Subcommittee on National Security, Emerging Threats
& International Relations Hearing on:
Homeland Security: Improving Public Health Surveillance

Good afternoon, Mr. Chairman and distinguished committee members. I am grateful for this opportunity to discuss the activities of the Department of Defense Military Health System in the support of national public health security through medical surveillance. The Military Health System, with over 8.7 million beneficiaries, has a global mission and is continually involved in health surveillance. We are actively involved in the war on terror through our participation in Operations Noble Eagle, Enduring Freedom and Iraqi Freedom.

Our Medical Treatment Facilities are daily collaborating, planning, training and participating in Homeland Defense operations with our civilian community partners. Our military bases coordinate in the development of mutually supportive surveillance, defense and consequence management plans. These efforts will be part of the Joint Services Installation Pilot Project (JSIPP) demonstrations. Integral to this project is ESSENCE II; the Electronic Surveillance System for Early Notification of Community-based Epidemics. This program is a cooperative venture between the Defense Advanced Research Projects Agency (DARPA) and the Johns Hopkins University Applied Physics Laboratory. ESSENCE II is an outgrowth of ESSENCE I which was developed for DoD-GEIS. ESSENCE II monitors the National Capital Area and performs syndromic surveillance based on

school absenteeism, pharmacy prescription and over-the-counter transactions, emergency room and hospital clinical visits and other disparate data sources to detect natural disease outbreaks or possible covert biological weapons attack. A rapid display of clusters of suspicious symptoms or findings provides decision makers with outbreak information not available by current methods. This program shows great promise for providing early detection and response to numerous future public health challenges.

Biologic agent identification by the Ruggedized Advanced Pathogen Identification Device (RAPID), a DoD-supported miniaturized polymerase-chain-reaction (PCR) bio-agent detection system, can frequently identify the causative agent of an outbreak or bioterror attack in two hours, and some agents in as little as 40 minutes. This process could possibly take four days using standard laboratory techniques.

Medical surveillance of our new recruits and our active duty population presents us with a unique opportunity to detect the emergence of infectious illnesses. This knowledge can impact public health strategies by national health authorities. In the past two years, virus isolates from military sources have twice driven the composition of the influenza vaccine used throughout the nation in both the military and civilian communities. Development of vaccines to counter the relentless spread of old and newer biologic threats is a major contribution by

Department of Defense laboratories. Current studies include work on improving vaccines for anthrax, Venezuelan equine encephalitis, plague and botulism, and on toxins such a staphylococcal enterotoxins and ricin.

Medical oversight and surveillance of our military members from the moment they are recruited until the day they die provides an unprecedented opportunity to monitor the potential impact of occupational, environmental, and geographical exposures. The Defense Medical Surveillance System (DMSS), a longitudinal surveillance database, allows the Department to capture, and then track significant events and exposures throughout a member's accession, training, vaccination, deployment, and retirement. Improved occupational and environmental surveillance programs protect forward deployed service member's health by providing improved monitoring. The Theater Army Medical Laboratory and the Army's Center for Health Promotion and Preventive Medicine (CHPPM) provide rapid analysis and risk assessment information. DoD has implemented weekly tracking of field clinic visits for disease and non-battle injury (DNBI) during deployments, and has increased this to daily monitoring for current operations. All field clinics report through command channels at least daily on their current situation, so notification of an outbreak or development to unusual patterns of symptoms will be immediate. The value to the nation of these systems extends beyond DoD to those industrial occupations which parallel those in the

military; by providing valuable insight and methods to prevent or mitigate long-term disability.

The Department of Defense partners with innumerable civil, military, and international partners. The Armed Forces Medical Intelligence Center, an arm of the Defense Intelligence Agency, performs classified and unclassified global medical intelligence to arm theater commanders with the latest environmental, biological and medical threat assessments for any area of the globe for military operations or humanitarian needs. Their unclassified assessment is available to any interested citizen or agency. Enhanced federal agency sharing and knowledge exchange is achieved by assigning military epidemiologists to the Centers for Disease Control and Prevention and CDC Public Health Service experts to DoD. This sharing of our joint resources and expertise enhances the national response to both local and global threats. In like manner, we have detailed specialists with the World Health Organization to learn from and assist global public health efforts in attacking emerging infections and development of resistant organisms.

In the recent Serious Acute Respiratory Syndrome (SARS) outbreak, the Department detailed a military expert in epidemiology to the CDC from DoD-GEIS, the Global Emerging Infections Surveillance and Response System (GEIS), to provide a unique perspective in assessment and analysis of the disease. Additionally, DoD-GEIS detailed experts from our laboratory in Indonesia to Viet

Nam in the outbreak's earliest days. Our experts contributed essential knowledge and experience in specimen collection and biologic agent identification gained through years of global emerging infection surveillance and control. The existing infrastructure of the GEIS global, laboratory-based respiratory surveillance program was rapidly expanded to facilitate transport of acute respiratory disease specimens to capable laboratories. A daily Executive Summary is issued by DoD-GEIS to communicate not only news with respect to general SARS issues but also specific DoD information on possible cases, policy guidance, reference laboratory resources, and surveillance data from ESSENCE and other DoD sources. DoD and service-specific clinical, diagnostic, disease control, and air evacuation guidance has been disseminated to our forces. To date, we have had no active duty cases of SARS.

GEIS's mission is directed by Presidential Decision Directive (NSTC-7) and includes support of global surveillance, training, research and response to emerging infectious disease threats. Recognized by the Institutes of Medicine in 2001 as ". . . a critical and unique resource of the United States in the context of global affairs. . . ." and as ". . . the only U.S entity that is devoted to infectious diseases globally and that has broad-based laboratory capacity in overseas setting," DoD-GEIS stands as our commitment to global surveillance for emerging infectious diseases and resistant strains of existing infectious agents.

Emerging infections are a global issue. They have the capability to harm U.S. interests abroad through reversing economic growth, fomenting social unrest, and complicating our response to refugee situations. Biological terrorism and warfare are additional concerns. The recent emergence of SARS and the inexorable progress of the HIV/AIDS epidemic in Africa have provided ample evidence of the economic and societal damage that infectious diseases can cause.

During our continuing operations in Afghanistan and Iraq, the Military Health System has applied the lesions of 12 years experience since the first Persian Gulf operations. Through a Force Health Protection strategy, the Department promotes and sustains the health of service members prior to deployment, protects personnel from disease and preventable injury during deployment and provides comprehensive follow-up treatment for deployment-related health conditions. A deployment health surveillance program with pre- and post-deployment health assessments validates each individual's medical readiness to deploy and addresses health concerns upon their return.

Improved deployment health protection measures are designed to counter an increasingly broad range of threats. Such measure include the fielding of new biological and chemical warfare agent detection and alarm systems; the operational testing of integrated electronic medical surveillance and emergency response

networks; current vaccines and anti-malarial drugs; and research on the next generation of vaccines and pharmaceuticals.

DoD has coordinated with the VA to address deployment-related health concerns of both service members and veterans in developing a Post-Deployment Health Evaluation and Management Clinical Practice Guideline (CPG) and by electronically sharing medical information through the Federal Health Information Exchange. Improvement in deployment-related medical recording keeping by development of the Composite Health Care System (CHCS II) and the Theater Medical Information Program (TMIP) have expanded electronic tracking and centralized collection of Immunization data.

The Military Health System participates in the National Science Foundation Multi-agency project to prioritize the national research agenda for information systems to detect and respond to natural outbreaks or intentional release of biologic agents targeting American plant, animal or human resources. Economic and health strengths and vulnerabilities are being mapped while requirements for information systems to track, alert and notify disturbances are being developed. A national strategy involving combining federal and civil agencies to combat bioterror will strengthen the national response.

In conclusion, I am proud to say the Department of Defense Military Health System is a solid partner in support of national public health security through daily

medical surveillance and support of the continuing war on terror. I believe you will find that our military health surveillance has many complementary and overarching systems that cooperate with both other federal agencies and the civilian medical community. These activities are enhanced through outstanding programs such as DoD Global Emerging Infections Surveillance and Response Program, the Electronic Surveillance System for Early Notification of Community-Based Epidemics, the Defense Medical Surveillance System, and the Deployment Health strategy.

Thank You Mr. Chairman and distinguished committee members.