THE ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D C 20301-1200

HEALTH AFFAIRS

JAN 1 3 2005

The Honorable John W Warner
Chairman, Committee on Armed Services
United States Senate
Washington, DC 20510-6050

Dear Mr Chairman:

I am pleased to forward this annual report (enclosed) as required by Section 753 of the National Defense Authorization Act for Fiscal Year 2001 It includes discussion on the activities of the Medical Informatics Advisory Committee The report also includes discussion on the coordination of development, deployment, progress, and maintenance of health care informatics systems within the Federal Government and between the Federal Government and the private sector.

The Department of Defense continues to make significant strides in sharing electronic health information and adoption of data, communication, security, and technology standards. Much has been accomplished in a short period of time and the ground work has been laid for even greater progress in the future The Department is firmly committed to continued collaboration to expand the appropriate sharing of health information as systems and data repositories mature and the Federal Health Architecture is further defined and implemented

Thank you for your continued support of the Military Health System.

Sincerely,

William Winkenwerder Jr.

William Winkenwerder, Jr , MD

cc:
Senator Carl Levin

Enclosure
As stated

Report to Congress

Report on Medical Informatics

Required by:

Section 753, National Defense Authorization Act for Fiscal Year 2001

and

House Armed Services Committee Report 106-616

REPORT ON MEDICAL INFORMATICS

Background

This report is required by Section 753 of the National Defense Authorization Act for fiscal year 2001. The report includes a discussion of the following: (a) the activities of the Medical Informatics Advisory Committee; (b) the coordination of the development, deployment, and maintenance of health care informatics systems within the Federal Government, and the private sector; (c) the progress occurring in the area of medical informatics; and (d) how the TRICARE program and the Department of Veterans Affairs health care system can use the advancement of knowledge in medical informatics to raise the standards of health care and treatment and the expectations for improving health care and treatment.

The committee also requested the Secretary of Defense to provide an annual report beginning March 1, 2001, to the Senate Committee on Armed Services and House Committee on Armed Services Report 106-616 on the progress to date and the remaining timelines and tasks associated with integrating the Department of Defense (DoD), the Department of Veterans Affairs (VA), and the Indian Health Service medical information systems.

Medical Informatics Advisory Committee

The Quality Interagency Coordination (QuIC) Task Force, a federal interagency activity with similar and complementary responsibilities and membership, continues its function as the Medical Informatics Advisory Committee. DoD continues to play an active role in this committee.

Additional Interagency Oversight

DoD/VA Health Executive Council (HEC) and DoD/VA Joint Executive Council (JEC): The Chief Information Officers (CIOs) of the Military Health System (MHS) and the Veterans Health Administration (VA) continues to meet to explore, assess, develop, and monitor joint medical informatics initiatives. Both CIOs are members of the DoD/VA Health Executive Council (HEC) which is co-chaired by the Assistant Secretary of Defense (Health Affairs) and the VA Undersecretary for Health. Information management and technology issues are also briefed to the DoD/VA Joint Executive Council which is co-chaired by the Under Secretary of Defense (Personnel and Readiness) and the Deputy Secretary for Veterans Affairs.

The VA/DoD Joint Strategic Plan: The VA/DoD Joint Strategic Plan, approved at the April 2003 Joint Executive Council meeting, includes an integrated information sharing goal with several actionable objectives for health information sharing. These objectives include enhancing the Federal Health Information Exchange capabilities, demonstrating new technical capabilities to exchange appropriate health data between DoD and VA while maintaining appropriate security, and adopting common health data standards. The Joint Strategic Plan is currently being updated. Appropriate electronic health information sharing will remain a key focus.

The President's Task Force to Improve Health Care Delivery For Our Nation's Veterans (PTF): The President's Task Force to Improve Health Care Delivery For Our Nation's Veterans (PTF) was created by Executive Order 13214. The President's charge to the PTF was to identify ways to improve health care delivery to VA and DoD beneficiaries through better coordination and improved business practices. The final report from the PTF, including a series of 23 specific recommendations for action, was published in May 2003. These recommendations focus on providing clearer leadership, creating a seamless transition, removing barriers to collaboration, and addressing the mismatch between VA

demand and resources. Among these is a recommendation that "VA and DoD should develop and deploy by fiscal year 2005 electronic medical records that are interoperable, bi-directional, and standards-based." Many of the DoD/VA activities discussed in this report support increasing the Quality of Medical Care through Medical Informatics.

DoD/VA Interagency Health Informatics Initiatives

The DoD and VA are involved in numerous multi-agency medical informatics activities. Examples of joint efforts are as follows:

Federal Health Information Exchange: The Federal Health Information Exchange (FHIE), enables the electronic transfer of appropriate protected electronic health information, in keeping with applicable privacy laws and regulations, from DoD to VA at the time of a service member's separation. DoD has transmitted over 95 million messages on 2.3 million unique patients containing information on laboratory results (clinical chemistry, blood bank information, microbiology, surgical pathology, and cytology); radiology results; outpatient pharmacy data from military treatment facilities; retail network pharmacies; and DoD mail order pharmacy; allergy information; discharge summaries (inpatient history, diagnosis, and procedures); admission, disposition, and transfer information (admission and discharge dates); consult reports (referring physician and physical findings); standard ambulatory data record (diagnosis and procedure codes, treatment provided, encounter date and time, and clinical services); and patient demographic information (name, social security number, date of birth, sex, race, religion, patient category, marital status, primary language, and address). This number continues to grow as health information on recently separated Service members is extracted and transferred to VA monthly. Providers at over 200 facilities nation wide have access to data on separated Service members. This has enhanced the delivery of health care and adjudication of disability claims. All health information exchanges are executed in a

manner that complies with Health Information Portability and Accountability Act (HIPAA) regulations.

Bi-directional Health Information Exchange (BHIE): The Departments are currently leveraging the work done on FHIE to create a bi-directional health information exchange (BHIE) to exchange outpatient pharmacy, allergy and demographic data between selected joint sharing facilities. The business case supporting this data exchange focuses in areas where a common treatment relationship exists from patients receiving care in both DoD and VA health care systems. Initial implementation of this capability is targeted for fiscal year 2005. Further enhancements in fiscal year 2005 will provide for the bi-directional availability of radiology and laboratory results, and admissions and disposition data.

DoD/VA Joint Electronic Health Records Interoperability (JEHRI) Initiative: The JEHRI program addresses the Departments' current, near-term, and long-range plans to improve sharing of health information; adopt common standards for architecture, data, communications, security, technology and software; seek joint procurement and/or building of applications, where appropriate; seek opportunities for sharing existing systems and technology, and explore convergence of DoD and VA health information applications consistent with mission requirements. JEHRI also responds to the President's Task Force to Improve Health Care Delivery For Our Nation's Veterans recommendation. DoD and VA are committed to exchanging appropriate health information in the most efficient and effective means possible while continuing to meet unique agency needs.

The Departments are currently preparing the Memorandum of Agreement (MOA) for the JEHRI program. The MOA provides an update to the existing MOA for Federal Health Information Exchange (FHIE) Governance and Management and extends the expiration date of the current agreement between DoD and VA. The document also contains the

overarching agreement between VA and DoD to manage the activities and projects that fall within the joint strategy to develop interoperable electronic health record systems. Furthermore, it seeks to reaffirm DoD and VA's commitment to develop and provide a model for appropriate health information sharing that will enhance health care delivery and improve the continuity of care for beneficiaries in both Departments.

The Clinical/Health Data Repository (CHDR) Working Integrated Product Team (WIPT), led by senior managers in both Departments, facilitated the development of functional capabilities and requirements and ensures interoperability between the DoD Clinical Data Repository (CDR) and the VA Health Data Repository (HDR).

The CHDR WIPT completed the development of a prototype for a bi-directional outpatient pharmacy, allergy information, and patient demographics concept demonstration in September 2004. To enhance bi-directional real-time exchange of clinical health care data in the future, DoD and VA are working on interoperability between the DoD CDR and the HDR – (CHDR) utilizing the Departments' next generation of systems, DoD Composite Health Care System II and VA HealtheVet VistA.

Phase I of this effort is a pharmacy prototype. The Departments' technical and functional teams successfully completed a demonstration of the bi-directional pharmacy prototype on September 2004. The data exchanged through the pharmacy prototype includes patient demographic data (sufficient to correlate patients), provider demographic data (sufficient to identify the ordering provider), medication lists, and allergy lists from one agency repository to another. In addition, the prototype provides the capability for agency drug to drug interaction screening (based on the integrated DoD/VA medication list) and local (intra-agency) database drug to drug allergy interaction screening (based on the integrated DoD/VA allergy list).

The Departments are continuing their efforts to ensure interoperability between the DoD and VA health information systems. The CHDR WIPT and its subgroups accomplished the following:

- Developed a joint CHDR Project Management Plan
- Drafted DoD/VA Sharing agreement outlining appropriate communication of health information
- Conducted CHDR In-process Reviews with joint agency leadership to review milestones, progress and plans
- Began development of CHDR Phase II
- Identified Subject Matter Experts to address additional requirements for allergies, demographics, and labs
- Updated terminologies with the new Consolidated Health Informatics standards
- Initiated architecture definitions

Scheduling Interoperability: Progress towards interoperability continues through the Scheduling Interoperability Work Group (SIWG) under the Health Executive Council IM/IT Work Group. The SIWG has:

- Sustained communications on design, data migration, data storage, messaging and standardization for the DoD Enterprise Wide Scheduling and Registration (EWS-R) project and the VA Replacement Scheduling Application (RSA).

- Coordinated an annual (full day) exchange between the DoD/VA technical teams to ensure the systems achieve both functional and semantic interoperability.

Laboratory Data Interoperability: This initiative facilitates the electronic transfer/sharing of laboratory order entry and results retrieval between DoD, VA, and commercial reference laboratories. The first phase of this project supports the ability of VA to initiate lab requests for filling at DoD labs and is being used in Hawaii. Lab Data Sharing and Interoperability will also be implemented between DoD and VA sites in San Antonio, Texas, and in El Paso, Texas, as part of the National Defense Authorization Act (NDAA), Section 722, Demonstration Site initiatives, which will be kicked off in the fourth quarter of fiscal year 2004. The second phase supports the ability of DoD to use VA as a reference laboratory. The initial testing was completed at Naval Medical Center San Diego (NMCSD) and San Diego VA Health Care System in the third quarter fiscal year 2004. This capability is currently being tested between the Naval Hospital Great Lakes to Hines and Milwaukee VA facilities.

Credentialing Test: Significant strides have been made toward evaluating the merits of electronically sharing credentialing information between DoD's Centralized Credentialing Quality Assurance System (CCQAS) and VetPro. Pilot testing of the interface between the DoD and VA credentialing systems took place at Naval Hospital Great Lakes/North Chicago Veterans Health Care System/Hines VA Hospital, Ireland Army Community Hospital/Louisville, VA, and Mike O'Callaghan Federal Hospital in Las Vegas, NV. This interface successfully supported the exchange of approximately 50 credentials data elements between the Departments. The interface meets the intent of the Joint Commission for the Accreditation of Health Care Organization guidance regarding the acceptance of credentials data verified by another source.

The pilot test was completed in the third quarter fiscal year 2004. The Departments are now implementing the Centralized Credentialing Quality Assurance System and Veterans Health Administration VetPro credentials interface in the San Antonio area for use by Wilford Hall Medical Center, Brooke Army Medical Center, and the South Texas Veteran's Healthcare System. The pilot test, as part of the NDAA Demonstration Site

initiatives will provide significant input to the Departments, as it is used over a longer period of time.

E-portal Systems: TRICARE Online (TOL) is an enterprise-wide, secure eHealth portal intended for use by Department of Defense (DoD) beneficiaries, providers, health care managers, and purchased care support contractors. TOL provides the 9 million-plus beneficiaries worldwide with secure access to more than 18 million pages of trusted health care information, and provides information on local military treatment facilities (MTF) providers and services. Beneficiaries can use TOL to schedule appointments with their primary health care provider online, and create their own personal health journals to help manage their health care progress. TOL enables beneficiaries to evaluate medications for potentially harmful interactions. Beneficiaries can use TOL to research health care claims and ascertain the latest TRICARE health services and benefits. TOL supports health care operations at 381 MTFs worldwide. TOL and MyHealtheVet, use the same health content provider, this supports continuity of care as Service members transition to veterans. Recently, the DoD and VA have begun collaborative efforts to identify eHealth secure portal best practices and information sharing opportunities.

Enterprise Architecture

The Department is focusing on enhancing our enterprise architecture (EA) to ensure that our information technology investments directly support military health care around the world and aligns with the Department's Business Management Modernization Program. DoD continues to refine our information technology capital investment and portfolio management process, ensuring that all proposed information technology investments are evaluated against objective, business focused criteria. Protecting sensitive beneficiary information is very important. To do so, DoD has implemented a strong information assurance program which addresses information security from electronic, physical and personnel perspectives.

Standards Development: DoD continues to play a key role as a lead partner in the Federal Health Architecture (FHA) and Consolidated Health Informatics (CHI) eGOV initiatives. In May 2004, the Department of Health and Human Services (HHS) announced the adoption of additional standards related to areas such as demographics, units, lab results contents, medications, lab test order names, and immunizations. The standards adopted will be used in new acquisitions and systems development initiatives. As federal entities use common standards it will be easier to share appropriate health information between and among federal partners.

The Department continues to aggressively participate with Standard Development Organizations (SDOs) in the development of national health data, technical, security, and communication standards that foster interoperability and data exchange. The Department is contributing towards implementation on HL7 Clinical Document Architecture standards and Laboratory Logical Observation Identifier Name Codes standards within federal agencies. Additionally, DoD and VA co-chair the HL7 Special Interest Group.

Federal Health Architecture (FHA): DoD is a lead agency participating in this new initiative. FHA offers an excellent opportunity to build partnerships throughout the nation's health care environment towards the development of an integrated and effective health information exchange network. FHA will enable the utilization of existing systems to meet health care delivery requirements while providing clear rules for the development of architecture framework for defining the National Electronic Health Record and access to health related information and services throughout the national health arena. DoD is co-lead on the Health Care Delivery – Electronic Health Record (EHR) Work Group formed in May 2004. The work group's initial focus is the federal EHR business architecture. The first vertical line of business being addressed is public health surveillance. This effort will serve as a proof-of-concept for continuing to develop additional lines of business building to a full Federal Health Architecture. To support the

framework for the DoD architecture, the Department has drafted guiding principles, determined oversight bodies, drafted joint charters and initiated a program reference model (PRM) based upon the framework of the Office of Management and Budget PRM.

Other Multi-Agency Health Informatics Initiatives

Health Information Technology (HIT): On April 27, 2004, the President signed an Executive Order, "Incentives for the Use of Health Information Technology and Establishing the Position of the National Health Information Technology Coordinator," calling for the majority of Americans to have an interoperable electronic health record within 10 years. Additionally, the Executive Order directed DoD and VA to jointly report on the approaches the Departments could take to work more actively with the private sector to make their health information systems available as an affordable option for providers in rural and medically underserved communities.

The DoD outlined its response to this challenge in, "The Report on Approaches to Work with the Private Sector to Make Health Information Systems Available and Affordable to Rural and Medically Underserved Communities." It was submitted on July 21, 2004 to the Honorable Tommy G. Thompson, Secretary of Health and Human Services (HHS), to be incorporated into the HHS document "The Decade of Health Information Technology: Delivering Consumer-centric and Information-rich Health Care – Framework for Strategic Action." DoD's report recommended the need for a common "blueprint" or "road map" from which all interested parties can proceed. The Department also recommended approaches that focus on standards (e.g. data, security, messaging, technical, and communication) and interoperability; infrastructure considerations (e.g., networks, hardware, and software); contracting incentives; technology transfer; and sharing of lessons learned.

In support of this effort, the report detailed the Department's successful implementation of various types of health information technologies in comparable environments and for similar purposes as those found in rural and medically underserved communities. Examples of these technologies include:

- Telehealth for radiology, mental health, dermatology, pathology, and dental consultations;
- Online personalized health record for beneficiary use;
- Bed regulation for disaster planning;
- Basic patient encounter documentation;
- Pharmacy, radiology, and laboratory order entry and results retrieval for use in remote areas and small clinics;
- Pharmacy, radiology, and laboratory order entry and results retrieval, admissions and discharge, and appointments for use in small hospitals; and
- Online education offerings for health care providers.

DoD has outlined several key goals and strategies to collaborate and coordinate recommendations with the Office of the National Coordinator for Health Information Technology (ONCHIT) in support of a strategic plan development. For example, DoD will continue to aggressively participate with Standards Development Organizations in development of national data, technical, security and communication standards that foster interoperability and data exchange. Additionally, the Department will continue to work with professional organizations and support initiatives to facilitate adoption and implementation of standards.

The Department is also sharing lessons learned and clinical practice templates on appropriate topics in various forums with national, regional, state, and local authorities and private sector. DoD and VA serve as catalysts for changing how health care is delivered in the future; specifically as it relates to the use of health information technologies to improve access, health care delivery, population health management, and

patient safety. ONCHIT is coordinating with DoD, VA, other federal agencies and organizations to develop: (a) a framework for securely exchanging health data through a common federal health infrastructure, (b) electronic health records, and (c) standards for data, security, technology, and communication.

Connecting for Health: DoD remains an enthusiastic supporter of *Connecting for Health . . . A Public-Private Collaboration* through participation as a steering group member. This collaborative effort convened by the Markle Foundation answered calls by the Institute of Medicine, the President's Information Technology Advisory Committee, and the National Committee on Vital Health Statistics to provide clinicians, consumers, and those responsible for population health with ready access to timely, reliable, and secure information via an electronic health information infrastructure. The goal is to create a roadmap that identifies and removes barriers to electronic connectivity in health care.

This endeavor has evolved in two phases. Phase 1 – (September 2002 – June 2003) built consensus on a set of health care data standards, developed case study models for privacy and security practices, and defined the personal health record and its use; Phase 2 – (September 2003 – March 2005) – includes one or more demonstration projects guided by the final roadmap. The roadmap will publicize an action-oriented agenda and achievable goals for the next one to three years, with emphasis on the importance of the public's role in achieving the goals. The roadmap will propose several incremental steps, rather than a comprehensive, uniform national initiative and include consideration for Infrastructure, Incentives and Funding, Data Standards, Rate of Adoption of Clinical Applications, Legal Safe-Harbors, and Accurate Linking of Health Records.

Military Health System (MHS) Medical Informatics Decision Making Tools

The MHS manages the receipt, processing, and storage of hundreds of millions of health care records that characterize MHS operations and performance. The data, which include

beneficiary, provider, financial, and health care utilization information, are integrated and made available to users through a variety of products and specialized data sets developed to meet DoD health business requirements. These data marts allow executives and analysts to perform an exceptionally wide range of analytical and managerial functions. From simple web-based reports to large detailed analysis, managers can assess the current status of health plan performance. Clinical researchers and analysts can also study everything from a horizontal view of a single patient's care to the effects of legislated changes in health plan policies on financial planning. Emphasis in fiscal year 2004 has been on receiving data from additional sources and delivering data to more users. DoD is also concentrating on improving data quality and security and providing enhanced reporting functionality.

Web Portal: A Web Portal provides easy and appropriately secure access to all facets of the products. This includes, but is not limited to product information, program marketing material, resource information and documentation, and training material. In the future, the site will serve as the gateway to the DoD product line. Laying the foundation for a single point-of-access, Secure Socket Layer encryption was released in August 2004, to improve access and enhance security.

Military Health System (MHS) Data Repository (MDR): The MDR is the centralized data repository for MHS health care data. The MDR: 1) receives data from hundreds of source systems; 2) normalizes the data by processing each data type against MHS business rules; 3) stores the data; and 4) provides the data to users via the data marts and/or transmits the data to external offices, systems, organizations, and agencies, as authorized. The MDR is the only MHS information technology solution that integrates purchased care health data with direct care health data. A nearly continuous stream of laboratory, radiology, and pharmacy data populates the warehouse with detailed data that make the MDR one of the most clinically rich data repositories in the world.

MHS Management Analysis and Reporting Tool (M2): M2 is a powerful analytic tool designed to deliver decision support and executive information capabilities to health care executives and their support staff at all five operational levels within the enterprise. M2 includes both direct and purchased care data integrated with eligibility and enrollment data. This integrated data enhances support to decision-makers for the purpose of decreasing costs, increasing access to care and improving quality of care delivery. It combines a powerful commercial ad hoc query tool (Business Objects) with MHS data covering the clinical, financial, and beneficiary demographic domains. It allows users to perform trend analyses, conduct patient and provider profiling studies, and realize opportunities for transferring health care from the private sector to the military treatment facility (MTF). M2 is accessible via a user-friendly, client-server interface. In fiscal year 2004, the M2 servers and database engine were upgraded to accommodate an increasing demand for user accounts, while simultaneously reducing user query response times and backlog. Other additional improvements focused on providing enhanced data for DoD beneficiaries who are eligible for and/or are enrolled with other health benefit programs.

TRICARE Management Activity - Reporting Tools (TMA-RT): The TMA-RT components support DoD's purchased care mission. In an effort to improve MHS health care services, the government maintains competitively established, reimbursement-based contracts with multiple commercial health care insurance carriers. These carriers (Health Services and Support Contractors) establish contracts with private health care providers who supply health care services to eligible beneficiaries per the government agreements. Providers submit claims for payment of their services to the Health Services and Support Contractors, who in turn transmit these claims to DoD for reimbursement. The purchased care architecture ingests, processes, stores, transmits, and makes these claims available, via data marts and reporting tools, to DoD and federal organizations charged with managing DoD's commercial health care contracts. The government continues to recover or prevent the unauthorized payment of tens of millions of dollars through Waste, Fraud and Abuse analyses, which are performed via the data provided by the purchased care

architecture. The TMA-RT is a collection of applications that allow analysis of various attributes of health care claims data. Users can access detailed claims, analyze purchased care cost and workload data, identify resource sharing opportunities, and evaluate potential workload to be recaptured by military treatment facilities.

Population Health Operational Tracking and Optimization (PHOTO): PHOTO provides a concise set of health plan performance metrics via a friendly and easy-to-use browser interface. The metrics offer visibility into beneficiary health care patterns and provide multiple levels of aggregation, allowing managers at various levels to determine their contribution to total TRICARE performance. During fiscal year 2004 PHOTO clinical and population health metrics were updated to the Health Plan Employer Data and Information Set (HEDIS) 2004 code set. Supported and maintained by the National Committee for Quality Assurance, HEDIS provides purchasers and consumers an unprecedented ability both to evaluate the quality of different health plans along a variety of important dimensions, and to base their plan decisions on demonstrated value rather than simply on cost.

Managed Care Forecasting and Analysis (MCFAS): The MCFAS data mart is a powerful DoD beneficiary demographic analysis and forecasting application and is the officially sanctioned source of beneficiary forecasts for MHS planning and budgeting. MCFAS population data is updated annually, based on actual beneficiary statistics. Variations in age, gender, locality, and beneficiary entitlement status can be tracked and projected over an eight year planning horizon. This robust forecasting tool gives health care plan managers the opportunity to anticipate future demographic shifts before they occur. Such foresight can ensure appropriate resources are shifted to meet anticipated needs in a timely fashion. MCFAS reports the number and locations of people eligible for DoD medical benefits. It also provides historical, current, and eight year projected counts of these DoD beneficiaries, and can provide the data according to individual zip codes, specific regions, or worldwide. The data is used to determine future beneficiary

obligations; to analyze the impact of potential market area modifications, such as adding or downsizing military treatment facilities; or to establish the types of medical services needed around the world.

As part of ongoing pre-planned product improvement activities for DoD medical informatics, MCFAS data mart was enhanced in fiscal year 2004 to enable users to conduct MHS enrollment forecasting and capacity planning based on user-defined conditions (versus historical data). The enrollment forecasting module is a Web-based application for enrollment and physician business planning based on user-defined conditions of demand (e.g., probability of enrollment), supply (e.g., physician availability and productivity measures), and allocation. Also in fiscal year 2004, MCFAS data mart was migrated from outdated hardware and software to a common operating architecture. Additionally it was upgraded with a Geographic Information System (GIS) capability to allow users to query, analyze, and map data in support of the decision making process. MCFAS users are now able to create, view, and print maps based on their own population data. This information can be used to anticipate future conditions, decide on a course of action, or to evaluate the results of an action or policy.

The Pre- and Post-Deployment Instruments: The pre- and post-deployment health assessment instruments are used to determine and document the health status of deploying and redeploying service members.

Traditionally this task has been done on paper with hard copies being forwarded to the Army Medical Surveillance Agency where the data is manually placed into digital format for review and analysis. The Department convened a Deployment Health Task Force in February 2004. One of the initiatives that resulted from this meeting was developing a process to electronically conduct pre- and post-deployment health assessments. The Services are actively working towards this goal. The Army has invested in developing a system where this can be done electronically. Pre- and post-deployment health

assessments from Army, Navy, and Air Force are stored in a central database, enabling DoD to monitor force readiness, track and analyze trends, and evaluate health issues that might be related to deployment.

Increasing the Quality of Medical Care through Medical Informatics Research

To facilitate the evolution of Health care Quality Measures and Outcomes, TRICARE Management Activity has established a research partner, the Center for Outcomes Research at Yale University School of Medicine. In fiscal year 2000, this center investigated health care and management data currently available within the MHS and information systems used to store, retrieve, and share this information. Building upon a foundation of applied scientific methodology and rigor, the center analyzed MHS health care and management data and delivered the following reports assessing medical informatics initiatives:

Health Care Quality and Outcomes Research Plan for the Military Health System: This proposes a plan for production of real-time information useful in improving the health of and the provision of health care for MHS beneficiaries. This five year plan calls for using both existing data systems and emerging systems in the development of a platform for gathering and employing real-time data useful for improving the quality of care and outcomes. It identifies opportunities for demonstrating how advancements in medical informatics, combined with a quality and outcomes research capability can transform data into information that can be used to enhance all phases of the health care delivery system. The information, in turn, can provide insight and timely support for decision making by clinicians, administrators, policymakers, and the command structure on the quality of care; variations and patterns of care and outcomes; the effectiveness of clinical and population health strategies, and the efficiency of current approaches.

Clinical Couplers: For several years now DoD has been incorporating coupler technology in its medical informatics systems. The clinical couplers link patient health information to current medical knowledge and present appropriate patient care strategies based on these linkages. The DoD currently utilizes clinical couplers in its Composite Health Care System II (CHCS II) electronic medical record system. The couplers are available to over 2000 health care providers at 20 MTFs across the Army, Navy and Air Force medical departments. Specific couplers support the pre- and post-deployment evaluation of our Service members as well as completion of the Health Evaluation Assessment Review (HEAR) survey coupler supporting DoD beneficiaries. Additional work underway to develop a web-based HEAR to allow beneficiaries access from any internet-capable computers; completing a number of disease risk calculation couplers and exploring alternative modes of allowing patients to enter health history data into CHCS II.

Health care Informatics Testbed: The Health care Informatics Testbed (HIT) provides DoD and Conemaugh Health System an opportunity to define, document, and demonstrate early adoption and use of eHealth technologies. This research effort addresses key health care areas of interest, to include but not limited to: improved access to care, access to health care information, patient safety, population health, disease surveillance, validating and capturing existing and future DoD eHealth requirements.

Summary

DoD continues to make significant strides in sharing electronic health information technology, and adoption of standards. This has been demonstrated with the continued collaboration between DoD, VA, and HHS. These efforts align with the President's Health Technology Plan. Much has been accomplished in a short period of time and the ground work has been laid for even greater progress in the future. Our shared commitment to strong DoD/VA/HHS collaboration in the area of information technology

places us in the forefront of interagency health information technology across the federal government.

Advancements in medical informatics have the potential to greatly enhance the information that is readily available to all users. Increased access to information will help to facilitate and evaluate care, identify opportunities for improvement, and highlight examples of clinical and business best practices. Advancements in information will improve health care quality by measuring performance in real-time, providing an overview of the most current outcomes and increasing accountability. The timely provision of critical information about the patient's care and outcomes to health care providers will enhance the quality of health care delivered by DoD.

DoD remains an integral part of interagency activities that capitalize on the use of medical informatics through joint participation with informatics-focused organizations. Senior DoD leaders are committed to joint initiatives, as evidenced by their participation in the Medical Informatics Advisory Committee, the Health Information Technology initiative, the Joint DoD/VA Clinical Health Data Repository Working Integrated Product Team (CHDR WIPT), the Federal Health Information Exchange (FHIE), Federal Health Architecture (FHA), and the Consolidated Healthcare Initiative (CHI). These organizations ensure that the developing capabilities of medical informatics will be implemented in a timely and cost effective manner, to support the quality and availability of medical care to all beneficiaries.

DoD participated in a conference held on July 20, 2004 in the District of Columbia with Department of Health and Human Services, Department of Veterans Affairs, Kaiser, Partners HealthCare, and Regenstrief, to share lessons learned on "Implementation of Large Clinical Information Systems (CIS): Achieving Success," including overviews of system capabilities and challenges to committing to CIS. The purpose of the conference was to reach out to others to help implement the President's Executive Order that

Americans have interoperable electronic health record within 10 years, and achieve Health Information Technology goals. Future follow-on conferences are in the planning stages at this time.

The Department is firmly committed to continued collaboration to expand the appropriate sharing of health information as systems and data repositories mature and standards and processes are further defined and implemented. Exchanging appropriate health information between Departments, in keeping with applicable privacy and security regulations, will not only improve the quality of health care delivered, but will also establish a federal model for electronically exchanging medical records.