THE ASSISTANT SECRETARY OF DEFENSE

1200 DEFENSE PENTAGON
WASHINGTON, DC 20301-1200

JAN 2 5 2008

The Honorable Carl Levin
Chairman, Committee on Armed Services
United States Senate
Washington, DC 20510-6050

Dear Mr. Chairman:

I am pleased to forward the enclosed annual report as required by Section 753 of the National Defense Authorization Act for Fiscal Year (FY) 2001. This annual report also provides information requested by House Armed Services Committee Report 106-616. The report discusses 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 in FY 2007.

The report highlights our significant progress during FY 2007 in advancing medical informatics, specifically our unprecedented health information sharing initiatives with the Department of Veterans Affairs, and our support towards the adoption of national health interoperability standards to realize the President's vision for electronic health records interoperability. Many of the health information sharing initiatives also support the Wounded, Ill, and Injured Senior Oversight Committee objectives to improve the care and transition of wounded warriors. Furthermore, through the Department of Defense's outreach activities with other Federal agencies, industry partners, and professional organizations, we were able to share our advances and lessons learned in medical informatics and medical information technology.

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

Sincerely,

S. Ward Casscells, MD

Enclosure:
As stated

cc:
The Honorable John McCain
Ranking Member

HEALTH AFFAIRS

JAN 25 2008

The Honorable Ben Nelson
Chairman, Subcommittee on Personnel
Committee on Armed Services
United States Senate
Washington, DC 20510-6050

Dear Mr. Chairman:

I am pleased to forward the enclosed annual report as required by Section 753 of the National Defense Authorization Act for Fiscal Year (FY) 2001. This annual report also provides information requested by House Armed Services Committee Report 106-616. The report discusses 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 in FY 2007.

The report highlights our significant progress during FY 2007 in advancing medical informatics, specifically our unprecedented health information sharing initiatives with the Department of Veterans Affairs, and our support towards the adoption of national health interoperability standards to realize the President's vision for electronic health records interoperability. Many of the health information sharing initiatives also support the Wounded, Ill, and Injured Senior Oversight Committee objectives to improve the care and transition of wounded warriors. Furthermore, through the Department of Defense's outreach activities with other Federal agencies, industry partners, and professional organizations, we were able to share our advances and lessons learned in medical informatics and medical information technology.

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

Sincerely,

S. Ward Casscells, MD

Enclosure:
As stated

cc:
The Honorable Lindsey O. Graham
Ranking Member

THE ASSISTANT SECRETARY OF DEFENSE

1200 DEFENSE PENTAGON
WASHINGTON, DC 20301-1200

JAN 2 5 2008

The Honorable Ike Skelton
Chairman, Committee on Armed Services
U.S. House of Representatives
Washington, DC 20515–6035

Dear Mr. Chairman:

I am pleased to forward the enclosed annual report as required by Section 753 of the National Defense Authorization Act for Fiscal Year (FY) 2001. This annual report also provides information requested by House Armed Services Committee Report 106-616. The report discusses 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 in FY 2007.

The report highlights our significant progress during FY 2007 in advancing medical informatics, specifically our unprecedented health information sharing initiatives with the Department of Veterans Affairs, and our support towards the adoption of national health interoperability standards to realize the President's vision for electronic health records interoperability. Many of the health information sharing initiatives also support the Wounded, Ill, and Injured Senior Oversight Committee objectives to improve the care and transition of wounded warriors. Furthermore, through the Department of Defense's outreach activities with other Federal agencies, industry partners, and professional organizations, we were able to share our advances and lessons learned in medical informatics and medical information technology.

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

Sincerely,

S. Ward Casscells, MD

Enclosure:
As stated

cc:
The Honorable Duncan Hunter
Ranking Member

THE ASSISTANT SECRETARY OF DEFENSE

1200 DEFENSE PENTAGON
WASHINGTON, DC 20301-1200

HEALTH AFFAIRS

JAN 25 2008

The Honorable Susan Davis
Chairwoman, Subcommittee on Military Personnel
Committee on Armed Services
U.S. House of Representatives
Washington, DC 20515-6035

Dear Madam Chairwoman:

I am pleased to forward the enclosed annual report as required by Section 753 of the National Defense Authorization Act for Fiscal Year (FY) 2001. This annual report also provides information requested by House Armed Services Committee Report 106-616. The report discusses 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 in FY 2007.

The report highlights our significant progress during FY 2007 in advancing medical informatics, specifically our unprecedented health information sharing initiatives with the Department of Veterans Affairs, and our support towards the adoption of national health interoperability standards to realize the President's vision for electronic health records interoperability. Many of the health information sharing initiatives also support the Wounded, Ill, and Injured Senior Oversight Committee objectives to improve the care and transition of wounded warriors. Furthermore, through the Department of Defense's outreach activities with other Federal agencies, industry partners, and professional organizations, we were able to share our advances and lessons learned in medical informatics and medical information technology.

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

Sincerely,

S. Ward Casscells, MD

Enclosure:
As stated

cc:
The Honorable John M. McHugh
Ranking Member

HEALTH AFFAIRS

JAN 2 5 2008

The Honorable Daniel K. Inouye
Chairman, Subcommittee on Defense
Committee on Appropriations
United States Senate
Washington, DC 20510-6028

Dear Mr. Chairman:

I am pleased to forward the enclosed annual report as required by Section 753 of the National Defense Authorization Act for Fiscal Year (FY) 2001. This annual report also provides information requested by House Armed Services Committee Report 106-616. The report discusses 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 in FY 2007.

The report highlights our significant progress during FY 2007 in advancing medical informatics, specifically our unprecedented health information sharing initiatives with the Department of Veterans Affairs, and our support towards the adoption of national health interoperability standards to realize the President's vision for electronic health records interoperability. Many of the health information sharing initiatives also support the Wounded, Ill, and Injured Senior Oversight Committee objectives to improve the care and transition of wounded warriors. Furthermore, through the Department of Defense's outreach activities with other Federal agencies, industry partners, and professional organizations, we were able to share our advances and lessons learned in medical informatics and medical information technology.

Thank you for your continued support of the Military Health System *and assistance on continual improvement in this frustrating area.*

Sincerely,

S. Ward Casscells, MD

Enclosure:
As stated

cc:
The Honorable Ted Stevens
Ranking Member

HEALTH AFFAIRS

JAN 2 5 2008

The Honorable Robert C. Byrd
Chairman, Committee on Appropriations
United States Senate
Washington, DC 20510–6025

Dear Mr. Chairman:

I am pleased to forward the enclosed annual report as required by Section 753 of the National Defense Authorization Act for Fiscal Year (FY) 2001. This annual report also provides information requested by House Armed Services Committee Report 106-616. The report discusses 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 in FY 2007.

The report highlights our significant progress during FY 2007 in advancing medical informatics, specifically our unprecedented health information sharing initiatives with the Department of Veterans Affairs, and our support towards the adoption of national health interoperability standards to realize the President's vision for electronic health records interoperability. Many of the health information sharing initiatives also support the Wounded, Ill, and Injured Senior Oversight Committee objectives to improve the care and transition of wounded warriors. Furthermore, through the Department of Defense's outreach activities with other Federal agencies, industry partners, and professional organizations, we were able to share our advances and lessons learned in medical informatics and medical information technology.

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

Sincerely,

S. Ward Casscells, MD

Enclosure:
As stated

cc:
The Honorable Thad Cochran
Ranking Member

THE ASSISTANT SECRETARY OF DEFENSE

1200 DEFENSE PENTAGON
WASHINGTON, DC 20301-1200

JAN 25 2008

The Honorable David Obey
Chairman, Committee on Appropriations
U.S. House of Representatives
Washington, DC 20515-6015

Dear Mr. Chairman:

I am pleased to forward the enclosed annual report as required by Section 753 of the National Defense Authorization Act for Fiscal Year (FY) 2001. This annual report also provides information requested by House Armed Services Committee Report 106-616. The report discusses 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 in FY 2007.

The report highlights our significant progress during FY 2007 in advancing medical informatics, specifically our unprecedented health information sharing initiatives with the Department of Veterans Affairs, and our support towards the adoption of national health interoperability standards to realize the President's vision for electronic health records interoperability. Many of the health information sharing initiatives also support the Wounded, Ill, and Injured Senior Oversight Committee objectives to improve the care and transition of wounded warriors. Furthermore, through the Department of Defense's outreach activities with other Federal agencies, industry partners, and professional organizations, we were able to share our advances and lessons learned in medical informatics and medical information technology.

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

Sincerely,

S. Ward Casscells, MD

Enclosure:
As stated

cc:
The Honorable Jerry Lewis
Ranking Member

HEALTH AFFAIRS

JAN 2 5 2008

The Honorable John P. Murtha
Chairman, Subcommittee on Defense
Committee on Appropriations
U.S. House of Representatives
Washington, DC 20515-6018

Dear Mr. Chairman:

I am pleased to forward the enclosed annual report as required by Section 753 of
the National Defense Authorization Act for Fiscal Year (FY) 2001. This annual report
also provides information requested by House Armed Services Committee Report 106-
616. The report discusses 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 in FY 2007.

The report highlights our significant progress during FY 2007 in advancing
medical informatics, specifically our unprecedented health information sharing initiatives
with the Department of Veterans Affairs, and our support towards the adoption of
national health interoperability standards to realize the President's vision for electronic
health records interoperability. Many of the health information sharing initiatives also
support the Wounded, Ill, and Injured Senior Oversight Committee objectives to improve
the care and transition of wounded warriors. Furthermore, through the Department of
Defense's outreach activities with other Federal agencies, industry partners, and
professional organizations, we were able to share our advances and lessons learned in
medical informatics and medical information technology.

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

Sincerely,

S. Ward Casscells, MD

Enclosure:
As stated

cc:
The Honorable C. W. Bill Young
Ranking Member

Report to Congress

Fiscal Year 2007

Report on Medical Informatics

Required by:

Section 753, National Defense Authorization Act for Fiscal Year 2001

and

House Armed Services Committee Report 106-616

Table of Contents

REPORT ON MEDICAL INFORMATICS

Background

This report is required by Section 753 of the National Defense Authorization Act for Fiscal Year (FY) 2001. The report includes a discussion of the following: the coordination of the development, deployment, and maintenance of health care informatics systems within the Federal Government, and the private sector; the progress occurring in the area of medical informatics; and how the Military Health System (MHS) and the Department of Veterans Affairs (VA) 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.

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

Executive Summary

The MHS continues to build on its long history of transforming health care through the use of information technology (IT). DoD is a major investor in health IT and understands the importance of achieving interoperability and eliminating duplicative efforts. The MHS and other federal leaders are actively engaged in strategic partnerships in both the public and private sectors to advance health care informatics and to promote and define standards for system interoperability. Under the American Health Information Community (AHIC) umbrella, the MHS has worked to improve coordination and collaboration on national health IT solutions. DoD supports the Office of the National Coordinator (ONC) for Health Information Technology's strategic initiatives and AHIC's recommendations to accelerate the development and adoption of health information technology.

VA/DoD Interagency Oversight

Through the VA/DoD Joint Executive Council (JEC), Health Executive Council (HEC) and Benefits Executive Council (BEC), the senior leadership of both Departments has oversight on all joint initiatives. The DoD/VA Joint Strategic Plan, approved by the JEC, articulates a vision for collaboration, establishes priorities for partnering, launches processes to implement interagency policy decisions, develops joint operation guidelines, and institutes performance monitoring.

DoD/VA Interagency Health Informatics Initiatives and Cooperative Efforts

The DoD and VA continue to be involved in numerous interagency medical informatics activities and are delivering information technology solutions that significantly improve the secure sharing of appropriate electronic health information. These initiatives enhance health care delivery to beneficiaries and improve the continuity of care for those who have served our country.

Examples of these initiatives include: Federal Health Information Exchange (FHIE), Deployment Health Assessments, Bidirectional Health Information Exchange (BHIE), Clinical Data Repository/Health Data Repository (CHDR), Laboratory Data Sharing Initiative (LDSI), medical records scanning, medical image sharing, E-Portal Systems collaboration, the inpatient electronic health record (EHR) assessment project and the National Defense Authorization Act 2003 Information Management/Information Technology Demonstration Sites and Joint Incentive Fund initiatives work.

Multi-Agency Health Informatics Initiatives

DoD is advancing the goals of the President's Executive Orders to establish a secure, standards-based, interoperable EHR and promote quality health care for all DoD beneficiaries, including wounded warriors and their families. As continued demonstration of this commitment, DoD sought and was granted by the Certification Commission for Health care Information Technology (CCHIT) pre-market, conditional certification of AHLTA version 3.3, our military EHR, in April 2007. Full CCHIT certification will be attained when AHLTA version 3.3 is deployed later this year. DoD continues its strong leadership role as an active stakeholder in the Federal Nationwide Health Information Network Consortium (NHIN-C) and key participant in the Health Information Technology Standards Panel (HITSP) and AHIC breakthrough workgroups. As systems and data repositories mature and standards and processes are further defined and implemented, DoD remains firmly committed to continued collaboration and the appropriate sharing of health information. DoD recognizes there is a compelling need to promote the sharing of health information, not just with other federal agencies, but also with private sector health care entities to provide for the continuity and quality care to all wounded warriors.

MHS Medical Informatics Decision Making Tools

Advances in medical informatics have the potential to greatly enhance the use of data that has been collected, making it readily retrievable and easy to analyze. MHS medical informatics decision making tools provide increased access to information, help facilitate search and analysis of data to support medical surveillance of potential disease outbreaks, identify opportunities for improvement of population health, and highlight examples of clinical and business best practices. Descriptions of these medical decision support tools, including the Military Health System Data Repository (MDR), Management Analysis and Reporting Tool (M2), Prospective Payment System (PPS), Electronic Surveillance System for Early Notification of Community-based Epidemics (ESSENCE), Clinical Data Mart (CDM), Patient Encounter Processing & Reporting (PEPR), TRICARE Encounter Data (TED), and the Managed Care Forecasting & Analysis System (MCFAS) are provided in this report.

MHS Medical Informatics Partnerships and Outreach Activities

In 2007, the MHS continued to sponsor and participate in outreach activities designed to better educate MHS staff, industry partners, other federal agencies, and professional organizations on the uses and benefits of medical informatics and medical information technology. The activities included supporting the Health Information Management System Society (HIMSS) annual conference with a medical informatics presentation of accomplishments and lessons learned from using electronic health records across varied care delivery settings. The MHS also announced a partnership with the state of Florida to pursue an interoperable network for sharing electronic medical information. In addition, the MHS provided numerous AHLTA and MHS applications demonstrations for the Department of Health and Human Services, the Central Intelligence Agency, and the Australian Defence Health Services.

VA/DoD Interagency Oversight

The VA/DoD Joint Executive Council, co-chaired by the Deputy Secretary of Veterans Affairs and the Under Secretary of Defense for Personnel and Readiness, was established in February 2002 and is comprised of senior leaders from DoD and VA. The JEC was created to:

- Enhance DoD and VA collaboration;
- Ensure the efficient use of federal services and resources; remove barriers and address challenges that impede collaborative efforts;
- Assert and support mutually beneficial opportunities to improve business practices;
- Facilitate opportunities to improve resource utilization and to enhance sharing arrangements that ensure high quality cost effective services for both DoD and VA beneficiaries; and
- Develop a joint strategic planning process to guide the direction of joint sharing activities.

To ensure that appropriate resources and expertise are directed to specific areas of interest, JEC established sub-councils in the areas of health and benefits. JEC sub-councils include the HEC and the VA/DoD Benefits Executive Council.

The VA/DoD Health Executive Council, overseen by JEC, works to institutionalize DoD and VA sharing and collaboration to ensure efficient use of health services and resources. HEC oversees the cooperative efforts of each agency's health care organizations. Through HEC, DoD and VA have worked closely to support expanding electronic health information sharing between both Departments.

The Chief Information Officers of the MHS and the Veterans Health Administration (VHA) meet on a continuing basis to explore, assess, develop,

and monitor joint medical informatics and electronic health information sharing initiatives. Both Chief Information Officers are members of and report bi-monthly to HEC, which is co-chaired by the Assistant Secretary of Defense (Health Affairs) and the VA Under Secretary for Health. Periodically, information management and technology issues are also briefed to the VA/DoD JEC.

VA/DoD Benefits Executive Council is co-chaired by the VA's Under Secretary for Benefits and the DoD's Principal Deputy Under Secretary of Defense (Personnel and Readiness).

The first VA/DoD Joint Strategic Plan (JSP) was developed by the JEC JSP Work Group and approved by the JEC in April 2003. The JSP articulated a vision for collaboration; established priorities for partnering; launched processes to implement interagency policy decisions and developed joint operation guidelines; and instituted performance monitoring to track the Departments' progress in meeting the specific goals and objectives defined in the plan. The DoD/VA JSP is used to advance performance goals, and is annually reviewed, updated, and improved.

In FY 2004, the JEC revised the DoD/VA JSP and it has served as a roadmap for the JEC and its sub-councils. The DoD/VA JSP is founded on the following three principles:

- Collaboration: Identifying areas where DoD and VA can work together to benefit the Departments and their beneficiaries.
- Stewardship: Providing the best value for beneficiaries and taxpayers by increased coordination.
- Leadership: Establishing clear policies and guidelines to enhance partnership, resource sharing, decision making, and accountability between DoD and VA.

In FY 2007, the JEC reviewed and updated the DoD/VA JSP. JSP goals include:

- Leadership Commitment and Accountability;
- High Quality Health care;
- Seamless coordination of benefits;
- Integrated Information Sharing;
- Efficiency of Operations; and
- Joint Medical Contingency/Readiness Capabilities.

The goals, strategies, key milestones, and performance measures in the FY 2007-2009 JSP serve as the template for the DoD/VA JSP for FY 2008 – 2010. the JEC is anticipating approval of the DoD/VA JSP for FY 2008 – 2010 no later than November 2007. Additionally, the JEC has standing committees for joint construction planning and strategic planning.

The Information Management/Information Technology Work Group of the HEC is co-chaired by the Chief Information Officers from the MHS and the VHA. This workgroup is charged with the day-to-day management of joint activities related to electronic health data sharing and interoperability.

These joint activities are guided by the Joint EHR Interoperability Program. The program addresses the Departments' on-going plans to improve sharing of health information; adopts common standards for architecture, data, communications, security, technology and software; seeks joint procurement and development of applications where appropriate; seeks opportunities for sharing existing systems and technology; explores convergence of DoD and VA health information applications consistent with mission requirements; and achieves interoperability of health data through data repositories. The Joint EHR Interoperability Program

is the road map for the way DoD and VA will share electronic health information to achieve health data interoperability, support transition from active duty status to veteran status, and improve continuity of care.

DoD/VA Interagency Health Informatics Initiatives and Cooperative Efforts

DoD and VA continue to be involved in numerous interagency medical informatics activities and are delivering information technology solutions that significantly improve the secure sharing of appropriate electronic health information. These initiatives enhance health care delivery to beneficiaries and improve the continuity of care for those who have served our country. These initiatives also support the Wounded, Ill, and Injured Senior Oversight Committee objectives to improve the care and transition of wounded warriors. The following are examples of these joint efforts.

When a Service member separates, DoD supports the monthly transfer of electronic health information from DoD to VA. VA providers and benefits specialists access this data daily for use in the delivery of health care and claims adjudication. VA clinicians access this data while treating veterans using the Veterans Information Systems and Technology Architecture (VistA)/Computerized Patient Record System (CPRS), the VA's EHR. VA benefits specialists access data through the Compensation and Pension Record Interchange system, which supports the adjudication of compensation and pension benefit claims. It also facilitates determination of entitlement to vocational counseling, planning, and training as well as insurance and waiver of premiums for veterans with a 100 percent service connected disability rating. The data transferred includes: inpatient and outpatient laboratory and radiology results; outpatient pharmacy data from Military Treatment Facilities (MTFs), retail network pharmacies, and DoD mail-order pharmacy; allergy information;

4

discharge summaries; admission, disposition, and transfer information; consultation reports; standard ambulatory data record information such as diagnostic codes, primary care physician, treating physician; patient demographic information; pre and post deployment health assessments and post-deployment health reassessments.

Deployment Health Assessments are conducted on Service members and demobilized Reserve and National Guard members as they leave for and return from duty outside the U.S. This information is used to monitor the overall health condition of deployed troops, inform them of potential health risks, as well as maintain and improve the health of Service members and Veterans. Deployment health assessments on Reserve and National Guard members who have been deployed and are now demobilized are included in the monthly data transmissions. As of September 2007, over 1.9 million pre- and post-deployment health assessment and reassessments forms on more than 793,000 individuals have been sent from DoD to VA.

In the first quarter of FY 2007, the inclusion of Post Deployment Health Reassessment (PDHRA) forms in the data sent to VA was initiated. PDHRA is designed to identify and address health concerns, with specific emphasis on mental health, that have emerged over time since deployment. In the first quarter of FY 2007, DoD also started a weekly transfer of PDHRA forms for individuals referred to VA for care or evaluation.

As of September 2007, DoD has transferred health information for over 4.0 million patients to the FHIE data repository. Of these 4.0 million patients, approximately 2.5 million patients have presented to the VA for care, treatment, or claim determination. The amount of data available to VA continues to grow as health information on recently separated service members is extracted and

transferred to VA monthly. Transfer of data to VA is executed in a manner that is compliant with Health Insurance Portability and Accountability Act privacy regulations.

Building on this capability, DoD is also transferring data for VA patients being treated in DoD facilities under local sharing agreements. As of September 2007, over 2.5 million patient messages (i.e., laboratory results, radiology, pharmacy, and consults) have been transmitted on VA patients treated in DoD facilities.

For patients being treated by both DoD and VA, the Departments developed the Bidirectional Information Exchange (BHIE) which enables the bidirectional, real-time sharing of allergy, outpatient pharmacy, inpatient and outpatient laboratory and radiology reports and demographic data.

In July 2007, to ensure VA's access to electronic health information from all DoD sites, DoD made data viewable to VA from the AHLTA CDR. The data elements available between DoD and VA include allergy, outpatient pharmacy, inpatient and outpatient laboratory and radiology reports and demographic data. The types of data that will be shared through BHIE will be expanded in FY 2008 to include patient problem lists, encounter notes, procedures, vital signs, family history, images, questionnaires and other documents. Additionally, theater clinical data such as inpatient encounters, to include clinical notes, discharge summaries and operative reports, inpatient and outpatient laboratory and radiology results, and pharmacy data will be viewable by DoD and VA providers on shared patients.

DoD/VA Clinical Data Repository/Health Data Repository (CHDR): In September 2006, the Departments established interoperability between the CDR of AHLTA, DoD's EHR, and VA's Health Data Repository (HDR). The CHDR interface supported the first exchange of interoperable and computable outpatient pharmacy and medication allergy data between the Departments in a live patient care environment. The exchange of computable outpatient pharmacy and medication allergy data enables drug-drug interaction checking and drug allergy checking using data from both departments. This enhances patient safety and quality of care. The first DoD/VA site to use CHDR was William Beaumont Army Medical Center (WBAMC), using AHLTA, and the El Paso VA Health Care System, using VistA, allowing the exchange of pharmacy and medication allergy data on patients who receive care from both health care systems. DoD's outpatient pharmacy data exchange includes information from MTF pharmacies, retail pharmacies, and mail order pharmacies. In December 2006, DoD began deployment and VA continued field testing at Eisenhower Army Medical Center and Augusta VA Medical Center and at Naval Hospital Pensacola and VA Gulf Coast Health Care System. During the 2nd quarter FY 2007, CHDR was implemented at Madigan Army Medical Center and VA Puget Sound Health Care System, Naval Health Clinic Great Lakes and North Chicago VA Medical Center, Naval Hospital San Diego-Balboa and VA San Diego Health Care System, and Mike O'Callaghan Federal Hospital and VA Southern Nevada Health Care System. Clinicians at these sites are actively using CHDR and continue to exchange pharmacy and medication allergy data on more than 10,000 patients who receive health care from both systems. This functionality is now available for use in all DoD facilities.

In recognition of the VA requirement for inpatient documentation, particularly for severely wounded and injured Service members being transferred to VA for care, DoD and VA have collaborated to further increase the availability of inpatient

clinical information on shared patients. In June 2007, using the BHIE DoD and VA began making inpatient discharge summaries viewable on shared patients. As of September 2007, discharge summaries are available from 13 of DoD's largest inpatient facilities.

DoD and VA have also begun coordination on additional sharing initiatives such as Medical Records Scanning. In addition to making documentation from Essentris, the commercial inpatient documentation application used by several DoD inpatient facilities, available to VA, the Departments are scanning paper medical record items from three major DoD trauma centers (Walter Reed Army Medical Center, National Naval Medical Center, and Brooke Army Medical Center). These scanned records are then sent to four VA polytrauma centers, located in Tampa, Florida, Richmond, Virginia, Minneapolis, Minnesota, and Palo Alto, California, when patients are transferred as inpatients. The goal is to make those records available to VA in a digital format. One of the key considerations in technical solutions was to index the digitized record in a manner that can be efficiently identified and viewed by providers.

Medical Image Sharing: In 2006, the El Paso VA Health Care System was funded to demonstrate and validate a bidirectional DoD/VA image sharing capability using BHIE. The capability was successfully demonstrated and is in operational use in El Paso.

As DoD continues to work toward image-enabling AHLTA, DoD is working with VA to learn from VA's experiences with the VistA Imaging Viewer. Many DoD facilities have commercial imaging systems in place. DoD is working with VA to leverage the capabilities of the VistA Imaging Viewer to assist DoD in making non-diagnostic level imaging available to providers as a part of AHLTA. In turn, the modernized code used by DoD for the AHLTA image viewer will be shared

8

with VA for potential future use. Additionally, DoD and VA will have demonstrated a prototype with the ability to share images as part of the BHIE between WBAMC and El Paso VA Health Care System.

Inpatient EHR Assessment Project: The inpatient EHR assessment project is a joint activity by the DoD and VA to define and develop an inpatient EHR solution that will ensure high quality clinical care for the Service member across the continuum of care from the battlefield to the VA. Instead of addressing the sharing of clinical data between DoD and VA as an add on to a project, the solution will build in, from the ground up, the ability for DoD and VA clinicians to have access to the clinical information on a patient regardless of where the care is rendered. The solution will be constructed on national information technology and data standards to ensure that DoD and VA will be better able to share information with other clinicians as needed.

The project is comprised of two six month phases. In the first phase it will document and assess DoD and VA inpatient clinical processes, workflows, and requirements. It will identify the areas of commonality and the areas of uniqueness. And, it will determine the benefits and the impacts on each department's timelines and costs for deploying a common inpatient EHR solution.

In the follow-on phase specific actions will be developed that are based on the information developed during the initial phase. The outcome of the second phase, scheduled for completion in July 2008, will be an analysis of alternatives, business case and a recommendation for achieving a joint inpatient EHR solution with associated cost and schedule.

The Laboratory Data Sharing Initiative (LDSI) facilitates the electronic sharing of laboratory order entry and results retrieval between DoD, VA and commercial

reference laboratories. LDSI for laboratory chemistry tests is available for use throughout DoD, and is actively being used daily between DoD and VA at several sites where one Department uses the other as a reference laboratory. DoD and VA have completed testing of laboratory anatomic pathology (AP) and microbiology orders and results retrieval which uses the Consolidated Health Informatics (CHI) approved Logical Observation Identifiers Names and Codes (LOINC) and Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT) data standards. The AP/microbiology functionality became operational at Brooke Army Medical Center and VA South Texas Health Care System in May 2007. Either Department may function as the reference laboratory for the other. The decision to offer referral testing and to use LDSI to allow electronic orders and results retrieval is based on the results of the local business case analysis. For example, a small medical facility, such as an outpatient clinic, may have a laboratory, but the number and types of available tests performed in-house are scaled to match the scope of services offered by the clinic. The small lab would not be able to offer the full range of laboratory tests that a laboratory that supported a medical center could perform. When a provider orders a test on a patient that cannot be performed in-house, laboratory personnel must make arrangements to send that patient's specimen to an outside laboratory for testing. The specimen is often sent to a commercial reference laboratory. However, in locations where DoD and VA facilities are in close proximity to each other, it may be more cost effective to send the specimen from the smaller VA lab to the larger DoD lab, or vice versa, instead of paying for commercial testing.

For example, in El Paso, Texas, WBAMC and the VA El Paso Health Care System Clinic are co-located. The VA Clinic has a laboratory that completes some laboratory tests internally, but it relies on WBAMC to perform other tests. From a Laboratory Director's perspective, LDSI streamlines workflow and facilitates laboratory business processes for both the submitting and testing

facilities. The ability to electronically place and transmit orders to the reference lab coupled with the ability to electronically enter and transmit results back to the submitting facility, reduces the administrative manpower burden, and improves the security of patient information. Also, use of LDSI enhances patient safety by eliminating potential clerical errors resulting from manual transcription of results from paper reports into the lab computer system.

LDSI is operational at the following sites:

- Tripler Army Medical Center and the VA Pacific Island Health Care System;
- Naval Medical Center San Diego and San Diego VA Medical System ;
- Naval Hospital Great Lakes, Hines VA Hospital and North Chicago VA Medical Center;
- William Beaumont Army Medical Center and El Paso VA Health Care System;
- Brooke Army Medical Center and VA South Texas Health Care System;
- Bassett Army Community Hospital and VA Alaska Health Care System;
- Mike O'Callaghan Federal Hospital and VA Southern Nevada Health Care System;
- North Central Federal Clinic and Wilford Hall Medical Center; and
- Naval Hospital Pensacola/VA Gulf Coast Health Care System.

The Departments will continue to evaluate and coordinate requests for activation of the LDSI interface from additional sites where a business case exists.

E-Portal Systems: TRICARE.mil, the MHS secure portal, serves as the central platform for enterprise-wide Access to Care and E-Health business rules supporting a single, common Internet portal for DoD patients, providers, external

support contractors and managers. TRICARE.mil is deployed worldwide with over 528,000 users at 383 MTFs. Over 259,000 appointments have been scheduled using TRICARE.mil.

DoD continues collaboration with the VA to establish the overall policies surrounding the DoD and VA web portals to determine what can and should be standardized across the portals to support a common patient view and provide a smooth transition for Service members moving to Veteran status. Key areas of coordination include: standardization of health content, identification of joint portability functional requirements, collaboration on the design of the Personal Health Record, Role-based Access Control (RBAC) and Role-based Account Administration.

DoD and VA are committed to evolve and expand the appropriate sharing of health information to enhance care delivery and continuity of care for shared patients.

Multi-Agency Health Informatics Initiatives

A cornerstone of DoD's medical informatics transition strategy is the necessity to eliminate barriers to interoperability and facilitate the secure, seamless exchange of appropriate health information across the health care continuum. In working towards this strategic objective, DoD is advancing through interagency efforts with the Department of Health and Human Services (HHS) and VA to improve continuity of care among federal agencies and foster health information sharing with the private sector. DoD participates in national efforts that will advance health care and IT standards, define and lead the way forward for coordinated multi-entity health care delivery, and enable the DoD to better integrate and manage the complexities of the defense health care system.

<u>Collaboration and Advancement of American Health Information Community</u>
<u>(AHIC) and Office of the National Coordinator (ONC) Strategic Objectives</u>: DoD
is firmly committed to working with HHS through the ONC to actively collaborate
and advance the development, adoption and implementation of health IT and
standards. DoD has enthusiastically supported the efforts of the National
Coordinator and has contributed senior military officers to work full time within
ONC to further national objectives and initiatives towards health IT
interoperability. Additionally, DoD representatives contribute to ONC's Health
Information Technology Policy Council, Federal Health Architecture (FHA)
Managing and Lead Partners Council and Leadership Council, and Health
Information Technology Standards Panel (HITSP) initiatives. DoD also serves on
the following AHIC breakthrough workgroups:

- HER;
- Population Health/Clinical Care Connections (formerly Biosurveillance);
- Consumer Empowerment;
- Confidentiality, Privacy, and Security;
- Personalized Health Care; and
- Quality.

HHS is the managing partner for the FHA e-Government Initiative with DoD and
VA designated as lead partners. As part of the ONC, FHA supports federal
health IT needs by coordinating, collaborating, and promoting a coordinated
interoperability framework for health IT. The FHA program leverages DoD
subject matter expertise and architectural products to contribute to the national
health IT agenda. The current Interagency Agreement between the DoD and
HHS delineates the roles and responsibilities between the Departments in
support of the FHA e-Gov Initiative as required by the Office of Management and
Budget (OMB), to include a funds transfer from DoD to HHS to support this effort.

DoD is very active in FHA as a member on all task forces to include coordination of federal medication terminology, providing federal health investment guidance and reporting requirements, development of use cases, and contributing to Federal Transition Framework and Federal Enterprise Architecture products.

DoD's engagement in ONC and AHIC activities represents approximately $1.5 million of monetary and in-kind support by senior leaders and subject matter experts to promote health IT adoption and interoperability, determine how to eliminate barriers to health information sharing, and drive toward improving health care quality and efficiency.

Foster the implementation of the Nationwide Health Information Network (NHIN): The NHIN, a "network of networks," is a key component of the national health IT strategy to enable widespread interoperability of health information across the public and private sectors. Through NHIN efforts, a blueprint architecture will emerge for an interoperable, standards-based network for the secure exchange of health care information. The federal agencies have come together to establish a NHIN federal consortium. DoD has a lead role and actively participates in the Federal Nationwide Health Information Network Consortium (NHIN-C). DoD wants to ensure that no matter where its patients may be—or what provider is treating them—information is readily available at the point of care. Thus, a critical element of our approach focuses on using the NHIN to facilitate our health information exchanges with other federal health agencies including the VA, and the Managed Care Support Contract providers in the civilian health care delivery system that serve DoD's medical beneficiary population. DoD is working with FHA to develop a coherent federal strategy and requirements for connecting to the NHIN. The short term goal is to participate in the second round of NHIN demonstrations, trial implementations, and as part of a prototype Federal Health Information Exchange gateway.

AHLTA pre-certified by Certification Commission for Healthcare Information Technology (CCHIT^{SM}): AHLTA has been awarded pre-market, conditional certification by the Certification Commission for Healthcare Information Technology, an independent, non-profit organization that sets the benchmark for electronic health record systems. Full certification for AHLTA is expected in December 2007 when the next major enhancement begins deployment.

Encouraging Health Standards Development and Adoption: DoD has had several collaborative efforts with the VA in championing both new standards development and adoption within Standards Development Organizations (SDOs), including the American National Standards Institute (ANSI), Health Level 7, Inc. (HL7), National Council for Prescription Drug Programs, Inc. (NCPDP), Accredited Standards Committee (ASC) X12n, and with others such as Digital Imaging, and Logical Observation Identifiers Names and Codes (LOINC). Since 2000, DoD and VA have led the HL7 Government Project Special Interest Group to coordinate federal standards issues with appropriate HL7 technical committees. With this continued collaboration, DoD and VA have developed a target health standards profile, health standards gap analysis report, and health standards convergence plan to evolve the maturity of health standards among SDOs. The Departments have identified 50 health standards as necessary to fully support health care interoperability. Currently, DoD and VA have determined that 32 standards can be implemented across both agencies without additional work. However, both Departments continue to work on the remaining 18 standards, which require additional implementation guidance and semantic terminology mapping. The Departments also are working to encourage an industry accepted standard for allergies. The Departments will continue to influence the adoption of common standards to achieve health care interoperability.

Data Feeds to the Centers for Disease Control (CDC): BioSense is a CDC initiative to support enhanced early detection, quantification, and localization of possible biologic terrorism attacks and other events of public health concern on a national level. CDC wants to expand the types of data received from DoD to include inpatients, emergency department, census, lab orders and results, radiology orders and results, and pharmacy orders. CDC would like to receive this data in near-real-time as it is triggered in the source system. This new data would replace the Standardized Ambulatory Data Record (SADR) outpatient batch feed.

DoD has identified the data elements requested by CDC; however, at this time there is no funding available to progress to the next stage.

North Atlantic Treaty Organization (NATO) Committee of the Chiefs of Military Medical Services (COMEDS), Medical Communication and Information Systems (MedCIS) Expert Panel (EP): The NATO COMEDS is the senior military medical advisory committee within NATO. It is composed of the Surgeons General of each NATO nation, the Medical Advisors of the NATO Strategic Commands, and the Medical Staff Officer of the International Military Staff. The Surgeons General of the Partnership for Peace (PfP) nations are also invited to participate. The United States serves as the Chair of the MedCIS EP, one of only two EP Chair positions held by the United States within the COMEDS community. The MedCIS EP provides expert advice, consultation, response, and policy guidance to the NATO COMEDS members in three primary areas: 1) medical situational awareness; 2) patient tracking and regulating; and 3) medical surveillance. The Telemedicine Expert Team (TMed ET) is a subordinate group, also chaired by the U.S., which reports to the MedCIS EP. This ET is responsible for developing doctrinal and standardization documents to enhance the interoperable use of various modalities of telemedicine within the NATO medical community and to

assist in meeting NATO medical support goals and requirements. Within this report, references to MedCIS EP include work done by the TMed ET unless otherwise noted.

The MedCIS EP reported their September 2006, and March 2007 work efforts at the NATO COMEDS Plenary meeting held in November 2006, and June 2007, respectively. Key activities included updates to the NATO Military Medical Objectives for the period of 2005 – 2015, the MedCIS Terms of Reference, and the COMEDS Mission and Vision statements. A rudimentary website was made available for the use of NATO EPs by the NATO Standardization Agency. The MedCIS membership has initiated work on the site to include migration of all key documents and work efforts.

The MedCIS EP actively liaises with other NATO and non-NATO work groups and EPs to accomplish its objectives (e.g. World Health Organization, European Space Agency). It is also responsible for three NATO Standardization Agreements (STANAGs). STANAG Study 2543 "Technical Standards for Data Interchange between Health Information Systems" is expected to be ratified by Fall 2007. STANAG 2231 MED (Edition 1) (Ratification Draft 1) – "Patient Management System Common Core Information" expects Ratification Draft 2 by Fall 2007. STANAG 2517 "Development and Implementation of Teleconsultation Systems" is now promulgated as Edition 2, and Edition 3 is pending national ratification. The MedCIS EP continues to monitor progress made by Norway regarding the development of an electronic field medical card.

The MedCIS EP maintains its support for the Medical Information and Coordination System (MEDICS), an integrated component of the NATO Logistics Functional Area Capability Package. MEDICS allows the Medical Advisor to provide timely and reliable medical situational awareness information to the

17

NATO Commander. It also enables the exchange of information between national Medical Information Management Systems (MIMS) to improve multinational medical support concepts.

Members of the MedCIS EP also participated in the first ever NATO COMEDS Patient Tracking Conference in December 2006. The purpose of this conference was to identify the functional and technical requirements for a multinational patient tracking system to support tracking and regulating of NATO coalition forces from theater back to their home nation while offering commanders a unit readiness assessment. MedCIS EP members also supported the Information Exchange Requirements ET, a group responsible for harmonizing standards within the COMEDS structure prior to their engagement in the larger NATO Information Exchange Requirements Harmonization Workgroup.

Finally, the TMed ET produced a legal analysis of the proposed multinational use of telemedicine modalities in a multinational environment, a set of functional TMed requirements for inclusion into a future NATO MedCIS, and an analysis of the actual bandwidth requirements for the effective clinical use of various TMed modalities.

The next meeting of the MedCIS EP/TMed ET is scheduled for September 2007. The agenda aims to advance the work on the STANAGs as outlined above, as well as coordinate with Allied Command Operations (ACO)/Allied Command Transformation (ACT) to ensure that the MedCIS EP efforts are fully integrated into the NATO multinational medical operational concept. Finalizing the concept of operations for the effective use of MedCIS and telemedicine within the NATO multinational medical support concept is also on the agenda.

MHS Business-to-Business Gateway: The MHS Business-to-Business Gateway is designed to provide an electronic, real-time, secure methodology for exchange of health care data between the DoD and its partners to ensure continuity and optimization of health care provided to DoD beneficiaries. Built using commercially available products, the Business-to-Business Gateway provides a cost effective, assured, available, flexible and scalable approach for the MHS to share information with its government and commercial partners, without degradation of performance or productivity.

Operational since September 2003, the MHS Business-to-Business Gateway currently supports connectivity to 28 government and commercial partners. It successfully supports the documented requirements for the Military Health Partner connections and services, while maintaining DoD health care availability, integrity, and confidentiality requirements.

MHS Medical Informatics Decision Making Tools

DoD continues to optimize the use of digital information as a result of innovations in medical informatics. This process involves developing innovative decision support tool sets with active interfaces around the world to collect, integrate, analyze, and present medical and administrative information to improve the performance of the MHS. Examples of the MHS medical decision support system tools are described below.

MHS Data Repository (MDR): The MDR is the MHS's centralized data repository. The MDR is populated with clinical encounter and cost data from the MTFs as well as purchased care data from contracted MHS network providers. The MDR captures and validates data from more than 260 DoD health data network systems worldwide. This robust repository offers more than five billion records on-line with 10+ years of data. The MDR is the MHS's single point for data integration, data quality edits, on-line and near-line data storage and DoD health care data transfers.

The MDR allows more than 100 terabytes of data to be transferred seamlessly to military data analysts at remarkable speed and volume. The MDR provides unprecedented capabilities to the MHS. Projects that previously required weeks or months for data collection, analysis, and reporting are now conducted in days or even minutes. More than 260 worldwide systems contribute both encounter data and reference files to enable crosscutting analysis among financial, clinical, enrollment and eligibility, and purchased care databases. Demographic data is fed into the MDR from the Defense Manpower Data Center, revealing not only the geographic locations of eligible beneficiaries but also their history of health plan enrollment. A nearly continuous stream of laboratory, radiology, and pharmacy data populates the MDR with detailed results that make it one of the most clinically-rich data repositories in existence today.

The MDR consolidates data from multiple financial, logistical, clinical, and manpower and personnel data collection systems. It includes inpatient, outpatient, pharmacy, ancillary, provider, and purchased care data from different military services, health care providers, beneficiary groups, geographical regions, and other elements. It also incorporates raw data to support standard and customized analyses. The MDR identifies the quality of data it receives, and it assures all data is available for analysis and reporting and that data from

disparate sources is current. The MDR successfully feeds several data mart applications and controls access to privacy protected data (e.g., Protected Health Information) in compliance with Health Insurance Portability and Accountability Act guidelines. The MDR helps provide interagency data sharing capabilities with the VA and the CDC. Additionally, the MDR preserves historical raw data by type and year for ad hoc analysis.

The MDR incorporates the health care information management capabilities of commercial systems and facilitates analysis and projection by combining reporting tools with search and selection, ad hoc graphics, drill-down, and narrative functions. The MDR provides executive information and decision support for secured electronic health care data for the MHS's 9.1 million beneficiaries from the enterprise level down to the individual recipient of care.

Management Analysis and Reporting Tool (M2): M2 is an ad hoc query tool that health care analysts and decision makers use to manage and oversee MHS operations. M2 provides summary and detailed views of population, clinical, and financial data from all MHS regions worldwide and includes MTF and purchased care data with eligibility and enrollment data. Health care analysts use M2 to perform trend analyses, to conduct patient and provider profiling studies, and to identify opportunities for transferring health care from the private sector back to MTFs. In order to provide more timely data, the frequency of some M2 data feeds has been increased from monthly to weekly and from weekly to daily.

Prospective Payment System (PPS): PPS directs a performance-based budgeting system for the MHS to provide incentives and financial rewards for efficient management. PPS allows the MHS to establish MTF budgets based on actual workload production for direct care such as hospital admissions, prescriptions filled, and clinic visits instead of historic resource levels. PPS is an

21

automated Web-based system with two primary tools: Business Planning and Reconciliation. The Business Planning Tool links business planning with resources, execution, and performance monitoring. The Reconciliation Tool is used monthly to reconcile actual and predicted MTF workload performance for comparison to prior years' performance.

Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE) Medical Surveillance: In FY2007, the DoD released an enhanced version of the ESSENCE medical surveillance system throughout the MHS. ESSENCE is the only near-real-time global monitoring system for detecting and monitoring infectious disease outbreaks and is used by military public health and preventive medicine providers worldwide. ESSENCE is vital in assisting public health officials to quickly detect and track infectious disease outbreaks, including the looming threat of pandemics such as tuberculosis, influenza, and malaria. ESSENCE is in every MTF worldwide and constantly monitors outpatient and pharmacy data on the system's more than 9 million beneficiaries. ESSENCE users report alerts to local and state public health officials and the CDC's BioSense System. The application is also a part of the National Pandemic Influenza Preparedness and Response Plan. ESSENCE was developed jointly by DoD, the Walter Reed Army Institute of Research, and the Johns Hopkins University Applied Physics Laboratory.

ESSENCE captures all outpatient diagnoses from the MHS and assigns certain diagnoses to predefined infectious disease syndromes of greatest concern. ESSENCE users are primarily epidemiologists and public health officers throughout the MHS.

The newest version of ESSENCE provides improved analytic capabilities and refined definition for the medical conditions of most concern, namely botulism, fever, gastrointestinal illness, hemorrhagic illness, neurological disorders, skin rash, respiratory or influenza-like illness, shock or coma. Other improvements include automated e-mail and mobile phone alerts in case of possible disease outbreaks along with the ability to create user-customized alerts and patient-level drill-down detail. These improvements not only reflect the continuing efforts of military clinicians to support the nation's Service members and their families, they help give ESSENCE a vital role in protecting our military facilities and enhancing the U.S. national public health surveillance system.

ESSENCE receives and analyzes data from approximately 90,000 daily outpatient and emergency department visits in DoD health care facilities worldwide. The data is downloaded in near real-time from more than 400 MTFs, and ESSENCE sifts through the data for infectious diseases occurring in patterns and trends that might need further investigation. ESSENCE's enhanced detection capability provides the MHS with the information needed to facilitate informed decision-making and timely response. It also facilitates the allocation of any needed medical assistance, resources and supplies to control disease outbreaks and render timely medical care to those affected. ESSENCE uses sophisticated statistical analytical methods to calculate expected rates of related illnesses and medical conditions. These calculations are adjusted by such considerations as the frequency of specific conditions during the preceding several weeks, the effects of holidays and weekends on the numbers of patient visits, and the geographic clustering of cases by ZIP code.

ESSENCE is a critical tool in the nation's monitoring of outbreaks of infectious diseases and biohazards. The next version of ESSENCE, scheduled to be released within 2008, will include laboratory, radiology, and emergency

department chief complaint data. These enhancements are another example of how the MHS is contributing to global standards in electronic surveillance resulting in improved health and safety for the entire nation.

Clinical Data Mart (CDM): CDM is the clinical reporting tool for AHLTA. It allows analysts to review large data samples from AHLTA's CDR and offers them to users through a secure Web interface. The first release of CDM is for MTF health care professionals and analysts; follow-on releases will focus on enterprise-level users. CDM enables analysts and clinicians to measure, analyze, and manage performance of direct patient care, wellness, disease prevention, and disease management, to improve the quality of care delivered.

CDM supports reporting on The Joint Commission's standards, and on provider credentialing, preventive care statistics, and population health research. It provides timely clinical data analysis on the MHS's 9.1 million beneficiaries. Key features include ad hoc and pre-configured reporting to query essential clinical data such as reports on diabetes, asthma, hypertension, obesity, high cholesterol, smoking cessation, and weight management. Reports created in the CDM can span the MHS corporate hierarchy from the enterprise down to patient-level detail. The Services can also publish common clinical reports to share across health teams to improve patient care and clinical performance. CDM helps analysts and clinicians report secure, actionable data and identifies deficiencies for further investigation.

CDM is a Web-based reporting tool built upon a robust, scalable commercial-off-the-shelf architecture capable of supporting clinical reporting demands now and in the future. It leverages the latest generation of the industry standard business intelligence tool (Business Objects) used today by the MHS. This solution

provides a full range of analysis and reporting features while reducing life cycle support costs.

TRICARE Encounter Data (TED): Congressionally mandated, TED collects, verifies, and tracks billions of dollars annually in purchased care claims and encounter data for the MHS. TED makes health care more accessible to the nation's soldiers, sailors, airmen and marines, their families, retirees and their families by encouraging more health providers to accept and treat TRICARE beneficiaries. TRICARE supplements its direct care network through a global network of civilian health professionals, hospitals, pharmacies, and suppliers (referred to as "purchased care") to provide better access and high quality service to its 9.1 million beneficiaries.

Under TRICARE, the government maintains competitively established, reimbursement-based contracts with multiple commercial health care insurance carriers. These insurance carriers, known as managed care support contractors, process health care claims, provide customer service to TRICARE beneficiaries, and develop and maintain a global network of civilian health providers. Providers submit claims to the insurance carriers for payments of services rendered. The carriers then electronically transmit their claims payment information to TRICARE using TED for validation and authorization for reimbursement. The TED application receives, validates, edits, processes, aggregates, and integrates all data resulting from purchased care encounters for military personnel, dependents, and retirees. TED records are processed against TRICARE business rules to validate data completeness and accuracy. Once validated, TRICARE then authorizes the carriers to reimburse providers electronically, usually in less than 24 hours following receipt of TED records.

TED records processing is a critical piece in how quickly and easily TRICARE purchased care claims are paid to managed care support contractors. A vital factor in a provider's decision to accept beneficiaries from a national health insurance plan is how quickly and easily claims are paid. TED records processing helps make TRICARE a good business decision to existing and potential health providers due to an automated electronic process that quickly and easily validates purchased care claims.

TED records are submitted in batches for processing, and volumes frequently exceed more than one million records a day. In FY 2007, improvements were made to TED resulting in dramatically faster processing times. Previously it would take up to 24 hours to process one million TED records. Today, TED processes one million records in less than five hours.

TED helps ensure that purchased care claims reimbursement is faster and more efficient by tracking claims immediately after submission, posting payments and denials, and systematically following up on unpaid claims. The result is shorter billing cycles and reimbursements paid within 30 days, one of the fastest claims processing cycles in the health care industry.

Patient Encounter Processing and Reporting (PEPR): Using the purchased care claims data collected by TED, PEPR, a Web-based suite of applications, enables analysis of the purchased care claims and encounter data generated by the TRICARE managed care support contractors. PEPR's key applications are the Purchased Care Utilization, Reporting and Evaluation System and the Purchased Care Detail Information System. PEPR also features ad hoc reports and applications including the Web-based Duplicate Claims System that automates the resolution of duplicate purchased care claim payments. PEPR provides streamlined access to both Health Care Service Records and the new TRICARE

Encounter Data. Data in PEPR assists in the analysis and reporting of purchased care costs and workload, resource sharing opportunities, and potential dollars to be recaptured by MTFs.

Duplicate Claims System (DCS): DCS automatically reviews each claim sent to TRICARE through TED records. DCS groups potential duplicate records together into sets, which are thoroughly reviewed to determine if an actual duplicate claim was paid. Once confirmed, DCS staff contacts the medical provider, recoups the paid claim and credits those recovered funds back to TRICARE. Since DCS was first automated in 1997, nearly $112 million dollars have been reclaimed for TRICARE.

DCS also identifies TED duplicates which occur when a managed care support contractor enters a single TED record twice. About two-thirds of all DCS identified duplicate claims are found to be TED duplicates. Through the end of 2006, DCS's simple automated system has saved the government approximately $336 million dollars. The $336 million represents $224 million dollars in identified and corrected TED duplicates and $112 million in actual recovered dollars.

The TRICARE Program Integrity Office describes DCS as, "an integral part of the total fabric of TRICARE Fiscal Stewardship, protecting valuable benefit dollars and contributing to controls that ensure the appropriate expenditure of taxpayer dollars and has become one of the cornerstones that meets the program's goal of "Defending the Health Care of Those Who Defend Us."

The Web version of DCS has recently been launched. DCS is accessed on the Web through a stringent, secure, controlled entry through the PEPR portal. Previously, DCS existed on a client server network that required occasional software upgrades to individual DCS workstations. With the Web, the latest

upgrades to DCS can be installed without any action by individual users. The growth of DCS has been dramatic for TRICARE, and it remains one of the most important applications in support of the financial health of TRICARE.

Managed Care Forecasting & Analysis System (MCFAS): MCFAS is the official source of population forecasts for MHS planning and budgeting. MCFAS provides DoD executive staff with accurate past, current, and future counts of people eligible for MHS medical benefits worldwide down to individual zip codes. MCFAS data is used to determine future beneficiary obligations to analyze the impact of potential market area modifications or to establish the types of medical services needed around the world. MCFAS is used to develop market area business plans, determine the effects of direct care provider availability and productivity levels on enrollment capability, and evaluate the loss of primary care capacity due to deployments, facility closures, and access issues.

MHS Insight: MHS Insight is a performance management tool for MHS front line managers and executive staff. MHS Insight delivers fast and accurate information that significantly improves the system's ability to set, monitor, and achieve its strategic performance goals. This Web-based solution gives clinic managers the data they need to make day-to-day decisions and to visualize how that information directly aligns with the MHS's strategic performance goals. Prior to MHS Insight, there was no process to translate, transmit, and display that data using corporate strategic performance measures or key performance indicators in a verifiable, user-friendly manner. Now, performance management and improvement are aligned throughout the MHS.

MHS IT Partnership and Outreach Activities

While DoD has systematically developed and matured our medical informatics processes, health information systems, and health enterprise architecture, this program has also included outreach activities designed to share our progress and lessons learned with our fellow federal agencies, industry partners, professional organizations, and allied governments. A sampling of these efforts and events are described below.

Healthcare Information and Management Systems Society (HIMSS): HIMSS frames and leads health care public policy and industry practices through its legislative advocacy, knowledge sharing, collaboration, and community affiliations. The MHS works with HIMSS year round on efforts to help advance the President's Executive Orders and goal of interoperable EHRs for most Americans within a decade.

The overarching theme for the HIMSS 2007 annual meeting was "Transforming Health care through IT." In support of this theme, the Program Manager for Theater Medical Information Program (TMIP), spoke on "Electronic Health Records and Technology on the Battlefield Helping Troops." The general session presentation was supported by AHLTA demonstrations in the exhibit hall which focused on interoperability, the sharing of viewable data and exchange of computable health data across varied care delivery settings. Visitors saw how information captured on the battlefield becomes accessible to military providers in brick and mortar facilities and ultimately becomes part of a shared, consolidated view of health information for DoD/VA patients.

In addition to the HIMSS 2007 annual meeting, the Fourth Annual HIMSS Public Policy Forum was held in September 2006. The Assistant Secretary of Defense (Health Affairs), addressed the Forum's theme of "Barriers and Solutions to Achieving a Wired 21st Century Health Care System." He discussed the MHS response to Executive Order 13410: "Promoting Quality and Efficient Health Care in federal Government Administered or Sponsored Health Care Programs." He explained how the order affords us a tremendous opportunity for not only improving efficiency and quality of care, but also for expanding our ability to share health information not only between federal agencies but with our civilian health care partners who serve a large part of the American public.

American Health Information Management Association: On October 12, 2006, the Chief Information Officer for the MHS spoke at the American Health Information Management Association (AHIMA) annual conference. AHIMA is the premier association of health information management professionals, and its 50,000 members are dedicated to the effective management of personal health information needed to deliver quality health care to the public. The Chief Information Officer's speech, "AHLTA: DoD's Electronic Health Record: 21st Century Health care for America's Heroes," discussed the President's Executive Order, and the strengths of AHLTA which lend it support. He described DoD's collaborative efforts with the VA to share electronic health information and how the Departments' joint achievements may further the adoption of health IT interoperability standards across the nation.

The World Healthcare Innovation and Technology Congress: At the World Healthcare Innovation and Technology Congress, the MHS's Chief Medical Information Officer presented "AHLTA: The U.S. Department of Defense Global EHR Experience From Combat to Tertiary Care and Back Again." He discussed the DoD's EHR experience including successes, barriers, and lessons learned

while also focusing on some very specific capabilities such as disease management and bio-terror surveillance. He also participated in a plenary panel discussion on "National Standards and the Interoperability Mandate."

The Association of Military Surgeons of the United States: In November 2006, the Association of Military Surgeons of the United States (AMSUS) 112th Annual Meeting, "Health 2015: Actionable Strategies for Caring for Our Warriors, Veterans and Country," was held in San Antonio, Texas. The MHS's Clinical Information Manager participated in a panel presentation on "Our Vision of Interoperability for the Electronic Medical Record," together with a physician from the VA and health informatics expert from HHS. The MHS also exhibited at AMSUS with booths and demonstrations of theater medical information systems, and information technologies supporting defense medical logistics and resource management.

World Health Congress: In April 2007, the 4th Annual World Health Congress, co-sponsored by The Wall Street Journal, was held at the Washington Convention Center. The 2007 conference convened over 1,800 senior executives and government officials from the nation's largest employers, hospitals, health systems, health plans, pharmaceutical and biotech companies, and leading government agencies. Senior leaders from the MHS addressed President Bush's Executive Order, "promoting quality and efficient health care in federal government administered and sponsored health care programs," directing federal agencies that administer health care programs to take steps to promote quality care. On panels and at keynote sessions, they discussed how AHLTA enhances quality of health care and allows the MHS to support the Executive Order.

State of Florida Partnership: In April 2007, DoD announced its partnership with the Florida Agency for Health Care Administration (AHCA) during a ceremony held at MacDill Air Force Base in Tampa. The partnership will pursue an interoperable network for sharing electronic medical information. This pilot collaboration between the DoD and the Florida AHCA is a model initiative between a state and the federal government to create a mechanism to share and exchange personal health information and data. It represents an unprecedented partnership to exchange health care information that will enhance quality and efficiency for mutual beneficiaries.

This new partnership between the Florida AHCA and the DoD, will be executed through the Tampa Bay Regional Health Information Organization (RHIO), a state- and privately-funded entity.

Federal Executive Forum on Health IT in Government: The MHS's Deputy Chief Information Officer participated in the Federal Executive Forum on Health IT in Government in May 2007. The panel took an in-depth look at critical issues facing leaders in both government and industry regarding the use of information technology to improve health care and related services. Discussion topics included progress made over the past year within federal agencies regarding improvement of health care and health care services, areas of opportunity to expand the use of technology in health care services, and challenges to implementing technology solutions to improve health care services.

Third Annual Government Health Information Technology (GHIT) Conference and Exhibition: The Third Annual GHIT Conference and Exhibition was held in June, 2007. Several members of the DoD's IT community were speakers. The Acting Chief Information Officer, together with VHA's Health Systems Information Manager spoke on "Health IT: The DoD and VA Experience." The Deputy Chief

Information Officer for Health Care Strategies, DoD, spoke on a panel entitled, "Federal Health Architecture: Agency Perspectives," with representatives from the VA, ONC for Health IT, and the HHS. In a session on "Military Health Care Programs: Challenges, Progress, and Future Plans," the TMIP Program Manager presented with the Chief Information Officer of the Army Medical Department.

Department of State Medical Services Office Demonstration: In November, 2006, the Deputy Chief Information Officer for Health Care Strategies hosted an AHLTA demonstration for the Department of State's (DoS) Medical Services Department. In February 2007, DoD and DoS announced an agreement to begin a pilot project to determine if AHLTA is a feasible system for DoS to adopt as its EHR system of the future. DoS selected AHLTA over other electronic medical records because of its robust functionality, proven reliability in remote and austere environments, and compliance with tough DoD security standards.

Australian Defence Headquarters Demonstration: In November 2006, the MHS and Brooke Army Medical Center co-hosted an AHLTA demonstration in San Antonio, TX, for the Director General Health Services, Australian Defence Headquarters, and Defence Health Service Branch. The Australian delegation was presented an overview and live demonstration of AHLTA as part of their evaluation of various operational systems to determine how to address the Australian Defence Force's objectives.

American Health Information Community Demonstration: In January 2007, an AHLTA demonstration was provided to the members of the AHIC. The AHLTA Clinical Champion at Walter Reed, played a key role in the event by participating in the live demonstration of AHLTA. AHIC is a federal advisory body established to make recommendations to the Secretary, HHS on how to accelerate the

development and adoption of health information technology. AHIC members in attendance for the event included leaders from HHS, VA, National Center for Public Health and Informatics, the Office of the Undersecretary of Commerce for Technology, the Center for Employee and Family Support Policy, Blue Cross/Blue Shield, and VHA.

Central Intelligence Agency Demonstration: An AHLTA demonstration and discussion was held for the Central Intelligence Agency (CIA), Langley Office of Medical Services, in March 2007. The Deputy Chief Information Officer, Health Care Strategies, hosted the event and briefed. The CIA doctors, nurses and computer programmers expressed interest in seeing AHLTA's capabilities demonstrated.

The MHS will continue to sponsor and participate in outreach activities designed to promote the uses and benefits of medical informatics and medical information technology. Working together with other Federal Agencies and organizations such as HIMSS, the MHS will continue to share our lessons learned, to encourage the nationwide adoption of electronic health records.

Finally, we will continue to explore potential partnerships with other federal, state and private sector health care providers to promote the advancement of health informatics, and most importantly, to work out ways to share information and optimize health care for our Service members and shared beneficiaries.

Summary

With the joint leadership of both Departments, DoD and VA continue to develop and implement numerous inter-agency medical informatics initiatives and are today delivering information technology solutions that significantly improve the secure sharing of appropriate electronic health information for our shared beneficiaries and the seamless transition for Service members to Veteran status.

Beyond the DoD/VA partnership, DoD actively engaged in strategic relationships in both the public and private sectors to advance health care informatics and to promote and define standards for system interoperability.

Under the American Health Information Community (AHIC) umbrella, DoD has worked to improve coordination and collaboration on national health IT solutions and is actively engaged in advancing the goal of the President's Executive Orders to establish an interoperable health record for most Americans within 10 years and promote quality and efficient health care operations. DoD is firmly committed to continued collaboration and the appropriate sharing of health information as systems and data repositories mature and standards and processes are further defined and implemented.

DoD is expanding its use of medical informatics through the MHS decision support systems to help improve beneficiaries' health care by implementing medical surveillance, supporting quality improvement, and fostering clinical and business best practices.

Through outreach activities with other Federal agencies, industry partners, professional organizations, and others, DoD is sharing the advances and lessons learned in medical informatics and medical information technology. In concert with government and industry associates, DoD will continue to improve and leverage its informatics knowledge to enhance the medical capabilities that support this world-class health system that sustains the health of all those entrusted to its care.

ACRONYM LIST

ACO	Allied Command Operations
ACT	Allied Command Transformation
AHCA	Agency for Health Care Administration
AHIC	American Health Information Community
AHIMA	American Health Information Management Association
AMSUS	Association of Military Surgeons of the United States
ANSI	American National Standards Institute
AP	Anatomic Pathology
ASC	Accredited Standards Committee
BEC	Benefits Executive Council
BHIE	Bidirectional Health Information Exchange
CCHIT	Certification Commission for Healthcare Information Technology
CDC	Centers for Disease Control and Prevention
CDR	Clinical Data Repository
CHDR	Clinical Data Repository/Health Data Repository
CHI	Consolidated Health Informatics
CIA	Central Intelligence Agency
COMEDS	Chiefs of Military Medical Services
CPRS	Computerized Patient Record System
DCS	Duplicate Claims System
DoD	Department of Defense
DoS	Department of State
EHR	Electronic Health Record
EP	Expert Panel

ESSENCE	Electronic Surveillance System for Early Notification of Community-based Epidemics
FHA	Federal Health Architecture
FHIE	Federal Health Information Exchange
FY	Fiscal Year
GHIT	Government Health Information Technology
HDR	Health Data Repository
HEC	Health Executive Council
HHS	Department of Health and Human Services
HIMSS	Healthcare Information and Management Systems Society
HIPAA	Health Insurance Portability and Accountability Act
HITSP	Health Information Technology Standards Panel
HL7	Health Level 7
IT	Information Technology
JEC	Joint Executive Council
JSP	Joint Strategic Plan
LDSI	Laboratory Data Sharing Initiative
LOINC	Logical Observation Identifier Name Codes
M2	Management Analysis and Reporting Tool
MCFAS	Managed Care Forecasting & Analysis System
MDR	Military Health System Data Repository
MedCIS	Medical Communication and Information Systems

MEDICS	Medical Information and Coordination System
MHS	Military Health System
MIMS	Medical Information Management System
MTF	Military Treatment Facility
NATO	North Atlantic Treaty Organization
NCPDP	National Council for Prescription Drug Programs, Inc.
NHIN	Nationwide Health Information Network
NHIN-C	Nationwide Health Information Network Consortium
OMB	Office of Management and Budget
ONC	Office of the National Coordinator
PDHRA	Post Deployment Health Reassessment
PEPR	Patient Encounter Processing & Reporting
PPS	Prospective Payment System
RBAC	Role-based Access Control
SADR	Standardized Ambulatory Data Record
SDO	Standards Development Organization
SNOMED CT	Systematized Nomenclature of Medicine Clinical Terminology
STANAG	Standards of Agreement
TED	TRICARE Encounter Data
TMed ET	Telemedicine Expert Team
TMIP	Theater Medical Information Program
VA	Department of Veterans Affairs
VistA	Veterans Information Systems and Technology Architecture
VHA	Veterans Health Administration
WBAMC	William Beaumont Army Medical Center