin, TX 78756

Dear Paul:

Thank you for your testimony at the U.S. House of Representatives Committee on Veterans' Affairs Subcommittee on Oversight and Investigations hearing that took place on May 19, 2009 on "Gulf War Illness Research: Is Enough Being Done?"

Please provide answers to the following questions by Monday, July 6, 2009, to Todd Chambers, Legislative Assistant to the Subcommittee on Oversight and Investigations, by fax on 202-225-2034.

1. In your testimony, you stated that 210,000 Gulf War veterans have struggled with Gulf War Illness. From what source did you obtain this information?
2. How many veterans, including you, have sought medical treatment at a War Related Illness and Injury Center?
3. In your statement, you indicated that "Congress can, and must, begin the difficult process of restoring the stained reputation of DoD and VA by admitting the Gulf War caused hundreds of thousands of friendly fire casualties and was, therefore, very expensive." Where did you obtain this statistic?

Thank you again for taking the time to answer these questions. The Committee looks forward to receiving your answers. If you have any questions concerning these questions, please contact Subcommittee on Oversight and Investigations Majority Staff Director, Martin Herbert, at (202) 225-3569 or the Subcommittee Minority Staff Director, Arthur Wu, at (202) 225-3527.

Sincerely,

Harry E. Mitchell
 Chairman

David P. Roe
 Ranking Republican Member

MH/tc

**Post-Hearing Questions From
 Hon Harry E. Mitchell and Hon. David P. Roe
 Hearing on Gulf War Illness Research: Is Enough Being Done?
 Held on May 19, 3009**

Question 1: In your testimony, you stated that 210,000 Gulf War veterans have struggled with Gulf War Illness. From what source did you obtain this information?

Answer from Veterans for Common Sense (VCS): Our source for saying "as many as 210,000" Gulf War veterans face "serious health challenges" was the November 2008 report, "Gulf War Illness and the Health of Gulf War Veterans," prepared by the Research Advisory Committee on Gulf War Veterans' Illnesses (RAC). The RAC was chartered by Congress in 1998 under Public Law 105-368. On page 4 of the highly credible and independent RAC report, the authors wrote:

Gulf War illness prevalence estimates vary with the specific case definition used. Studies consistently indicate, however, that an excess of 25 to 32 percent of veterans who served in the 1990-1991 Gulf War are affected by a complex of multiple symptoms, variously defined, over and above rates in contemporary military personnel who did not deploy to the Gulf War. That means between 175,000 and 210,000 of the nearly 700,000 U.S. veterans who served in the 1990-1991 Gulf War suffer from this persistent pattern of symptoms as a result of their wartime service.

In addition to the very detailed RAC report, there are two similar findings estimating there are hundreds of thousands of Gulf War veterans who remain ill.

An April 2009 peer-reviewed, published study reached a similar conclusion (Han Kang, Department of Veterans Affairs, “Health of U.S. Veterans 1991 Gulf War: A Follow-Up Survey in 10 Years”). On page 8 of the VA study, Dr. Kang wrote:

Table 3 shows that about 25 percent more [deployed] Gulf War veterans reported suffering from MSI [Multi-Symptom Illness] compared with their Gulf Era [non-deployed] peers (36.5 percent vs 11.7 percent).

Therefore, based on the approximate population of 700,000 deployed Gulf War veterans, the Kang/VA estimate falls between 175,000 (25%) and 255,000 (36.5%) veterans suffering from multi-symptom illness.

There is also a third credible VA report. The quarterly VA statistical report, “Gulf War Veterans Information System” (GWVIS), shows 297,125 Gulf War “Conflict” veterans were treated as outpatients at VA medical facilities, and 38,433 were treated as inpatients at VA medical facilities as of October 2004 (GWVIS, May 2006). Please note the unique population of veterans ever treated by VA is unknown because VA did not sort the counts of inpatients and outpatients for unique veterans—something VCS recommends. The term “Conflict” veteran is defined by VA as a veteran who deployed to Southwest Asia between August 1990 and July 1991.

Here are two caveats. First, the counts of ill Gulf War veterans described above exclude those who did not seek care at VA, such as those who sought care through the private sector, state and local medical facilities, or at a college or university. And, second, the ill veterans may suffer from pre-existing conditions exacerbated by military service, have conditions that developed after service, or have conditions related to a subsequent war deployment.

VA ceased reporting health care use in GWVIS reports more than 3 years ago, and VA appears to have ceased publishing GWVIS altogether in 2008. VCS believes VA should report the health care use among Gulf War veterans in the quarterly GWVIS reports, and VA should resume publishing and distributing GWVIS reports on a quarterly basis.

Question 2: How many veterans, including you, have sought medical treatment at a War Related Illness and Injury Center?

Answer from VCS: We do not know how many Gulf War veterans have sought medical treatment at a War Related Illness and Injury Center (WRIIC).

Question 3: In your statement, you indicated that “Congress can, and must, begin the process of restoring the stained reputation of DoD and VA by admitting the Gulf War caused hundreds of thousands of friendly fire casualties and was, therefore, very expensive.” Where did you obtain this statistic?

Answer from VCS: The statistic, “hundreds of thousands of friendly fire casualties” among Gulf War veterans was obtained from the Department of Defense (DoD). The statistic, “very expensive,” describing the estimated financial cost for health care and disability benefits among Gulf War veterans, was obtained from VA reports.

The term “friendly fire” is a lay expression for attempted or completed fratricide, the harming or killing of an ally. During the Gulf War, hundreds of thousands of U.S. servicemembers were exposed to toxins, experimental drugs, and other serious and harmful environmental hazards. Here are specific examples of large-scale friendly fire exposures during the Gulf War:

- The DoD public affairs office issued a press release quoting retired Army Lieutenant General Dale Vesser (“Get Evaluated, Says Gulf War Illness Chief,” Gerry J. Gilmore, American Forces Press Service, February 23, 2001). The former deputy in charge of investigating Gulf War illness said, in reference to the 250,000 Gulf War veterans ordered to take the experimental nerve-agent pre-treatment drug pyridostigmine bromide, “**it never dawned on us . . . that we might have done it to ourselves,**” a very clear admission by our military that there was widespread friendly fire during the Gulf War. <http://www.defenselink.mil/news/newsarticle.aspx?id=45689>
- The same 2001 DoD press release confirmed that 140,000 Gulf War veterans were notified of potential low-level chemical warfare agent exposure during deployment as a result of U.S. demolitions at Khamisiyah, Iraq on March 10, 1991. Similarly, VA’s GWVIS reports indicate more than 145,000 Gulf War veterans were notified of potential low level chemical warfare agent exposure when they were at or near Khamisiyah.
- The same 2001 DoD press release confirmed that 40,000 U.S. troops were over-exposed to pesticides—chemicals distributed by or sprayed on U.S. forces by other U.S. personnel.

- Hundreds of thousands of U.S. forces were exposed to massive amounts of pollution from oil fires. Starting in January 1991, the retreating Iraqi Army destroyed as many as 700 oil well heads, according to DoD (“U.S. Plans to Preserve Iraq’s Oil for Iraqi People,” March 6, 2003): <http://www.defenselink.mil/releases/release.aspx?releaseid=3646>. Some oil well heads were bombed by attacking U.S. forces, according to the *New York Times* (“War in the Gulf: Oilfields; Extent of Kuwaiti Oil Damage Unclear,” Matthew Wald, February 23, 1991): <http://www.nytimes.com/1991/02/23/world/war-in-the-gulf-oilfields-extent-of-kuwaiti-oil-damage-unclear.html>. The *Times* quoted Ken Miller, the editorial director of *OPEC Listener*, an oil analysis service, “We bombed the terminal to start with, they damaged it, and we bombed it again.”
- Hundreds of thousands of U.S. servicemembers entered areas of Iraq, Kuwait, and Saudi Arabia contaminated with expended radioactive and toxic depleted uranium rounds and dust (“Case Narrative: Depleted Uranium (DU) Exposures,” Dan Fahey, March 2, 1998, revised September 20, 1998). The “Case Narrative” relied upon a map, “Primary Areas of DU Expenditure,” prepared by the Office of the Special Assistant for Gulf War Illnesses at DoD.
- According to the November 2008 RAC report, “About 150,000 Gulf War veterans are believed to have received one or two anthrax shots” (“Gulf War Illness and the Health of Gulf War Veterans,” p. 8).

Veterans for Common Sense called the Gulf War “expensive” based on our review of the health care and disability benefits costs listed in VA reports.

The estimated costs paid by VA for health care and disability benefits for Gulf War veterans may be as high as \$4.3 billion per year. Here is an estimated accounting of VA’s financial liability associated with the Gulf War.

- According to page 6 of VA’s FY 2008 Annual Benefits Report, VA pays an average of \$10,254 per year per service-connected veteran. http://www.vba.va.gov/REPORTS/abr/2008_abr.pdf.
- According to the page 7 of VA’s September 2008 GWVIS report, VA paid service-connected disability compensation to 191,971 Gulf War “Conflict” veterans http://www.vba.va.gov/REPORTS/gwvis/2008/Aug_2008.pdf.
- Therefore, VA pays approximately \$2 billion per year in disability payments to Gulf War veterans (\$10,254 times 191,971 veterans equals \$1,968,470,634).
- According to page 1 of VA’s FY 2010 budget summary, VA will spend approximately \$7,770 per patient for medical care for all veterans (\$47.4 billion for 6.1 million patients). http://www.va.gov/budget/summary/2010/Fast_Facts_VA_Budget_Highlights.pdf.
- According to page 11 of VA’s May 2006 GWVIS report, VA treated *at least* 297,195 Gulf War “Conflict” patients. http://www.vba.va.gov/REPORTS/gwvis/historical/2006/May_2006.pdf.

Therefore, VA pays approximately \$2.3 billion per year in health care costs for Gulf War veterans (\$7,770 times 297,195 veterans equals \$2,309,205,150).

Most of the Gulf War veterans are expected to receive VA health care and disability benefits for decades—for the remainder of their lives. This estimate excludes health care and disability costs paid directly by veterans, or costs paid by the DoD, the Social Security Administration, family members, private insurance companies, state governments, or local governments.

Please note the caveat that some Gulf War veterans may have had pre-existing conditions exacerbated by military service, some veterans may have developed medical conditions unrelated to their deployment to the war zone in 1990–1991, and some veterans may have developed conditions due to another war deployment after 1991. Unfortunately, due to VA’s inadequate data collection systems, a more accurate answer about VA’s expenditures on behalf of Gulf War veterans remains unavailable.

VCS recommends that VA and Congress determine the estimated current and future costs of the Gulf War with greater accuracy and transparency.

DATE: June 24, 2009

Committee on Veterans' Affairs
 Subcommittee on Oversight and Investigations
 Washington, DC.
 May 27, 2009

Richard F. Weidman
 Executive Director for Policy and Government Affairs
 Vietnam Veterans of America
 8605 Cameron Street
 Silver Spring, MD 20910

Dear Richard:

Thank you for your testimony at the U.S. House of Representatives Committee on Veterans' Affairs Subcommittee on Oversight and Investigations hearing that took place on May 19, 2009 on "Gulf War Illness Research: Is Enough Being Done?"

Please provide answers to the following questions by Monday, July 6, 2009, to Todd Chambers, Legislative Assistant to the Subcommittee on Oversight and Investigations, by fax on 202-225-2034.

1. During the hearing, Mr. Weidman stated that VA does not have a real Gulf 1 registry. What does VVA believe should be included in a more complete registry and has VVA informed the Department of Veterans Affairs of its specific recommendation?
2. VVA recommends that VA quickly modify its electronic medical record, CPRS to include military history, such as branch of service, assignments, military occupational specialties, and notes of what happened to the individual. DoD has been working for decades to get all the services to agree to a common standard. Would VVA concur with this fact? How long did it take DoD to provide VA with an electronic DD-214, the discharge form?
3. VVA's testimony also indicated that VA has breached patient confidentiality in veteran test subjects. Please expand more specifically upon this subject.
4. VVA's testimony indicates that VA has attempted to violate the principles of the Institutional Review Boards, more commonly called IRBs. Please provide specific information on what attempts have been made to violate IRB guidelines.

Thank you again for taking the time to answer these questions. The Committee looks forward to receiving your answers. If you have any questions concerning these questions, please contact Subcommittee on Oversight and Investigations Majority Staff Director, Martin Herbert, at (202) 225-3569 or the Subcommittee Minority Staff Director, Arthur Wu, at (202) 225-3527.

Sincerely,

Harry E. Mitchell
 Chairman

David P. Roe
 Ranking Republican Member

MH/tc

Vietnam Veterans of America
 Silver Spring, MD
 August 7, 2009

The Honorable Harry Mitchell
 Chairman
 Subcommittee on Oversight and Investigations
 House Veterans' Affairs Committee
 335 Cannon House Office Building
 Washington, D.C. 20515

Dear Chairman Mitchell and Ranking Member Roe:

Please accept my apologies for the lateness of this response to your letter of May 27th requesting my response to questions from the May 19th hearing on "Gulf War Research: Is Enough Being Done?"

1. No, the VA does not have a real Gulf 1 Registry. What the VA has is essentially no more than a mailing list, and a discontinued one at that. It is our understanding that the collecting of health care data was stopped in 2004, and all reporting was ended in 2006. The only peer-reviewed, published research by the VA on the entire population of Gulf War veterans—the intended use of

the Registry—was published by Dr. Han Kang, who has since retired, this year; we do not know whether or not he gleaned information from the Registry for this research.

Has VVA informed the VA of our specific recommendations for the Registry? Yes—repeatedly. We believe that a real Registry can help track the health and health problems of individuals in specific units and who served in specific areas and at specific times, and that such a Registry would include the who-what-where-when of a troop's service in the Gulf; what health conditions and maladies s/he is afflicted with, which would (or should) give VA and DoD officials and health professionals invaluable information that might help track specific anomalies that can be attributed to possible environmental exposures.

2. To “say” that it is a “fact” that DoD has been “working for decades” to come up with “a common standard” for an electronic health/medical record is little more than rhetoric, piecrust promises: promises easily made and just as easily broken. No milestones have ever been set much less met, insofar as we can see. Congressman Buyer has said, loudly and often, that the 20-year delay in a true “seamless transition” for electronic health/medical records from DoD to the VA is mostly the fault of bureaucrats and leadership at DoD.

Part of the problem has been nonfeasance, almost to the point of deliberate malfeasance. Why? Because there has been little or no accountability, and because DoD just didn't think this was important enough. It is our hope that now, finally, this is changing because President Obama has said that this is a major, national goal.

3. Concerning the breach of patient confidentiality on the part of the VA, just think back to three summers ago, and the case of the stolen laptop, which contained personal identifiers of some seventeen million veterans. We would call that incident a “breach of patient confidentiality.” While we hope the VA has instituted proper protections, there have been several instances since in which computers with personal patient information have gone missing.
4. Finally, concerning violations of the Institutional Review Boards, or IRB's, top officials at the Veterans Health Administration during the Administration of President Bush tried to get the names of individuals who participated in the National Vietnam Veterans Readjustment Study done in the mid-1980s. They also attempted to get names and contact information of subjects participating in the “deep brain” studies of Gulf War veterans conducted at the University of Texas Southwest by Dr. Haley. Why did they do this? Ostensibly to ensure that each participant received the \$30 that was promised for having participated in the study. In both instances, this violated the specific ground rules established by the respective IRBs for the subjects of the studies. If you tamper with the sample, you taint the study.

I hope these answers further illuminate my testimony during the May 19th hearing, and I want to thank you again for having held that very important hearing.

Sincerely,

Richard F. Weidman
Executive Director for Policy and government Affairs

Committee on Veterans' Affairs
Subcommittee on Oversight and Investigations
Washington, DC.
May 27, 2009

Lea Steele, Ph.D.
13520 Kiowa Road
Valley Falls, KS 66088

Dear Lea:

Thank you for your testimony at the U.S. House of Representatives Committee on Veterans' Affairs Subcommittee on Oversight and Investigations hearing that took place on May 19, 2009 on “Gulf War Illness Research: Is Enough Being Done?”

Please provide answers to the following questions by Monday, July 6, 2009, to Todd Chambers, Legislative Assistant to the Subcommittee on Oversight and Investigations, by fax on 202-225-2034.

1. In your testimony, you indicated that veterans located downwind of the Khamisiyah, Iraq chemical nerve agent releases have died from brain cancer

- at twice the rate of other veterans in theater. Please provide the exact number of deaths associated with brain cancer for both groups of veterans.
2. You also stated in your testimony that, "No similar widespread, unexplained symptomatic illness has been identified in studies of veterans who have served in war zones since the Gulf War, including Middle East deployments." Have any comparison studies or research been conducted for the use of chemical weapons in Northern Iraq or other conflicts prior to the Gulf War? If so, please provide a list of these studies.
 3. Have any studies been performed on people here in the United States who use DEET and products containing DEET in the long-term? Is the issue of the symptoms being experienced by veterans more one of the combination of DEET along with the use of the PB pills, and is this issue being explored by the scientific community?

Thank you again for taking the time to answer these questions. The Committee looks forward to receiving your answers. If you have any questions concerning these questions, please contact Subcommittee on Oversight and Investigations Majority Staff Director, Martin Herbert, at (202) 225-3569 or the Subcommittee Minority Staff Director, Arthur Wu, at (202) 225-3527.

Sincerely,

Harry E. Mitchell
Chairman

David P. Roe
Ranking Republican Member

MH/tc

MEMO

FROM: Lea Steele, Ph.D.
Kansas State University

TO: Chairman and Ranking Member,
Subcommittee on Oversight and Investigations,
U.S. House of Representatives, Committee on Veterans' Affairs

DATE: July 3, 2009

RE: Responses to questions posed in relation to testimony for the Subcommittee's May 19, 2009, hearing on Gulf War Illness

Thank you for your interest in our work related to the health of veterans of the 1990-1991 Gulf War. My responses to questions posed in your letter dated May 27, 2009, follow. If you need additional information, please feel free to contact me by email at: Lea.Steele@hughes.net, or by telephone at: 785-945-4136.

Question 1: In your testimony, you indicated that veterans located downwind of the Khamisiyah, Iraq chemical nerve agent releases have died from brain cancer at twice the rate of other veterans in theater. Please provide the exact number of deaths associated with brain cancer for both groups of veterans.

Answer 1: Information on brain cancer deaths associated with the Khamisiyah plume comes from a 2005 study by the Department of Veterans Affairs.¹ Death records from 1991 through 2000 indicated that 25 of the 100,487 U.S. Army veterans estimated to be downwind from the demolitions had died from brain cancer, compared to 27 of the 224,980 Army veterans in other areas of theater. This represented a rate twice as high in those downwind from the Khamisiyah demolitions, compared to those located in other areas. There was also a dose-response effect, that is, troops located in the Khamisiyah hazard area for 2 or more days had a 3-fold increased rate of brain cancer death.

Dr. Han Kang recently reported that death records examined through 2004 continued to show an excess rate of brain cancer deaths in relation to the Khamisiyah demolitions, in a dose-response pattern.² No specific information on the total number of brain cancer deaths through 2004 was provided, but should be available from Dr. Kang at the Department of Veterans Affairs.

Question 2: You also stated in your testimony that "No similar widespread, unexplained symptomatic illness has been identified in studies of veterans who have served in war zones since the Gulf War, including Middle East deployments." Have any comparison studies or research been conducted for the use of chemical weapons

in Northern Iraq, or other conflicts prior to the Gulf War? If so, please provide a list of these studies.

Answer 2: There have been reports from physicians describing serious health problems including cancers, respiratory conditions, and birth defects, among Kurdish civilians in the Northern Iraqi town of Halabja, which was bombarded by Iraqi forces in 1988 with multiple chemical weapons over a period of several days. No formal studies have been conducted in Halabja, but media reports indicate the attacks resulted in thousands of deaths and countless additional casualties.

There are no research studies specifically evaluating Gulf War illness-type symptomatic/undiagnosed illness in civilian or military populations exposed to chemical nerve agents in Northern Iraq, or military conflicts prior to the Gulf War. But numerous studies have evaluated long-term health outcomes in survivors of two terrorist nerve agent attacks in Japan during the 1990s. These studies have identified a range of chronic symptoms, brain changes on MRI, and neurocognitive decrements that parallel those reported in Gulf War veterans. A partial list of these studies is appended. There are also earlier reports from physicians who evaluated workers exposed to nerve agents in the manufacture of chemical weapons during World War II in Germany, and in the U.S. during the 1950s and 1960s. These reports describe symptoms in these workers (chronic headache, cognitive impairment, gastrointestinal problems, fatigue) that continued for many years after the workers' exposures and parallel those affecting Gulf War veterans.^{3,4}

Although studies have not specifically evaluated *undiagnosed* symptomatic illness in relation to chemical agent exposures in other military populations, there is limited information on *diagnosed* diseases in military populations many years after exposure to mustard gas and other blister agents. Diagnosed respiratory disorders and persistent abnormalities affecting the eyes and skin have been reported in Iranian soldiers exposed to blister agents in the Iran-Iraq War during the 1980s.⁵ Studies have also identified increased rates of respiratory diseases among soldiers exposed to blister agents in World War I and munitions workers exposed during World War II.⁶

Question 3: Have any studies been performed on people here in the United States who use DEET and products containing DEET in the long-term? Is the issue of the symptoms being experienced by veterans more one of the combination of DEET along with the use of the PB pills, and is this the issue being explored by the scientific community?

Answer 3: "Pesticides" as a general class represent one of only two types of Gulf War exposures consistently found to have put Gulf War veterans at increased risk for Gulf War illness. The Department of Defense identified 15 different "Pesticides of Potential Concern" related to service in the 1991 Gulf War, which included DEET, permethrin, chlorpyrifos, and other organophosphate and carbamate compounds.⁷

In recent years, multiple studies have identified long-term human health effects associated with repeat exposure to pesticides and insect repellants such as DEET, permethrin, and organophosphates, at lower exposure levels not linked to immediate symptoms or poisoning.^{8,9} Individuals in these studies were most often exposed to pesticides in relation to their occupation (e.g. farmers, pesticide applicators) or where they live (e.g. areas where agricultural pesticides are regularly sprayed). Excess rates of symptoms such as persistent headache, cognitive difficulties, and respiratory and gastrointestinal problems have been reported in groups with repeat, low-level exposure to pesticides, compared to unexposed groups. There are also multiple studies linking long-term pesticide exposure to increased rates of neurodegenerative diseases, most consistently Parkinson's Disease.¹⁰

Much more is known about individual effects of pesticides and the anti-nerve gas PB pills than about effects of PB and pesticides in combination. Research in animal models, as well as limited information from studies of Gulf War veterans, suggest that the effects of being exposed to both PB and pesticides together may exceed effects of these compounds individually. Relatively little research has characterized the long-term effects of exposure to combinations of neurotoxic chemicals such as PB and pesticides. So, although biologically plausible, the extent to which effects of PB and pesticides, in combination, actually contributed to Gulf War illness has not been well established. Unfortunately, only a limited number of studies are currently underway to more fully evaluate this possibility.

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Appendix

Persistent Health Problems in Survivors of Sarin Exposure in Two Japanese Terrorist Attacks: Selected Articles Reporting Health Effects Similar to those Associated with Gulf War Service

1. Kawana N, Ishimatsu S, Kanda K. Psycho-physiological effects of the terrorist sarin attack on the Tokyo subway system. *Mil Med*. 2001;166:23–26.
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Committee on Veterans' Affairs
Subcommittee on Oversight and Investigations
Washington, DC.
May 27, 2009

Robert D. Walpole
Principal Deputy Director
National Counter Proliferation Center
Office of the Director of National Intelligence
Central Intelligence Agency
Washington, DC 20511

Dear Robert:

Thank you for your testimony at the U.S. House of Representatives Committee on Veterans' Affairs Subcommittee on Oversight and Investigations hearing that took place on May 19, 2009 on "Gulf War Illness Research: Is Enough Being Done?"

Please provide answers to the following questions by Monday, July 6, 2009, to Todd Chambers, Legislative Assistant to the Subcommittee on Oversight and Investigations, by fax on 202-225-2034.

1. Are you aware of any studies that may have been conducted concerning the medical condition of the indigenous people, such as the Kurds, in Northern Iraq who were subjected to gas attacks by Saddam Hussein? What were the conclusions of these studies?

Thank you again for taking the time to answer these questions. The Committee looks forward to receiving your answers. If you have any questions concerning these questions, please contact Subcommittee on Oversight and Investigations Majority Staff Director, Martin Herbert, at (202) 225-3569 or the Subcommittee Minority Staff Director, Arthur Wu, at (202) 225-3527.

Sincerely,

Harry E. Mitchell
Chairman

David P. Roe
Ranking Republican Member

MH/tc

**Response from Robert D. Walpole, Former Special Assistant for
Persian Gulf War Illnesses Issues, Office of the Assistant Director of
Central Intelligence, Central Intelligence Agency**

Question: Are you aware of any studies that may have been conducted concerning the medical condition of the indigenous people, such as the Kurds, in Northern Iraq who were subjected to gas attacks by Saddam Hussein? What were the conclusions of these studies?

Response: Medical studies of regional illnesses were not a focus of intelligence efforts given that most of that information was openly available and generally is not a protected state secret. Thus, such studies do not generally constitute an intelligence issue, leaving the question of whether there were regional illnesses paralleling troop reported symptoms in the domain of doctors who can research the open literature and talk to regional medical personnel.

Although a medical study was outside its purview, in the years that CIA worked on the Gulf War veterans' illnesses issue aggressively it searched for any classified reporting of similar symptoms that could be declassified. The few classified regional medical documents captured in the search were analyzed and found to be unrelated; thus there was nothing to declassify. CIA also included regional illness requirements and queries to its sources and the field as part of the overall requirements on Gulf War illnesses issues. But CIA did not use U.S. medical records in its study nor did it conduct epidemiological studies.

Intelligence did not indicate any long term illnesses for Iraqi citizens from exposure to low levels of chemical agents. There were very few reports—a number on depleted uranium causing illnesses in the south, some on general medical topics, and of course some on chemical warfare agent short term effects. The Persian Gulf War Illnesses Task Force final paper, *Chemical Warfare Agent Issues During the Persian Gulf War*, which was published in April 2002, summarized these reports. On page 13 it states:

“In addition to our studies of Iraq’s WMD programs, we examined intelligence information for other potential causes of Gulf War illnesses such as regional diseases, industrial toxins, and toxic aspects of conventional weapons. We found no convincing intelligence indicating any other cause, but information is limited. Available intelligence on Middle East regional illnesses does not parallel illnesses suffered by U.S. veterans, including illnesses in southern Iraq that Iraqi propaganda has tied to depleted uranium. We will forward any new potentially relevant reporting to DoD investigators if it becomes available.”

A footnote to this paragraph further notes: “Iranian press reports from November 2000 claim that more than 15,000 victims of Iraqi chemical attacks during the Iran-Iraq war have died since 1988, presumably from the effects of these chemical attacks. Judging by previous claims made by Iran, we believe that these victims suffered from acute exposure to CW agents and exhibited classic symptoms of such exposure, including longer term debilitation as found among chemical victims from World War I.”

We are aware that a British researcher, Christine Gosden, visited Halabjah in early 1998; wrote an op-ed piece that ran in the *Washington Post* on March 11, 1998, entitled *Why I Went, What I Saw*; and testified before the Senate in April 1998 on her findings.

Committee on Veterans’ Affairs
Subcommittee on Oversight and Investigations
Washington, DC.
May 27, 2009

Honorable Eric K. Shinseki
Secretary
U.S. Department of Veterans Affairs
810 Vermont Avenue, NW
Washington, DC 20420

Dear Secretary Shinseki:

Thank you for the testimony of Lawrence Deyton, M.D., MSPH, Chief Public Health and Environmental Hazards Officer, Veterans Health Administration, U.S. Department of Veterans Affairs who was accompanied by Joel Kupersmith, M.D., Chief Research and Development Officer, Veterans Health Administration; Mark Brown, Ph.D., Director, Environmental Agents Service, Office of Public Health and Environmental Hazards, Veterans Health Administration, U.S. Department of Veterans Affairs at the U.S. House of Representatives Committee on Veterans’ Affairs Subcommittee on Oversight and Investigations hearing that took place on May 19, 2009 on “Gulf War Illness Research: Is Enough Being Done?”

Please provide answers to the following questions by Monday, July 6, 2009, to Todd Chambers, Legislative Assistant to the Subcommittee on Oversight and Investigations, by fax on 202-225-2034.

1. Please explain in detail the reason for the significant (43%) drop in UDX claims processed between the February 2008 and August 2008 Gulf War Veterans Information System Reports published by the VA?
 - a. Further explain the differentials in the same reports showing an almost 60 percent decrease in “UDX, claims granted service connection” within this 6 month period.
 - b. What is the reason for the dramatic reductions in numbers?
2. How many veterans receive compensation for Gulf War related symptoms?
 - a. How often are these patients re-evaluated?
 - b. What is the percentage of patients with Gulf War related symptoms that do not return to the VA for their re-evaluations or follow-up appointments?
3. Discuss in detail how the registry was crafted, how it is utilized and managed on a daily basis. When was the last time the VA reached out to everyone on the registry?
 - a. What information was relayed to them at that time? Please include a sample letter from this last mail out.

4. Did the VA send out a letter to every Gulf War veteran individually after the law expanded disability compensation benefits in 2001, explaining the benefits available for chronic fatigue syndrome, fibromyalgia and irritable bowel syndrome?
 - a. If not, why was the decision made not to do so and who made that decision?

Thank you again for taking the time to answer these questions. The Committee looks forward to receiving your answers. If you have any questions concerning these questions, please contact Subcommittee on Oversight and Investigations Majority Staff Director, Martin Herbert, at (202) 225-3569 or the Subcommittee Minority Staff Director, Arthur Wu, at (202) 225-3527.

Sincerely,

Harry E. Mitchell
Chairman

David P. Roe
Ranking Republican Member

MH/kk

Response for the Record
The Honorable Harry E. Mitchell, Chairman
The Honorable David P. Roe, Ranking Republican Member
Subcommittee on Oversight and Investigations,
House Committee on Veterans' Affairs

May 19, 2009

Gulf War Illness Research: Is Enough Being Done?

Question 1(a): Please explain in detail the reason for the significant (43%) drop in UDX claims processed between the February 2008 and August 2008 Gulf War Veterans Information System Reports (GWVIS) published by the VA? Further explain the differentials in the same reports showing an almost 60% decrease in "UDX, claims granted service connection" within this 6 month period.

Response: The reduction in undiagnosed claims processed and granted for service connection reflected in these reports is erroneous. The data discrepancies occurred as a result of the migration of records from our legacy database to the new corporate database (VETSNET) and changes needed to the business rules for compiling the report data. The corporate database stores veterans' claims data differently than the legacy system stores data. The Veterans Benefit Administration (VBA) is working to identify the business-rule changes needed to correct the problem. We will remove the erroneous data from the previous reports while we make the necessary changes to the business rules. The review will be completed by the end of fiscal year (FY) 2009 and reports with accurate data published by the beginning FY 2010.

Question 1(b): What is the reason for the dramatic reductions in numbers?

Response: As previously mentioned in the response to 1a, the numbers provided in these reports are incorrect. VBA is working to provide corrected numbers.

Question 2(a): How many veterans receive compensation for Gulf War related symptoms?

Response: VBA will determine the number of veterans receiving compensation for Gulf War related symptoms when the issues with the GWVIS numbers are resolved. VBA will provide the information upon completion of the data extract.

Question 2(b): How often are these patients re-evaluated?

Response: Veterans who are seen at Department of Veterans Affairs (VA) medical centers (VAMC) for compensation and pension examinations (C&P exams) are not necessarily eligible for benefits. Re-evaluation would be based upon whether or not the veteran's medical condition changed such that they would return for an additional C&P exam. If the veteran was found to be eligible based upon service connection or other eligibility, they would be followed according to practice guidelines and their treating physician's protocols for the particular illness, symptoms and severity. For veterans enrolled in the Registry the follow-up would again depend upon the veteran's needs and concerns as well as the original examining clinician's professional judgment. VA schedules future examinations for veterans with service-connected disabilities if a reasonable possibility exists for a disability to improve. VA does not schedule future examinations if a disability is at a static level under the criteria in the VA Schedule for Rating Disabilities. For example, the minimum dis-

ability evaluation for hypertension controlled by medication is 10 percent and does not require a future examination. This policy applies to all veterans.

Question 2(c): What is the percentage of patients with Gulf War related symptoms that do not return to the VA for their re-evaluations or follow-up appointments?

Response: The Environmental Epidemiology Service is studying the patterns of health care utilization among Gulf War veterans before and after they were compensated for “medically unexplained multi-symptom illnesses.” Once this study is completed by early 2010, VA will have a better understanding of the number of Gulf War veterans who do not follow-up for health care services at VA and the reasons why.

Question 3(a): Discuss in detail how the registry was crafted, how it is utilized and managed on a daily basis.

Response: By the end of the Gulf War, VA medical care personnel became concerned about potential health problems of U.S. servicemembers exposed to oil well fire smoke. Consequently, VA developed a proposal to create a clinical registry of Gulf War veterans to evaluate the health problems they were experiencing and to provide better health care for returning troops.

This proposal led to the establishment of the VA Persian Gulf War Health Examination Registry (GWR), authorized in November 1992, by the Persian Gulf War Veterans Health Status Act, Public Law (P.L.) 102-585. VA must provide a GWR examination to veterans who request the examination and who served on active military duty in Southwest Asia during the Gulf War which began in 1990, and continues to the present, title 38 United States Code (U.S.C.) § 101(33), including Operation Iraqi Freedom (OIF).

In 1991, the Gulf Registry program was implemented with the issue of VA Manual M-10, now identified as the Veterans Health Administration (VHA) Handbook 1303-02, providing policies and procedures to all VA facilities. Each VA facility was directed to assign an environmental health (EH) clinician and coordinator to provide the registry examinations to GW veterans. Included in this manual was a two-page code sheet to be completed manually by both veterans and EH staff. These completed code sheets were sent to the Austin Information Technology Center in Austin, Texas for entry into the registry database located at that center.

The Gulf War Veterans Registry consists of a computerized index of names of all eligible veterans who have received comprehensive, no co-pay examinations with demographic data, exposures and medical examination data. In 2001, manual entries were discontinued and electronic entries of data accomplished by EH staff at each facility into the registry database at the Austin Information Technology Center. Daily reports are available to authorized VHA staff. Monitoring is ongoing by both Austin and the Environmental Agents Service staff.

In 1995, new questions concerning potential exposures during Gulf War service and reproductive health were added to the Code sheets (now identified as Gulf War worksheets). The database was updated to include these new questions and veterans who had participated in the original registry examination received letters requesting them to complete the updated questionnaire returning them to the Austin Information Technology Center for data entry.

On March 21, 1996, Handbook M-10, Pt. III, Chapter 5 was issued, a VA funded examination program for spouses and children of Persian Gulf veterans to fulfill a legislative mandate in P.L. 103-446, Section 107. Under this authority, VA provided examinations to a spouse or child of a veteran listed in the Persian Gulf War Veterans Registry. The health examinations were conducted by private, university-based physicians and the medical data obtained was included in the VA Registry database in Austin, Texas. There were a high number of no-shows and cancellations. The legislative authority for this program was discontinued although extensions were made through December 31, 2003.

Question 3(b): When was the last time the VA reached out to everyone on the registry?

Response: The last time VA reached out to everyone on the registry was May 2008. The latest *Gulf War Review* (Volume 15) was published in May 2008 and sent to Gulf War veterans. The newsletter can be found on the Web at: http://www1.va.gov/gulfwar/docs/GW_Review_May_2008.pdf. The next volume is in press at this time. And VA expects to publish it by the fall of 2009.

Question 3(c): What information was relayed to them at that time? Please include a sample letter from this last mail out.

Response: The *Gulf War Review* provides information on long-term health issues and other concerns of Operation Desert Shield and Operation Desert Storm to veterans, their families, and others. The Review describes actions by VA and other Federal departments and agencies to respond to these concerns and gives updates on a wide range of VA programs for veterans. The *Gulf War Review* was mailed out to Gulf War veterans. *Gulf War Reviews* are available on the following Web sites: <http://www1.va.gov/environagents/> or <http://www.publichealth.va.gov/exposures>.

Question 4: Did the VA send out a letter to every Gulf War veteran individually after the law expanded disability compensation benefits in 2001, explaining the benefits available for chronic fatigue syndrome, fibromyalgia and irritable bowel syndrome? If not, why was the decision made not to do so and who made that decision?

Response: VA took a number of actions to provide information to veterans who served in the Gulf War. VHA and VBA collaborated to reach the Gulf War veteran population in a timely manner when Congress passed P.L. 107–103. VBA also provided guidance to regional office employees.

- VBA and VHA used the Gulf War Reviews as an outreach tool to advise veterans of changes included in P.L. 107–103. The first Review urged veterans previously denied service connection for fibromyalgia, chronic fatigue syndrome, or irritable bowel syndrome to reapply for disability compensation benefits. The most recent print run for the Gulf War Newsletter (2008) was 300,000 copies. Of these, about 210,000 went directly to individual Gulf War veterans. The rest of the copies were sent to VAMCs and Vet Centers for local distribution to Gulf War veterans.
- VHA and VBA collaboratively created a Gulf War Web page on VA's Web site to inform veterans of issues related to their service in the Gulf War. VHA and VBA collaboratively created a Gulf War Web page on VA's Web site to inform veterans of issues related to their service in the Gulf War. Visits to the Web site are as follows: April 2009—17,939; May 2009—18,480; and June 2009—16,336.
- VBA disseminated Fast Letter 02–04, dated January 17, 2002, to all its regional offices addressing changes to use in claims processing. The Fast Letter provided guidance on and expanded the definition of “qualifying chronic disability” for Gulf War veterans and the extended the period in which VA may determine that a presumption of service connection should be established for a disability occurring in Gulf War veterans, to September 30, 2011.
- VBA's Compensation and Pension Service updated its manual references used in processing claims to reflect changes from P.L. 107–103. These revisions improved efficiency and service to veterans.

Committee on Veterans' Affairs
Subcommittee on Oversight and Investigations
Washington, DC.
May 27, 2009

Roberta F. White, Ph.D., ABPP
Professor and Chair, Department of Environmental Health
Associate Dean of Research
Boston University School of Public Health
Talbot Building 4W
715 Albany Street
Boston, MA 02118

Dear Roberta:

Thank you for your providing a statement for the record at the U.S. House of Representatives Committee on Veterans' Affairs Subcommittee on Oversight and Investigations hearing that took place on May 19, 2009 on “Gulf War Illness Research: Is Enough Being Done?”

Please provide answers to the following questions by Monday, July 6, 2009, to Todd Chambers, Legislative Assistant to the Subcommittee on Oversight and Investigations, by fax on 202–225–2034.

1. Of the 3,000 Army veterans interviewed at the Boston VA Medical Center in 1991, what was the location of their units, and why did you and Dr. Wolf use

this study as a baseline for comparison? Was there a difference in veteran examinations between services and/or specific locations? If so, please explain.

2. In cognitive test performances based on exposure to pyridostigmine bromide (PB Tablets) and pesticides, what was the percentage of veterans who were exposed compared to the number who were tested?

Thank you again for taking the time to answer these questions. The Committee looks forward to receiving your answers. If you have any questions concerning these questions, please contact Subcommittee on Oversight and Investigations Majority Staff Director, Martin Herbert, at (202) 225-3569 or the Subcommittee Minority Staff Director, Arthur Wu, at (202) 225-3527.

Sincerely,

Harry E. Mitchell
Chairman

David P. Roe
Ranking Republican Member

MH/tc

Boston University Medical Center
Boston, MA
July 1, 2009

Henry E. Mitchell, Chairman
David P. Roe, Ranking Republican Member
Subcommittee on Oversight and Investigations
Committee on Veterans' Affairs
U.S. House of Representatives
335 Cannon House Office Building
Washington, D.C. 20515

Dear Congressmen Mitchell and Roe:

I am happy to address the two questions that you have sent to me regarding the testimony that I prepared for the Subcommittee's meeting on Gulf War illness on May 19, 2009.

Question 1. Of the 3,000 Army veterans interviewed at the Boston VA Medical Center in 1991, what was the location of their units and why did you and Dr. Wolf use this study as a baseline for comparison? Was there a difference in veteran examinations between services and/or specific locations? If so, explain.

The veterans were interviewed at Ft. Devens in 1991, not at the VA. Subsequently they were interviewed at several points in time through phone or written questionnaires and a subset came to the VA for detailed examination in the mid-late 1990s.

a. Unit locations and examination results: Troop locations varied by unit and time and are too numerous to list here. Effects of unit locations were evaluated using geographic Information System technology, with some locations being associated with more health symptoms (see Proctor SP et al., Spatial analysis 1991 Gulf War troop locations in relationship with postwar health symptom reports using GIS techniques; *Transactions in GIS*: 9, 381-396, 2005). Also, locations of certain units/individuals under the Khamisyah plume or outside of it were used to detect relationships between modeled exposure to sarin/cyclosarin and brain imaging results (Heaton et al., Quantitative magnetic resonance brain imaging in U.S. Army veterans potentially exposed to sarin and cyclosarin, *Neurotoxicology*, 29: 761-769, 2007) and neuropsychological test results (Proctor et al., Effects of sarin and cyclosarin exposure during the 1991 Gulf War in neurobehavioral functioning in U.S. Army veterans, *Neurotoxicology*, 27: 931-939, 2006).

b. Rationale for using Devens cohort as a baseline: Data were collected on health perceptions and PTSD immediately after the war at Ft. Devens before the soldiers returned home and they were sent questionnaires at various points in time. These data provided us with a way to characterize individuals as being high or low in health symptoms and with regard to other characteristics so that we could choose a sample to recruit for detailed examinations at the VA.

c. Differences between services in examination results: Our examinations were completed only on Army veterans and a control group of National Guard vet-

erans who were deployed only as far as Maine, so we cannot make direct comparisons to results on our examination for troops from other services who were deployed to the Gulf. It is my understanding that there are some service differences, possibly related to location in the Gulf and types of exposures experienced there.

Question 2. In cognitive test performances based on exposure to pyridostigmine bromide (PB Tablets) and pesticides, what was the percentage of veterans who were exposed compared to the number who were tested?

a. Study Participants. This study compared 159 Gulf War veterans who were uniquely knowledgeable regarding types and usages of pesticides during the Gulf War because of their military occupational specialty (MOS) as either pesticide applicators or preventative medicine personnel. This study included physicians, entomologists, environmental science officers, preventive medicine specialists, field sanitation team members, military police, and other pest controllers. The study was designed to assess cognitive functioning in a group of Gulf War veterans with known exposures to pesticides and pyridostigmine bromide (PB) during the war therefore, they were more likely to be exposed to pesticides than the general military personnel during the Gulf War (http://www1.va.gov/rac-gwvi/docs/Minutes_Nov2008_Appendix_Presentation1.pdf).

b. Exposure groups. Gulf War veterans in this study were categorized as high or low exposed to pesticides and pyridostigmine bromide (PB) based on total number of PB tablets and by frequency of pesticide usage and exposure thus allowing for 4 exposure groups as described below:

- Group 1—low pesticide/low PB = 15%
- Group 2—high pesticide/low PB = 31%
- Group 3—low pesticide/high PB = 11%
- Group 4—high pesticide/high PB = 42%

c. Estimates of pesticide overexposure in general military personnel during the Gulf War. The Department of Defense commissioned the Environmental Exposure Report—Pesticides and reported their results in March 2001 (http://www.gulflink.osd.mil/pesto/pest_exec_summary.htm). This report concluded that 42,000 general military personnel could have been over-exposed to pesticides during the Gulf War based on a health risk assessment and calculated dose-estimates.

More information regarding pesticide exposure estimates in the general military personnel during the Gulf War were also reported by the RAND Corporation. (http://www.gulflink.osd.mil/library/randrep/pesticides_survey/) (http://www.gulflink.osd.mil/library/randrep/pesticides_paper/).

Thank you for your interest in our work and please let me know if I can provide any additional information.

Sincerely,

Roberta F. White, Ph.D., ABPP/cn
Associate Dean for Research
Professor and Chair, Department of Environmental Health
Boston University School of Public Health

Kimberly A. Sullivan, Ph.D. (Question 2—pesticide study)
Research Assistant Professor
Department of Environmental Health
Boston University School of Public Health

