Statement of
Major General Martinez-Lopez
U.S. Army Medical Research and Materiel Command,
Fort Detrick, Maryland
Before the
Subcommittee on National Security, Emerging Threats and International Relations
House Committee on Government Reform
Regarding
Research on Gulf War Veterans' Illnesses
June 1, 2004

Mr. Chairman and members of the Subcommittee, thank you for the opportunity to briefly discuss the Department of the Army's Science and Technology program addressing Gulf War Veterans' Illnesses (GWVI) and general deployment health concerns.

As Commander of the US Army Medical Research and Materiel Command, I am responsible for the medical research that focuses upon Gulf War Illnesses and Force Health Protection for the Department of Defense.

In my remarks I will discuss some of the accomplishments of the Gulf War Illnesses research program.

My Command was asked to organize and direct the research effort for the DoD in 1994, and we have made enormous progress in this past decade. The best scientists in renowned universities have devoted much effort to understand the cause and develop treatments for these great veterans. We sense the frustration of this sub-Committee in that no single problem or solution for our sick veterans has emerged from the research investment. Still, today, no new Gulf War syndrome has come to light that was previously unknown to medical science. This in no way should detract from the search for causes and treatments for our veterans with very real symptoms and illnesses. It is equally important that we continue to seek better ways to evaluate and predict health hazards that our young men and women may encounter in current and future deployments so that we can better protect them.

As a result of the Gulf War experience, the DoD and the Department of Veterans Affairs (VA) medical research programs have grown closer, with an unprecedented level of collaboration and coordination. The programs now dovetail so that the Defense Department pays more attention to long-term consequences of operational threats that may only emerge as problems long after soldiers return from a deployment. The VA helps identify exposure risks to better prepare and protect warfighters, ultimately avoiding some of the longer-term health consequences that would appear in their hospitals. This is being accomplished through collaborative research involving both DoD and VA researchers and administrators at multiple levels.

For example, at this very moment, researchers from at least three different VA centers are collaborating with DoD investigators to interview soldiers at Fort Lewis, WA, who have just returned from Iraq. This effort is part of an ambitious study jointly funded by VA and DoD to identify the most sensitive neuropsychological tests that can be used to detect early signs of a change in neurological status of soldiers following a deployment. This was one of the important diagnostic gaps identified in our Gulf War experience.

Another example is the shared funding support by DoD, the National Institutes of Health (NIH), and VA to the neurodegenerative disease imaging center at the VA Medical Center in San Francisco. Support to this center was expanded through a VA and DoD research review group. This center is developing state-of-the-art methods to use objective brain measurements to explain subjective symptoms of chronic multi-symptom illnesses, as well as early changes that may forecast brain diseases. Currently they are about half way through a major study involving Gulf War. One major goal of this study is to determine if earlier findings of Dr. Robert Haley can be confirmed that specific changes in brain chemistry were associated with undiagnosed symptoms in veterans who deployed to the Gulf.

Between 1994 and 2002, the US Army Medical Research and Materiel Command invested $182 million to support 154 projects. We have pursued multiple lines of investigation to treat the Gulf War veterans. Thirty-eight of these projects continue and many of these address key questions identified in earlier projects.

Initially, we funded all projects with scientifically testable hypotheses that explored potential causes of veterans' symptoms. The results of some of this research identified areas to follow-up work on suggestive findings, while others ruled out potential causes. For example, infectious diseases proved to be unlikely explanations after we investigated several candidates such as leishmania. However, our investment in leishmaniasis was important anyway, as we have encountered new clusters of soldiers infected with this parasitic disease in Afghanistan and Iraq and can better diagnose and treat these soldiers.

Depleted uranium (DU) was also investigated as a hazardous exposure suspect. Scientists found it very difficult to produce any significant health effects from DU in animal studies. Initial concerns for our veterans with embedded fragments, that could not be surgically removed, have largely been allayed. We funded ten projects to determine possible consequences of uranium on nerve function and initiation of cancer. As these projects wind down, we are gaining confidence in the conclusion that depleted uranium is much less hazardous than some initial predictions, and that this is not an explanation for undiagnosed Gulf War Illnesses.

We supported numerous surveys of the veterans, with a focus on hazardous exposure and symptoms. One study compares British Gulf War veterans with US Gulf War veterans to study symptom reporting and likely exposure histories. Several large-scale surveys focused upon nervous system dysfunction and have either ruled out differences between deployed and non-deployed forces, or have discovered findings suggestive of chronic multi-symptom illnesses, including chronic fatigue syndrome and fibromyalgia.

We know that stress can trigger the development of serious diseases in some individuals. With nearly than 700,000 service members potentially exposed to combinations of chemicals, psychological stressors, and other environmental conditions, it would be extraordinary if there were not some who would have an adverse biological response. We have funded the Institute of Medicine to carefully analyze illnesses and deaths of soldiers who may have been exposed to chemical agents near Khamisiyah, and they are expected to announce their findings within the next few months. Another study investigated the worst case combination of exposures in human

volunteers to drugs, chemicals, and other stressors related to the Gulf deployment to determine if any short term symptoms were produced. The final results of this important study will also be available soon.

We still do not have good methods to determine which individuals will be at special risk when they receive a drug or vaccine intended for their protection. This is an area for continued research that will benefit greatly from new scientific methods such as the field of genomics and proteomics. Through continuing research on Gulf War Illnesses by individuals such as Drs. Dan Clauw, Robert Haley and Michael Weiner, we are on the edge of significant advances into objective brain physiology assessments, chronic multi-symptom illnesses, and some of the factors that may precipitate undiagnosed Gulf War Illness symptoms. Hopefully, their work will lead to effective treatments.

DoD programs, started in part because of issues raised in Gulf War illnesses, are providing us with a deeper understanding of what exposures are hazardous to brain tissues of humans, including the most susceptible neurons whose loss leads to illnesses such as Parkinson's disease and ALS. These studies will follow up on important Gulf War illnesses studies such as the joint VA and DoD study that suggests that deployed Gulf War veterans may have a higher rate of ALS than non-deployed forces. This current research effort, which includes over 100 studies is providing new insights into the causes of Parkinson's Disease and related neurodegenerative diseases; earlier diagnostic methods; preventive measures including personal health habits; and treatments. We are moving on a wide front to address the issues that began with sick Gulf War veterans looking for an answer to their diseases. These DoD efforts are coordinated with other federal agencies through a neurodegenerative disease working group that includes Offices from the NIH and VA.

Our continuing research in early detection methods and monitoring will help to identify individuals earlier than ever before, increasing their opportunities for treatment and helping to mitigate further exposures of other troops. Our continuing research on neurotoxicology ranges from work by Dr. Paul Greengard, a Nobel laureate, to the establishment of a military version of the famous Framingham Heart Study, our own Millennium Cohort Study. The DoD Birth and

Infant Health Registry was established as a result of the investigations into birth defects in offspring of Gulf War veterans. Such efforts will help us to further identify exposures that are harmful and allow us to better guard against these exposures in future deployments.

In 2002, the Assistant Secretary of Defense for Health Affairs directed transition of this program to a more forward-looking effort we call Force Health Protection. The primary emphasis of the program is prospective, with a goal of protecting current and future service-members put into operational environments. The program's scientific focus areas rely heavily on lessons learned from research on Gulf War Illnesses.

Mr. Chairman, this concludes my remarks, and I will be pleased to answer your questions.