



ARMY MEDICINE
Serving To Heal...Honored To Serve

Moving to the Future of Clinical Information Sharing With DoD and VA

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OBJECTIVES

- To better understand what is the Military Health System, who are our partners, and why we need to do better.
- Describe the various ways in which the Military Health System is sharing clinical information to improve our continuity of care.
- To Articulate the challenges to get to an Integrated Electronic Medical Record (iEHR)
- Be able to describe the many contributions of clinical informatics.



MILITARY HEALTH SYSTEM (MHS)



- MHS consists of
 - Army
 - Navy
 - Air Forcein support of
 - Marine Corps and Coast Guard
- Care for Services Members, Veterans and their Family Members



Federal Health System= MHS + Veteran Affairs+
Indian Health Service



Who We Serve: Our Stakeholders by Number

DoD Health Statistics*

Provides a broad range of health services to 9.7 million beneficiaries across the globe

Key areas of focus include:

- ▶ Military Treatment Facilities and Health Care Practitioners
 - 59 Hospitals
 - 364 Medical clinics
 - 282 Dental clinics
 - 325,000 Health care providers in the U.S.

- ▶ Healthcare - 2011 totals
 - 1,169,003 Inpatient admissions
 - 129,152,879 Outpatient visits
 - 124,729 Births
 - 142,126,856 Prescriptions

VA Health Statistics**

Provide comprehensive care to more than 8.3 million Veterans each year

Key areas of focus include:

- ▶ Number of VA Facilities and Health Care Practitioners
 - 152 Hospitals
 - 807 Medical clinics
 - 200 plus Dental clinics***
 - 115,300 Health care providers in the U.S.

- ▶ Healthcare - 2010 totals
 - 682,000 Inpatient admissions
 - 80,200,000 Outpatient visits

* Reference: 2011 MHS Stakeholder Report

** Reference: National Center for Veterans Analysis and Statistics

*** Reference: <http://www.va.gov/dental/>



MILITARY HEALTH SYSTEM (MHS)

Our mission: To enhance the Department of Defense and our Nation's security by providing health support for the full range of military operations and sustaining the health of all those entrusted to our care.

Our vision: A world-class health system that supports the military mission by fostering, protecting, sustaining and restoring health.

To accomplish our mission and achieve our vision requires a strategic process that will allow us to meet today's issues and tomorrow's challenges.





Strategic Issues

Federal Health



Strategic Partnerships

- Enhance long-term support to wounded, ill and injured service members
- Promote interagency solutions – particularly with VA, SSA and HHS, and the integrated Electronic Health Record (iEHR)
- Engage the private sector – long-term strategy to ensure clinical care is fully integrated across public and private sectors





Strategic Issues

Learning from other trailblazers



Private / Public Engagement

- Communicating with broader medical community in United States and overseas
 - Intermountain Health
 - National Health Service (NHS)
 - Kaiser Permanente
 - Geisinger

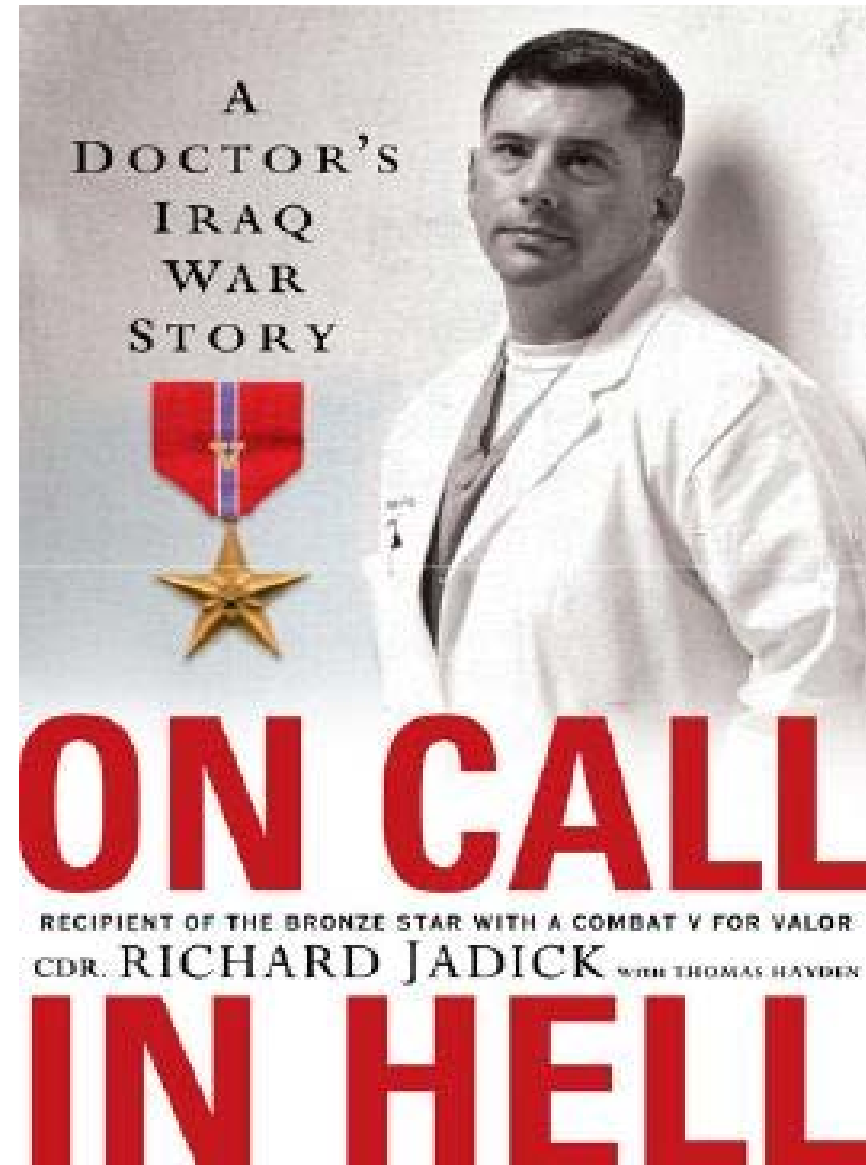




Strategic Issues

Major Lessons from EHR Implementations

- The EHR must be viewed as an enabler of clinical quality...not administrative functions first
 - Clinical decision support must be built in to all modules
 - Create an iEHR Registry...break down clinical silos and use data across the organization for a variety of reasons that improve clinical performance
 - Drive the EHR to provide the organization with information that is not available today (do things that you are not doing presently)





Strategic Issues

Major Lessons from EHR Implementations

- Patient-centeredness applies to EHR implementation too
 - Evaluate clinical requirements from a disease state and through the eyes of our patients...not from a department by department perspective



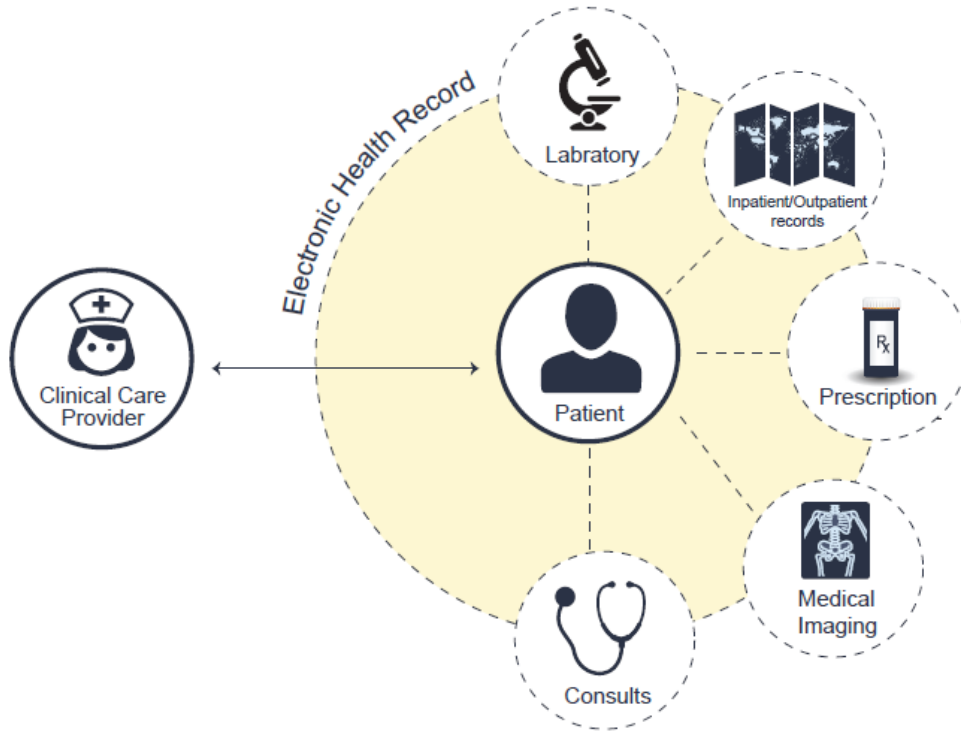


Background

- While significant data sharing has existed between DoD and VA for years, both Departments were embarked upon separate paths to replace existing legacy Electronic Health Record (EHR) systems
 - DoD was conducting an Analysis of Alternatives (AoA) to evaluate potential materiel solutions for the EHR Way Ahead
 - VA was exploring the framework of modernizing VistA by an Open Source custodian
- Through a series of decision meetings since March 2011, the Secretaries of Defense and Veterans Affairs committed their respective Departments to jointly develop and implement the next generation of EHR capabilities.



iEHR Vision and Mission



VISION

“... full and seamless electronic exchange and record portability of healthcare information in a secure and private format...to ensure ... effective delivery of healthcare services.”

*DEPSECDEF, DEPSECVA and VCJCS
Update on February 12, 2011*

MISSION

Deliver affordable, interoperable and time-critical integrated electronic healthcare capability across DoD and VA



IM/IT Principles



**DoD /
VA
IM/IT**

- Joint first, common architecture
- Adopt, buy, create
- Transparent / accountable management
- Driven by strategy
- Speed to market
- Requirements drive solutions



Interagency Program Office (IPO)

The IPO was established by the National Defense Authorization Act for Fiscal Year 2008 (NDAA FY08).

“To act as the 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...”

“To accelerate the exchange of health care information between the DoD and VA in order to support the delivery of health care by both Departments.”



Reference: National Defense Authorization Act for Fiscal Year 2008 (NDAA FY08)



IPO Major Initiatives

Integrated Electronic Health Record (iEHR)

- Joint DoD-VA program to modernize legacy EHR capabilities and create a single common health record throughout the continuum of care and life of a patient
- Will replace DoD's AHLTA/CHCS and VA's VistA/CPRS systems

Virtual Lifetime Electronic Record (VLER) Health

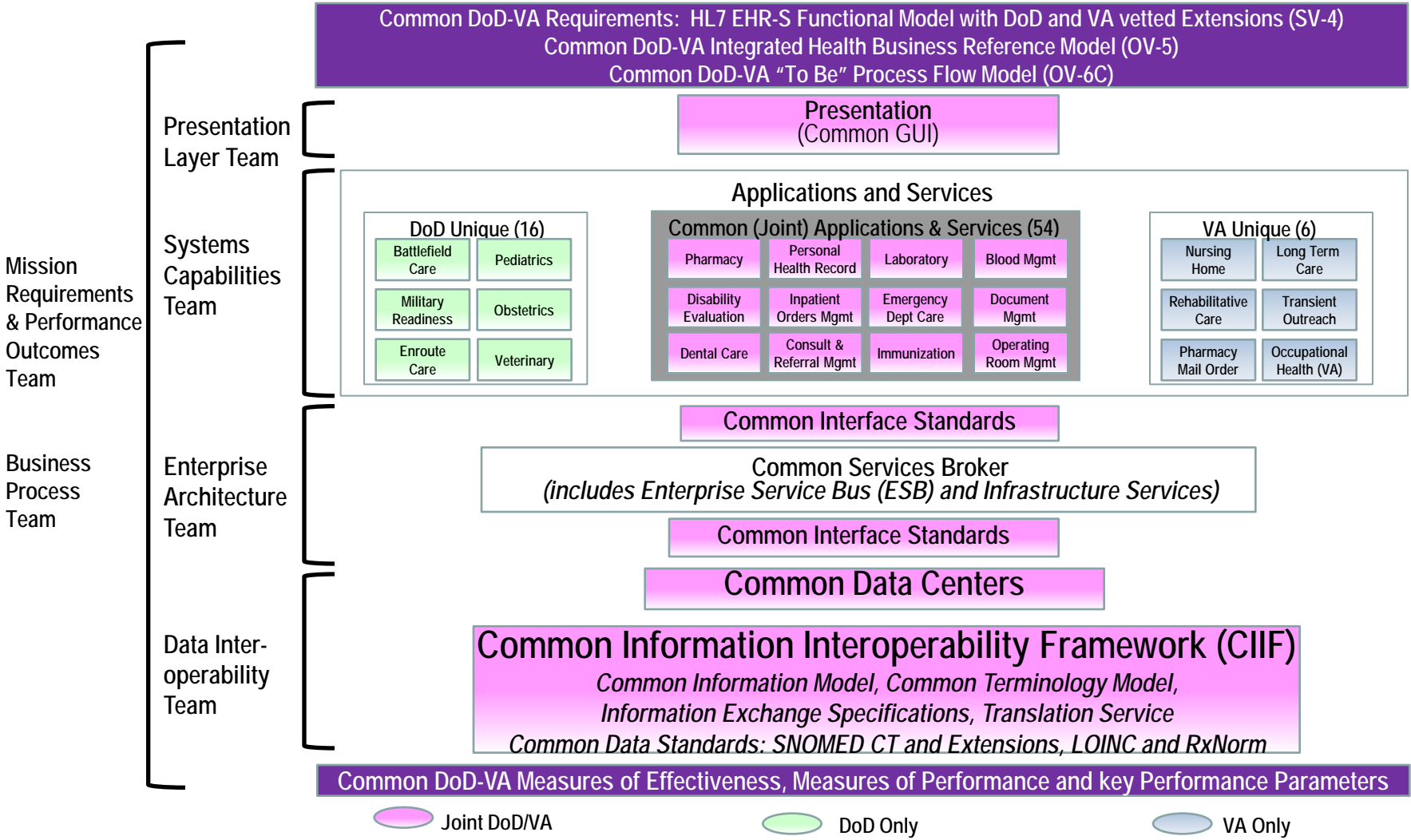
- White House initiative to exchange data between DoD, VA, other Federal agencies, and private providers based on national standards
 - Will enable comprehensive health, benefits, and administrative information, including personnel records and military history records
- Four joint DoD-VA pilots demonstrated exchange of health data in San Diego, Tidewater, Spokane, and Puget Sound, 12 VA locations
- IPO will focus its efforts on the VLER Health (health data exchange) for treatment

Joint Health Implementations (e.g., James A. Lovell Federal Health Care Center)

- JAL FHCC: This five-year demonstration project is the first integrated facility of its kind, serving both DoD and VA populations
- The North Chicago Veterans Affairs Medical Center and the Naval Health Clinic Great Lakes merged to become the Captain James A. Lovell Federal Health Care Center (JAL FHCC) on October 1, 2010



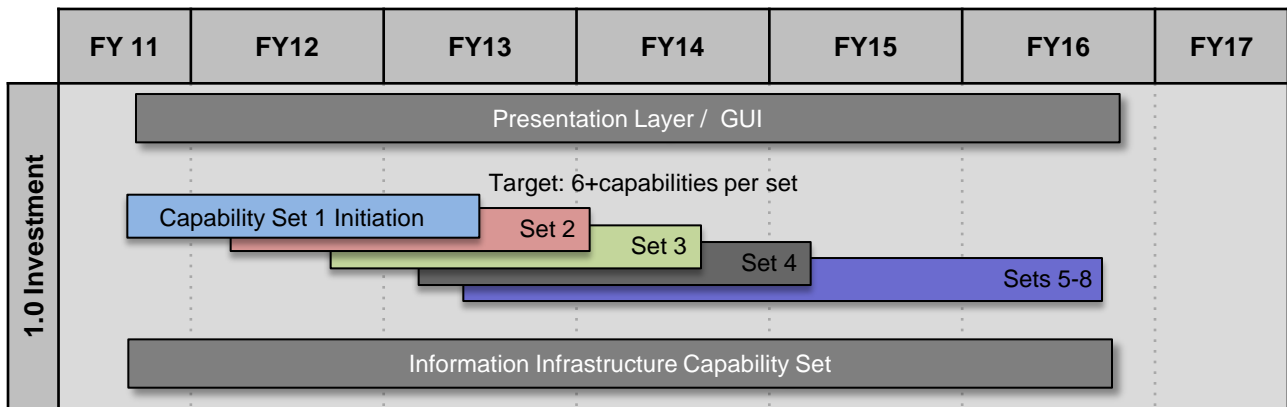
iEHR “to be” Architecture





iEHR Capability Sets

(As Identified by the Clinical Informatic Board December 15, 2011)



- Information Infrastructure Capability Set 0A (Enabling Capabilities)**
- Identity Management
 - Access Control
 - Presentation Layer (GUI)
 - SSO-CM
 - Information Model and Terminology Services
 - Federated Data Repository / Data Warehouse
 - Network and Security Architecture
 - SOA Architecture

- Capability Set 0B (Common Services)**
- Enrollment Eligibility
 - Orders Service
 - Clinical Decision Support (CDS)
 - Barcoding
 - Secure Messaging
 - Provider-Provider
 - Patient-Provider

- Capability Set 1A**
- Pharmacy
 - Inpatient & Outpatient Orders Fulfillment
 - Inventory Management
 - Allergies
 - CDS
 - Immunization
 - Consult & Referral Management

- Capability Set 1B**
- Care Management
 - Emergency Department Care
 - Laboratory & Anatomic Pathology
 - Registration
 - Scheduling Appoint
 - Documentation

- Capability Set 2**
- Anatomic Pathology
 - Disability Evaluation
 - Dental Care
 - Credentialing
 - Pharmacy
 - Mail Order
 - Personal Health Record
 - Radiology/Imaging

- Capability Sets 3-8**
- Patient User Interface
 - Anesthesia Documentation
 - Operating Room Management
 - Medical Device Management
 - Disease Management
 - Disconnected Care
 - Business Intelligence
 - Patient Questionnaire
 - Patient Consent
 - Patient Education
 - Alerts and Reminders
 - Patient Self Report
 - DoD/VA Registries
 - NCAT (TBI Testing)
 - Global Image Access
 - Patient Safety Reports
 - Teleconsultation
 - Document Management
 - Blood Management
 - Private Sector Data Access
 - Nutrition Care
 - XML Forms Tool
 - Utilization Management
 - Genomics
 - Encounter Coding

Common Graphic User Interface (GUI)



Business Community Engagement across the Systems Development Life Cycle (SDLC)

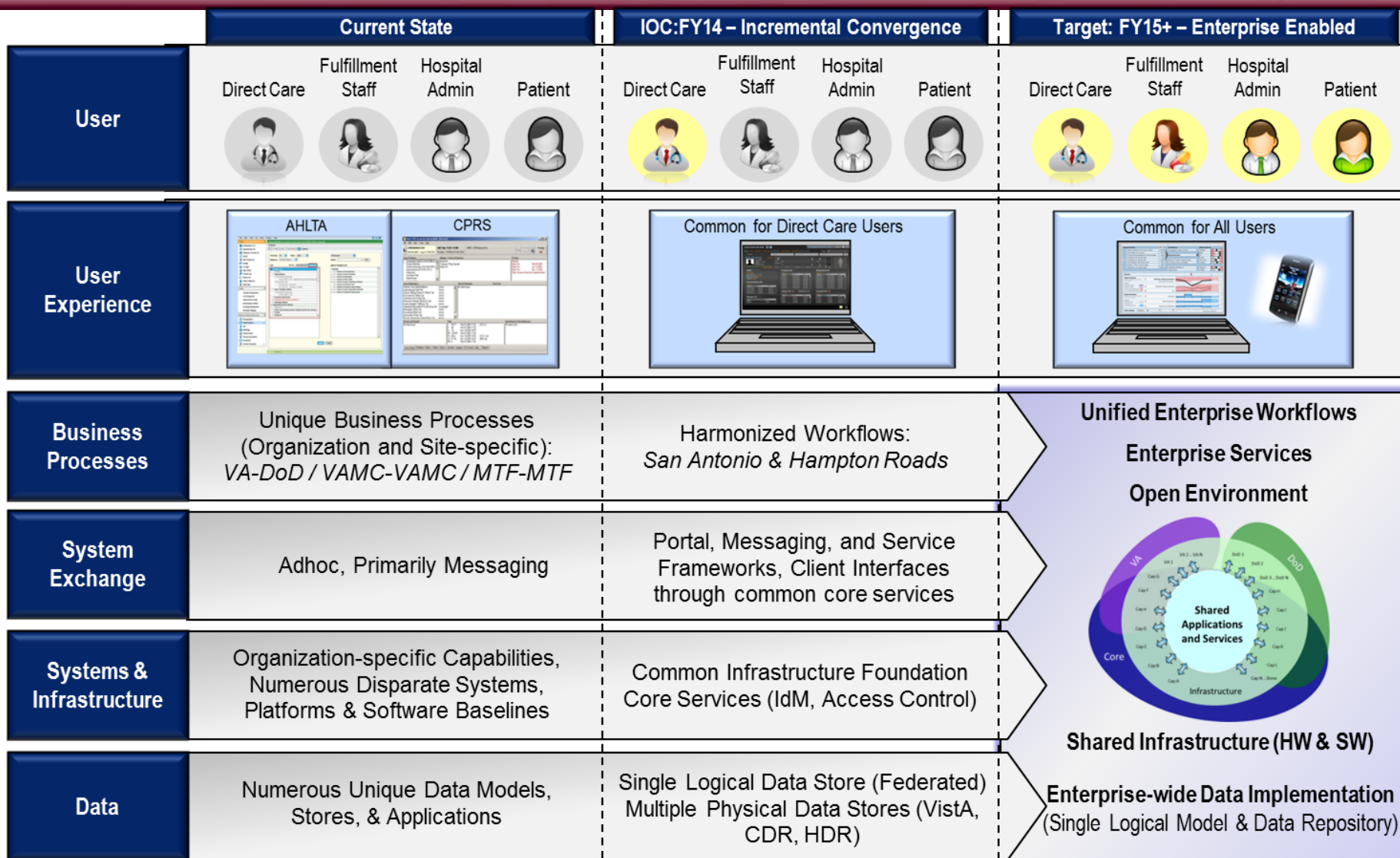
	Concept Definition	Concept Planning	Development	Implementation	Operations & Maintenance	Closeout	
Level of Involvement	Clinical Community Engagement			Clinical Community Engagement			
	IT Engagement						
Stage of the Systems Development Life Cycle							
Clinical Community	<ul style="list-style-type: none"> Direct IT strategic planning and prioritization Analyze business and infrastructure needs Analyze strategies for business relevance Incorporate prior lessons learned Define operational, maintainability, reliability, scalability, availability, security and continuity needs 	<ul style="list-style-type: none"> Develop business redesign Develop requirements Establish business architecture Determine outcome-based performance measures Reconcile continuity with contingency plans Assess and measure product artifacts Analyze end-user satisfaction of "as-is" 	<ul style="list-style-type: none"> Participate in integrated project teams Test scripts and plan Monitor projects Create Service Level Agreements / Memoranda of Understanding Define and measure performance baseline Assess and measure usability of the system 	<ul style="list-style-type: none"> Monitor test results Coordinate operational and business readiness Coordinate release management activities Coordinate training aspects Review/approve Service Level Agreements and Memoranda of Understanding 	<ul style="list-style-type: none"> Manage portfolios Monitor Service Level Agreements Assist with resolving service delivery issues with end-users Measure and evaluate evidenced-based benefits and performance Escalate IT outages and coordinate response 	<ul style="list-style-type: none"> Collect, analyze, and disseminate lessons learned for continuous process improvement (Occurs during each life cycle phase and consolidated at end) 	
IT	<ul style="list-style-type: none"> IT investment strategies Business intake process 	<ul style="list-style-type: none"> Enterprise architecture Technical specifications Solution analysis and design Cost analysis 	<ul style="list-style-type: none"> Design evaluation Product development Test preparation Product documentation 	<ul style="list-style-type: none"> Implementation plan Test and evaluation Product roll-out 	<ul style="list-style-type: none"> Product support Infrastructure support Technical refresh planning 	<ul style="list-style-type: none"> Retirement planning and execution 	

Governance and Change Management

The Subject Matter Experts Support the Clinical and IT Communities Across the SDLC



iEHR System Vision





iEHR Initial Operating Capability – SEP 2014

- Provide a **common DoD/VA EHR Presentation Layer** that enables clinicians to view all relevant patient data across the enterprise in a single view
- Enable the Patient Care Provider with the ability to perform patient healthcare management through the new iEHR Presentation Layer and provide **common Clinical Capabilities** to include:
 - Integrated ordering capabilities (e.g., labs, pharmacy, immunizations)
 - Management of patient lists
 - Clinical decision support integrated with ordering capabilities
- Deliver capability on a standardized, highly reusable framework to ensure consistency, efficiency, and security of the iEHR enterprise

FY14 IOC will include iEHR baseline capability deployed to the San Antonio and Hampton Roads locations (consisting of multiple VA and DoD facilities), with initial effort focused on providing a Service Oriented Architecture-based supporting infrastructure.

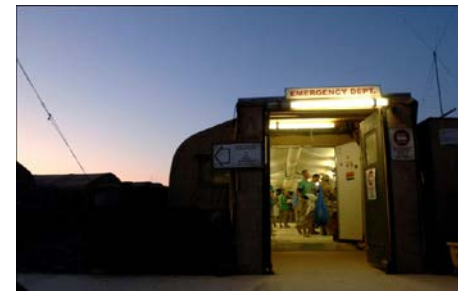


Need to Transition

Maintain the Current EHR Systems

- Working to maximize speed, availability, and usability of the current EHR
- Supporting legacy systems to ensure timely access to and use of clinical systems

- AHLTA
- Essentris
- Composite Health Care System (CHCS)
- AHLTA-Theater
- Theater Medical Information Program CHCS Cache (TC2)
- Theater Medical Data Store (TMDS)





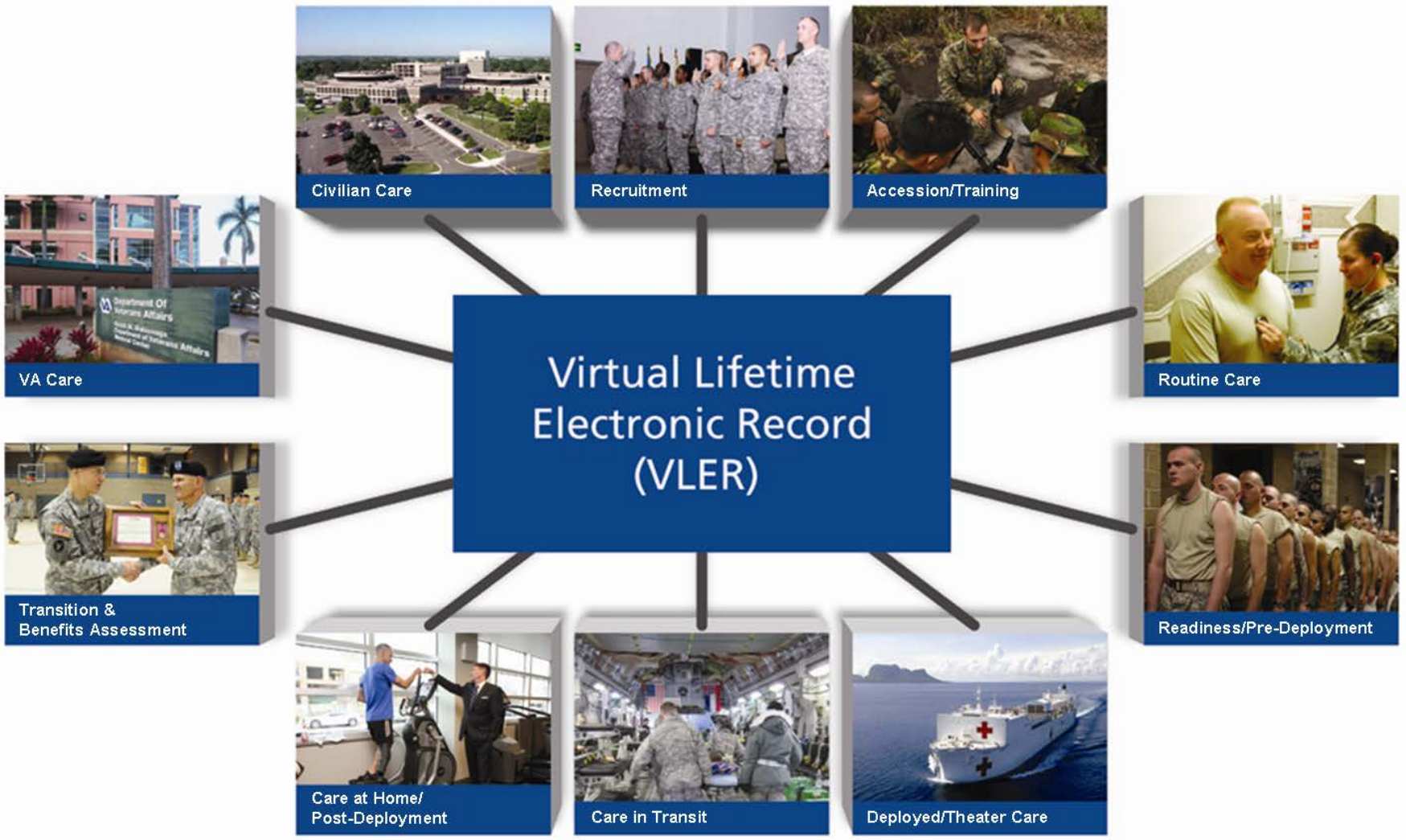
Challenges

- Converging Department-unique business operations and program execution policies and operating under a single governance process
- Sufficient requirements baseline definition (e.g., requirements, use cases, user stories) to support acquisition timeline and execution activities, aligned with capability priorities
- Information Assurance and Accreditation authorities and procedures that apply across DoD and VA
- Contracting policies and timelines to support agile program management and execution
- Establishing single Development and Test Center / Environment (DTC/DTE) to support program milestone activities
- Complexity of SOA development and implementation approach given aggressive schedule and application of the Agile process
- Maturity of enterprise-wide data exchange and interoperability standards



Service Member Health Care

Continuum Health Care is Local...Information is Global





The President Supports the Virtual Lifetime Electronic Record (VLER)

“ ... the Department of Defense and the Department of Veterans Affairs have taken a first step towards creating one unified lifetime electronic health record for members of our armed services that will contain their administrative and medical information -- from the day they first enlist to the day that they are laid to rest. ”

President Barack Obama

April 9, 2009





VLER Vision

On April 9, 2009, President Obama directed DoD and VA to create a Virtual Lifetime Electronic Record that:

“will ultimately contain administrative and medical information from the day an individual enters military service throughout their military career and after they leave the military.”

-President Barack Obama



Source: *Washington Post*, April 9, 2009



What Is VLER?

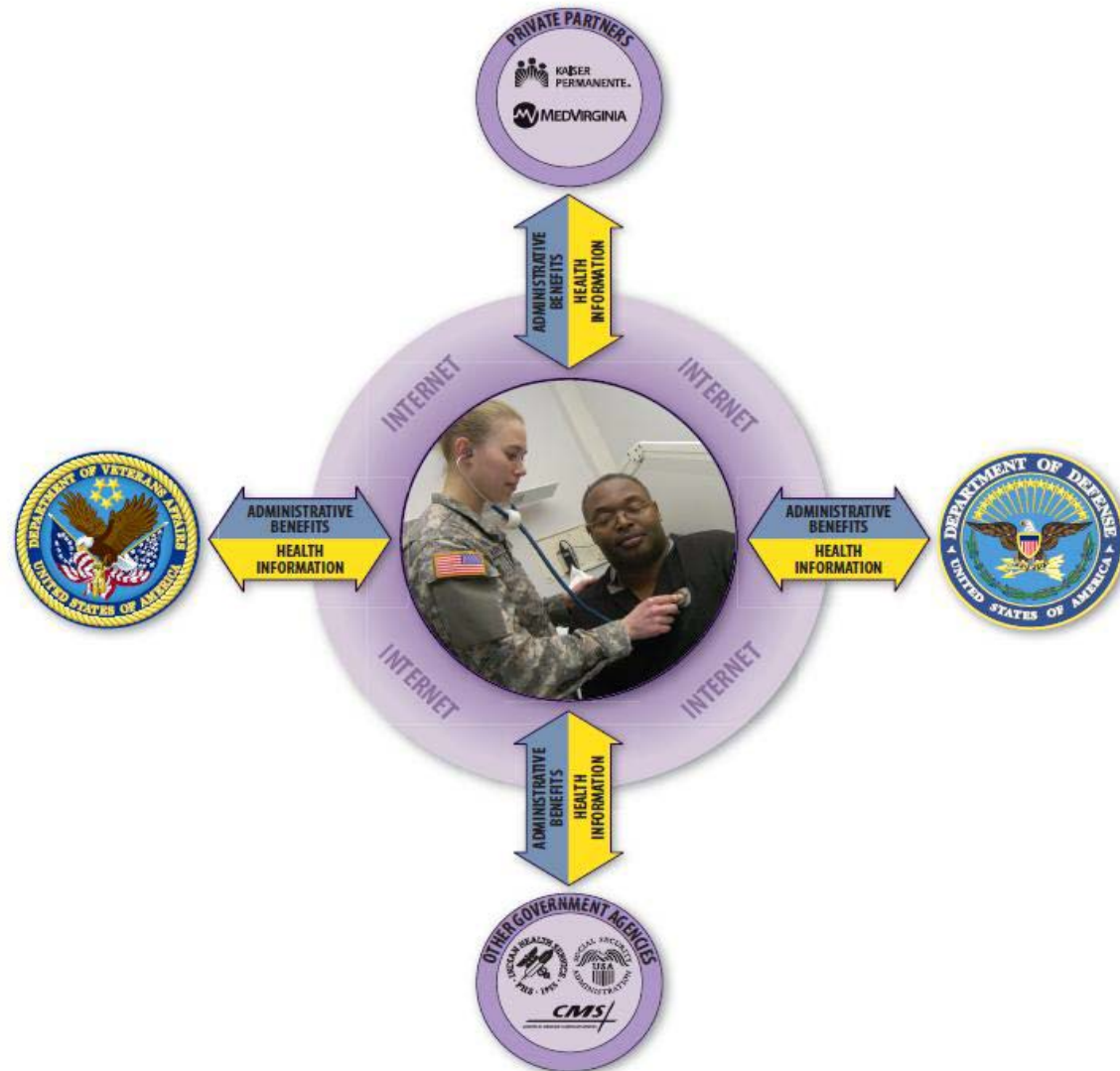
- VLER is a federal, inter-agency initiative to provide portability, accessibility and complete health, benefits, and administrative data for every Service Member, Veteran, and their beneficiaries
- The goal of this major initiative is to establish the interoperability and communication environment necessary to facilitate the rapid exchange of patient/beneficiary information yielding consolidated, coherent, and consistent access to electronic records while enriching support for health, benefits and personnel activities
- VLER will not create a new data record, but it will ensure availability of reliable data from the best possible source





VLER Goal

- ▶ Goal: to provide seamless access to electronic health and benefit information for Service Members and Veterans through a single portal
- ▶ Success is dependent on the existence of an electronic health record (EHR) capability in each participating organization
- ▶ While VLER builds on the EHR capability, the capability is separately developed and funded





VLER Strategy



- The VLER Strategy is about efficiency, effectiveness, and timeliness
- It is not an acquisition program, nor will it result in a single DoD/VA system
 - Builds on existing DoD and VA electronic health record capabilities
 - Solves the need to share information with the private sector
 - Avoids obsolescence as EHR systems modernize
 - Builds iteratively through operational pilots using incremental sets of functionality



Overview

VLER Capability Areas and Timeline

VCA	Suspense
VCA 1 focuses on improvements to clinical health data exchange and will result in the exchange of foundational clinical health data via the NwHIN	July 2012
VCA 2 will improve health record exchange for benefits adjudication and will enable seamless Veterans Benefits Administration (VBA) disability claims adjudication by December 2012 and Social Security Administration (SSA) disability claims adjudication	December 2014
VCA 3 addresses information exchange in support of additional Service Member and Veteran's benefits , such as housing, insurance, education, & memorial benefits	December 2014
VCA 4 establishes a Single Virtual Access Point for all Health & Benefits Services for Service Members and Veterans	December 2014

*Suspense dates are tentative and subject to change



Nationwide Health Information Network (NwHIN)

- The Nationwide Health Information Network (NwHIN) is a collection of standards, protocols, legal agreements, specifications, and services that Military Treatment Facilities (MTF) and private providers need to comply with in order to enable secure, electronic health information exchange (HIE)
- Each health care organization that participates in VLER must comply with NwHIN standards in order to communicate with each other over the internet
- DoD and VA use of the NwHIN will help drive and establish national standards for HIE



Data Use and Reciprocal Support Agreement

- The Data Use and Reciprocal Support Agreement (DURSA)
 - Provides the legal framework governing participation in data exchange over the NwHIN
 - Must be signed and executed by each HIE in order to exchange information over the NwHIN
 - Does not need to be signed by individual MTFs because DoD is already a DURSA signatory
- VLER participants must comply with all federal information security regulations

Health data will be exchanged with the strictest and most rigorous standards of privacy and security under the Health Insurance Portability and Accountability Act (HIPAA)



Current Health Data Sharing

VLER Health -- Pilots

Six Month Increments

San Diego Pilot

January 31, 2010

- **Health Record Data:**
Healthcare Information
Technology Standards
(HITSP) C32 subset:
 - Allergy/Drug Sensitivity
 - Condition
 - Healthcare Provider
 - Information Source
 - Language Spoken
 - Medication
 - Person Information
 - Emergency Contact
- **Partners:**
 - San Diego VA Medical Center
 - Naval Medical Center San Diego
 - Kaiser Permanente in San Diego

Tidewater Pilot

September 15, 2010

- **Health Record Data:**
 - HITSP C32 subset (from San Diego)
 - Comment
 - Hematology Lab Result
- **Partners:**
 - Naval Medical Center Portsmouth
 - VA Medical Center Hampton
 - Med Virginia

November 16, 2010

- **Additional Partners:**
 - McDonald Army Health Center (MCAHC), Fort Eustis
 - 633 Medical Group, Langley AFB

Spokane Pilot

March 25, 2011

- **Health Record Data:**
 - HITSP C32 subset (from Tidewater)
 - Vital Sign
 - Chemistry Lab Result
- **Partners:**
 - 92nd Medical Group, Fairchild AFB
 - Spokane VA Medical Center
 - Inland Northwest Health System

Puget Sound Pilot

September 30, 2011

- **Health Record Data:**
 - HITSP C32 subset (from Spokane)
 - Advance Directive *
 - Encounter
 - Immunizations*
 - Insurance Provider
 - Procedures
 - Unstructured Documents:
 - Consults/Referrals
 - Discharge Summaries
 - Results of Diagnostic Studies
 - Procedure Notes
 - History & Physicals
- **Partners:**
 - Madigan Army Medical Center
 - VA Puget Sound Health Care System
 - MultiCare Health Org

* will display but not send



VLER Challenges



- Lack of maturity throughout the Nation in adoption of Electronic Medical Records
- To Date, the level of private sector participation on the NwHIN is still fairly low. Limited membership in the NwHIN therefore limited sharing with Network Providers
- Wide adoption of the HITSP documents is limited.
- Office of the National Coordinator, Connect software is immature.
- There are a variety of factors effecting positive patient correlation, including laws in some states prohibiting the use of social security numbers to identify patients.
- The pilots also highlighted several usability issues: speed, reliability, and workflow.
- DoD needs to develop policy to share a broader population of data (family members)



The Future of Federal Medicine

- We (VA and DoD) are not health systems that operate in isolation from the remainder of the US health system...
 - We are part of it
 - We are contributing and advancing care in the United States
 - Our patients move frequently between all systems of care...interoperability matters
 - We learn from our public and private partners and will be expanding that dialogue with you...





The Future of Military Medicine

- Our Imperative

- Creating an Electronic Health Record that serves our global missions and our beneficiaries in DoD and VA
- Designing an EHR that enables even better clinical quality and performance
- Recognizing our role in serving as careful stewards of the taxpayer's money through transparency, appropriate speed, and the right voices at the table





SUMMARY

- DoD and VA are embarking on a new meaning of Joint, two cultures merging after years of differences
- Clinical Informatics is at the helm, providing requirements, workflow, business process re-engineering and program management.
- To achieve success the Subject Matter Experts must stay involved from beginning to end.
- If it was easy it would already be done





SINCE 1775