Statement
of
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On
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before the
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Mr. Chairman and Members of the Subcommittee, I truly appreciate the opportunity to appear before you today to discuss the Department of Veterans Affairs (VA) medical and prosthetic research program.

After having spent three months as VA's chief research and development officer, I can honestly say that I remain just as excited today as I was in January about this once-in-a-lifetime opportunity to lead such a distinguished program. One of my first activities was to work with the Office of Research and Development (ORD) to establish a new vision: *Today's VA research leading tomorrow's health care.*

To achieve it, not only must we expand the VA research portfolio and continue to conduct laboratory studies that ask fundamental questions about disease, but also we must expand our research efforts in two other areas.

We must expand our clinical research portfolio to include issues that directly affect clinical practice, with an emphasis on research that provides knowledge for the practice of evidence-based medicine. In addition to increasing funding for clinical research

studies, we will develop a new initiative to dramatically increase our clinical research capacity.

However, as the Institute of Medicine report "Crossing the Quality Chasm" documents, the development of information through research does not necessarily mean that such information is applied at the bedside. Therefore, ORD will expand research designed to identify the barriers to the rapid translation of research into clinical practice and to study new organizational structures with the potential to remove those barriers.

By expanding our portfolio in such ways, I am confident that VA's research program will be at the forefront of tomorrow's health care. And what a research program it has been. VA's medical and prosthetic research program has produced three Nobel Prize winners, pioneered tuberculosis treatment, developed the cardiac pacemaker, created the Seattle Foot, and conducted the first successful drug treatments for high blood pressure and schizophrenia, and VA investigators continue their leadership in medical and prosthetic research. Let me cite several recent and exciting developments.

Chairman Smith responded to the homeland defense challenge by championing the "Department of Veterans Affairs Emergency Preparedness Act of 2002." ORD has also responded by soliciting and funding new research on emerging pathogens and bio-terrorism. Our primary areas of concern are vaccine development, bacteria, and DNA-based vaccination strategies. The reaction of VA investigators has been highly gratifying; in just a short time, their efforts have resulted in many critical discoveries. I would like to share one with you today.

Researchers at the San Diego VA Medical Center, in collaboration with scientists at the U.S. Army Medical Research Institute for Infectious Disease, have developed an oral drug that halts the deadly action of smallpox in infected mice. The drug blocks the activity of a variety of smallpox virus strains by halting their ability to replicate and to spread. We will work extremely hard to confirm those results in other animals and to

get the oral drug approved for use in humans. As I'm sure you all understand, the potential for developing an oral smallpox treatment in humans would be a major discovery.

And while we here in the U.S. tackle difficult homeland security issues, the brave men and women of our military wage a much more difficult war overseas. I know that the thoughts and prayers of everyone in this room are with our brave soldiers in Iraq. Combat operations there and elsewhere underscore VA's critical mission of treating the Nation's veterans for any injury, be it bullet or environmental hazard that causes them harm. In addition to its significant studies into deployment-related health issues, VA, together with the Departments of Defense (DoD) and Health and Human Services, has invested almost a quarter of a billion dollars to fund research projects dedicated to deciphering the numerous undiagnosed symptoms related to Gulf War veterans' illnesses.

The results of a recently concluded trial offer hope to some veterans. That exciting study, which received significant media attention, revealed that Gulf War-era veterans who had unexplained chronic medical symptoms such as pain, fatigue, and cognitive difficulties experienced a statistically significant improvement in their symptoms when treated with a combination of aerobic and cognitive behavior therapy. While not everyone in the study was helped, the discovery is a major step in helping Gulf War veterans with unexplained illnesses.

Additionally, VA continues to lead the way in treating Post-Traumatic Stress Disorder, or PTSD. Studies have shown that PTSD is a major complication of war, and studies of the Gulf War in particular have shown that women service members are susceptible to the disorder. VA is currently conducting a multimillion-dollar clinical trial to understand the determinants of that disease and explore effective therapies. The $5 million clinical trial will be conducted in collaboration with DoD and will assess two interventions for women veterans with PTSD who have been exposed to war-related or non-war related

traumatic events. That trial is the largest of its type for women veterans, one of the two fastest growing segments of the veteran population.

The devastating news that several of our brave service members lost lower limbs as a result of combat operations in Iraq has greatly saddened all of us. The challenges that await those brave Americans are formidable. However, VA will ensure that those service members' lives are returned to normal as soon as possible by providing them the best prosthetic care available. Ongoing VA research promises to make more normal lives for our veterans a reality and not just a dream.

And, although VA has made incredible contributions to the lives of amputees, we will not rest on our laurels. Limitations to ambulation still remain, as does damage that occurs at the site of the prosthesis. VA stands at the forefront of osseointegration research in America. That procedure involves integrating a prosthetic device with a patient's natural bone. Osseointegration promises to increase the strength of the bone-prosthesis interface while reducing healing and recovery times.

Investigators at the San Diego VA Medical Center VA are studying this technique in the laboratory to answer fundamental questions about safety and infection rate. Another VA researcher has studied osseointegration surgical techniques and is prepared to use the procedure once it receives FDA approval. Amputees who have had successful experiences with the procedure report that they have greater comfort, a more natural gait, and fewer complications. Just last week I traveled to VA's 2003 Winter Sports Clinic in Colorado; I watched in inspired amazement as amputees skied downhill, and I can tell you that it was a truly gratifying experience.

More recently, VA developed technology that enabled actor Christopher Reeve to regain the ability to breathe on his own for limited periods. Severe spinal cord injuries block the brain signals that normally stimulate the nerves in the diaphragm necessary for breathing. When that happens, paralyzed patients must rely on mechanical

ventilators. VA investigators discovered a method of electrically stimulating the phrenic nerves in the diaphragm muscle to restore more natural breathing.

Mr. Reeve is only the third patient to have received the new procedure, and it will take months before we know for sure whether it will work as hoped. While Mr. Reeve can breathe on his own for only limited periods of time, his volunteer efforts already have helped researchers in their efforts to restore motor movement to thousands of veterans and Americans.

The restoration of motor function also remains a top priority for ORD. Pioneering efforts in functional electrical stimulation at the Cleveland VA Medical Center have led to FDA approval of a hand grasp system and commencement of clinical trials of an advanced bladder/bowel management system.

VA also continues to address the challenges of an increasingly older veterans population. Investigators are conducting myriad projects to improve the quality of life of our senior veterans, including the development of a shingles vaccine, prevention of falls and other injuries, and the use of folate and B-vitamins to lessen cardiovascular disease. Also noteworthy is VA's diabetes portfolio. That integrated research effort will improve glucose control, reduce blindness, and preserve the limbs of the elderly.

As I mentioned earlier, the science that our research produces can only benefit veterans if we put that science into practice. It can take years, however, before research results are turned into practical clinical tools that directly improve the quality of health care. We in ORD believe that that is simply too long. VA is the leader in trying to understand the barriers and impediments to the rapid translation of research into clinical practice. In 1998, ORD established the Quality Enhanced Research Initiative, or QuERI, to identify the best practices for getting research findings from the bench to the bedside. QuERI focuses on eight priority conditions, including mental health, spinal cord injury, chronic heart failure, ischemic heart disease, diabetes, substance abuse, colorectal cancer, and HIV/AIDS.

As you can see, this is an extremely exciting time for VA research. We truly are on our way to building the greatest health care research program in the country!

Mr. Chairman, this concludes my statement. I will now be happy to answer any questions that you and other members of the Subcommittee might have.