OFFICE OF THE UNDER SECRETARY OF DEFENSE
4000 DEFENSE PENTAGON
WASHINGTON, DC 20301-4000

PERSONNEL AND
READINESS

SEP 23 2011

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

Dear Mr. Chairman:

I am pleased to forward the enclosed report on Health Information Technology Organizational Structure and Future Plans required by section 715(b) of the Ike Skelton National Defense Authorization Act for Fiscal Year 2011. This issue falls under the purview of the Under Secretary of Defense for Personnel and Readiness and I have been asked to respond. Please accept my apology for the lateness of this report.

The report includes an organizational chart showing the Department of Defense (DoD) leadership positions with substantial responsibility for DoD health information technology (HIT) systems; discusses the functions and responsibilities of DoD leaders with respect to HIT policy formulation, policy and program execution, and program oversight; sets forth findings regarding the interoperability of DoD HIT systems with those of the Department of Veterans Affairs (VA) and entities outside the Federal Government; states statutory responsibilities of the DoD/VA Interagency Program Office (IPO); discusses a 2011 assessment of the IPO's performance by the Government Accountability Office and reports related recommendations by DoD; discusses future plans for legacy systems and new Electronic Health Record initiatives, including the Virtual Lifetime Electronic Record initiative; and discusses results of a user survey concerning successes and drawbacks of DoD HIT systems.

A similar letter is being sent to the Chairmen of the other congressional defense committees. Thank you for your interest in the health and well-being of our Service members, veterans, and their families.

Sincerely,

Clifford L. Stanley

Enclosure:
As stated

cc:
The Honorable John McCain
Ranking Member

OFFICE OF THE UNDER SECRETARY OF DEFENSE
4000 DEFENSE PENTAGON
WASHINGTON, DC 20301-4000

PERSONNEL AND
READINESS

SEP 23 2011

The Honorable Jim Webb
Chairman
Subcommittee on Personnel
Committee on Armed Services
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

I am pleased to forward the enclosed report on Health Information Technology Organizational Structure and Future Plans required by section 715(b) of the Ike Skelton National Defense Authorization Act for Fiscal Year 2011. This issue falls under the purview of the Under Secretary of Defense for Personnel and Readiness and I have been asked to respond. Please accept my apology for the lateness of this report.

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cc:
The Honorable Lindsey Graham
Ranking Member

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WASHINGTON, DC 20301-4000

PERSONNEL AND READINESS

SEP 23 2011

The Honorable Howard P. "Buck" McKeon
Chairman
Committee on Armed Services
U.S. House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

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The Honorable Adam Smith
Ranking Member

OFFICE OF THE UNDER SECRETARY OF DEFENSE
4000 DEFENSE PENTAGON
WASHINGTON, DC 20301-4000

PERSONNEL AND
READINESS

SEP 23 2011

The Honorable Joe Wilson
Chairman
Subcommittee on Military Personnel
Committee on Armed Services
U.S. House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

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Enclosure:
As stated

cc:
The Honorable Susan A. Davis
Ranking Member

OFFICE OF THE UNDER SECRETARY OF DEFENSE
4000 DEFENSE PENTAGON
WASHINGTON, DC 20301-4000

PERSONNEL AND
READINESS

SEP 23 2011

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

Dear Mr. Chairman:

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Clifford L. Stanley

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Enclosure:
As stated

cc:
The Honorable Thad Cochran
Vice Chairman

OFFICE OF THE UNDER SECRETARY OF DEFENSE
4000 DEFENSE PENTAGON
WASHINGTON, DC 20301-4000

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WASHINGTON, DC 20301-4000

PERSONNEL AND READINESS

SEP 23 2011

The Honorable Harold Rogers
Chairman
Committee on Appropriations
U.S. House of Representatives
Washington, DC 20515

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Enclosure:
As stated

cc:
The Honorable Norman D. Dicks
Ranking Member

OFFICE OF THE UNDER SECRETARY OF DEFENSE
4000 DEFENSE PENTAGON
WASHINGTON, DC 20301-4000

PERSONNEL AND
READINESS

SEP 23 2011

The Honorable C.W. Bill Young
Chairman
Subcommittee on Defense
Committee on Appropriations
U.S. House of Representatives
Washington, DC 20515

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The Honorable Norman D. Dicks
Ranking Member

2011

Report to Congressional Defense Committees on

Health Information Technology Organizational Structure and Future Plans

Required by

Section 715(b) of the Ike Skelton National Defense Authorization Act for Fiscal Year 2011

Preparation of this report cost the Department of Defense
a total of approximately $115,251 for the 2011 Fiscal Year

Report to Congressional Defense Committees on
Health Information Technology Organizational Structure and Future Plans

TABLE OF CONTENTS

EXECUTIVE SUMMARY 2

I. ORGANIZATIONAL STRUCTURE 3

II. FUNCTIONS AND RESPONSIBILITIES 3

A. Secretary of Defense (SECDEF) 4
B. Deputy Secretary of Defense (DEPSECDEF) 4
C. Under Secretary of Defense for Personnel and Readiness (USD(P&R)) 4
D. Deputy Chief Management Officer (DCMO) 4
E. Assistant Secretary of Defense for Health Affairs (ASD(HA)), Director of TRICARE Management Activity (TMA) 5
F. Principal Deputy Assistant Secretary of Defense for Health Affairs (PDASD(HA)), Principal Deputy Director, TRICARE Management Activity (TMA) 5
G. MHS Component Acquisition Executive (CAE)/Director, Acquisition Management and Support (AM&S)/Head of Contracting Activity (HCA) 6
H. Director, MHS Electronic Health Record Center (MEHRC) 6
I. MHS Chief Information Officer (CIO) 7
J. Program Executive Officer (PEO), Joint Medical Information Systems, Clinical Systems (PEO JMIS (Clinical Systems)) 7
K. Program Executive Officer (PEO), Defense Health Services Systems, Non-Clinical Information Systems (PEO DHSS (Non-Clinical Systems)) 7
L. MHS Information Management (IM) 8

III. INTEROPERABILITY OF HEALTH INFORMATION SYSTEMS 8

A. Interactions of DoD Health Information System with VA and Entities other than the Federal Government 8
B. Assessment Findings—Governance and Infrastructure 9
1. Planning and Oversight 9
a. iEHR Advisory Board 9
b. DoD/VA Joint Executive Council (JEC) 9
c. DoD/VA Interagency Clinical Informatics Board (ICIB) 10
d. HEC IM/IT Work Group 10
e. Wounded, Ill and Injured (WII) Senior Oversight Committee (SOC); Overarching Integrated Product Team (OIPT) 10
f. Senior Military Medical Advisory Council (SMMAC) 10

2. Standards Adherence Activities 10
3. Infrastructure Improvements Supporting Interagency Data Exchange 11

C. Assessment Findings—DoD Health Information System Interactions with Public and Private Sector Health Information Systems 12
1. Interactions between DoD and VA Health Information Systems 12
a. Federal Health Information Exchange (FHIE) 12
b. Bidirectional Health Information Exchange (BHIE) 13
c. Clinical Data Repository/Health Data Repository (CHDR) 13
d. Biosurveillance Data Sharing with Centers for Disease Control and Prevention (CDC) 14
2. Interactions with the Private Sector 14
a. Nationwide Health Information Network (NwHIN) and the Virtual Lifetime Electronic Record (VLER) 14
b. MHS Business-to-Business (B2B) Gateway; Third Generation (T-3) Managed Care Support (MCS) Service Providers 17

IV. DOD/VA INTERAGENCY PROGRAM OFFICE (IPO) 17

A. Statutory Establishment 17
B. Description of Role Played by IPO 20
C. Assessment of IPO's Performance 20
D. Recommendations 21

V. FUTURE PLANS 22

A. Legacy EHR Systems—Stabilization Efforts and Critical Fixes 22
1. Planning and Oversight 22
2. EHR Stabilization and Critical Fixes 22
a. AHLTA Stabilization 22
b. AHLTA/CHCS Critical Fixes and Support 23
c. AHLTA 3.3 23
d. Theater Enhancements 23
e. Additional Improvements 24

B. DoD's EHR Way Ahead (EHRWA) Initiative and iEHR 24
1. Pre-Program Risk Reduction Activities 24
a. Core Functional Efforts 25
b. Core Infrastructure Efforts 25
C. Virtual Lifetime Electronic Record and Nationwide Health Information Network 27
1. VLER Puget Sound 27
2. VLER Next Steps—Nationwide Rollout of VCA 1 and Beyond 27

VI. DOD HIT SYSTEMS SURVEY 28

A. Survey Planning and Oversight 28
B. Scope of 2011 Survey 28
C. Survey Methodology 29
D. Identifying User Characteristics and Satisfaction 30
E. Assessment Findings 31
1. Overall Satisfaction 31
2. Acceptable Performance 32
3. Remediation 34

ACRONYMS AND ABBREVIATIONS I

EXHIBIT A V

Report to Congressional Defense Committees on
Health Information Technology Organizational Structure and Future Plans

This report is required by section 715(b) of the Ike Skelton National Defense Authorization Act for Fiscal Year (FY) 2011 (Public Law 111-383) (NDAA FY 2011), which states:

> (b) REPORT ON HEALTH INFORMATION TECHNOLOGY ORGANIZATIONAL STRUCTURE AND FUTURE PLANS.—
>
> (1) REPORT REQUIRED.—Not later than 180 days after the date of the enactment of this Act, the Secretary of Defense shall submit to the congressional defense committees a report on the organizational structure for health information technology [HIT] within the Department of Defense [DoD or Department].
>
> (2) ELEMENTS.—The report required under paragraph (1) shall include the following:
>
> (A) Organizational charts for all organizations involved with health information technology showing, at a minimum, the senior positions in each office and each activity.
>
> (B) A description of the functions and responsibilities, to include policy formulation, policy and program execution and program oversight, of each senior position for health information technology.
>
> (C) An assessment of how well the health information systems of the Department of Defense interact with the health information systems of—
>
> (i) the Department of Veterans Affairs [VA]; and
>
> (ii) entities other than the Federal Government.
>
> (D) A description of the role played by the Interagency Program Office [IPO] established by section 1635 of the Wounded Warrior Act (title XVI of Public Law 110–181; 10 U.S.C. 1071 note) [Wounded Warrior Act] and whether the office is satisfactorily performing the functions required by such section, as well as recommendations for administrative or legislative action as the Secretary considers appropriate.
>
> (E) A complete description of all future plans for legacy systems and new electronic health record [EHR] initiatives, including the joint virtual lifetime electronic record [VLER].
>
> (F) The results of the survey described in paragraph (3).
>
> (3) SURVEY.—The Secretary shall conduct a survey of users of the health information technology systems of the Department of Defense to assess the benefits and failings of such systems.

(4) DEFINITIONS.—In this subsection:

(A) The term ‘‘senior position’’ means a position filled by a member of the senior executive service, a position on the Executive Schedule established pursuant to title 5, United States Code or a position filled by a general or flag officer.

(B) The term ‘‘senior personnel’’ means personnel who are members of the senior executive service, who fill a position listed on the Executive Schedule established pursuant to title 5, United States Code or who are general or flag officers.

EXECUTIVE SUMMARY

The Department of Defense is responsible for providing medical care to more than 9.6 million beneficiaries around the world. DoD operates hundreds of direct care facilities and works with an extremely large network of providers. It must support care both at home and in austere and hostile environments.

The efficient and effective execution of this responsibility, from clinical and theater provision of care to medical logistics, is heavily reliant on a backbone of Information Technology (IT) systems. Through these systems, DoD aims to provide accurate information to customers at the right time to improve and maintain the health status of beneficiaries across the entire continuum of healthcare operations. However, to fully meet this goal, the Department must move toward a more modern IT capability set while ensuring a smooth transition from legacy to target systems. The Department is actively pursuing this modernization effort across its portfolio of medical systems.

A key consideration of this overall effort is ensuring the seamless and secure sharing of health data with our partners outside of DoD, particularly with VA. Today, a large amount of information is shared between the two Departments’ systems, but our current capabilities do not constitute a fully electronic health record and the inconsistent format of the data that is exchanged often limits its usefulness.

To address this issue, the Secretaries of Defense and Veterans Affairs have agreed to pursue a joint, common platform for electronic health records. The Departments have identified many synergies and common business processes, including common data standards and data center consolidation, common clinical applications, and a common user interface. Our goal is to achieve a standards-based, data driven solution, utilizing commercially available components whenever possible and cost effective. Our partnership with VA will enable unprecedented exchange of health information between the Departments and serve as a blueprint for a parallel effort at the national level led by the Department of Health and Human Services (HHS). As envisioned by the White House, our standards-based approach will enable meaningful and ubiquitous exchange of health information with other government agency and civilian providers through the Nationwide Health Information Network (NwHIN).

This report discusses HIT organizational structure and future plans of DoD, in response to the requirements of section 715(b) of NDAA FY 2011. It is organized in accordance with the requirements of that legislation. Section I attaches an organizational chart showing DoD leadership positions with substantial responsibility for DoD HIT systems. Section II discusses the functions and responsibilities of DoD leaders with respect to HIT policy formulation, policy and program execution, and program oversight. Section III sets forth findings regarding the interoperability of DoD HIT systems with those of VA and entities outside the Federal Government. Section IV states IPO's statutory responsibilities, discusses a 2011 assessment of IPO's performance by the Government Accountability Office (GAO), and reports related recommendations by DoD. Section V discusses future plans for legacy systems and new EHR initiatives, including VLER. Section VI discusses results of a user survey concerning successes and drawbacks of DoD HIT systems.

I. ORGANIZATIONAL STRUCTURE

Exhibit A is an organizational chart showing DoD leadership positions with substantial responsibility for DoD HIT systems.

II. FUNCTIONS AND RESPONSIBILITIES

DoD leadership is responsible for HIT policy formulation, policy and program execution, and program oversight to support four key objectives of the Military Health System (MHS); namely, population health, positive patient experience (satisfaction and outcomes), per capita cost and personnel readiness (Quadruple Aim). The Quadruple Aim infuses MHS efforts to:

- sustain activities of current clinical systems
- consolidate development efforts for the EHR Way Ahead (EHRWA) and ancillary clinical applications
- share support resources needed in clinical informatics and systems engineering, and
- perform necessary pilot and testing work for the effective deployment of future clinical capabilities

The following paragraphs describe the allocation of HIT functions and responsibilities among DoD leadership, from the most senior policy level through implementation, oversight and accountability.

A. Secretary of Defense (SECDEF)

SECDEF is the principal defense policy advisor to the President and is responsible for the formulation of general defense policy and policy related to all matters of direct and primary concern to DoD, and for the execution of approved policy.

B. Deputy Secretary of Defense (DEPSECDEF)

DEPSECDEF serves as Chief Management Officer (CMO) of DoD. Among the responsibilities of CMO are to ensure Department-wide capability to carry out the strategic plan of DoD in support of national security objectives; ensure that core business missions of DoD are optimally aligned to support DoD's war fighting mission; establish performance goals and measures for improving and evaluating overall economy, efficiency and effectiveness; monitor and measure the progress of DoD; and develop and maintain a Department-wide strategic plan for business reform.

C. Under Secretary of Defense for Personnel and Readiness (USD(P&R))

USD(P&R) is Principal Staff Assistant (PSA) and advisor to SECDEF and DEPSECDEF for total force management as it relates to readiness, National Guard and Reserve component affairs, health affairs, training, and personnel requirements and management, including equal opportunity, morale, welfare, recreation and quality of life. USD(P&R) oversees health affairs functions carried out through the Assistant Secretary of Defense (Health Affairs) (ASD(HA)), including without limitation the mission, roles, responsibilities and authorities of TRICARE Management Activity (TMA), a Field Activity of USD(P&R). USD(P&R) is also Co-Chair of the VA/DoD Joint Executive Council (JEC).

D. Deputy Chief Management Officer (DCMO)

DCMO serves as PSA and advisor to the SECDEF and DEPSECDEF on matters relating to management and improvement of business operations. DCMO is the senior official responsible for assisting the DEPSECDEF as CMO, leading the Department's efforts to synchronize, integrate and coordinate DoD business operations. DCMO is also the Milestone Decision Authority (MDA) for many business Major Automated Information Systems (MAIS) programs, including health programs such as AHLTA, Theater Medical Information Program-Joint (TMIP-J), and the DoD-VA integrated EHR, and is responsible for ensuring, through DoD's investment review process, that all new or modernizing defense business systems, including health systems, conduct appropriate Business Process Reengineering efforts.

DCMO is co-chair of the iEHR Advisory Board, with the VA Assistant Secretary for Information and Technology. In this role DCMO serves as a primary advisor to the Deputy Secretaries of the Departments for all matters related to iEHR and VLER. The Board will provide principal oversight to the overall execution of the program and serve as the advocate for iEHR and VLER

requirements, workflow, and business functional architecture established by the Health Executive Council (HEC).

E. Assistant Secretary of Defense for Health Affairs (ASD(HA)), Director of TRICARE Management Activity (TMA)

ASD(HA) is PSA and advisor to SECDEF and USD(P&R) for DoD health policies, programs and activities. ASD(HA) ensures the effective execution of the Department's medical mission; namely, to provide—and maintain readiness to provide—medical services and support to members of the Armed Forces during military operations, and to provide medical services and support to members of the Armed Forces, their dependents, and others entitled to DoD medical care. ASD(HA) oversees the development of medical policies, analyses and recommendations to SECDEF and USD(P&R) and issues guidance to DoD components on medical matters. ASD(HA) also serves as principal advisor to USD(P&R) on deployment matters pertaining to force health. In carrying out these responsibilities, ASD(HA) exercises authority, direction and control over medical personnel, facilities, programs, funding and other DoD resources, including without limitation establishing policies, procedures, and standards to govern DoD medical programs.

The incumbent ASD(HA) also serves as Director of TMA. The TMA Director's responsibilities include overseeing the TMA budget, managing TMA health and medical resources, supervising and administering TMA medical and dental programs, overseeing TMA information management/information technology systems and contracting processes, and directing TMA Regional Offices (TRO). The TMA Director also manages the Defense Health Program (DHP) and the DoD Unified Medical Program.

F. Principal Deputy Assistant Secretary of Defense for Health Affairs (PDASD(HA)), Principal Deputy Director, TRICARE Management Activity (TMA)

PDASD(HA) participates fully in formulating, developing, overseeing and advocating SECDEF health policies. PDASD(HA) acts as a liaison on health matters from ASD(HA) to other DoD offices, the Military Services (Services) and other Executive Branch agencies. As liaison, PDASD(HA) supports development, coordination and integration of healthcare policies with departmental priorities and initiatives.

The incumbent PDASD(HA) also serves as Principal Deputy Director of TMA. The TMA Principal Deputy Director assists in the development of strategies and priorities to achieve the health mission of MHS. Principal Deputy Director, TMA also acts as a liaison from Director, TMA to other DoD offices, the Services and other Executive Branch agencies to develop, coordinate and integrate healthcare policies with departmental priorities and initiatives.

G. MHS Component Acquisition Executive (CAE)/Director, Acquisition Management and Support (AM&S)/Head of Contracting Activity (HCA)

The MHS CAE is the senior official within TMA responsible for acquisition matters, and acts as a Special Assistant to the ASD(HA) and TMA Director. CAE is responsible for program management and oversight, acquisition workforce management, and implementation of acquisition policy. CAE ensures proper program risk assessment and analysis, and promotes strategic sourcing of MHS requirements. CAE is the MDA for ACAT III and IV programs. CAE authority extends to use of DHP funds, acquisition of services, and information management/information technology (IM/IT). CAE supervises acquisition of HIT clinical systems by program offices, including clinical systems related to EHRWA and the VLER initiative. CAE also supervises acquisition of HIT non-clinical systems.

The incumbent CAE also serves as Director of AM&S and as HCA. AM&S has primary responsibility for TMA contracting activity, with full authority and responsibility for acquisition policy, management, oversight and operations involving DOD clinical programs and related IM/IT. AM&S also serves as business and acquisition advisor to TMA leadership. The AM&S Director performs oversight and advocacy within DoD for entire component, programs and general acquisition activities; assists with development of acquisition strategy and plans for major acquisitions; ensures training and qualifications of the acquisition workforce; and chairs the Acquisition Management Board (AMB). HCA is responsible for managing contracting functions for healthcare, IM/IT and multiple advisory and support services contracts within TMA.

H. Director, MHS Electronic Health Record Center (MEHRC)

MEHRC, a central MHS organization for the support, development and deployment of EHR related technologies, is responsible for assuring the cost effective operation of network and technical infrastructure for MHS's core mission, enablement of clinical capabilities, and associated benefits administration.

The position of MEHRC Director:

- provides expertise in legacy clinical programs, EHR development and HIT transition
- oversees the administration of HIT clinical systems through dedicated program offices, including clinical systems related to EHRWA and the VLER initiative
- coordinates and supports provisioning of enterprise wide HIT business process re-engineering, clinical informatics, systems engineering, systems integration and service oriented architecture (SOA) configuration, and

- facilitates the common MHS Development and Testing Center (DTC), the Joint Information Technology Center (JITC) in Maui, Hawaii, a dedicated theater testing range, and cyber-infrastructure services

Along with the MHS Office of the Chief Information Officer (OCIO), MEHRC coordinates HIT efforts with the line Service organizations on enterprise HIT.

I. MHS Chief Information Officer (CIO)

The MHS CIO is responsible for performing core HIT technical functions while meeting functional requirements and ensuring fiscal responsibility. Responsibilities of the CIO include functional-technical communication, enterprise analysis, IM/IT strategic planning, enterprise architecture, information assurance (IA), portfolio management, provision of assistive technology and services, and external relationship management. With MEHRC, the Office of the CIO (OCIO) coordinates with the Services on enterprise HIT.

J. Program Executive Officer (PEO), Joint Medical Information Systems, Clinical Systems (PEO JMIS (Clinical Systems))

A single PEO is responsible for acquisition, delivery and execution of MHS clinical information systems such as AHLTA, Essentris, Clinical Data Mart (CDM) and TMIP-J. PEO JMIS (Clinical Systems) reports to MHS CAE and the MEHRC Director for acquisition and administration, respectively, of MHS clinical information systems. These systems are assigned to program offices led by trained and credentialed PMs, who are responsible for achieving program objectives and accountable for cost, schedule and performance of MHS clinical information systems.

K. Program Executive Officer (PEO), Defense Health Services Systems, Non-Clinical Information Systems (PEO DHSS (Non-Clinical Systems))

PEO DHSS (Non-Clinical Systems) reports directly to MHS CAE and is responsible for acquisition, delivery and execution of non-clinical information systems. This PEO supports products used throughout MHS in accomplishing three major functions; namely clinical support, medical logistic and resources. Such systems include Defense Medical Human Resources System-Internet (DMHRSi), Defense Medical Logistics Standard Support (DMLSS), MHS Management Analysis and Reporting Tool (M2), and Managed Care Forecasting and Analysis System (MCFAS). These systems are assigned to program offices led by trained and credentialed PMs who are responsible for achieving program objectives and accountable for cost, schedule and performance of MHS non-clinical information systems.

L. MHS Information Management (IM)

MHS IT is driven by functional requirements, which are analyzed and translated into technical requirements that are used to design, build and test an IT system. The MHS IM office obtains needs from functional end users and, with their assistance, refines those needs into singular, testable requirements so a program office can develop a system that meets end users' needs. MHS IM also leads the functional community in optimizing business processes, planning and prioritizing MHS capabilities, defining information requirements, and reengineering business processes. The fundamental value that IM brings to MHS IT system users and stakeholders is translating user needs into clear, testable functional requirements, ensuring that those needs and their corresponding requirements are vetted through a formal governance process, ensuring that technical solutions meet users' articulated needs, and validating implementation and outcomes.

MHS IM is a liaison between the clinical, business, and force health protection and readiness mission owners; the governance community of policy and decision makers; OCIO; and program development offices. Central IM provides common support services and unique cross-cutting functions to the distributed IM divisions in support of the MHS governance community and functional IM/IT proponents, including business architecture, data management and national standards, purchased care and Defense Manpower Data Center (DMDC) interface, standardized processes, tools and training, acquisition and contract management support, and administrative and resource management support. MHS IM's Clinical, Business, and Force Health Protection and Readiness IM divisions are also aligned with the MHS Integration Councils.

III. INTEROPERABILITY OF HEALTH INFORMATION SYSTEMS

A. Interactions of DoD Health Information System with VA and Entities other than the Federal Government

The collaborative Federal partnership between DoD and VA has resulted in increased integration of healthcare services to Service members and Veterans. DoD and VA (together, the Departments) spearhead numerous interagency electronic health information (EHI) sharing activities and are delivering HIT solutions that significantly improve the secure sharing of appropriate EHI. Today the Departments have EHI sharing solutions in place supporting effective read-only, limited computable EHI sharing between DoD and VA as well as EHI sharing with the Centers for Disease Control and Prevention (CDC); and the Departments are beginning to share EHI with private sector Managed Care Service Providers from whom DoD beneficiaries receive care. Current EHI sharing capabilities between the Departments are well ahead of those in the private sector in both scope and scale.

Today's interagency EHI sharing capabilities leverage the existing EHRs of each Department. The Departments have committed to jointly addressing the need to modernize their EHRs, and are currently working together to synchronize planning activities and implement a common approach known as the integrated Electronic Health Record (iEHR). They have identified many

synergies and common business processes, including common data standards and data center consolidation, common clinical applications, and a common user interface.

DoD engages in interagency efforts with HHS and VA to increase cross-agency HIE capabilities, ensure continuity of care; improve health surveillance among Federal agencies, and foster HIE with the private sector. DoD also participates in national efforts to advance healthcare and HIT standards, define and lead the approach toward coordinated multi-entity healthcare delivery, and enable DoD to enhance its integration and management of DHP.

B. Assessment Findings—Governance and Infrastructure

In assessing the interoperability of DoD's health information systems, the Department identified several key findings in the areas of governance and infrastructure. DoD has established planning, oversight and standards-adherence activities to support interaction of its systems with other Federal agencies, including HHS and VA, as well as entities other than the Federal Government. Further, key infrastructure improvements are underway to establish the secure, redundant connectivity needed to support interagency data exchange.

1. Planning and Oversight

Interagency oversight bodies led by senior leaders of the Departments govern DoD/VA EHI sharing initiatives. Oversight bodies include the iEHR Advisory Board, JEC, DoD/VA Interagency Clinical Informatics Board (ICIB), HEC IM/IT Work Group, Wounded, Ill and Injured (WII) Senior Oversight Committee (SOC), and Overarching Integrated Product Team (OIPT).

a. iEHR Advisory Board

A new senior-level governance body is being established to oversee DoD and VA joint HIT efforts to support iEHR and VLER. Comprising senior leaders from each organization, the iEHR Advisory Board will serve as the primary advisors to the Deputy Secretaries of the Departments for all matters related to iEHR and VLER. The Board will provide principal oversight to the overall execution of the program and serve as the advocate for iEHR and VLER requirements, workflow, and business functional architecture established by the HEC. The iEHR Advisory Board will be co-chaired by the VA Chief Information Officer and DoD Deputy Chief Management Officer.

b. DoD/VA Joint Executive Council (JEC)

In accordance with statute, JEC institutionalizes the Departments' EHI sharing and collaboration to ensure the efficient use of services and resources for the delivery of healthcare and other authorized benefits to Service members, Veterans and beneficiaries. JEC coordinates the development of the VA/DoD JEC Strategic Plan (JSP), recommends to the respective Secretaries

the strategic direction for joint coordination and sharing efforts, and works through its subcouncils—HEC and DoD/VA Benefits Executive Council (BEC)—to direct and support goals and objectives related to sharing health data, improving continuity of care and facilitating benefits delivery.

c. DoD/VA Interagency Clinical Informatics Board (ICIB)

Reporting directly to HEC, ICIB is the primary source of input from the DoD and VA clinical stakeholder community to identify and recommend priorities for enhancing clinical information sharing. ICIB continuously evaluates clinical information sharing capabilities and annually refines action plans that set clinical priorities for the accomplishment of DoD/VA information sharing initiatives. ICIB objectives guide the ongoing enhancement of existing clinical exchanges and set clinical priorities for implementation of evolving interoperability frameworks.

d. HEC IM/IT Work Group

Responsibility for oversight of HIE and EHR interoperability initiatives resides with the HEC IM/IT Work Group, which is co-chaired by the Director of MEHRC and the Chief Officer for Health information of the Veterans Health Administration (VHA). Reporting directly to HEC, the Work Group provides executive oversight of joint integrated EHI sharing activities, and ensure that commonly accepted government IT program management practices are utilized.

e. Wounded, Ill and Injured (WII) Senior Oversight Committee (SOC); Overarching Integrated Product Team (OIPT)

Another level of interagency coordination ensures that wounded warrior issues receive due attention. WII SOC addresses matters of policy, resources and implementation, while OIPT coordinates, integrates and synchronizes work and serves as advisor to WII SOC. The coordinated efforts of these planning and oversight bodies advance appropriate data sharing capabilities between the Departments.

f. Senior Military Medical Advisory Council (SMMAC)

Tri-Service coordination of health matters, including HIT, occurs through the SMMAC. SMMAC involves MHS leadership in a deliberative review process for healthcare policy review, implementation and accountability. Key SMMAC participants include the Services' Surgeons General and the PDASD(HA).

2. Standards Adherence Activities

Within and beyond the Federal Government, DoD continues its efforts to advance healthcare and HIT standards, eliminate barriers to interoperability, and facilitate the secure, seamless sharing of EHI. DoD collaborates with HHS through the Office of the National Coordinator (ONC) for

HIT on the development, adoption and implementation of HIT standards. DoD representatives serve the ONC HIT Policy Committee and ONC HIT Standards Committee. DoD also has a role in the Federal Healthcare Architecture (FHA) NwHIN CONNECT initiative, and actively participates in the Federal Health IT Task Force.

As the NwHIN CONNECT initiative advances, DoD and VA move closer to the President's vision of providing a virtual lifetime electronic record, or VLER, of administrative, personnel and medical information for Service members and Veterans. To support this effort, the Departments promote development and adoption of national standards through standards development organizations (SDOs); use of non-proprietary, standards based SOA; and access to data through the network gateway. DoD recognizes a compelling need to encourage and facilitate information sharing, not just with other Federal agencies but also with the network of managed care support (MCS) service providers.

DoD and VA continue to champion health standards development, convergence, harmonization and adoption. The Departments participate in numerous health SDOs, which focus on messaging, content and terminology. The Departments' efforts support "meaningful use" and EHI sharing.

Through continued collaboration, the Departments have developed a DoD/VA target health standards profile that aligns with recognized national HIT standards; a health interoperability standards reference model; and a shared health architecture plan to promote mature health standards in design and development of new capabilities. Through collaboration on inpatient services, DoD and VA have advanced a Health Level Seven, Inc. (HL7) and Object Management Group® Healthcare Services Specification Project toward a set of service-aware principles; and a SOA reference model for EHR, known as the HL7 Service-Aware Enterprise Architecture Framework. The need for standards will continue to evolve, so development and adoption of new standards must also continue. The Departments will move ahead in close collaboration, seeking common standards and greater healthcare interoperability.

3. Infrastructure Improvements Supporting Interagency Data Exchange

To ensure the Departments have secure, redundant connectivity to support interagency data exchange, in 2008, a DoD/VA team defined functional, infrastructure and policy interoperability requirements that resulted in a DoD/VA multiple gateway concept of operations. The Departments developed and implemented an enterprise wide infrastructure solution and established a series of strategically planned network gateways between them to foster secure computing and communications infrastructures. The DoD/VA gateways provide secure, redundant connectivity between DoD and VA facilities and allow the seamless transfer of health data. In 2008 and 2009, the Departments established four enterprise gateways. By September 2010, legacy network data traffic migration efforts were complete.

C. Assessment Findings—DoD Health Information System Interactions with Public and Private Sector Health Information Systems

DoD health information systems that currently support information exchange with the public and private sectors are performing as designed. DoD and VA EHI sharing solutions have proven effective in supporting significant increases in levels of data sharing, as use increased from FY 2009 to FY 2010. A synopsis of the interactions with VA and non-Federal health information systems is provided below.

1. Interactions between DoD and VA Health Information Systems

DoD and VA share a significant amount of EHI through legacy electronic health data sharing solutions, including the Federal Health Information Exchange (FHIE), Bidirectional Health Information Exchange (BHIE) and AHLTA Clinical Data Repository (CDR)/VA Health Data Repository (HDR) (CHDR). DoD and VA leverage their existing EHRs to share critical health data via these EHI sharing solutions. Today this data exchange supports continuity of care for millions of Service members and Veterans. DoD's current EHR system captures and stores structured data in the AHLTA CDR, giving healthcare providers secure 24/7 access to EHI of DoD's highly mobile beneficiaries. EHI from the AHLTA CDR is shared via legacy interagency electronic data sharing solutions to support beneficiaries as they move beyond DoD direct care to VA care. Shared data includes information from DoD's inpatient documentation system (IDS), which makes EHI accessible to DoD providers caring for injured Service members, and inpatient discharge summaries available to VA providers caring for injured Service members and Veterans. The sharing of EHI assists in better continuity of care and influences decision making at the point of care.

a. Federal Health Information Exchange (FHIE)

FHIE has provided for the one-way electronic sharing of historic EHI from DoD to VA for separated Service members since 2001. On a monthly basis DoD sends VA laboratory results, radiology reports, outpatient pharmacy data, allergy information, discharge summaries, consult reports, admission/discharge/transfer information, standard ambulatory data records, demographic data, pre- and post-deployment health assessments (PPDHAs), and post-deployment health reassessments (PDHRAs).

DoD has transmitted EHI on more than 5.6 million retired or separated Service members to VA. Of these 5.6 million patients, approximately 2.1 million have presented to VA for care, treatment or claims determination. This number grows as health information on recently separated Service members is extracted and transferred monthly to VA. DoD also transmits data weekly for VA patients being treated in DoD facilities under local sharing agreements. More than 315 million patient messages—including laboratory results, radiology reports, pharmacy data, and consults—have been transmitted to VA for patients treated in DoD facilities.

b. Bidirectional Health Information Exchange (BHIE)

For shared patients being treated by both DoD and VA, the Departments maintain the jointly developed BHIE system, implemented in 2004. To develop BHIE, the Departments drew on the architecture and framework of the information transfer system established by the FHIE project. Unlike FHIE, which provides a one-way transfer of information to VA when a Service member separates from the military, the two-way BHIE interface allows clinicians in both Departments to view, in real time, health data (in text form) from the Departments' existing health information systems. Within the AHLTA graphical user interface (GUI), a user may select the BHIE Data Viewer icon from the folder list to launch the module. In the Veterans Information Systems and Technology Architecture (VistA), the user may select the Remote Data button or VistA Web to launch the data viewer. Accessible data types include allergy, outpatient pharmacy, inpatient and outpatient laboratory results and radiology reports, demographic data, diagnoses, vital signs, problem lists, family history, social history, other history, questionnaires and theater clinical data, including inpatient notes, outpatient encounters and ancillary clinical data, such as pharmacy data, allergies, laboratory results and radiology reports.

Use of BHIE continues to increase. The number of patients, including theater patients, available through BHIE increased during FY 2010 by approximately 400,000 shared patients. There are more than 4.0 million shared patients (including 1.8 million patients not in the FHIE repository) including over 239,000 theater patients, available through BHIE. VA also has access to DoD discharge summaries from DoD's IDS.

To increase the availability of clinical information on a shared patient population, VA and DoD collaborated to further leverage BHIE functionality to allow bidirectional access to inpatient discharge summaries from DoD's IDS. As of April 2011, discharge summaries are available from 100 percent of DoD inpatient beds. Use of the IDS at Landstuhl Regional Medical Center plays a critical role in ensuring continuity of care and supporting the capture and transfer of inpatient records of care for wounded warriors. Information from these records is accessible stateside to DoD providers caring for injured Service members, and inpatient discharge summaries are available to VA providers caring for injured Service members and Veterans.

Recent improvements to BHIE include the completion of hardware, operating system, architecture and security upgrades supporting the BHIE framework and its production environment. This technology refreshment, completed in January 2011, resulted in improved system performance, reliability and usability.

c. Clinical Data Repository/Health Data Repository (CHDR)

CHDR supports interoperability between AHLTA's CDR and VA's HDR, enabling bidirectional sharing of standardized, computable outpatient pharmacy and medication allergy data. Since 2006, VA and DoD have been sharing computable outpatient pharmacy and medication allergy data through the CHDR interface. Exchanging patients' standardized pharmacy and medication

allergy data supports improved patient care and safety through the ability to conduct drug-drug and drug-allergy interaction checks using data from both systems.

In FY 2010, the Departments exchanged computable outpatient pharmacy and medication allergy data on more than 250,000 patients who receive healthcare from both systems. This was an increase of more than 400 percent from the 44,000 patients whose computable pharmacy and medication allergy data was being exchanged in FY 2009. By the second quarter of FY 2011, the Departments had exchanged computable outpatient pharmacy and medication allergy data on more than 741,000 patients who receive healthcare from both systems.

d. Biosurveillance Data Sharing with Centers for Disease Control and Prevention (CDC)

Today DoD sends biosurveillance data to CDC, where it is combined with data from other sources to assist CDC in achieving an early warnings of health risks, early detection of health events and awareness of disease activity. DoD and VA are working together on a project to share data that each is currently sending to CDC and integrate that data into their respective Electronic Surveillance System for the Early Notification of Community-Based Epidemics (ESSENCE) applications. DoD's ESSENCE is a Web-based syndromic surveillance application that screens the worldwide MHS beneficiary population for rapid or unusual increases in the occurrence of certain syndromes. ESSENCE automatically alerts users to unusual increases and uses geographic information system mapping to display occurrences geographically.

2. Interactions with the Private Sector

The Department focuses firmly on enhancing electronic health data sharing and expanding capabilities to share information with the private sector. DoD's efforts incorporate current and emerging capabilities of the Nationwide Health Information Network (NwHIN), Virtual Lifetime Electronic Record (VLER), MHS Business-to-Business (B2B) Gateway, and Third Generation (T-3) Managed Care Support (MCS) service providers.

a. Nationwide Health Information Network (NwHIN) and the Virtual Lifetime Electronic Record (VLER)

Use of NwHIN enables the Departments to view a beneficiary's healthcare information not only from DoD and VA, but also from other NwHIN participants. Since MCS service providers may deliver healthcare to MHS beneficiaries, it is vital for the VLER initiative to reach private sector partners. To create a virtual healthcare record—and achieve the VLER vision—data will be pulled from EHRs and shared using data sharing standards and standard document formats. A standards based approach will not only improve the long-term viability of how information is shared between the Departments, but will also enable the meaningful exchange of information with other Federal Government providers and with civilian providers, both of which account for a significant portion of care delivered to the Departments' beneficiaries.

As the nation develops greater capabilities for sharing EHI using NwHIN, DoD and VA are pursuing the VLER initiative, which will leverage NwHIN capabilities. Following the announcement of VLER by the President and the Secretaries of DoD and VA in April 2009, the Departments accelerated efforts underway to develop an approach to achieving VLER data sharing capabilities. VLER will leverage investments made in the Departments' existing EHR systems, AHLTA and VistA. As VLER capabilities mature and are more broadly implemented, a standards based, open-architecture, net-centric data exchange between Federal and private sector partners will improve quality of care. The manner of exchange will be safe and secure while also protecting personal privacy.

DoD and VA share critical health data supporting the continuity of care for millions of Service members and Veterans. The President's vision for VLER is an electronic record of a Service member's or Veteran's healthcare, personnel and benefits information, that begins the date of entry into military service, continues through active duty years and extends after he or she leaves the military. With the President's objective, DoD and VA accelerated existing EHR modernization efforts to facilitate the VLER initiative. The Departments will leverage investments and capabilities and incorporate essential data sharing requirements, as they enhance and modernize their existing EHR systems.

DoD, VA and IPO have developed a joint strategic plan and concept of operations for VLER to provide a roadmap for delivering VLER capabilities to support Service members and Veterans. The documents were signed by DoD's USD(P&R), and have been submitted to VA for signature by the VA Deputy Secretary. VLER pilots—underway to demonstrate exchanges of EHI between VA, DoD and participating private sector providers—continue to demonstrate the power and effectiveness of coordinated development between the Departments for increasing the secure sharing of EHI while leveraging existing EHR capabilities. In FY 2010, the Departments synchronized schedules and developed specific data-sharing requirements. First steps in the VLER initiative were achieved when DoD and VA started using NwHIN to share EHI in a limited number of sites and when they created production pilots with the incremental extension of available content using NwHIN approved documents and standards.

Functional data sharing needs for VLER implementation are categorized as a series of VLER Capability Areas (VCAs) that describe the delivery of specific capabilities to service providers, Service members, Veterans, and their beneficiaries and/or designees. Completion of a VCA indicates the availability of a specific information set in electronic form for authorized users, Service members, Veterans and their beneficiaries and/or designees. Functional communities within DoD and VA are jointly identifying essential information elements needed by their Departments and to share with other agencies and providers according to these VCAs. The definition of these information requirements is near completion.

The first three VCAs provide improved access to information for health and/or benefits service providers. VCA 1 represents the exchange and availability of clinical information needed for the delivery of healthcare in a clinical setting. VCA 2 expands EHI from the initial set exchanged in VCA 1 to include the exchange of additional EHI for disability adjudication. VCA 2 will incorporate personnel and administrative information in order to authorize and provide disability

benefits to Service members and Veterans. VCA 3 completes the information needed for the delivery of the remaining benefits services, including other compensation, housing, insurance, education, and memorial benefits.

The final VCA provides information access capability directly to Service members, Veterans, and their beneficiaries and/or designees. VCA 4 ensures online access to benefits information via a single portal. This portal provides a robust information flow and advanced, interactive capabilities for Service members, Veterans and their beneficiaries and/or designees. It provides access to comprehensive electronic health, benefits, and administrative information, as well as the ability to interact directly with benefits providers in order to apply for, track and receive services.

VLER VCA 1 is being implemented iteratively through operational pilots enabling incremental sets of functionality. Subsequent phases are intended to include additional VA and DoD sites, expanded data domains, additional document types and the ability for additional public sector and profit partners to participate. The VLER pilots underway are demonstrations of EHI sharing among VA, DoD and participating private sector providers. The pilots continue to provide evidence of the power and effectiveness of coordinated development between the Departments for increasing the secure sharing of EHI while leveraging existing EHR capabilities.

i. **VLER San Diego**

On January 30, 2010, Naval Medical Center San Diego and San Diego VA Medical Center exchanged specific test patient data elements of a "Continuity of Care" document: personal information, emergency contact, allergies, problem list, medications and source of sending system. The VLER San Diego pilot demonstrated real-time implementation of HIT standards utilizing NwHIN; the pilot also highlighted opportunities to improve HIT standards. Active engagement of FHA, DoD, VA and the civilian sector will help ensure consistency in EHI sharing for future NwHIN participants. Today VA shares EHI with DoD and private sector healthcare partners, and DoD shares EHI with VA. As of the date of this report, DoD has no common patients with NwHIN-capable private sector healthcare partners.

ii. **VLER Tidewater**

The VLER Tidewater pilot includes the VLER San Diego data modules and an additional laboratory domain: Hematology. (Hematology was added later to VLER San Diego.)

On September 15, 2010, Naval Medical Center Portsmouth, VA Medical Center Hampton Roads and MedVirginia (Bon Secours Hampton Roads Hospital System Medical Centers) in Tidewater, Virginia, successfully exchanged live patient data including the pilot clinical data set and hematology laboratory results. On November 16, 2010, two new participants joined the VLER Tidewater pilot: McDonald Army Health Center at Fort Eustis, Virginia, and 633d Medical Group, Langley Air Force Base, Virginia. VA, DoD and MedVirginia sponsored a successful

VLER demonstration on April 20, 2011. DoD MTFs, VAMC and private sector participants are continuing to exchange data.

iii. **VLER Spokane**

In late March 2011, the VLER Tidewater pilot expanded to the Spokane area in Washington state. Participants include Fairchild Air Force Base, VA Medical Center Spokane and Inland Northwest Health Services, which serves as an EHI exchange for facilities in Spokane, Washington. On March 25, 2011, pilot participants achieved a live exchange of patient data.

VLER Spokane includes VLER Tidewater data modules and the additional domains: Laboratory Results—Chemistry and Vital Signs.

iv. **VLER Puget Sound**

Activation of the VLER Puget Sound pilot is scheduled for late FY 2011. A project kick-off meeting was held on March 16 and 17, 2011, in Tacoma, Washington. See Section V.C. of this report for a discussion of future VLER plans.

b. **MHS Business-to-Business (B2B) Gateway; Third Generation (T-3) Managed Care Support (MCS) Service Providers**

The MHS B2B Gateway was established in September 2003 to serve MCS service providers under contract with TMA. Contractors provide MCS services in each of the three TMA regions (North, South and West) within the United States. The B2B Gateway provides a pathway for sharing EHI between more than 50 commercial partners and select DoD locations, including DMDC, Defense Finance and Accounting Service and MTFs. More than 2,500 users access data for myriad tasks, such as verifying healthcare eligibility of beneficiaries, filing claims and conducting remote maintenance of healthcare programs and systems. Continuity of care for beneficiaries remains TMA's highest priority. Before healthcare delivery begins, each MCS service provider's network must pass a stress test demonstrating that the network can handle and process anticipated levels of data traffic.

IV. DOD/VA INTERAGENCY PROGRAM OFFICE (IPO)

A. Statutory Establishment

Section 1635 of the Wounded Warrior Act established IPO. IPO's purposes, leadership, functions, schedule and benchmarks, pilot projects, and staff and other resources are set forth in the statute, as follows:

(b) DEPARTMENT OF DEFENSE-DEPARTMENT OF VETERANS AFFAIRS INTERAGENCY PROGRAM OFFICE.—

(1) IN GENERAL.—There is hereby established an interagency program office of the Department of Defense and the Department of Veterans Affairs (in this section referred to as the "Office") for the purposes described in paragraph (2).

(2) PURPOSES.—The purposes of the Office shall be as follows:

(A) To act as a single point of accountability for the Department of Defense and the Department of Veterans Affairs in the rapid development and implementation of electronic health record systems or capabilities that allow for full interoperability of personal health care information between the Department of Defense and the Department of Veterans Affairs.

(B) To accelerate the exchange of health care information between the Department of Defense and the Department of Veterans Affairs in order to support the delivery of health care by both Departments.

(c) LEADERSHIP.—

(1) DIRECTOR.—The Director of the Office shall be the head of the Office.

(2) DEPUTY DIRECTOR.—The Deputy Director of the Office shall be the deputy head of the Office and shall assist the Director in carrying out the duties of the Director.

(3) APPOINTMENTS.—(A) The Director shall be appointed by the Secretary of Defense, with the concurrence of the Secretary of Veterans Affairs, from among persons who are qualified to direct the development, acquisition, and integration of major information technology capabilities.

(B) The Deputy Director shall be appointed by the Secretary of Veterans Affairs, with the concurrence of the Secretary of Defense, from among employees of the Department of Defense and the Department of Veterans Affairs in the Senior Executive Service who are qualified to direct the development, acquisition, and integration of major information technology capabilities.

(4) ADDITIONAL GUIDANCE.—In addition to the direction, supervision, and control provided by the Secretary of Defense and the Secretary of Veterans Affairs, the Office shall also receive guidance from the Department of Veterans Affairs-Department of Defense Joint Executive Committee under section 320 of title 38, United States Code, in the discharge of the functions of the Office under this section.

(5) TESTIMONY.—Upon request by any of the appropriate committees of Congress, the Director and the Deputy Director shall testify before such committee regarding the discharge of the functions of the Office under this section.

(d) FUNCTION.—The function of the Office shall be to implement, by not later than September 30, 2009, electronic health record systems or capabilities that allow for full interoperability of personal health care information between the Department of Defense and the Department of Veterans Affairs, which health records shall comply with applicable interoperability standards, implementation specifications, and certification criteria (including for the reporting of quality measures) of the Federal Government.

(e) SCHEDULES AND BENCHMARKS.—Not later than 30 days after the date of the enactment of this Act, the Secretary of Defense and the Secretary of Veterans Affairs shall jointly establish a schedule and benchmarks for the discharge by the Office of its function under this section, including each of the following:

(1) A schedule for the establishment of the Office.

(2) A schedule and deadline for the establishment of the requirements for electronic health record systems or capabilities described in subsection (d), including coordination with the Office of the National Coordinator for Health Information Technology in the development of a nationwide interoperable health information technology infrastructure.

(3) A schedule and associated deadlines for any acquisition and testing required in the implementation of electronic health record systems or capabilities that allow for full interoperability of personal health care information between the Department of Defense and the Department of Veterans Affairs.

(4) A schedule and associated deadlines and requirements for the implementation of electronic health record systems or capabilities that allow for full interoperability of personal health care information between the Department of Defense and the Department of Veterans Affairs.

(f) PILOT PROJECTS.—

(1) AUTHORITY.—In order to assist the Office in the discharge of its function under this section, the Secretary of Defense and the Secretary of Veterans Affairs may, acting jointly, carry out one or more pilot projects to assess the feasibility and advisability of various technological approaches to the achievement of the electronic health record systems or capabilities described in subsection (d).

(2) SHARING OF PROTECTED HEALTH INFORMATION.—For purposes of each pilot project carried out under this subsection, the Secretary of Defense and the Secretary of Veterans Affairs shall, for purposes of the regulations promulgated under section 264(c) of the Health Insurance Portability and Accountability Act of 1996 (42 U.S.C. 1320d–2 note), ensure the effective sharing of protected health information between the health care system of the Department of Defense and the health care system of the Department of Veterans Affairs as needed to provide all health care services and other benefits allowed by law.

(g) STAFF AND OTHER RESOURCES.—

(1) IN GENERAL.—The Secretary of Defense and the Secretary of Veterans Affairs shall assign to the Office such personnel and other resources of the Department of Defense and the Department of Veterans Affairs as are required for the discharge of its function under this section.

(2) ADDITIONAL SERVICES.—Subject to the approval of the Secretary of Defense and the Secretary of Veterans Affairs, the Director may utilize the services of private individuals and entities as consultants to the Office in the discharge of its function under this section. Amounts available to the Office shall be available for payment for such services.

B. Description of Role Played by IPO

Prior to the establishment of the iEHR initiative, the IPO was tasked with responsibility for integrating the Departments' program management plans and activities—to include requirements, schedules, costs and performance measures—for joint HIT initiatives including the James A. Lovell Federal Health Care Center (JAL FHCC), VLER initiative, and EHR modernization efforts. The IPO coordinated recurring meetings, hosted a virtual collaboration Web site, and prepared programmatic documentation such as plans and progress reports on the status of joint HIT efforts. Most recently IPO has focused on coordinating the development of key VLER program management documentation, including a concept of operations and joint strategic plan.

With the recent commitment of the Departments to jointly pursue HIT modernization activities through iEHR, the Departments have agreed to delegate additional responsibility and authority to IPO for management of the initiative. The IPO's charter is being amended to reflect augmented responsibilities for iEHR and VLER oversight and implementation.

C. Assessment of IPO's Performance

GAO assessed IPO's performance in a series of congressionally mandated reports on the Departments' efforts to develop fully interoperable EHR systems or capabilities as required by NDAA FY 2008. DoD concurs with GAO's IPO assessment. In these reports, published between July 2008 and January 2010, GAO described progress made and highlighted issues that the Departments needed to address to achieve full EHR interoperability. The Departments concurred with GAO's recommendations and findings that, while the Departments reported meeting six interoperability objectives to further increase their sharing of EHI, IPO was not yet positioned to function as a single point of accountability for the implementation of interoperable EHR systems or capabilities. The final GAO report in the series, published in January 2010, reiterated that DoD and VA needed to implement GAO's previous recommendations to establish project plans, schedules and performance measures for IPO to effectively oversee and manage the Departments' delivery of interoperable capabilities, including VLER.

GAO's most recent report on the EHR was published in February 2011. It includes similar statements on the need for IPO to complete efforts to develop schedules, project plans and performance measures. The Departments and IPO concurred with GAO's findings and recommendations in the report, titled *Electronic Health Records: DoD and VA Should Remove Barriers and Improve Efforts to Meet Their Common System Needs*, which states—

> *…[T]he Interagency Program Office has not developed an approved integrated master schedule, master program plan or performance metrics for the VLER initiative, as outlined in the office's charter. In November 2010, department officials asserted that the Interagency Program Office was in the process of developing a master program plan, which is expected to be approved in late 2011.*
>
> *Recently, Interagency Program Office officials stated that they have been focusing on developing individual schedules, project plans and performance measures for each pilot effort. The office has developed a schedule and a project plan for the VLER pilot currently being conducted in Tidewater, Virginia, although it did not establish approved performance metrics before the pilot became operational. In addition, the office has not yet established a schedule, project plan and performance measures for the next pilot project, which is scheduled to begin in January 2011.*

Since the date of GAO's report, DoD, VA and IPO have developed a strategic plan and concept of operations for VLER, to provide a roadmap for delivering VLER capabilities to Service members and Veterans. As noted in Section III.C.2.a, the documents are awaiting final signature by the VA and DoD Co-Chairs of JEC.

D. Recommendations

At this time, the Department does not believe that additional legislative action is required to support the IPO in performing the functions established by section 1635 of the Wounded Warrior Act. We believe that the existing legislation on this subject provides sufficient authority and flexibility to the Secretaries of Defense and Veterans Affairs to effectively administer the integrated electronic health record and VLER through the IPO. As previously discussed, the two Departments are currently revising the IPO's charter to reflect the direction of the Secretaries of Defense and Veterans Affairs and take advantage of the IPO's existing statutory authority. As the IPO's charter is finalized, the Departments will take administrative action to ensure that the IPO is properly sized and staffed to accomplish its mission.

V. FUTURE PLANS

A. Legacy EHR Systems—Stabilization Efforts and Critical Fixes

1. Planning and Oversight

MHS must stabilize current EHR capabilities so that users may efficiently perform their duties in a timely manner, regardless of location, time of day or network issues while the iEHR effort is being initiated in parallel. In executing this plan, MHS is addressing known shortfalls and key challenges with functional applications and core infrastructure, including critical user concerns with system speed, operational availability and the user interface. The success of improvements will be measured from the user's perspective.

To ensure that TMA is optimally aligned to execute this multi-year plan to transform the MHS EHR, as of January 18, 2011, MHS completed its consolidation of existing EHR-related activities under a central entity, MEHRC. This consolidation will facilitate baselining and stabilization of sustainment operations; it will also streamline development work on current and soon to be deployed capabilities. MEHRC will provide functional expertise in legacy clinical programs, EHR development and information technology transition to ensure an undivided focus on the EHR and the support of clinical care. MEHRC will also increase the role of clinical informaticists in order to optimize clinical influence over workflow and usability, and the role of systems engineers in order to optimize operational availability and responsiveness.

2. EHR Stabilization and Critical Fixes

EHR stabilization will allow DoD to meet providers' near term needs, better prepare for the transition of applications and supporting infrastructure and mitigate potential risks prior to increasing reliance on these systems to achieve expanded interoperability through the VLER initiative. The three primary areas for EHR stabilization are (1) increased operational availability as measured by the end user; (2) increased speed of the EHR as experienced by the end user; and (3) increased usability from the perspective of the end user. MHS, working with partners such as the Defense Information Systems Agency (DISA), has implemented changes to address these EHR stabilization areas. DoD has completed deployment of several key stabilization efforts; others are currently in deployment, development or acquisition. The following paragraphs identify efforts within each phase.

a. AHLTA Stabilization

DoD is in the process of developing, acquiring and deploying software releases and performing critical integration and upgrades needed to achieve additional stabilization goals for garrison and theater EHR capabilities. MHS has completed numerous stabilization efforts, including circuit upgrades, network protection suite improvements, enterprise remote access, increased protection suite for MHS healthcare data, upgrades to local and wide area networks (LAN/WAN) at MTF

host sites, replacement of MTF-based servers and multiple software upgrades focused on downtime reduction.

b. AHLTA/CHCS Critical Fixes and Support

Critical fixes for AHLTA/CHCS will improve infrastructure, allowing the application to perform more reliably and faster. These fixes will also address software defects.

c. AHLTA 3.3

In December 2010, MHS completed full deployment of AHLTA 3.3 to all 151 MTFs. AHLTA 3.3 software enhances system performance and speed as well as DoD/VA sharing and provider capabilities. AHLTA 3.3 is designed to minimize systems' transitions between encounter sub-modules, support asynchronous loading of data, automatically refresh notifications and increase the speed of the order entry connection/login using an asynchronous capability. Development of the follow-on release—AHLTA 3.3 service pack 1—is in process. Service pack 1 is planned for delivery to the Services for deployment in the fourth quarter of FY 2011. Service pack 1 contains more than 200 user requested fixes and enhancements to improve system usability through medication reconciliation and printing capabilities and print features enabled for laboratory, radiology, vital signs and problem lists. The service pack features pediatric growth charts and obstetrical summaries. It also features integrated immunizations for automated procedure workload capture, special flags, Personnel Reliability Program (PRP) status alerts, the capability to undo patient check-in, the capability for administrative personnel to close encounters, questionnaire enhancements, and the grouping of a patient's clinical problems in a clinically relevant manner (e.g., acute vs. chronic).

d. Theater Enhancements

MHS is enhancing the functionality of the theater suite by adding desired AHLTA-Theater, TMIP Composite Health Care System (CHCS) Caché (TC2) and TMIP framework functionality. With the release of TMIP Block 2 Release 1, DoD is rolling out expanded AHLTA-Mobile tools for first responders, including documentation, data access, reference libraries and medical resources. The AHLTA-Theater component extends the sustaining base EHR capability look and feel to the theater of operations. TC2 integration provides documentation for theater inpatient healthcare and ancillary services order entry and result reporting in the deployed environment. Finally, upgrades to the TMIP framework that are deployed as part of this effort will support improved transmission of EHI and other medical information from the theater of operations to repositories in the continental United States.

Other theater-focused improvements include the rollout of a Deployable Tele-Radiology System (DTRS), which provides healthcare providers in Operation Iraqi Freedom/Operation Enduring Freedom with access to radiographic images in theater for tele-radiology and transfers images back to definitive care in garrison. The Theater Medical Data Store (TMDS) is the centralized database for collecting, distributing and viewing Service members' pertinent medical information

collected in theater. Deployed healthcare providers have further expanded views of patient health information through remote access to garrison health records in the CDR.

e. Additional Improvements

DoD will continue to provide sustainment support services to the enterprise. MHS MTFs rely on MHS systems for effective and efficient operations to provide quality healthcare to the military beneficiary population and overarching sustainment services are crucial to ensuring availability of the required system for provision of care. Sustainment support provides comprehensive system maintenance, logistical operations and maintenance, site operations and subject matter expert (SME) support for CHCS and AHLTA, with the goal of providing appropriate and sustaining clinical systems support to ensure continuing operational availability. MTFs rely on these systems for effective and efficient operations to provide quality healthcare to the military beneficiary population. Sustainment support will include system engineering, security accreditation, and beta site support for new software releases and maintenance, to ensure continuity of operations for AHLTA so that doctors in DoD hospitals and clinics have complete medical information to make informed medical diagnoses for their patients.

AHLTA/CHCS stabilization and sustainment efforts will move MHS closer to achieving a comprehensive, enhanced suite of EHR applications supported by stable, robust enterprise architecture. Completion of these activities will stabilize the current EHR application foundation and provide the initial core infrastructure required to support EHR modernization efforts.

B. DoD's EHR Way Ahead (EHRWA) Initiative and iEHR

MHS EHR transformation and associated EHRWA acquisition activities are anticipated to address DoD and national interoperability objectives (including VLER and NwHIN data sharing initiatives); modernize the EHR family of applications; enhance usability; improve clinical decision support; empower patients through access to personal health record solutions; and increase system performance and data availability through network modernization. DoD EHRWA is funded in the DoD FY 2012 President's Budget request. The President's Budget position for FY 2012 remained the same as the President's Budget position for FY 2011.

1. Pre-Program Risk Reduction Activities

DoD will develop or acquire additional solutions as part of the pre-program risk reduction phase to be executed for iEHR. This risk reduction phase is designed to provide MHS with a standards based interoperability framework and a solid infrastructure framework to further increase operational availability, speed and usability of legacy applications and prepare for the transition to next generation EHR capabilities. This phase also will set the stage for modernization activities, taking advantage of opportunities afforded by JAL FHCC. Further, it will provide standards based interoperability with VA through NwHIN and implement several capabilities that will be leveraged for transition to next generation EHR capabilities. Pre-program risk reduction activities include core functional and infrastructure efforts, as follows.

a. Core Functional Efforts

Core functional efforts include Medical Single Sign-On (MSSO) with Context Management (CM); and the GUI Portal Framework.

- **Medical Single Sign-On (MSSO) with Context Management (CM)**: The MSSO/CM solution will satisfy the need at JAL FHCC and ultimately the entire MHS for providing clinical users a secure, unified access to clinical data at the point of care. MSSO/CM was successfully activated at JAL FHCC in December 2010; it is in use across DoD and VA clinical applications. Follow-on capabilities are planned for phased implementation in 2011. The MSSO/CM solution will also support MHS enterprise-wide requirements. The solution will dramatically simplify access to clinical information and provide caregivers with a more comprehensive and integrated view of a patient's healthcare. MSSO integrates the user's workspace by allowing a single sign on between medical applications, simplifying access, while CM extends the user workspace integration by maintaining the same patient (context) between applications, which improves usability and patient safety. Upon application sign on and selection of a patient, the user is also signed on to any other medical applications with the same patient selected.

- **Graphical User Interface (GUI) Portal Framework**: A unified GUI portal framework was implemented to support JAL FHCC, an iEHR prototype, with possible expansion to the remainder of the MHS enterprise and VA. The GUI portal framework supports a common access point for health information and capabilities and allows ongoing and subsequent development efforts to be more easily "plugged in and unplugged." The framework is the MHS platform component through which MHS applications can be accessed for viewing, retrieving, entering and accessing data and for verifying application interoperability. It will also host discrete pieces of functionality through standards compliant portlets. The solution works collaboratively and seamlessly with the MSSO/CM solution. The GUI portal framework is user tailorable, giving users the capability to maximize, minimize, add or delete portlets.

b. Core Infrastructure Efforts

Core infrastructure efforts include BHIE Technology Refreshment, Enterprise Service Bus (ESB), Consolidated DoD/VA DTC, and Enterprise Level Virtualized Information Services.

- **BHIE Technology Refreshment**: In January 2011, DoD and VA completed hardware, operating system, architecture and security upgrades supporting the BHIE framework and its production environment. DoD and VA providers have experienced improved system performance, reliability and usability because of enhancements designed to help ensure that DoD and VA providers continue to view EHI in real time for patients receiving care in either agency's health system via the exchange as EHI sharing capabilities expand.

Key changes support future planned sharing of EHI via VLER through the NwHIN. MHS is improving the BHIE framework interfaces to allow for integration of VLER and BHIE. The improvements support viewing of a subset of the data from an EHR or personal health record system. This subset—known as Healthcare Information Technology Standards Panel (HITSP) Summary Documents Using HL7 Continuity of Care Document (CCD) Component (C32)—is developed for interoperability purposes for specific business use cases and is received via NwHIN. MHS is weaving the capability to view C32 (and other network standards based documents) into a combined BHIE/VLER/NwHIN viewer. Over time, BHIE capabilities will transition to NwHIN standards based exchange mechanisms.

- **Enterprise Service Bus (ESB)**: The MHS ESB is a core infrastructure element that supports increased HIT interoperability. An ESB provides messaging services that ensure access for applications via standard protocols and supports interoperability and data sharing. DoD will use the MHS ESB to help eliminate many point-to-point connections; increase speed and performance of MHS applications; and support information interoperability and data sharing within MHS and among DoD, VA and civilian treatment facilities. The MHS ESB will be implemented initially to fulfill inter-application messaging requirements for JAL FHCC. The ESB will provide the common link between VistA and AHLTA/CHCS for orders portability for laboratory, radiology, pharmacy and consultations for JAL FHCC. Once operational, the ESB will support applications needed to meet JAL FHCC's identified functional requirements.

  DoD will use a phased approach to ESB implementation. Phase I focuses on proving out the proposed technology at JAL FHCC; Phase II includes further analysis and planning and further proving out of the proposed technology in a large medical region; and Phase III includes expansion of this foundational technology across the enterprise. This technology is expected to sunset multiple point-to-point connections and existing, divergent ESB and ESB-like projects currently in the MHS inventory.

  The MHS ESB team completed the initial analysis phase in January 2011. The CAE is considering an ESB procurement strategy that will support both JAL FHCC and DoD/VA modernization efforts for the iEHR. A DoD/VA work group has been formed to develop a common DoD/VA ESB acquisition plan.

- **Consolidated DoD/VA Development and Test Center (DTC)**: iEHR plans include establishing a consolidated DTC. The facility has been equipped as planned, to include initial hardware, network connectivity, and network protection suite. In accordance with DoD IA guidelines, an Authority to Operate (ATO) is required prior to installation of application software. Completion of IA requirements and the ATO is targeted for late Summer 2011. The facility will provide MHS with a dedicated, fully functional, environmentally controlled common development and testing environment that is controlled by the Government, not an integration contractor.

- **Enterprise Level Virtualized Information Services**: As part of risk reduction efforts for iEHR, MHS will provide for an operationally-relevant Enterprise Level Virtualized

Information Services environment for the 42 MHS centrally-managed applications using "best of breed" commercial off-the-shelf (COTS) technologies. These services will support current applications that can be virtualized, as well as the "end state" EHR applications and systems. This platform is critical to the migration of AHLTA end users from 110,000 computers to a more manageable server environment. The new environment will simplify the process of software maintenance and updates, reduce errors due to conflicting configurations on users' computers, and improve overall application stability by ensuring adequate processor and memory capacity to handle the application. This capability will also enhance usability, allowing end users to access EHR capabilities from any secure Web device.

AHLTA virtualization efforts will improve availability of the application to the user, simplify support and improve update time to market. Virtualization moves applications from personal computer desktops to a centrally managed server, so every workstation can access needed applications via the Web. Virtualization allows any workstation to be used for a clinical, business or other focus; it also simplifies desktop management across the enterprise. Other benefits include easier use of Web appliances such as tablets and laptops, and the ability to add or replace backend systems (as anticipated with iEHR) more easily and with far less disruption to users.

C. Virtual Lifetime Electronic Record and Nationwide Health Information Network

A decision on whether to commence nationwide rollout of VLER Capability Area 1 is planned for April 2012; if the decision is to go forward, then the nationwide launch would commence as soon as July 2012. The VCA 1 capabilities have been developed through the series of four joint pilots in San Diego, Tidewater, Spokane and Puget Sound. These pilots were designed to test the ability to exchange a foundational health data set using the NwHIN.

1. VLER Puget Sound

The VLER Puget Sound pilot is intended to use NwHIN to share authorized EHI with multiple providers and share additional EHI upon evaluation and approval. VLER Puget Sound will include VLER Tidewater and VLER Spokane data modules. Immunizations will be added when a joint immunization capability becomes available. Puget Sound planning continues.

2. VLER Next Steps—Nationwide Rollout of VCA 1 and Beyond

The VLER initiative has major milestones in 2012 and 2014 with a nationwide launch of VCA 1 slated for July 2012 and the achievement of the VLER initiative in 2014. Performance measures of success and effectiveness are being developed to demonstrate the achievement of milestones.

Additional data sources identified by 2012 will be incorporated into the design of future business and technical architectures for the Departments. Changes in implementation approaches may be required as the iEHR concept matures. Advances in technology will continue to provide new opportunities for data exchange, business process improvement, and enhanced information access.

Both Departments are committed to achievement of VLER by the end of 2014. At that point, seamless information flows will allow advances in the efficiency, effectiveness and quality of the delivery of care and services to Service members, Veterans and their beneficiaries and/or designees. The Departments anticipate that VLER may also increase the satisfaction of those individuals as they engage with the Departments.

VI. DOD HIT SYSTEMS SURVEY

A. Survey Planning and Oversight

MHS OCIO survey activities are coordinated through TMA Health Program Analysis and Evaluation (HPA&E) to ensure compliance with existing laws, directives and policies governing the conduct, management and control of MHS-wide surveys. HPA&E provides operational support for survey programs, healthcare survey operations and information control, MHS evaluation, health related studies and analyses, the Center for Health Care Management Studies and HA/TMA Human Subjects Research Office. Office of the Secretary of Defense (OSD) Health Affairs (HA) policy also governs the conduct of MHS OCIO survey activities.

In order to meet the deadline for the report required under section 715(b) of the FY 2011 NDAA, MHS OCIO and HPA&E obtained authority to add three clinical products to the list of systems covered by a survey that had already been planned and funded; namely, the annual Web-enabled MHS Information Systems User Satisfaction Survey (2011 Survey) conducted pursuant to OCIO Policy 08-018, *Annual Performance Planning and Reporting.* The survey was developed to collect user assessments of MHS information systems available in the field; it is performed on a regular basis to gather data using a standardized methodology to support continued monitoring of user satisfaction with MHS-deployed systems and applications. User satisfaction data captured through the survey are not obtainable from extant records or data.

B. Scope of 2011 Survey

Based on the availability of user information and current deployment status, the 2011 Survey focused on twenty-one MHS HIT systems, including three clinical information systems added in 2011 to respond fully to the requirement in section 715(b) of NDAA FY 2011. The following systems—with the clinical systems marked by asterisks (*)—were covered:

- Centralized Credentials Quality Assurance System (CCQAS)
- Clinical Data Mart (CDM)

- Coding and Compliance Editor (CCE)
- Composite Health Care System (CHCS) *
- Defense Medical Human Resources System—Internet (DMHRSi)
- Defense Medical Logistics Standard Support (DMLSS)
- Defense Occupational and Environmental Health Readiness System—Hearing Conservation (DOEHRS-HC)
- Defense Occupational and Environmental Health Readiness System—Industrial Hygiene (DOEHRS-IH)
- DoD/VA Bidirectional Health Information Exchange (BHIE) and DoD Clinical Data Repository/VA Health Data Repository (CHDR) *
- ESSENCE Medical Surveillance (ESSENCE)
- Essentris *
- Expense Assignment System Version 4 (EAS IV)
- Joint Medical Asset Repository (JMAR)
- Managed Care Forecasting & Analysis System (MCFAS)
- Military Health System Management Analysis and Reporting (M2)
- Military Health System Insight (MHS Insight)
- Nutrition Management Information System (NMIS)
- Patient Encounter Processing and Reporting/Purchased Care Detail Information System (PEPR/PCDIS)
- Patient Movement Items Tracking System (PMITS)
- Protected Health Information Management Tool (PHIMT)
- Special Needs Program Management Information System (SNPMIS)

AHLTA was not covered by the 2011 Survey. Based on feedback from MHS users, AHLTA user surveys are synchronized with the software release cycle to ensure that users are surveyed only after significant changes in software capabilities are fielded. The next AHLTA user survey is planned for early FY 2012, after users gain experience with AHLTA 3.3 and the AHLTA 3.3 service pack 1 release.

C. Survey Methodology

The 2011 Survey employed a Web-based methodology and approach with content and programming logic similar to that used in the 2009 and 2010 surveys, and incorporated lessons learned from prior user feedback. The initial survey notification was sent via e-mail to users

identified through a sampling process. The notification explained the purpose of the survey, requested the user's participation in the survey, and included a link to the survey Web site. Over a period of three weeks, the 2011 Survey tool gathered data across MHS-deployed systems and applications in a repeatable process. This standardized approach enables continued monitoring of user satisfaction using established quantifiable outcome based performance measures.

The eligible survey population was comprised of military staff and civilian employees who use any of the systems and applications listed above. These systems and applications are employed by Army, Navy and Air Force at their respective Command Headquarters, Surgeons General Office, Bureau of Medicine, MTFs and TMA Headquarters. Contractors were excluded from participating in the survey. A simple random sampling process was used to generate an email list of users for each system or application. Duplicate e-mail addresses were eliminated and users were asked to evaluate no more than three systems, with preference given to the smallest systems. Smaller systems were sampled on a census basis and larger systems on a percentage basis, with the sample size for the largest systems capped at 1,500 to reduce overall respondent burden while obtaining an adequate final sample size to support statistical analysis. Out of the total user population of approximately 400,000 (prior to removal of duplicate email addresses), a final sample population of approximately 16,000 users was constructed.

D. Identifying User Characteristics and Satisfaction

The 2011 Survey gathered information to profile respondents' frequency, familiarity and usage of each system or application. It also recorded each user's satisfaction ratings for five aspects of experience with each system:

1. overall ease of use (system navigation, screen layout, instructions and features)

2. access to data (ease or difficulty with which user enters and/or retrieves specific information needed to perform job)

3. system response time (time required to enter and access information; time elapsed between initiating a request or search and receiving a reply)

4. level of training (amount of specialized instruction and practice provided to ensure user's proficiency in using application), and

5. system uptime (period or percentage of time a system is accessible)

To assess the level of user satisfaction, each respondent was asked to rate each aspect of each system on a five-point scale, ranging from "far below expectations" to "far above expectations." Users were also invited to provide a separate written comment on each aspect of use covered by the survey. A user satisfaction level meeting or exceeding expectations indicated acceptable performance; a user satisfaction level below expectations indicated unacceptable performance.

E. Assessment Findings

For each respondent and each system, the 2011 Survey results yielded two quantified measures of satisfaction: *Overall Satisfaction* and *Acceptable Performance*. These preliminary findings are based on 5,629 unique system evaluations, a 63 percent increase over the total responses received in 2010. The 2011 Survey response rate of 17.9 percent exceeds the 2010 response rate of 13.6 percent and industry expectations of 10 to 15 percent for Web based user satisfaction surveys.

1. Overall Satisfaction

To compute *Overall Satisfaction*, user satisfaction scores were translated to point values, as follows:

Far Above Expectations	100
Above Expectations	75
Meets Expectations	50
Below Expectations	25
Far Below Expectations	0

The points were averaged for each respondent and each system utilized. Then all respondents' scores for each system were averaged to obtain results for *Overall Satisfaction*, on a scale of zero to 100. The *Overall Satisfaction* ratings are generally within the acceptable range given the expected variation due to small survey sample sizes.

Overall Satisfaction

MHS Systems	Number of Respondents	2011 Survey	2010 Survey
Overall	**5629**	**47.2**	**48.5**
M2	330	53.1	58.5
DOEHRS-HC	174	52.7	57.9
NMIS	30	52.5	51.1
PEPR/PCDIS	59	52.5	50.8
CCE	252	52.0	49.9
DMLSS	517	50.4	53.6
SNPMIS	47	50.3	53.2
MCFAS	67	49.3	49.5
EAS IV	163	49.3	49.5

Essentris	467	49.0	n/a
PMITS	26	48.8	55.0
ESSENCE	93	48.5	50.1
CHCS	828	47.0	n/a
JMAR	110	44.3	48.4
DMHRSi	1541	43.7	45.7
CCQAS	282	42.6	46.4
DoD/VA (BHIE/CDHR)	99	42.5	n/a
PHIMT	101	42.4	52.5
MHS Insight	197	41.1	45.4
DOEHRS-IH	155	40.0	40.5
CDM	91	38.8	41.2

The precision of user satisfaction estimates varies by system or application and by survey item depending on the number of cases available for statistical analysis. In general, results for smaller systems are based on fewer cases, so the results are less precise than those for larger systems. Statistical significance is not reported if the number of cases is inadequate; the raw results must be interpreted with caution.

Results of *Overall Satisfaction* from the 2010 survey are presented but, because of the limited data for small systems, should be interpreted cautiously. The results do not necessarily indicate statistically significant trends.

Finally, the ordering of the HIT systems by *Overall Satisfaction* score should be interpreted only as a broad indication of satisfaction by survey respondents.

2. Acceptable Performance

The second measure of user satisfaction is *Acceptable Performance*. To quantify this measure, responses of *Meets Expectations, Above Expectations* and *Far Above Expectations* are considered *Acceptable Performance*. Each aspect of satisfaction is examined separately to determine the percentage of survey respondents reporting *Acceptable Performance*. The scores reported below represent the percentage of respondents reporting *Acceptable Performance* for each aspect of each system, and the average score for each aspect of satisfaction and each system.

Acceptable Performance Summary
Percentage of System Users Responding "Meets Expectations" or Above

MHS Systems	Number of Respondents	Ease of Use	Access to Information	System Response Time	Level of Training	System Uptime	Average
PEPR / PCDIS	59	91.4%	93.2%	93.1%	74.1%	94.8%	89.3%
DOEHRS HC	174	91.4%	87.8%	87.4%	87.9%	85.0%	87.9%
MCFAS	67	82.1%	83.6%	97.0%	69.2%	96.8%	85.7%
CCE	252	91.2%	90.1%	86.4%	80.2%	77.7%	85.1%
PMITS	26	92.3%	80.8%	80.8%	69.2%	100.0%	84.6%
M2	330	84.2%	84.1%	86.9%	72.2%	94.8%	84.4%
EAS IV	163	85.7%	87.7%	82.4%	72.7%	89.0%	83.5%
DMLSS	517	82.4%	79.2%	89.1%	70.7%	90.6%	82.4%
NMIS	30	86.7%	80.0%	86.2%	79.3%	79.3%	82.3%
ESSENCE	93	83.9%	80.6%	88.0%	67.4%	87.0%	81.4%
Essentris	467	76.7%	74.1%	86.0%	68.1%	93.8%	79.7%
SNPMIS	47	78.7%	80.9%	76.6%	72.3%	80.9%	77.9%
CHCS	828	72.7%	76.6%	81.4%	68.7%	80.8%	76.0%
JMAR	110	76.1%	76.1%	81.7%	58.3%	84.3%	75.3%
DMHRSi	1541	70.2%	71.3%	75.3%	68.2%	78.0%	72.6%
CCQAS	282	65.6%	74.6%	75.4%	55.3%	88.4%	71.8%
PHIMT	101	66.3%	67.3%	78.2%	53.5%	81.0%	69.3%
DoD/VA (BHIE/CHDR)	99	70.7%	68.0%	69.1%	67.0%	69.8%	68.9%
MHS Insight	197	64.3%	68.0%	70.1%	57.9%	79.2%	67.9%
DOEHRS IH	155	49.0%	54.3%	66.2%	71.6%	77.9%	63.8%
CDM	91	58.9%	53.9%	66.3%	49.4%	76.1%	60.9%
Overall	**5629**	**77.2%**	**76.8%**	**81.1%**	**68.3%**	**85.0%**	**77.7%**

Cells in green indicate that at least 80 percent of respondents scored the domain as having *Acceptable Performance*. Cells in yellow indicate that the percentage of respondents scoring the domain as having *Acceptable Performance* is greater than or equal to 70 percent and less than 80 percent. Cells in pink indicate that less than 70 percent of respondents indicated *Acceptable Performance*.

System Response Time and *System Uptime* relate to HIT infrastructure and generally have the highest level of *Acceptable Performance* across systems. *Ease of Use* and *Access to Data* relate to the effectiveness of the system in meeting the information needs of users and incorporating good interface design features and user-friendliness. These two domains generally scored lower on *Acceptable Performance*. Of the five domains, *Level of Training* scored lowest for *Acceptable Performance*.

3. Remediation

To plan for system improvements, MHS will identify specific areas of user dissatisfaction and prioritize enhancement efforts. System improvements are desirable at any level of user satisfaction, but priority may be given to those aspects of use that do not reach the level of *Acceptable Performance*. It is important to note that each system has a different profile of satisfaction scores across the five evaluated aspects. Enhancement initiatives to improve user satisfaction should carefully examine sources of user satisfaction and dissatisfaction in order to effectively and efficiently allocate enhancement resources.

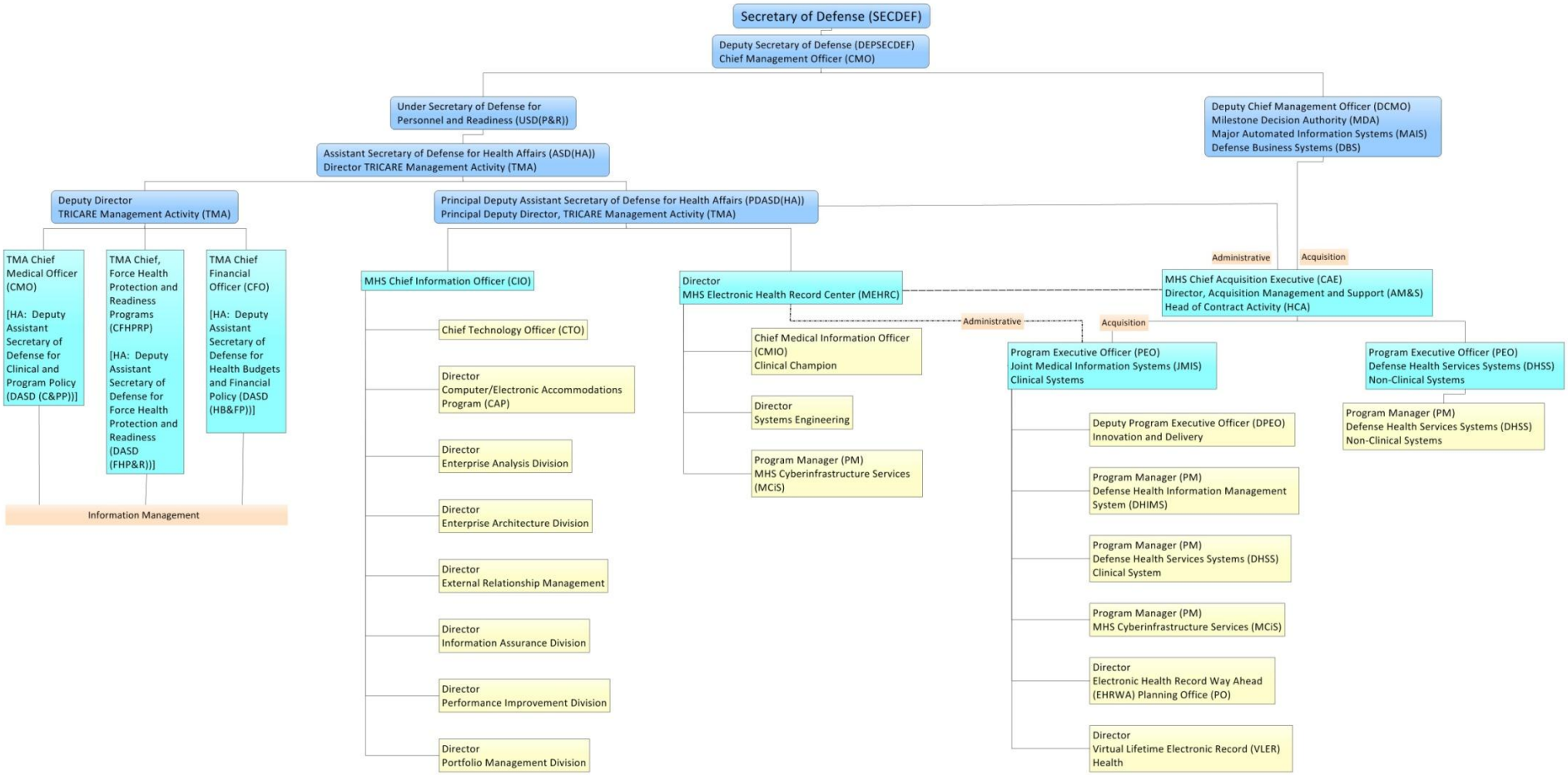
ACRONYMS AND ABBREVIATIONS

ACAT	Acquisition Category
AM&S	Acquisition Management and Support
AMB	Acquisition Management Board
ANSI	American National Standards Institute
AoA	Analysis of Alternatives
ASD(HA)	Assistant Secretary of Defense (Health Affairs)
ATO	Authority to Operate
B2B	MHS Business-to-Business
BEC	DoD/VA Benefits Executive Council
BHIE	Bidirectional Health Information Exchange
C32	HITSP Summary Documents Using HL7 CCD Component
CAE	Component Acquisition Executive
CAP	Computer/Electronic Accommodations Program
CCD	Continuity of Care Document
CDC	Centers for Disease Control and Prevention
CDM	Clinical Data Mart
CDR	DoD Clinical Data Repository
CHCS	Composite Health Care System
CHDR	CDR/HDR
CIO	Chief Information Officer
CM	Context Management
COTS	commercial off-the-shelf
CTO	Chief Technology Officer
DBITC	Defense Business Information Technology Certification
Department	DoD
Departments	DoD and VA
DEPSECDEF	Deputy Secretary of Defense
DHP	Defense Health Program
DISA	Defense Information Systems Agency
DMDC	Defense Manpower Data Center

DMHRSi	Defense Medical Human Resources System—internet
DMLSS	Defense Medical Logistics Standard Support
DoD	Department of Defense
DTRS	Deployable Tele-Radiology System
EHI	electronic health information
EHR	electronic health record
EHRWA	EHR Way Ahead
ESB	enterprise service bus
ESSENCE	Electronic Surveillance System for Early Notification of Community Based Epidemics
FHA	Federal Healthcare Architecture
FHIE	Federal Health Information Exchange
FY	fiscal year
GAO	Government Accountability Office
GUI	graphical user interface
HA	Health Affairs
HCA	Head of Contracting Activity
HDR	VA Health Data Repository
HEC	VA/DoD Health Executive Council
HHS	Department of Health and Human Services
HIT	health information technology
HITSP	Healthcare Information Technology Standards Panel
HL7	Health Level Seven, Inc.
HPA&E	TMA Health Program Analysis and Evaluation
IA	information assurance
ICIB	DoD/VA Interagency Clinical Informatics Board
IDS	inpatient documentation system
iEHR	Integrated Electronic Health Record
IG	Inspector General
IM	information management
IPO	DoD/VA Interagency Program Office
IT	information technology

JAL FHCC	Captain James A. Lovell Federal Health Care Center
JEC	VA/DoD Joint Executive Council
JSP	VA/DoD JEC Strategic Plan
LAN	local area network
M2	MHS Management Analysis and Reporting
MAIS	Major Automated Information Systems
MCFAS	Managed Care Forecasting and Analysis System
MCiS	MHS Cyberintelligence System
MCS	managed care support
MDA	Milestone Decision Authority
MEHRC	MHS Electronic Health Record Center
MHS	Military Health System
MTF	military treatment facility
NDAA	National Defense Authorization Act
NwHIN	Nationwide Health Information Network
OASD	Office of the Assistant Secretary of Defense
OCIO	Office of Chief Information Officer
OIPT	Overarching Integrated Product Team
OMB	Office of Management and Budget
ONC	Office of the National Coordinator
OSD	Office of the Secretary of Defense
PDASD(HA)	Principal Deputy Assistant Secretary of Defense (Health Affairs)
PDHRA	post deployment health reassessment
PEO	Program Executive Officer
PfM	Portfolio Management Division
POM	Project Objective Memorandum
PPDHA	pre- and post-deployment health assessments
PRP	Personnel Reliability Program
PSA	Principal Staff Assistant
SDO	standards development organizations
SECDEF	Secretary of Defense

Services	Military Services
SME	subject matter expert
SMMAC	Senior Military Medical Advisory Committee
SOA	service oriented architecture
SOC	Senior Oversight Committee
MSSO	Medical Single Sign On
T-3	Third Generation
TC2	TMIP CHCS Caché
TMA	TRICARE Management Activity
TMDS	Theater Medical Data Store
TMIP-J	Theater Medical Information Program—Joint
TRO	TRICARE Regional Offices
USD(P&R)	Under Secretary of Defense (Personnel and Readiness)
VA	Department of Veterans Affairs
VCA	VLER Capability Area
VistA	Veterans Information Systems and Technology Architecture
VHA	Veterans Health Administration
VLER	Virtual Lifetime Electronic Record
WAN	wide area network
WII	Wounded, Ill and Injured

EXHIBIT A

Organizational Chart
Department of Defense Health Information Technology