Prepared Statement

of

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Introduction

Chairwoman Davis, Chairman Smith, Ranking Member Wilson, Ranking Member Miller and distinguished members of the Committee, thank you for the opportunity to discuss AHLTA, the electronic health record (EHR) system for the Department of Defense (DoD). This essential technology, which supports uniform, high quality health promotion and healthcare delivery for more than 9.2 million Military Health System (MHS) beneficiaries, is rapidly becoming an integral part of the Nation's health information technology infrastructure.

DoD senior leadership is committed to ensuring provider satisfaction with AHLTA and to resolving issues identified by providers in the healthcare community. Today, we will discuss both the immediate steps we are taking to resolve the most urgent issues and our comprehensive action plan for broad improvements to AHLTA over the next few years.

Madam Chairwoman, Mr. Chairman, as the MHS leadership, we are committed to delivering the business processes and information technology (IT) improvements necessary to ensure that our providers have the tools to deliver and document patient care efficiently and effectively. In 2008, DoD initiated a comprehensive analysis of AHLTA to ensure that the clinical IT needs of providers were being met and began development of an Enterprise Architecture strategy for the DoD electronic health system. The results of our analysis allowed us to develop the strategy that we are here to present.

The Unified Strategy Regional Distribution Approach is a three-phased plan for reshaping our electronic health system. This strategy lays out a nimble, open standards-based approach for meeting current and future interoperability requirements, while also fulfilling the Department's complex security and use-case requirements.

Using the Unified Strategy Regional Distribution Approach, the MHS seeks to improve provider satisfaction, improve reliability, and strengthen data sharing throughout DoD and Department of Veterans Affairs (VA) healthcare delivery continuum and with private healthcare providers. Improvements over this next year will answer urgent provider requests for improved usability, stability and reliability. Over the next two to three years advancements will sustain provider satisfaction and modernize architecture and infrastructure. These modernization approaches allow us to build and field new capabilities within months, not years to integrate new, user-friendly capabilities into AHLTA, and reduce reliance on outdated components that are difficult or expensive to maintain.

In addition, the Unified Strategy Regional Distribution Approach will yield the "blueprint" for the MHS Enterprise Architecture and help us determine how to most effectively achieve current and future objectives from business, application, information and technology perspectives. The "blueprint" is a comprehensive representation of the MHS IT operations that will allow us to proactively manage the entire electronic health system and drive informed decision-making processes based on open standards and industry best practices.

Madam Chairwoman, Mr. Chairman, we believe the Unified Strategy Regional Distribution Approach will increase DoD's capability to support efficient, secure and cost-effective information sharing for use in delivering services required by our Nation's Veterans, Service Members and their families. Through this approach, we will elevate our electronic health system from "intolerable" to "indispensable" in the eyes of our provider community.

Overview: The Unified Strategy Regional Distribution Approach

Stabilizing AHLTA.

The first phase of the Unified Strategy Regional Distribution Approach focuses on improving the AHLTA user experience by stabilizing performance, reliability, and the core infrastructure. The primary objectives of the one- to two-year stabilization phase are: achieving DoD/VA interoperability for the provision of clinical care; playing a significant leadership role in Nationwide Health Information Network (NHIN) pilot projects; and implementing the Enterprise Architecture "blueprint." During the stabilization phase, the Department will also address critical functional gaps and complete preliminary modernization efforts, including the implementation of web services. During this phase we will continue our DoD/VA data sharing initiatives.

Fielding a Comprehensive Electronic Health System.

The second phase of strategy implementation will extend DoD involvement in the NHIN pilot to include incremental interoperability with the private sector and other government agencies beyond VA; field a personal health record solution to empower beneficiaries to manage their own health care; and continue execution of the Enterprise Architecture "blueprint." Improvements in software capabilities, system performance and reliability, and architecture modernization and standardization will further enhance the AHLTA user experience and the care delivery process.

Enhancing the Electronic Health System.

The third phase of strategy implementation will continue expansion of NHIN activities and intensify efforts to achieve comprehensive interoperability. The Department will also extend and enhance the Enterprise Architecture; transition to an open architecture; implement next-

generation capabilities; and provide more robust, open standards-based information sharing. In this and every phase of the Unified Strategy Regional Distribution Approach, the Department will solicit feedback on AHLTA performance from providers and use their input to frame ongoing optimization efforts.

Moving to a Unified Electronic Health System

At the heart of the Unified Strategy Regional Distribution Approach is DoD's migration to a single, logical electronic health system. Using a unified data model, common services, and a unified, Web 2.0-based, customizable graphical user interface (GUI), in conjunction with a service-oriented architecture (SOA), it is now possible to provide a single EHR for patients.

The unified electronic health system will foster full application interoperability and interchangeability, and support both the health mission of providers and the health needs of our Warfighters. The open standard/open architecture technologies employed in the structure will facilitate secure, appropriate, and cost-effective data sharing with DoD, VA and DoD managed care support contractors.

The Department also established a Red Team. The Red Team consists of government technical and functional leaders and Industry Partners including IT leaders from such companies as Intel, Microsoft and GE Medical. The Red Team's Charter is to advise and consult during the Enterprise Architecture Development Process and provide documented feedback on available open standards and industry best practices. The Red Team has reviewed and validated the Unified Strategy Regional Distribution Approach and will continue to provide assessments as we move forward.

Harnessing the Power of Service-Oriented Architecture.

The unified electronic health system will provide major improvements in the capability to exchange data through the use of a service-oriented architecture. Using a service-oriented architecture approach provides methods for development and integration of publish and subscribe services in which functionality is grouped around specific business processes. These processes are then packaged as interoperable services. Using the service-oriented architecture approach, different IT applications can be made interoperable and more efficiently and effectively exchange data.

The service-oriented architecture approach also supports the reuse of code and applications, making rapid development possible, and significantly reducing product delivery time. The end result is the ability to build and field new capabilities within months, not years. MHS has already achieved great success with service oriented architecture, and code and application reuse, in the area of battlefield medical systems, demonstrating the ability to drive down costs and reduce time-to-field from several years to several months. The Theater Medical Data Store, the Medical Situational Awareness in Theater advanced concept technology demonstration, and the Behavioral Health Note capability exemplify the power of a service oriented architecture to support the rapid development and fielding of needed capabilities.

The same MHS IT leaders responsible for the successful development and fielding of these critical theater applications are now leading the MHS Enterprise Architecture and AHLTA efforts.

The Unified Data Model.

Simply put, the unified data model or "schema" identifies data entity types, identifies attributes, applies naming conventions, and identifies relationships among enterprise data. As a

result, the schema standardizes messaging between legacy systems and newer systems. DoD is currently using the model and has shared it with VA. By making the schema available to vendors, future systems will be interoperable with existing systems upon delivery.

Common Services—the Unified IT Service Bus.

The Unified IT Service Bus is a highly secure, robust software infrastructure that can connect information technology resources and combine or reassemble services to satisfy emerging requirements. The Unified IT Service Bus is a universal translator that can allow legacy systems and services to talk with more modern systems and services, simplifying the connection of new applications, legacy applications, application servers, web services, and many other technologies. The Unified IT Service Bus will coordinate interactions among IT resources, manage any incompatibilities between data resources, and generate common services based on activities that can be shared and reused. Development of the Unified IT Service Bus was completed in early February 2009.

Unified Graphical User Interface.

DoD took the best of what VistA had to offer in its user interface and built a cutting edge user-customizable, government-owned, Web 2.0-based interface. This Unified GUI provides a single access to authoritative data sources such as AHLTA and other MHS systems. It was built to also interface with VistA. The Unified GUI was designed to replicate the ease-of-use characteristics of VA's VistA application GUI and to be compatible with AHLTA, VistA and other applications. The prototype was completed in February 2009. The Services, VA and industry representatives have visited our development facility, seen demonstrations and provided their input. Providers were pleased with both the ease of use and the flexibility of the interface

which individual providers can easily modify to present data based on personal preference or medical specialization.

Unified Structure for Regional Distribution.

The Department's plan for modernizing the Clinical Data Repository (CDR) will move the MHS away from manual repository management, provide redundancy, and eliminate multiple single points of failure. These critical changes will support the achievement and sustainment of high quality, fast, and reliable connectivity; enable faster system response times; and eliminate screen refresh delays which can interfere with our providers' clinical workflow.

The Unified Global Health Repository will be regionally distributed but centrally managed. Central management makes it possible to perform maintenance functions without impacting users, and optimizes the use of available bandwidth. The new multipath routing approach the MHS is implementing as part of this structure enables message traffic rerouting based on priority and central network monitoring for quick identification and resolution of issues down to the individual provider's personal work station.

Multipath routing is a way to route data to achieve the agreed-upon quality of service. This allows for continuous connections and reconfiguration around broken paths, until a destination is reached. Because the networked components connect to each other, there are no single points of failure. This type of network is extremely reliable because it is self-correcting, allowing the network to automatically reroute traffic with no manual intervention required if a connection is broken or unreliable.

This Medical Mesh Network for multipath routing is overlaid on the Defense Information Systems Agency infrastructure and used to optimize system performance, eliminating many of the causes of system latency and other performance issues associated with provider satisfaction

with AHLTA. Today, the Defense Information Systems Agency, our network service provider, uses only 10 percent of the available capacity of the network; the other 90 percent is unused. Using this Medical Mesh Network, the MHS can effectively utilize unused capacity to provide the best quality of service for our healthcare providers and Warfighters.

This capability is so effective and powerful that it could serve as a foundation for the Defense Information Systems Agency and potentially for our national health infrastructure. Multipath routing is an example of how the MHS is adopting industry best practices. Hospital Corporation of America, which owns and operates hundreds of hospitals and surgery centers in 20 States and in England, has implemented similar technologies to support its regionalized data repositories. As we move forward with the Medical Mesh Network, we are benchmarking network structure components and engaging the industry "Red Team" in benchmark reviews.

Why Now?

Now is the time for the Unified Strategy Regional Distribution Approach. The MHS business transformation—fueled by the Enterprise Architecture "blueprint"—supports a continuous improvement approach. Further, major technological, open standards and architecture advances support a unified electronic health system approach that fulfills interoperability goals without jeopardizing DoD's information assurance posture.

Enterprise Architecture "Blueprint" to Drive Business Transformation.

The Unified Strategy Regional Distribution Approach completely changes our business approach to developing and sustaining the family of systems supporting DoD's healthcare mission. This family includes systems designed to meet DoD-specific requirements for clinical management, medical logistics, resource management, in-transit visibility, Warfighter support, decision support, and research and development activities.

The Unified Strategy Regional Distribution Approach provides for DoD's complex security and capability needs, and leverages open standards-based advanced technologies, achieving interoperability goals more quickly, less expensively, and among a much broader set of applications and care provider communities.

The Unified Strategy Regional Distribution Approach is transforming the role of the federal government in the outsourcing paradigm—from the government acting as a customer reliant on external engineering expertise to the government acting as the lead integrator, defining the national standards and industry best practices to which vendor deliverables must adhere. This shift gives the government the tools it needs to manage and continuously monitor vendors to ensure that they deliver products at the expected cost that meet user needs and are easily integrated into the electronic health system without expensive customization.

The Enterprise Architecture "blueprint," to be completed this month, will be used to inform every aspect of business transformation at the core of the Unified Strategy Regional Distribution Approach. The "blueprint" reflects MHS business processes, governance and standards; the interactions among those processes, governance and standards; organizational operations information; and the hardware, software and networks MHS uses. MHS leaders will use the "blueprint" to improve decision making, facilitate the ability to adapt to changes in requirements, optimize the use of assets, eliminate processes that are redundant or inefficient, and significantly improve user satisfaction.

Enterprise Architecture "Blueprint" to Strengthen Improvements in Outsourcing Management.

The business transformation underway within MHS targets the shortfalls of past managerial processes and provides the government with the necessary tools to reduce costs and dramatically improve the quality of product delivered through outsourcing activities, including the adoption of open standards and industry best practices to help maximize the federal return on investment. Because information technology is constantly evolving, MHS is adopting the best practices of the IT Infrastructure Library. The IT Infrastructure Library contains best practices that are current and practical, combining sound guidance with the latest thinking from public and private sector experts in the IT community.

Unified Electronic Health System Fulfills Unique, Complex Requirements of DoD Healthcare Information Support for the Warfighter Mission.

For DoD, a significant ongoing challenge with interoperability is the complex set of requirements that must be fulfilled. These include the critical requirement for operations security to prevent an adversary from accessing and exploiting information held in our systems. DoD's electronic health system is complex in its requirement to support the capture and transmission of operational information. Unauthorized access to medical situation awareness information held in systems for Command and Control, Force Health Protection, and Medical Readiness, could provide information on troop strength, location and other details that might pose a threat to Service Members, operations and activities.

Other DoD security requirements, which exceed those of other electronic health systems, include the need for detailed audit trails, the use of the Secret Internet Protocol Router (SIPR) for transmission of classified information, and the ability to fulfill the requirements of DoD's

Information Assurance Posture. All of these requirements support DoD's capability to collect, process, and disseminate an uninterrupted flow of information while denying an adversary's ability to gain access to this information.

DoD systems also must address the challenges posed by complex care delivery scenarios that include a highly mobile healthcare team and patient population that operate in austere environments including theater and shipboard operations, and in-transit scenarios such as medical and aeromedical evacuation.

The Unified Strategy Regional Distribution Approach addresses each of the above constraints. The robust security inherent in the IT Service Bus and other components of the single logical electronic health system, including those components previously developed, fulfill these unique requirements.

CONCLUSION

Madam Chairwoman, Mr. Chairman, the Department appreciates the insights, recommendations, and guidance of the Committee members and the Service representatives in attendance today. We share a common goal to provide the highest quality care to our Nation's service members and their families. Implementing the Unified Strategy Regional Distribution Approach and making the unified electronic health system a reality, will provide transparent management of and access to inpatient, outpatient, and battlefield health records; enable the effective reuse of the best available software components; meet the goal of using open standards to achieve interoperability; and establish an Enterprise Architecture to achieve and sustain long term provider satisfaction and support efficient, effective delivery of care to our beneficiaries.

We look forward to keeping you apprised of our progress as we move forward with the Unified Strategy Regional Distribution Approach. Thank you again for allowing us the

opportunity to appear before you to discuss the “Way Ahead” for DoD’s Electronic Health System.