TESTIMONY
BEFORE THE SENATE HOMELAND SECURITY COMMITTEE
Subcommittee on Federal Financial Management, Government Information, and International Security
JUNE 22, 2006

Good afternoon, Chairman Coburn, Ranking Member Carper, and members of the Subcommittee. On behalf of the Department of Veterans Affairs (VA), I am pleased to take this opportunity to discuss the comprehensive electronic medical record used by VA to provide world-class medical care and support to our veterans. I also am pleased to discuss the significant progress VA has made toward the development of secure, interoperable health technologies that support health data sharing with the Department of Defense (DoD). VA and DoD are currently working closely together to ensure the seamless transition of medical services for our men and women returning from Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF). Not only do these technologies allow us to deliver world-class medical care where and when it is needed, but they also permit the secure transfer of supporting medical data in a manner that protects the personal health information of our beneficiaries.

VA and DoD also take very seriously the shared responsibility to protect data that are being transmitted electronically between Departments. As part of building our shared information technology infrastructure, VA and DoD entered into a comprehensive written Memorandum of Understanding on June 27, 2005, that explicitly defines the authorities and parameters of sharing sensitive health data. This agreement is signed by the key business leaders within both organizations, by the VA Under Secretary of Health and Under Secretary of Benefits, the DoD Assistant Secretary of Defense for Health Affairs and the Principal Deputy Under Secretary of Defense for Personnel and Readiness. VA and DoD take great care to ensure that written agreements governing the use of these sensitive health data also are executed between local VA and DoD sharing

partners at the facility level. VA and DoD have followed applicable privacy and data-sharing legal requirements in the implementation of data-sharing activities between the two Departments.

VA Information Technology

The Institute of Medicine's 1999 report, "To Err is Human," estimated that between 44,000 and 98,000 Americans die each year due to avoidable medical errors. Many more die or suffer permanent disabilities because of inappropriate or missed treatment in ambulatory care settings. In contrast, the care VA provides to its more than 5.3 million veteran patients is better, safer, and more consistent. The primary reason for this is the Computerized Patient Record System (CPRS), which has been recognized by health care information technology experts as the most comprehensive Electronic Health Record (EHR) in use anywhere.

Please allow me to provide you with some background about the CPRS. In 1982, VA committed to build an electronic health care architecture called the Decentralized Hospital Computer Program (DHCP) that would easily integrate software applications into a complete hospital information system.

By 1990, VA had upgraded the computer capacity of all its medical facilities and implemented software nationwide that could provide the information infrastructure for an integrated health care delivery system. Using programs such as DHCP, VA promoted the use of new and emerging technologies to improve services and to support rapidly growing requirements for faster and more efficient access to clinical data by authorized VA users.

By 1996, DHCP had grown significantly in complexity and capability, and was re-named the Veterans Health Information Systems and Technology Architecture (VistA). Enhanced over the years, VistA today supports day-to-day operations in all VA hospitals, outpatient clinics, nursing homes and other facilities—a total of more than 1,400 points of care across the nation. As a measure of its widespread use, VA reached a milestone recently when VA health

care providers recorded the one billionth vital sign measurement (e.g., blood pressure, pulse, temperature) in VistA on April 19 of this year.

Today, VistA provides rapid access to patient data so clinicians can make informed health care decisions based on an abundant set of narrative clinical information. Through VistA, clinicians can easily access clinic and inpatient progress notes, consultation reports, history and physical examinations and discharge summaries. They can pull up operative reports, radiology and procedure reports (with associated diagnostic interpretations), laboratory results, medication profiles, physician orders, clinical problem summaries, vital signs and other measurements. They can also access clinical images and scanned documents. All this information is readily available in a consolidated information display that clinicians can view on computers anywhere in VA. This information is available at all VA sites of care, regardless of the facility where the information was originally collected and documented in VistA.

Another benefit of VistA is that it helps prevent unnecessary medical tests. In health care settings outside of VA, patients are often subjected to duplicate tests, simply because the results can't be located quickly enough. In fact, outside of VA, approximately 20 percent of laboratory tests are ordered because previous studies are not available. In VA, however, these prior test results are readily available and easy to locate and use, thanks to VistA. Similarly, VistA helps clinicians avoid repeating unsuccessful courses of treatment because it provides the clinicians with easy access to information about past clinical interventions and associated outcomes.

Through VistA, clinicians can easily consult evidence-based guidelines for medical care. VistA includes tools to encode guidelines and to screen for guideline-directed recommendations that should be considered during clinical encounters. Through clinical reminders—or "prompts"—in CPRS, VA can electronically implement evidenced-based guidelines for care delivery to ensure patients receive care according to the best practices. As a result, health care entities that define standards of patient care say that VA has achieved high rates of compliance with practice recommendations.

VistA's decision support tools help clinicians avoid ordering clinical interventions that would be potentially hazardous to the patient. This includes medications that might cause drug-allergy and drug-drug interactions. VistA alerts physicians, nurse practitioners, and physician assistants about these potential problems in real time, giving clinicians the opportunity to consider alternative treatments. The decision support system (DSS) provides accessible information that supports and improves the effectiveness of decision making and promotes managerial and clinical accountability, which optimizes efficiency and effectiveness.

VistA's computerized physician order entry (CPOE) and barcode-assisted medication administration (BCMA) systems have largely eliminated transcription and medication administration errors. In addition, through electronic communication of orders to pharmacy staff, patients receive prescribed medications rapidly compared to health care environments that rely on paper-based charting tools and fax-based communications. The BCMA approach is regarded as a "best of breed" approach to health care delivery.

VA is proud of its leadership role in health information technology, but we are never satisfied with the status quo. VA is now working to incrementally enhance and supplement the current capabilities of VistA to provide increased flexibility, more sophisticated analytical tools, and support for seamless data sharing among providers both inside and outside VA.

Given the success of VistA, some people have asked why we are changing it. The short answer is that it enables VA to capture the advances of new and emerging health care technology and to translate those into improved care for veterans … whose service to our country has earned them our very best.

Constant change is the nature of health care. The current VistA system has served us well through decades of transformation in health care, but VA has outgrown its facility-centric Information Technology (IT) architecture. Health***e***Vet – the next generation of VistA – will give us a more flexible, person-centric architecture, so that we can better support integrated ambulatory care, home-based health care, and home telehealth. By increasing system capacity and

communications speed, it will allow us to improve system response time. And the next generation of VistA also will allow us to maintain continuity of operations in the event of a disaster.

Health***e***Vet will strengthen VistA's existing privacy and security protections by providing features such as enhanced role-based access. Role-based access will allow us to limit access to information based on the user's identity, location and job function, for example. We will also strengthen our ability to audit exactly who looks at what information and at what time.

As the next generation of VistA matures and is deployed, VA will continue in its leadership role of providing a state-of-the-art EHR that enables our clinicians to continue to provide world-class health care to the nation's veterans. And just as VA's use of health information technology has transformed the way we treat veterans, we believe these same tools should be made available to providers in rural and underserved communities. Therefore, we plan to keep the newly developed software in the public domain so that it will be available to other Federal agencies and providers in those target areas. The new architecture will also support more robust sharing of patient data with our partners in the Department of Defense and with health care providers in the private sector. This is an advance we fully support.

At present, VA and DoD patients benefit from our valuable and extensive collaboration with the Department of Defense to allow sharing of health information between the two organizations.

VA/DoD Information Sharing Initiatives

VA and DoD efforts to achieve interoperable health technologies are guided by the DoD/VA Joint Electronic Health Records Interoperability (JEHRI) Plan. This plan consists of a series of progressive, related data exchange initiatives that provide VA and DoD with a comprehensive health data sharing strategy. The plan is closely aligned and dependent upon parallel developments in the health data standards industry, so that as standards and technologies mature, interoperability will increase. The DoD/VA Joint Executive Council, co-

chaired by the VA Deputy Secretary and the DoD Under Secretary of Defense for Personnel and Readiness, provides executive oversight of the Plan. The DoD/VA Health Executive Council, which is co-chaired by the VA's Under Secretary for Health and the DoD Assistant Secretary of Defense for Health Affairs, is responsible for implementation of the plan.

Implementation of the JEHRI Plan began in 2002 when we achieved the successful one-way transmission of electronic medical records from DoD to VA. That effort, known as the Federal Health Information Exchange (FHIE), has supported the secure transmission of DoD electronic medical records to VA for more than 3.5 million separated Service men and women. FHIE records are viewable by Veterans Health Administration (VHA) clinicians treating veterans at VA hospitals and clinics. These same records are also available for viewing by the Veterans Benefits Administration (VBA) claims examiners who access FHIE data through an interface with the VBA Compensation and Pension Records Interchange (CAPRI).

FHIE allows our clinicians and claims examiners to view all pertinent historical electronic information from DoD's legacy system, the Composite Health Care System. These data include outpatient pharmacy data, allergy information, laboratory results, consults, admission, disposition and transfer information, and medical diagnostic coding data.

Following the success of FHIE, in 2004 VA developed the capability to support the real-time bidirectional exchange of electronic medical records between DoD and VA using the Bidirectional Health Information Exchange (BHIE). BHIE builds upon the success of FHIE and delivers readable text data between VA and DoD medical facilities where patients we both treat receive care. BHIE expands our access to medical data and allows VA and DoD to match patient identities for active DoD military service members and their dependents with their electronic health records at VA facilities, when needed. BHIE also supports the real-time bidirectional exchange of outpatient pharmacy data, anatomic pathology/surgical reports, cytology results, microbiology results,

chemistry and hematology laboratory results, laboratory order information, radiology text reports and food and drug allergy information.

BHIE data are available to DoD from every VA medical facility. DoD is currently implementing BHIE across selected sites and, thus far, has completed implementation at 14 major DoD sites. These sites include the Walter Reed Army Medical Center and the Bethesda National Naval Medical Center in the National Capital Area, the Landstuhl Regional Medical Center in Germany, and the Naval Medical Center in San Diego. VA is also working closely with DoD to expand the number of DoD military treatment facilities where BHIE is implemented and to increase the scope of data available for sharing between DoD and VA.

As I'm sure you are aware, DoD has modernized its information system and is migrating to AHLTA just as VA is migrating to Health***e***Vet. Pursuant to the JEHRI Plan that I discussed earlier, VA and DoD will soon implement the next phase of JEHRI that supports electronic data exchange between VistA and AHLTA. Both of these next-generation systems will rely on data repositories that use standardized data to ensure that health information is available across each enterprise, where and when it is needed.

Whereas the current data sharing initiatives FHIE and BHIE permit VA and DoD medical facilities to share text-viewable data from legacy systems, the next phase of JEHRI provides a strategy to share computable data between data repositories. This will enable decision support actions, such as drug-drug and drug-allergy checking between systems. This next phase of JEHRI, known as "CHDR", provides for VA and DoD to develop an interface between the DoD Clinical Data Repository (CDR) of DoD's AHLTA system and the VA Health Data Repository (HDR) of the next generation VistA system. The good news is that CHDR capability was operational in a laboratory test environment in September 2004. We have since been working on developing a production-phase CHDR and are preparing to test CHDR between the William Beaumont Army Medical Center and the El Paso VA Healthcare System in El Paso, Texas, no later than July 2006.

In addition to FHIE, BHIE and CHDR, VA and DoD have successfully developed a number of other applications that support information sharing and improve the way both Departments care for beneficiaries. For example, the jointly developed Laboratory Data Sharing Interoperability (LDSI) software permits VA and DoD to serve as reference laboratories for one another at locations where VA and DoD use each other's facilities to order and conduct chemistry laboratory tests and results reporting. The software is now operational at several locations where DoD and VA provide laboratory support to one another, and it is available to all sites where VA and DoD serve as reference lab facilities for one another and where the business case justifies its use.

Although significant progress has been made, VA and DoD continue to work closely together to increase the amount and type of health data being shared. DoD currently has access to VA inpatient data through the existing interface with VistA. The Departments have joined forces to provide VA the ability to access DoD electronic inpatient data that are collected and stored through the DoD Clinical Information System. The Departments also are working together as VA modernizes its existing imaging solution and DoD explores acquisition of new imaging technology. The Departments are actively exploring a collaborative imaging solution that will use VA technology to support shared access to images, such as radiological studies, in both DoD and VA facilities.

Collaboration on Standards

The bidirectional exchange of electronic health data between different health information systems is a monumental accomplishment. Moving from text-based data to computable data is even more challenging and complex. This work is dependent upon the adoption and implementation of health data and communication standards. VA and DoD are breaking new ground in this area and remain at the forefront of health data collaboration and exchange activities within the Federal government. Together, VHA and Military Health System personnel staff multiple workgroups and standards development organizations charged with identifying and adopting standards to support interoperable health

technologies. We have previously given Congressional testimony about our joint work as partners on the Federal Health Architecture Consolidated Health Informatics (FHA/CHI) initiative, one of the 24 e-gov initiatives on the President's Management Agenda. The Department of Health and Human Services (HHS) has sponsored the FHA/CHI initiative, and VA and DoD have served as lead partners.

The purpose of FHA/CHI has been to promote interoperable health information technology within the Federal government, and to facilitate the informed and collaborative Federal identification and adoption of health information standards. Increasingly, government-wide initiatives such as FHA/CHI reside within the HHS Office of the National Coordinator for Health Information Technology and work closely with the American Health Information Community (AHIC), which serves as a public forum for discussing and providing HHS with advice on advancing the implementation of health information technology. VA is an active AHIC participant and will continue to play a leading role in the national-level discussions on health data standards adoption and implementation.

Privacy and Security Protections

I now wish to discuss briefly the existing protections that ensure that our DoD/VA health data exchange initiatives are secure and fully protect the personal health information of our veterans and military beneficiaries. Since 2002, when we first implemented FHIE, there has been no known breach in health data security, despite the large number of veterans covered and the substantial amount of data transferred.

FHIE and BHIE are in full compliance with the Federal Information Security Management Act (FISMA) and the Office of Management and Budget's government-wide information security and privacy policies, as well as VA's Office of Cyber Security policies and DoD Information Assurance polices. These projects also comply with the privacy and security requirements of the Privacy Act and the Health Insurance Portability and Accountability Act (HIPAA) meant to

protect the unauthorized use or transmission of personal health information. To ensure the highest level of protection for these clinical data, we employ a double-encryption method using a hardware-based Virtual Private Network (VPN). After having passed an initial and subsequent review of security protections, the FHIE/BHIE framework received a VA-issued renewal of the Authority to Operate in December 2005. An "Authority to Operate" results from a comprehensive process[1] that includes security planning, security control implementation and testing. DoD information security officers concurred with and accepted this rigorous review. As sharing partners, VA and DoD take very seriously our duty to protect the sensitive health data entrusted to us in the course of caring for veterans and military beneficiaries. FHIE and BHIE are award-winning programs, with BHIE having been recently recognized as finalist for the prestigious 2006 Excellence.gov award by the American Council of Technology. This award recognizes innovation and best practices among interagency collaborations.

Lessons Learned

Prior to closing, I want to briefly discuss a few important lessons learned by VA throughout its implementation of VistA and successful data exchange initiatives with DoD. First, our health information technology is not about the technology, but it is about improving the quality of care and health outcomes for veterans. Therefore, technology must be woven into the very fabric of the business processes for delivering care and treatment – as we have succeeded in doing in VA today. The technology we've developed and implemented allows VA clinicians to use software tools to analyze health data in real-time; target relevant information quickly; compare results, and use built-in order checks and reminders to support point-of-care clinical decision-making. These capabilities promote safer, more complete and more systematic care.

Second, with respect to VA data exchange with DoD or any partner, the type of data to be shared (e.g., information on clinical care and patient safety)

[1] National Institutes of Standards and Technology Special Publication 800-37

should determine the scope and extent of the data exchange. VA and DoD continue to work together to share data where and when it makes sense to do so.

VA and DoD have also learned that a joint comprehensive approach is needed to ensure success. For example, the DoD/VA Joint EHR Interoperability Plan sets forth shared objectives, documents a project management plan that has aggressive but achievable milestones with progressively increasing capabilities, and is managed at the highest levels of both Departments. Also as part of JEHRI, VA and DoD provide joint leadership and guidance in key standards development organizations and initiatives such as FHA/CHI and AHIC.

Because an estimated 40 percent of the veterans we treat each year receive additional care outside of VA, we are committed to the growth of interoperable technologies to support health information sharing across all settings where veterans receive care, both public and private. The identification and adoption of mature health data standards is a necessary component to continued success in this area.

Additionally, we have learned to build systems, managed through a rigorous, efficient change control process, that are flexible and capable of implementing significant new capabilities to support new requirements as they arise. For example, our FHIE infrastructure was quickly modified to implement BHIE. On a more recent occasion, that same infrastructure was extended to provide the capability to access Pre- and Post-Deployment Health Assessment data on returning OEF and OIF combat veterans, as well as demobilized Reserve and National Guard members. These enhancements were achieved with only a marginal increase above our original investment.

Conclusion

VA is fully committed to ongoing collaboration with DoD and to further promoting world-class health technologies to improve health care for veterans. My colleagues and I will be pleased to answer any questions that you or other members of the Committee might have.