



Department of Defense/Department of Veterans Affairs

Interagency Program Office

ANNUAL REPORT TO CONGRESS

2010

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Debra M. Filippi
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Statutory Basis

STATUTORY BASIS

The law that established the Interagency Program Office (IPO) of the Departments of Defense (DoD) and Veterans Affairs (VA) (the Departments), section 1635 of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2008, includes a requirement for the IPO Director to submit an annual report to the Secretaries of DoD and VA and to the appropriate Committees of Congress. The law, as subsequently amended by section 252 of NDAA FY 2009, specifies what is to be included in the report as follows:

- a) A detailed description of IPO activities including related expenditures;
- b) An assessment of the progress made by DoD and VA toward achieving full implementation of Electronic Health Record (EHR) systems or capabilities that allow for full interoperability;
- c) A description and analysis of the level of interoperability and security of technologies for sharing health care information among DoD, VA, and their transaction partners; and
- d) A description and analysis of the problems DoD and VA are having with, and the progress being made toward, ensuring interoperable and secure health care information systems and EHRs.

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Introduction and Executive Summary

INTRODUCTION

This IPO annual report provides information relevant to the requirements set forth in the law that created the IPO, as noted in the Statutory Basis section. The statutory time frame for the report is the preceding calendar year; however, both Departments maintain reporting precedents of fiscal years. In order to satisfy both the requirement of the legislation and the reporting structure of the Departments, this year's report details those activities completed during FY 2010 and highlights activities scheduled through the end of the fourth quarter of CY 2010. The body of the report is in three distinct parts, each with a separate focus.

The first part describes the activities of the IPO during FY 2010, providing information about the IPO distinct from activities of VA and DoD, although activities of the Departments are referenced because they are the subject of the majority of IPO activities. The second part of the report concerns DoD and VA progress toward full implementation of EHR systems or capabilities that allow for full interoperability of personal health care information between the two Departments. In addition, the second part provides a description and analysis of the challenges faced and progress made by the Departments in working to ensure interoperability and security of DoD and VA health care information systems and EHRs.

The third and final part identifies technologies for sharing health care information among DoD, VA, and their transaction partners, the latter group considered to be other government health care entities (federal and state) and private sector partners. This part concludes with a description and analysis of the levels of interoperability and security of the technologies.

EXECUTIVE SUMMARY

The NDAA FY 2008, section 1635, established the IPO to accelerate the exchange of health care information between DoD and VA, and to be the single point of accountability for those Departments in the rapid development and implementation of electronic health record (EHR) systems or capabilities that allow for full interoperability of personal health care information between the Departments. The focus for the IPO is clearly one for the Information Age, during which prolific and rapidly evolving technological innovations for sharing information are occurring. The IPO works in a new and innovative interagency environment that

requires state-of-the-art leadership and innovation in order to deliver optimal value. The complexity of fulfilling the IPO's purpose is reflected in this annual report. The report contains three parts that are summarized as follows.

Part I

The first part of this report describes IPO activities during FY 2010 and the fourth quarter of Calendar Year (CY) 2010. Those activities included providing project oversight and coordination in conjunction with DoD and VA for three major health care information technology (IT) projects; improving communication among stakeholders; and solidifying the IPO management structure.

One of the major health IT projects in which the IPO had an active role was the James A. Lovell Federal Health Care Center (JAL FHCC). The IPO provided a Joint Interagency Master Schedule (JIMS) intended to more accurately and specifically define and organize the scope of the IT portion of the JAL FHCC Demonstration Project. The IPO closely monitored and tracked activities related to an aggressive schedule while regularly reporting progress. These coordination and oversight efforts were focused on the DoD and VA achievement of initial capabilities to exchange data between existing IM/IT systems.

A second major health IT project, the Virtual Lifetime Electronic Record (VLER) Initiative, was launched by the Secretaries of DoD and VA in a joint announcement delivered by President Obama in April 2009. IPO activities in support of the VLER Initiative included establishing a governance structure and drafting strategic, planning, and operational documents. The VLER initiative activities of the Departments in FY 2010 are addressed in detail in the report.

A third major health care IT project in FY 2010 involved the Departments' EHR modernization efforts. The IPO is facilitating an end-to-end functional business process review, from the perspective of a Service Member or Veteran, of common core capabilities identified by the Departments in order to assess and exploit opportunities for common capability development. The review is scheduled to be completed in the fourth quarter of CY 2010.

During FY 2010 the IPO developed and established a Virtual Collaboration Site (VCS). VCS is a web-based, comprehensive communication tool that provides a central collaborative workspace for the IPO and its partners. In addition, the tool is a platform for IPO employee engagement and communication products, newsletters, calendars and program updates.

Operationally, the IPO solidified its management leadership structure in early FY 2010 with the addition of a permanent Director and Deputy Director. The IPO further strengthened its staff by recruiting federal civilian and contract support personnel.

Part II

The second part of this report describes and analyzes FY 2010 DoD and VA activities concerning implementation of secure, interoperable EHR systems or capabilities. The Departments increased implementation of interoperability for EHRs by increasing the availability of health care information through the Bidirectional Health Information Exchange (BHIE). An interface between DoD and VA health data repositories, the Clinical Data Repository/ Health Data Repository (CHDR), is used to share computable outpatient pharmacy and medication allergy data. The Departments achieved a more than 450 percent increase in the number of patients for whom data was exchanged using CHDR during FY 2010. Further expansions of interoperability between the Departments are highlighted in detail in the report.

In FY 2010, the IPO continued to work with the Interagency Clinical Informatics Board (ICIB)--the primary source of input from the clinical stakeholder community--to identify and recommend priorities for enhancing clinical information sharing in support of the health care delivery process for common beneficiaries of DoD and VA. The ICIB continuously evaluates the clinical information sharing capabilities between DoD and VA, and annually refines clinical information sharing needs to support functional needs. Assessing and reviewing the Interoperability Objectives was a primary function of the ICIB during FY 2010. The Objectives are further refined for FY 2011 and beyond.

Part III

Secure electronic exchange of health care information concerning Service Members, Veterans and other eligible beneficiaries beyond DoD and VA is the subject of the third part of this report. The focus of the Departments' FY 2010 VLER Initiative (VLER) efforts was to further enable EHR information sharing among DoD, VA and their transaction partners inside and outside the federal government.

The VLER flow of information is being implemented through a series of VLER Capability Areas (VCAs). During FY 2010 interoperability progress was made through VCA1 initiatives. VCA1 capabilities enable the secure exchange and availability of an initial set of the clinical information needed for the delivery of health care in a clinical setting. Early VCA1 projects primarily involved developing solutions to allow differing systems to exchange data while maintaining necessary security features of the various systems.

Each VCA1 capability is developed and tested in a pilot project, and each pilot builds on the capabilities developed in earlier pilots. Addressing standards to enable smooth, secure communications among disparate EHR systems, and enhancing the data exchange capabilities of

those systems were the focus of the pilot projects during FY 2010. Pilot locations were in San Diego, California and the Tidewater Region of Virginia. Results of the pilot projects are further detailed in the body of this report, and show the progress made in the overall VLER Initiative during FY 2010.

The VLER Initiative was the major focus of the IPO in FY 2010. Seamless interoperability of health, benefits, and administrative records for Service Members, Veterans, and other eligible beneficiaries is a goal that will be achieved through the continued collaborative efforts of DoD, VA, the IPO, and other partners.

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PART I

ACTIVITIES OF THE IPO

ACTIVITIES OF THE IPO

The IPO activities for FY 2010 and the fourth quarter of CY 2010 included providing project oversight and coordination to DoD and VA for three major health care IT projects; improving communication among stakeholders through the development of a virtual collaboration web site; and solidifying the IPO management structure through continued efforts to recruit and fill IPO government and contract positions, and management of the IPO budget.

JAMES A. LOVELL FEDERAL HEALTH CARE CENTER

The James A. Lovell Federal Health Care Center (JAL FHCC) combines the missions of the Naval Health Clinic Great Lakes and the North Chicago VA Medical Center into a single organizational structure. It is a unique DoD/VA effort that will operate under a single line of authority, integrating management of the full spectrum of health care services and sharing of resources. The JAL FHCC will incorporate a unified line of supervision, single medical and dental staff, and single clinical and, where feasible, administrative support.

In February 2010, with the JAL FHCC Demonstration Project well underway, significant concerns regarding joint Information Management/Information Technology (IM/IT) deliverables associated with initial business requirements documentation for the Project were elevated to the Deputy Secretaries of Defense and Veterans Affairs. The Departments then asked the IPO to coordinate this joint initiative and oversee the IT program. The IPO organized and hosted biweekly meetings for an Executive Committee (EXCOM) to help manage risks and issues. In March 2010 the IPO provided a Joint Interagency Master Schedule (JIMS) intended to more accurately and specially define the scope of the total project. The EXCOM tasked the IPO with providing IM/IT oversight for the JAL FHCC Demonstration Project. The IPO assisted the Departments in the close monitoring, tracking and progress reporting with respect to an aggressive joint IM/IT schedule and related activities.

The primary IM/IT goal for the JAL FHCC Demonstration Project is to safely exchange health care data between VA and DoD IT systems to support an integrated VA/DoD health care facility with multiple care locations. For health care providers and administrative personnel in the various locations of the JAL FHCC to use the information to deliver high-quality health care services to Service Members, Veterans and other eligible beneficiaries, the JAL FHCC functional community identified the following capabilities as necessary for DoD and VA systems:

Single Patient Registration

- Registers and updates a patient via single graphical user interface

- Registers, verifies eligibility and updates a patient through native DoD and VA systems
- Provides a common service used by both DoD and VA

Medical Single Sign-On with Patient Context Management

- User logs in once and has access to multiple systems in DoD and VA
- User selects the patient once and active clinical applications display the same patient's data, maintaining patient context; the user sees the same patient information throughout different applications

Orders Portability: Laboratory and Pharmacy, Radiology

- Place an order and the order is automatically transmitted to the filling/execution location regardless of which system is used to enter the order
- Updates the order's status regardless of system completing the order
- Returns and populates results in both EHRs

The IPO's FY 2010 oversight activities in support of the IM/IT JIMS for the JAL FHCC Demonstration Project helped move the project forward. Early in FY 2010 the completion date for the project was October 1, 2010. Concerns about system capabilities, however, resulted in additional required user acceptance testing which delayed the start date for full facility operations. JAL FHCC was dedicated with a ribbon cutting ceremony on October 1, 2010, and the joint VA/DoD governance structure became operational. By the close of CY 2010 the Departments were implementing Single Patient Registration and Medical Single Sign-On with Patient Context Management as joint IM/IT capabilities. Issues unrelated to capabilities caused further delays for some users to gain access to Single Patient Registration and Medical Single Sign-On with Patient Context Management, but those system capabilities were established and functional.

The additional testing required at the end of CY 2010 delayed implementation of Orders Portability for Laboratory and Radiology until March 2011. Phase 1 for Orders Portability for Pharmacy will be supplemented with seven pharmacists. These pharmacists will manually reconcile patient medication and allergy lists, performing pharmacy functions that will be handled automatically when the final joint IM/IT pharmacy solution is deployed. Orders Portability for Consults will be managed through existing DoD and VA systems until an integrated solution is available. Transition of clinical operations at JAL FHCC began in December 2010.

The collaborative integration of IM/IT capabilities in the JAL FHCC Demonstration Project was designed to securely and effectively exchange health care data between the Departments to provide access to patient health care data across systems in a timely fashion. When a patient presents for care at JAL FHCC, health care information about that patient will be readily available in the facility's clinical care settings.

VIRTUAL LIFETIME ELECTRONIC RECORD (VLER) INITIATIVE

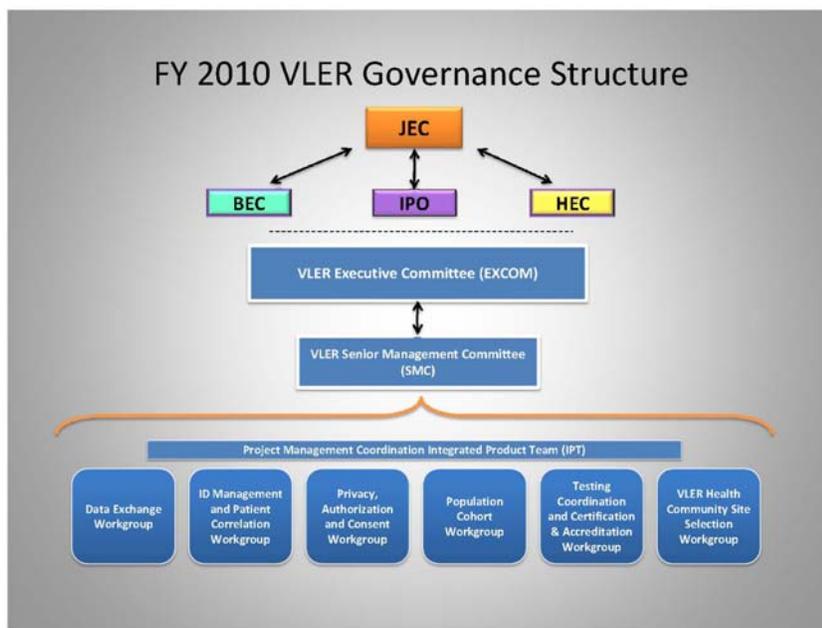
The VLER Initiative will provide comprehensive health, benefits, and administrative information, including personnel records and military history records, as a result of the ability to securely and seamlessly discover and exchange data among relevant entities. These entities include: Service Members and Veterans and their beneficiaries and designees; DoD; VA; private health care providers; private health information exchange partners; and other federal, state and local governmental partners.

The role of the IPO in the VLER Initiative is to serve as the single point of accountability for coordination and oversight, and to task, oversee and coordinate functions for the Initiative on behalf of the Deputy Secretaries of the Departments. The final part of this report describes progress made in VLER Initiative developments during FY 2010. What follows is a description of specific activities conducted during the report year by the IPO in support of the VLER Initiative.

- **Established a governance structure, including defining an Executive Committee (EXCOM) and a Senior Management Committee (SMC)** to implement a more

coordinated joint planning, program management, and communication approach for the VLER Initiative through the VLER Governance Structure. The VLER EXCOM and SMC formed and established bi-weekly, then weekly meetings. By facilitating the meetings of these leadership groups, the IPO assisted in the coordination of the VLER Initiative development efforts during FY 2010.

Figure 1



- **Developed a Draft DoD/VA Interagency VLER Initiative Strategic Plan**, in coordination with the Departments, to outline the vision and lay the foundation for the development of the VLER Initiative Concept of Operations and the Joint Health IT Strategy.
- **Developed a Draft DoD/VA Interagency VLER Initiative Concept of Operations (CONOPS)** to outline “what, when, and how” specific goals, initiatives, milestones and timelines fit into the overall VLER Initiative strategic plan, program plan, Joint Evaluation Plans for Success, and Joint Interagency Master Schedule.
- **Developed work groups and a Project Management Coordination Integrated Project Team** to assist and inform the SMC. Six work groups were active during FY 2010 as detailed in Table 1 below.

Table 1
VLER Work Groups

Work group Name	Purpose
Privacy, Authorization & Consent	Determine the appropriate type of privacy safeguards for the VLER Initiative; ensure compliance with relevant federal and state privacy statutes, regulations, and policies; provide sufficient knowledge and assurance to patients that their protected health information will be protected without putting at risk basic essential treatment, payment and operation functions of the health care entity; report on automated consent processes for the Departments.
Data Exchange	Identify and analyze standards to facilitate data exchanges; example deliverables: C32 Data Mapping document, VLER Health Profile document, Style Sheets, X-path document; identify data that can be provided to VLER partners and partners’ abilities to render data; identify applicable standards and artifacts that address standards ambiguity to optimize partners’ exchanges; harmonize medical IT circumstances of VLER partners to facilitate end use; receive and analyze Interagency Clinical Informatics Board objectives.
Identity Management and Patient Correlation	Identify and match all shared patient populations between VA, DoD and private sector VLER Initiative partners; ensure that automated patient correlation processes will be developed for the VLER Initiative and interagency sharing.
Testing Coordination and Certification & Accreditation	Explore National Institute of Standards and Technology standards, American Recovery and Reinvestment Act, and Federal Information Security Management Act requirements; consider DoD & Nationwide Health Information Network requirements.

Population Cohort	Recruitment strategy and privacy regulation compliance checks for shared patient populations between VA, DoD and private sector partners.
VLER Health Community Site Selection	Establish national standards and VLER Initiative requirements for potential VLER pilot candidates; identify potential VLER pilot candidates; perform candidate health information exchange (HIE) validation; develop deployment plans, host kick-off meetings, and forge new partnerships.

- **Developed a project specific Program Management Plan (PMP)** to provide overarching structural guidance for the VLER Virginia/Tidewater project. The PMP leverages work processes and lessons learned from previous projects and considers future enhancements in the program implementation processes of the VLER Initiative. The PMP is intended to inform the governance and project execution processes of all VLER Virginia/Tidewater project stakeholders and to serve as the official repository for Virginia/Tidewater project business rules and best practices.
- **Developed a Joint Test Plan (JTP)** for the VLER Virginia/Tidewater project to provide the high-level details regarding the joint testing strategy for the project. The JTP includes the areas of testing, defect management, types of testing, test management, and test execution. The JTP has defined objectives, methodologies, success criteria, schedules, deliverables, test environments and a risk management plan.
- **Developed project specific Draft Joint Evaluation Plans for Success (JEPS)** for the VLER Virginia/Tidewater project, and will develop a JEPS for each new VLER Initiative project to ensure departmental visibility and synchronization of efforts.
- **Developed a Joint Interagency Master Schedule (JIMS)** for each VLER Initiative project to ensure that all activities and timelines were defined and managed. Using the JIMS, potential occurrences that could impact project progress were more readily identified and mitigation strategies were put into effect.
- **Developed Draft Joint Business and Technical Requirements (JBTR)** that reflect the full lifecycle evolution of VLER Initiative requirements. The JBTR was initiated upon receipt of the DoD/VA Interagency Clinical Informatics Board (ICIB)¹ Interoperability Objectives and the business, functional, and technical analysis of those Objectives to combine all details in one joint document. It is a living document that will be revised to incorporate improvements as lessons learned are identified and the VLER Initiative matures via best practices.

¹ See the second part of this report, entitled Full Implementation of DoD and VA EHR Systems or Capabilities That Allow for Full Interoperability, for additional information about the ICIB.

Additionally, this process matured as the IPO collaborated with VLER Initiative stakeholders to identify the data standards required to support future VLER projects.

EHR MODERNIZATION PLAN

In March 2010 the VA/DoD Joint Executive Council (JEC) and VA/DoD Health Executive Council (HEC) delivered a report to Congress concerning the Departments' health IT efforts. The report states that the Departments are committed to assessing all possible common capability development for the next generation of EHR systems. The Departments view the lifecycle of health care as a single continuum with each Department providing health care services at various points in the process.

The JEC/HEC Medical IT Report to Congress identifies the following efforts underway and anticipated by DoD and VA to fulfill EHR integration:

- A disciplined process for reviewing and identifying potential opportunities for shared development or acquisition;
- Movement to a common services strategy;
- DoD EHR Way Ahead Analysis of Alternatives (AoA); and
- DoD/VA ICIB review and prioritization of common services for clinical care.

To strengthen the unified focus for EHR modernization efforts, DoD and VA have identified core functional capabilities required to provide services to customers throughout the health care lifecycle. Nine of thirteen requirements are common to both Departments, as shown in Figure 2 below, and represent opportunities for joint/shared planning and development. In collaboration with DoD and VA, the IPO is facilitating an end-to-end functional business process review, from the perspective of a Service Member or Veteran, of the nine common core capabilities in order to assess and exploit opportunities for common capability development. The review is scheduled to be completed in the fourth quarter of CY 2010.



DoD/VA Core Capabilities Requirements for Providing Lifetime Healthcare Services

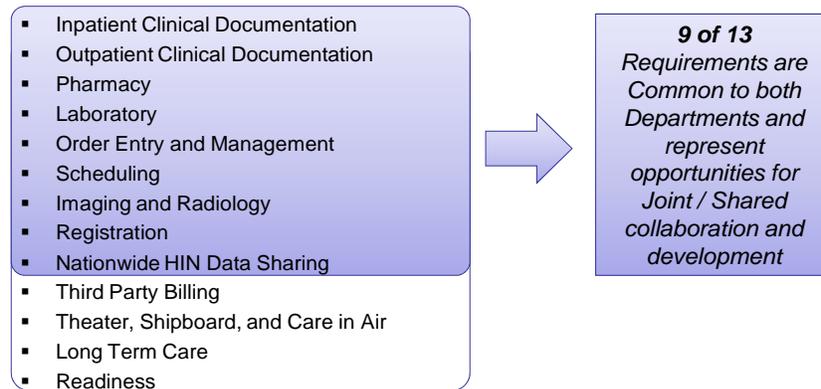


Figure 2

The IPO enhances the Departments’ common core capability development through active participation with the ICIB, lending clinical and information management expertise to advise and assist both Departments in the technical execution of information exchange based on national standards. The IPO’s continuing interaction with the DoD/VA Health Architecture Interagency Group (HAIG) is instrumental to the work of both Departments in defining the elements of standardization necessary to actively pursue the agreed strategy of common core services. As DoD and VA work to assess possible common capability developments in their EHR modernization efforts, the IPO will continue to collaborate with the Departments toward ongoing mutual development of common core services.

VIRTUAL COLLABORATION SITE (VCS)

Communication is a key organizational priority for the IPO. Reliable and efficient communication capabilities are intrinsic to the IPO’s successful performance of its significant role in interagency efforts toward achieving full implementation of interoperable electronic health and benefit IM/IT systems. During FY 2010 the IPO identified a comprehensive communication and collaboration tool to serve its purposes, then developed the concept and established the Virtual Collaboration Site (VCS).

VCS is accessible to all authorized users who have an active, secure account. The user authorization process maintains compliance with Information Assurance requirements that DoD has in place to protect privacy and security interests. The ability within VCS to constrain or open up an area to a specified audience provides the opportunity for open discussion and work

product development within a known group. VCS provides a central location to post documents, collaborate on items, track changes, and record metadata to ensure accurate version control.

Content Managers are assigned for each specified area on VCS. Within each area members can address objectives, major tasks and deliverables, meeting artifacts, actions, issues, risks, analysis and documentation supporting the work group's contributions; and lessons learned and best practices. An individual or group can instantly send key information to groups in other VCS areas.

Standing up VCS was a significant IPO accomplishment during FY 2010. The IPO worked in concert with internal and external stakeholders at all levels to develop VCS as a tool for optimum communications and collaboration. For the IPO internally, the tool is a platform for IPO employee engagement and communication products, newsletters, calendars and program updates. To sustain the viability of VCS the IPO will continue to implement an evolving series of helpful features and related services. VCS is a vital communication tool for the IPO and its partners to achieve efficient results as part of the overall interagency mission.

IPO STAFFING

The IPO began FY 2010 with the first permanent IPO Director in place. The first permanent Deputy Director joined the IPO in January 2010. Throughout FY 2010 the staff expanded to assist in the efforts to implement interoperable EHR systems or capabilities, including VLER Initiative efforts.

Thirteen DoD civilian positions and thirteen VA civilian positions are presently authorized for the IPO. During FY 2010 the IPO successfully recruited five vacant DoD positions, reaching full staffing of the authorized IPO DoD civilian positions. Five IPO VA civilian positions were staffed at the end of the year.

Regarding the remaining authorized VA positions at the end of FY 2010, three GS-14/13 recruitments were submitted to VA Human Resources for advertising, three GS-15 recruitment requests were submitted for management approval to advertise, and two GS-15 positions descriptions were submitted to VA Human Resources for classification.

Finally, the IPO added contract support staff (CSS) during FY 2010 bringing the total number of contract staff members to thirty-three full-time and one half-time. The nature of contract staffing permits the IPO to expand or contract CSS as required by work flow. The IPO budget allows for this flexibility.

FINANCIAL REPORT

Pursuant to the IPO Charter, DoD and VA share responsibility for funding the IPO. Applicable Defense appropriations pay for DoD civilian employee salaries, benefits, performance awards, training, and travel, and for IPO office infrastructure and operational costs. VA Information Technology appropriations pay for VA civilian employee salaries, benefits, performance awards, travel, and training. Section 1635 of NDAA FY 2008 authorizes funding for CSS, subject to the approval of the Secretary of Defense and the Secretary of Veterans Affairs, enabling the IPO Director to use private consultants. A detailed breakdown of FY 2010 IPO spending is shown in Table 2.

Table 2
IPO Financial Report FY 2010

Item	DOD FY 2010	VA FY 2010	Total IPO
Salaries	\$ 1,611,174.00	\$ 947,768.00	\$ 2,558,942.00
Training	\$ 3,265.50	\$ 4,218.00	\$ 7,483.50
Travel	\$ 27,086.00	\$ 27,651.00	\$ 54,737.00
Supplies	\$ 26,000.00	\$ -	\$ 26,000.00
Miscellaneous Contracts	\$ 136,164.95		\$ 136,164.95
ForceNet (IT Support)	\$ 506,000.00		\$ 506,000.00
Rent/Real Property Services	\$ 408,818.32		\$ 408,818.32
Total Contractor Support	\$ 6,938,681.00		\$ 6,938,681.00
- IPO O&M Funded	\$ 4,138,681.00		\$ 4,138,681.00
- WWISOC O&M Funded	\$ 1,400,000.00		\$ 1,400,000.00
- WWISOC RDTE Funded	\$ 1,400,000.00		\$ 1,400,000.00
Grand Total	\$ 9,657,189.77	\$ 979,637.00	\$ 10,636,826.77

**INTERAGENCY PROGRAM OFFICE
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PART II

**FULL IMPLEMENTATION OF DOD AND VA EHR
SYSTEMS OR CAPABILITIES THAT ALLOW FOR
FULL INTEROPERABILITY**

FULL IMPLEMENTATION OF DOD AND VA EHR SYSTEMS OR CAPABILITIES THAT ALLOW FOR FULL INTEROPERABILITY

Interoperability Progress Using DoD and VA Systems

The first exchange of electronic health care information between DoD and VA occurred in 2001. Since that time, the Departments have incrementally expanded the type of information they share and have improved the methods for sharing information. During FY 2010 the Departments continued to move forward to ensure the interoperability and security of their health information systems and EHRs. Consequently, the Departments made progress toward full implementation of EHR systems or capabilities that allow for full interoperability of personal health care information between DoD and VA.

Full implementation and full interoperability are evolving targets made up of existing systems or capabilities and new alternatives that can improve performance. Using an incremental approach ensures that VA and DoD expand the amount and types of health data that is shared by combining the best of existing and new approaches. These approaches include ongoing identification and agreement concerning robust, mature national standards for sharing health data; advancements and improvements in technologies to share health data; and full coordination with the national strategy to develop a Nationwide Health Information Network (HIN). Progress toward these targets is measured by increases in types and volume of data electronically available through EHRs, and by the expansion of the availability of electronic health data exchanges to more sites.

A significant part of the Departments' FY 2010 interoperability progress for interdepartmental health care information exchanges between DoD and VA built upon enhancing and expanding existing foundational health data sharing initiatives. These initiatives include the Federal Health Information Exchange (FHIE); Bidirectional Health Information Exchange (BHIE); Clinical Data Repository/ Health Data Repository (CHDR), an interface between DoD and VA health data repositories; and Healthcare Artifact and Image Management Solution (HAIMS). Previously submitted reports, including the FY 2009 IPO Annual Report to Congress, provide details of these interoperability initiatives. The numbers and developments highlighted herein specifically show progress for FY 2010.

FHIE and BHIE form the foundation of the Departments' current interoperability efforts. In 2001, DoD began the one-way transfer of all available electronic health information on separated Service Members to the VA through the FHIE repository. As individuals separate from service, DoD sends monthly updates on the following data: 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; and post-deployment health reassessments.

As noted earlier, progress toward full implementation of interoperable EHRs is measured by increases in types and volume of data electronically available through EHRs. In FY 2010 the number of DoD FHIE transfers of health data to VA increased by approximately 300,000 over the number of transfers at the end of FY 2009. DoD also transmitted to VA approximately 900,000 more patient messages for VA patients who were treated in DoD facilities than were transmitted by the close of FY 2009. In addition, 100,000 more PPDHA and PDHRA forms were sent from DoD to VA in FY 2010 over FY 2009 for Service members and demobilized Reserve and National Guard members.

In 2004, the Departments enhanced the technology and investments of FHIE in order to implement a bidirectional data exchange. BHIE permits VA and DoD to exchange current viewable clinical data for individuals who are enrolled and correlated as having electronic records in both systems. Data presently exchanged through BHIE includes information on the following: allergies, outpatient pharmacy, inpatient and outpatient laboratory and radiology reports, demographic data, diagnoses, vital signs, problem lists, family history, social history, other history, questionnaires, and inpatient discharge summaries. In regions in which active military operations are in progress (in Theater), BHIE is functional for transmitting clinical data, including inpatient notes, outpatient encounters, and ancillary clinical data, such as pharmacy data, allergies, laboratory results, and radiology reports. Within VA, FHIE and BHIE data are available for viewing by Veterans Health Administration (VHA) clinicians treating patients and Veterans Benefits Administration (VBA) claims staff adjudicating disability benefits for Veterans. Within DoD, clinicians from the Military Health System access BHIE to treat patients who are shared with VA.

As of September 2010, there were more than 3.8 million shared patients available through BHIE. This is an increase of approximately 400,000 shared patients since September 2009. This number includes new beneficiaries who presented for clinical care or applied for compensation and pension benefits, as well as Service Members who separated from military service and whose records were transferred to the repository. Furthermore, DoD expanded its implementation of its inpatient documentation system to additional Military Treatment Facilities (MTFs). By the end of the year, DoD and VA providers had access through BHIE to DoD inpatient discharge summaries from 38 MTFs representing approximately 75 percent of total DoD inpatient beds. This was an increase from prior year access which stood at approximately 59 percent of total DoD inpatient beds.

The Departments continued work toward sharing additional inpatient documentation, specifically inpatient note types, through BHIE including consultations, operative reports, history and physical reports, transfer summary notes, initial evaluation notes, procedure notes, evaluation and management notes, pre-operative evaluation notes, and post-operative evaluation and management notes. Currently, DoD provides these note types to all DoD and VA providers

in the Puget Sound area of Washington State. Going forward, DoD and VA will continue the activities necessary to permit enterprise-wide viewing of the note types.

DoD technical developments supporting the capture and display of automated neuropsychological assessment data from the NeuroCognitive Assessment Tool (NCAT) is well underway. DoD is coordinating with the Military Services in Service-level Information Assurance activities in preparation for testing and deployment. VA technical development efforts related to the Clinical Display Module are also underway. This module will support the initial capability for DoD and VA clinicians to view NCAT data electronically. VA is scheduled to begin testing in February 2011.

Although BHIE was a system in which DoD and VA interoperability progress occurred during FY 2010, a notable problem stalled progress temporarily. VA had to stop all use of BHIE in February 2010 due to a cross data error that corrupted patient records. VA experienced several setbacks in its efforts to reinstall BHIE because the error could not be replicated. Delays ensued as test plans were continually modified. A fix was developed and installed in mid-April and lab-based testing was completed in May with no recurrence of the error. With the approval of the VA Undersecretary for Health, BHIE was reactivated for VA use in June. BHIE planned maintenance dates were established.

After VA reactivated its use of BHIE, VA and DoD undertook a hardware refresh to ensure the ongoing operation of the BHIE data exchange framework. These activities included software development, hardware procurements and installation, security/information assessments, and performance assessments for the BHIE development, testing, production, and continuity of operations environments. The hardware refresh is a component of supporting continuing data sharing capabilities between VA and DoD. At the close of FY 2010 VA was processing a recommendation for an Authority to Operate targeted for the fourth quarter of CY 2010.

VA and DoD share *computable outpatient pharmacy and medication allergy data* through CHDR. CHDR integrates outpatient pharmacy and medication allergy data for shared patients. As a result, DoD and VA providers receive an alert when a patient's allergy to a medication is already electronically recorded in a DoD or VA system and the provider orders the medication. Exchanging standardized pharmacy and medication allergy patient data supports better 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 over 250,000 patients who receive health care from both systems, known as "active dual consumers" or ADCs. Improvements made to VA's EHR scalability and patient merge capabilities enabled the Departments to substantially increase the number of patients for

whom ADC status could be turned “on”. This expanded capability permitted the Departments to flag as ADCs approximately 3,600 patients per day, compared to 100 patients per day who were flagged as ADCs in FY 2009. This expanded capability to add patients to the CHDR exchange via ADC flagging led to the more than 450 percent increase in the number of patients, from 44,000 in FY 2009 to 250,000 in FY 2010, whose computable pharmacy and medication allergy data were being exchanged.

HAIMS is an MHS strategic project that will enhance medical informatics through seamless integration of medical digital images into the electronic health record. The objective of HAIMS is to give health care providers global awareness and access to essential health care artifacts and images throughout the continuum of care for Service Members and Veterans. HAIMS will provide a single, enterprise-wide image sharing capability for information such as radiographs, photographs, waveforms, audio files, video, and scanned documents. The following HAIMS testing activities were completed in FY 2010 to support global access and global awareness of scanned patient records and related artifacts:

- DoD HAIMS Release I System Integration Testing (SIT) was completed in November 2009.
- DoD HAIMS Release I Limited User Testing (LUT), demonstrating an initial capability for scanning medical documents and sharing those documents electronically with VA in a test environment, began in December 2009. DoD HAIMS Release 1 LUT schedule, completed in April 2010, identified deployment dates to nine LUT sites (three sites from each Service).
- DoD HAIMS Release 1 Authority to Operate (ATO) was completed in April 2010.
- VA identified a testing schedule through FY 2011 for user testing of VA’s Advanced Web Image Viewer, a technical solution which will enable VA providers to view DoD scanned patient records and related artifacts.

Security of Interoperable Systems

The Departments ensure that electronic health data exchanges meet applicable Departmental and federal security regulations and directives. Beginning in August 2006, the Departments were required by Executive Order 13410 to use health IT systems that meet interoperability standards recognized by the Secretary of the Department of Health and Human Services (HHS). The recognized standards include security provisions. The American Recovery and Reinvestment Act of 2009 (ARRA) reinforced requirements for security standards for interoperable systems used by federal agencies. DoD and VA build into their systems the necessary security features as a routine requirement before the electronic exchange of health data occurs. Prior to receiving an “authority to operate,” DoD systems must comply with the DoD Information Assurance Certification and Accreditation Process (DIACAP).

In FY 2010 DoD and VA engaged in a significant effort to foster secure computing and communications infrastructures between the Departments. They implemented four new multipurpose network gateways to support expanded bandwidth needed for data interoperability and began data traffic migration to the new gateways. The Departments successfully completed FY 2010 milestones by migrating 100% of the data traffic for 12 systems (182 sites) from the VA Austin Automation Center to the DoD/VA multipurpose gateways placed across the United States. As a result of the completion of this goal, DoD and VA are now using network gateways that facilitate the seamless transfer of health data while providing secure, redundant connectivity and failover capability between DoD and VA systems and facilities.

DoD/VA Interagency Clinical Informatics Board (ICIB)

The ICIB is the primary source of input from the clinical stakeholder community to identify and recommend priorities for enhancing clinical information sharing in support of the health care delivery process for common beneficiaries of DoD and VA. The ICIB continuously evaluates the clinical information sharing capabilities between DoD and VA, and annually refines clinical information sharing needs to support functional needs. In FY 2009, the ICIB identified its Interoperability Objectives (Objectives) for 2010 and beyond. Those Objectives guided the ongoing enhancement of existing data exchanges and set clinical priorities for implementation of evolving interoperability frameworks. The Objectives identified target capabilities needed to improve interoperability between the Departments as well as to enable the exchange of information with private sector and other federal partners.

Assessing and reviewing the Interoperability Objectives was a function of the ICIB during FY 2010. The Objectives are further refined for FY 2011 and beyond, as listed in Table 3 below. The ICIB completed additional work to provide definitions of the capabilities needed to enhance interoperability. Strategies for the stated Objectives were developed to describe the clinical view of sequential activities that lead to resourcing decisions enabling successful achievement of each Objective. The approved ICIB Objectives and associated strategies are described in Appendix A.

*Table 3
Interoperability Objectives for FY 2011 (and Beyond)*

- | |
|--|
| <ul style="list-style-type: none">• Enhance System Performance and Usability of the BHIE Solution• Enhance Clinical Note Retrieval Capability• Extend Sharing of Clinical Images and Scanned Health Encounter Documents• Increase Inpatient Documentation Exchanges• Begin Transfer of MHS “Purchased Care” Data to VA• Initiate Exchange of Computable Laboratory Data• Integrate Family Health Information Sharing Requirement |
|--|

- Complete Radiology Terminology Projects
- Define Data Set Needed to Support Common Clinical and Quality of Care Performance Measures
- Support the Definition of Health Information Sharing Requirements for the VLER Initiative Efforts of the IPO
- Increase Adherence to Evolving National Standards for Health Information Exchange
- Promote the Definition of Common Strategy, Architecture, and Standards upon which Clinical Registries will be Designed

Electronic health care information exchanges beyond the Departments have reinforced the need for a clinical perspective. The ICIB is involved in the validation of needs to support the goals of the Departments for increasing the quality of care, reducing costs and increasing the efficiency and effectiveness of processes that serve the needs of Service Members, Veterans and other eligible beneficiaries.

Challenges to Achieving Full Implementation of Interoperable EHRs

In FY 2010, both Departments continued efforts toward developing and implementing EHR systems or capabilities that allow for full interoperability of personal health care information between the Departments. While the Departments' successes currently allow them to share substantially more health information than is shared among health care organizations in the private sector, interoperability challenges remain in the following areas:

- Meeting the requirements in ARRA for Federal Agencies to "...utilize, where available, health information technology systems and products that meet standards and implementation specifications adopted..." by the HHS Secretary; changes to methods for defining these standards at a national level are limiting acceleration of health information exchange based on national standards;
- Updating systems, infrastructure, and technology consistent with emerging standards; and
- Identifying, prioritizing, and implementing common services.

The Departments also face challenges with different acquisition and funding cycles; different contracting processes; and differences in Information Assurance certification processes for VA, DoD, the Defense Information Systems Agency, the Military Services, and the facilities at the local and regional levels. The IPO, DoD, and VA are identifying areas where process differences may exist, and are collaboratively engaging in efforts to ensure that any impediment that may arise is resolved in an efficient manner.

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PART III

**TECHNOLOGIES FOR HEALTH CARE
INFORMATION SHARING AMONG DOD, VA, AND
THEIR TRANSACTION PARTNERS**

TECHNOLOGIES FOR HEALTH CARE INFORMATION SHARING AMONG DOD, VA, AND THEIR TRANSACTION PARTNERS

The Foundation for the VLER Initiative

During FY 2010 the development of technologies for electronic health care information sharing gained momentum in the federal government and the private sector. Among federal agencies, DoD and VA led the way for electronically exchanging health care information by virtue of their existing interoperable systems. In FY 2010 the Departments expanded their health care information exchange efforts through the VLER Initiative (VLER). VLER will become a mechanism for the exchange of comprehensive health, benefits and administrative information for Veterans, Service Members, and other eligible beneficiaries.

The focus of FY 2010 VLER efforts was enabling EHR information sharing among DoD, VA and their transaction partners inside and outside the federal government. VLER uses the HHS Nationwide HIN technical solutions as the foundation for EHR information exchanges among the Departments and participating private health care services providers. The Nationwide HIN specifies a set of standards-based Web Service Interfaces (standards) which allow disparate electronic information systems to securely communicate with each other over the Internet. Interoperability of the technologies used for VLER health information sharing depends on the use of these standards.

DoD, VA and their VLER partners made initial progress toward interoperability by agreeing to use and maintain compliance with the Nationwide HIN standards. To represent their agreement, all FY 2010 VLER federal and private partners signed the Data Use and Reciprocal Support Agreement (DURSA), a multi-party trust agreement that provides a legal framework for participation in the Nationwide HIN. Signing the DURSA formalized the VLER partners' mutual commitment to ensuring that information exchanges from their respective EHR systems will use standards that will enable secure interoperability.

Incremental Development and Expansion of VLER

The VLER flow of information is being implemented through a series of VLER Capability Areas² (VCAs) that are designed to enable the sharing of different data sets for use by DoD, VA, private providers, Service Members, Veterans and other eligible beneficiaries. Each VCA represents a set of capabilities that will provide improved access to information for health care and benefits service providers.

² Formerly VLER Maturity Levels (VLMs)

VLER Capability Areas (VCAs)

2009	2010	2011	2012	2013	2014	2015
VCA1: Foundational Clinical Health Data Exchange via Nationwide HIN: Clinicians Caring for Service Members & Veterans (2009 – 2012)						
VCA 2: Health Data Exchange for VBA & SSA Disability Benefits: Adjudicators Helping Service Members & Veterans (2009 – 2014)						
VCA 3: Data Exchange for Housing, Insurance, Education & Memorial Benefits: Benefit Providers Helping Service Members & Veterans (2009 – 2014)						
VCA 4: Single Virtual Access Point for Health & Benefits: Self Help for Service Members & Veterans (2009 – 2014)						

Figure 3

During FY 2010 interoperability progress was achieved in VCA 1 initiatives. Multiple projects are incorporated into VCA 1 spanning both system and data capabilities. Each VCA 1 capability is developed and tested in a pilot project, and each pilot builds on the capabilities developed in earlier pilots. Successful capabilities are implemented in all pilot locations, thus providing a test of scale as well as function.

VCA 1 capabilities enable the secure exchange and availability of an initial set of the clinical information needed for the delivery of health care in a clinical setting. A primary objective during VCA 1 is to enable disparate EHR systems to successfully communicate for secure and accurate data exchange. The end state goal of VCA 1 is nationwide capability for real time, secure and accurate exchange of health care data (1) between DOD and VA, and (2) among DoD, VA, and private health care providers via the Nationwide HIN.

Enabling the EHR systems of different health care organizations – such as DoD military hospitals, VA medical centers, and large private sector hospitals – to seamlessly and securely exchange electronic health care data is a complicated and challenging IT task. Consequently, early VCA 1 projects primarily involved developing solutions to allow differing systems to exchange data while maintaining necessary security features of the various systems.

FY 2010 VLER Pilots

An important solution for enabling VLER health care data exchanges during FY 2010 VLER pilots was harmonizing the data from different software applications used for EHRs. Under Executive Order 13410 (Aug 2006), federal agencies are required to use a set of standards recognized by the HHS Secretary for the secure exchange of medical data. These standards enable and support widespread interoperability among health care software applications. Non-federal health care providing entities, however, are not required to use the same standards as

those recognized for federal agency use. In order to test early capabilities for VLER, the issue of standards compliance had to be resolved before IT capabilities could move forward. Discussions among VLER partners led to agreed upon standards by January 2010.

Using the established standards, data exchange capabilities could be tested as modules. Modules are categories of related information specified in the interoperability standards. Three examples of modules are allergy/drug sensitivity, immunizations, and person information. The total number of modules used in an EHR is independently determined by each health care providing entity based on what health care information each decides is necessary for the safe and effective delivery of clinical health care services. As modules are successfully tested and added to EHR system capabilities the interoperability usefulness of the systems for VLER increases.

Addressing standards to enable smooth, secure communications among disparate EHR systems and enhancing the data exchange capabilities of those systems were focuses of the projects at the active VLER pilot locations during FY 2010. The pilots were carried out at DoD, VA, and private sector health care facilities in San Diego, California and the Tidewater Area of Virginia. Activities at each location involved the testing of capabilities developed to achieve the safe and secure exchange of patient health care data between the EHR systems of two or more data exchange partners. High level results at each pilot location are shown below:

- San Diego (“Go Live”* date January 30, 2010)
 - Demonstrated that health information data could be exchanged using the Nationwide HIN
 - Exchanged a specific clinical data set
 - Participants: San Diego VA Medical Center; Naval Medical Center San Diego; Kaiser Permanente (private partner)
- Tidewater (“Go Live” date September 15, 2010)
 - Demonstrated the scalability of VLER capability within one region
 - Demonstrated the exchange of information with a strong/mature, local, private Health Information Exchange (HIE) organization and community
 - Exchanged a specific clinical data set
 - Piloted local implementation business processes
 - Beta-tested HHS Office of the National Coordinator conformance / interoperability process (relative to Nationwide HIN)
 - Developed a scalable adapter (DoD and VA)
 - Implemented adapter at Navy, Army and Air Force Military Treatment Facilities and the Hampton VA Medical Center
 - Participants: Hampton VA Medical Center; Naval Medical Center Portsmouth; MedVirginia (a private partner HIE); McDonald Army Health Center and the 633rd Medical Group (Joint Base Langley-Eustis).

NOTE: Joint Base Langley-Eustis is on track to “Go Live” by January 31, 2011.

*“Go Live” means safely and securely exchanging patient health care data between the EHR systems of two or more data exchange partners.

The Tidewater Project also featured the development of several tools by the IPO in collaboration with the Departments to facilitate interagency project management. These tools are discussed earlier in this report in the VLER section of FY 2010 Activities of the IPO. Going forward, each of these tools will be adapted to facilitate the management of future pilots. Future pilots planned for FY 2011 will take place in Spokane, Washington, where projects will expand the type of data being exchanged and test interoperability with a private sector HIE that has state-wide presence; and in Puget Sound, Washington, where projects will feature the development and implementation of the initial clinical health data set required for VCA 1.

During FY 2010 the VLER structure and management environment facilitated by the IPO enabled essential interagency functions to occur in accordance with established schedules. At the same time, the DoD/VA governance process strategically blended input and participation from HHS and private sector VLER partners who participated in VLER developments.

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Conclusion

In creating the IPO, Congress set out specific purposes for the office to fulfill. By coordinating and guiding the health care data sharing IT developments of DoD and VA the IPO is to accelerate the exchange of health care information between the Departments. Through collaborative efforts, the IPO, DoD and VA accomplished challenging, multifaceted planning and had successes in health IT interoperability developments during the period covered in this report. The Departments and IPO are sustaining the interoperability momentum for modernizing, testing and activating EHR systems and capabilities, both existing and new, which enable broader implementation of interoperability. The IPO assisted in accelerating the exchange of health care information between DoD and VA by coordinating and overseeing the Departments' development and implementation of the systems and capabilities that enable expanded electronic records and ever-increasing electronic exchange of the information in those records.

Appendix A: Interoperability Objectives and Strategies for 2011 (and Beyond)³

Interoperability Objective	Clarifying Language	Strategies
<p>ICIB-01: Enhance System Performance and Usability of the Bidirectional Health Information Exchange (BHIE) Solution</p>	<p>Reduce system response time and enhance bidirectional transmission of viewable information to support to clinical workflow and usability.</p>	<ol style="list-style-type: none"> 1. Validate that bidirectional transmission of all data currently available as viewable is exchanged (benchmark performance). 2. Improve system performance (speed/latency).
<p>ICIB-02: Enhance Clinical Note Retrieval Capability</p>	<p>Standardize metadata associated with clinical notes and define user interface requirements. Enhance the ability of providers to identify and retrieve notes based on improvements in notes classification and display.</p>	<ol style="list-style-type: none"> 1. Draft a strategy for definition of a metadata model for standardization of clinical notes. 2. Gain acceptance of clinical note metadata model. 3. Develop high level user interface requirements for search, sort and filter capability for clinical notes.

³ ICIB Objectives and Strategies are numbered for tracking purposes only and not intended to imply prioritization.

Interoperability Objective	Clarifying Language	Strategies
<p>ICIB-03: Extend Sharing of Clinical Images and Scanned Health Encounter Documents</p>	<p>Increase the number of DoD and VA facilities participating in interagency image exchanges.</p>	<ol style="list-style-type: none"> 1. Develop and gain consensus on a set of clinically relevant images and scanned documents for bidirectional transmission between DoD and VA facilities. 2. Verify bidirectional sharing of clinical images and scanned documents between DoD and VA. 3. Develop standardized parameters for tracking of radiology exposure between DoD and VA.
<p>ICIB-04: Increase Inpatient Documentation Exchanges</p>	<p>Increase the number of clinical notes and types of inpatient documents exchanged between the VA and DoD and transmit the Standard Inpatient Data Record (SIDR) to the VA.</p>	<ol style="list-style-type: none"> 1. Develop a strategy that identifies a set of clinical notes that can be shared between DoD and VA which will result in an increase in the number of inpatient notes and clinical note types. 2. Define subset of SIDR data needed to be shared. 3. All clinical notes identified in the agreed upon strategy will be shared. 4. Define additional inpatient note types for sharing.

Interoperability Objective	Clarifying Language	Strategies
<p>ICIB-05: Begin Transfer of MHS “Purchased Care” Data to the VA</p>	<p>Provide the appropriate components of institutional and non-institutional TRICARE Encounter Data (TED) to the VA.</p>	<ol style="list-style-type: none"> 1. Define subset of TED data elements required for clinical care and continuity of care. 2. Submit capability requirements to the IT investment process.
<p>ICIB-06: Initiate Exchange of Computable Laboratory Data</p>	<p>Initiate the bidirectional exchange of hematology and chemistry results data to enable expansion of Clinical Decision Support (CDS) capabilities.</p>	<ol style="list-style-type: none"> 1. Define laboratory results most often used for CDS (full metadata) 2. Define high value clinical data 3. Identify CDS in EHRs currently available to clinicians in VA and/or DoD laboratories 4. Demonstrate capability and initiate bidirectional exchange of sample subset of computable lab data
<p>ICIB-07: Integrate Family Health Information Sharing Requirement</p>	<p>Capture and exchange relevant family health information based on National standards.</p>	<ol style="list-style-type: none"> 1. Conduct gap analysis for family health information currently exchanged between DOD and VA against the HHS National standard for potential additional data elements or features to be collected. 2. Determine requirements for family health information sharing with internal and external providers.

Interoperability Objective	Clarifying Language	Strategies
<p>ICIB-08: Complete Radiology Terminology Projects</p>	<p>Develop common terminology for radiology orders that supports portability of orders between the departments.</p>	<ol style="list-style-type: none"> 1. Initiate requirements definition for exchange of radiology orders and results management to include common terminology for future interoperability between DoD and VA. 2. Endorse and adopt a common standardized terminology for enabling future portability of radiology orders and results between the departments.
<p>ICIB-09: Define Data Set Needed to Support Common Clinical and Quality of Care Performance Measures</p>	<p>Capture and exchange relevant health information for clinical incidence tracking and outcomes management and quality reporting.</p>	<ol style="list-style-type: none"> 1. Assess current quality measures within DoD and VA. 2. Recommend three initial data sets to pursue in line with National Meaningful Use criteria. 3. Further refine and gain approval for use of data sets.

Interoperability Objective	Clarifying Language	Strategies
<p>ICIB-10: Support the Definition of Health Information Sharing Requirements for the Virtual Lifetime Electronic Record (VLER) Efforts of the Interagency Program Office (IPO)</p>	<p>Identify and prioritize clinically relevant patient health information for exchange between DoD, VA, and other trusted entities to support delivery of high quality care and benefits.</p>	<ol style="list-style-type: none"> 1. Provide top five clinical business needs for next phases of VLER. 2. Determine and prioritize clinically relevant domains of information to augment existing clinical information exchanges. 3. Support the development of VLER Use Cases. 4. Review and update prioritized clinical business needs for 2012 and beyond.
<p>ICIB-11: Increase Adherence to evolving National standards for Health Information Exchange</p>	<p>Leverage prior pilot activities to identify data enhancements necessary to more fully meet National standards.</p>	<ol style="list-style-type: none"> 1. Conduct crosswalk and analysis of DoD and VA data exchanges to National standards. 2. Complete detailed terminology mapping for laboratory, radiology and pharmacy. 3. Establish coordinated adoption of terminology and information model standards between the DoD and VA.

Interoperability Objective	Clarifying Language	Strategies
<p>ICIB-12: Promote the Definition of Common Strategy, Architecture, and Standards upon which Clinical Registries will be Designed</p>	<p>Same</p>	<ol style="list-style-type: none"> 1. Conduct preliminary analysis of Federal and National Center of Excellence (COE) efforts for clinical registries, to include current VA/DoD registry efforts. 2. Provide a strategy, recommended information architecture, and relevant standards upon which clinical registries will be designed. 3. Mature alignment of Clinical Business Architecture to registries, clinical analytics, and enable outcomes prediction.