INTERAGENCY PROGRAM OFFICE

Annual Meeting of the DoD Task Force on the Care, Management, and Transition of Recovering Wounded, Ill, and Injured Members of the Armed Forces

Monday, January 14th, 2013, 2:15-3:15 p.m.

Barclay P. Butler, Ph.D, Director,
DoD/VA Interagency Program Office

Statement of Purpose

Purpose

▸ Address the Members of the DoD Recovering Warrior Task Force (RWTF) on the IPO's effectiveness in accomplishing fully interoperable electronic health records. This is one of the Task Force's legislative required mandates.

Primary Objectives

1) To discuss key deliverables, key accomplishments, and challenges

2) To provide status of the IOC at the iEHR pilot sites

3) To furnish an update on the iEHR, VLER Health, and JAL FHCC

4) To update the RWTF on implementation efforts of iEHR Capability Set 1

5) To discuss what changes are needed outside the IPO to enable it to successfully fulfill its mission

Delivery of seamless Health Care and Benefits

Joint DoD/VA Secretarial Announcement

Nextgov

Defense and Veterans Affairs aim to speed up joint health record rollout

By Bob Brewin
December 6, 2012

This story has been updated.

Defense Secretary Leon Panetta said Thursday that he and Veterans Affairs Secretary Eric Shinseki have agreed to accelerate deployment of an integrated electronic health record to serve both departments.

Panetta said he and Shinseki agreed to "meet or beat" the planned schedule for iEHR deployment in a meeting at the Veterans Affairs Department headquarters, but he provided no details. At their last joint press conference in Chicago in May, Panetta and Shinseki forecast full deployment of the iEHR in 2017.

The two departments plan to roll out an early version of the iEHR with joint lab and pharmacy systems to hospitals in Norfolk, Va., and San Antonio in 2014. As he has in the past, Shinseki emphasized that the iEHR will be based on an open architecture with non-proprietary software.

Panetta said development of the iEHR is a "tough effort [that requires both departments] to confront technical and bureaucratic challenges." He said he expected VA and the Defense Department to approve a new schedule for the iEHR next month.

When the two departments complete the iEHR deployment, it will stand as the largest electronic health record system in the world, serving 7.8 million veterans and 9.7 million military personnel through 59 military hospitals and 152 VA hospitals with a combined staff of more than 350,000.

- Secretaries Panetta and Shinseki held a joint news conference Dec. 6

- The Secretaries announced that they will "meet or beat" the planned schedule for iEHR deployment

- The departments are expected to approve a new schedule for the iEHR next month.

When iEHR deployment is complete, it will serve 7.8 million Veterans and 9.7 million military personnel through 59 military hospitals and 152 VA hospitals with a combined staff of more than 350,000.

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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 and VA's VistA 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 clinical treatment

Oversight Mission JALFHCC

- 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 on October 1, 2010

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KEY ACCOMPLISHMENTS AND CHALLENGES

- Defined Program Baseline (Requirements, Architecture, Design, Cost)
- Implemented Single Sign-on and Context Management (SSO-CM) capabilities at site in San Antonio
- Provided Allergies Write-Back capability in on JANUS-based Graphical User Interface (GUI)
- Completed requirements documents for Lab, Pharmacy, Identity Management, Access Control, and Presentation Layer capabilities
- Achieved Development and Test Center (DTC) / Development and Test Environment (DTE) Initial Operational Capability (IOC)
- Established an Architecture & Engineering Integrated Product Team (IPT) to identify, manage and implement work streams focused on key aspects of the iEHR architecture and engineering processes and principles
- Conducted Transition Planning summit to define key milestones and determine next steps / assign resources
- Technical Division established under IPO and Technical Director announced
- Developed Architecture & Engineering IPT Charter to define roles and responsibilities
- Completed Gartner Assessment of current iEHR infrastructure planning efforts to provide an external perspective to highlight gaps, dependencies, risks, and considerations for moving forward
- Defined high-level milestones and timeline for existing work streams required to develop infrastructure capabilities
- Developed Data Management Strategy and Roadmap
- Conducted first quarterly Technical Division summit to level-set on roles, responsibilities, and engineering strategy
- Completed initial draft of iEHR Capstone Systems Engineering Plan (SEP) and distributed for review and feedback
- Released initial version of Technical Specifications Package and Summary

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FY 2012 IPO Key Accomplishments and Activities – iEHR (Continued)

- Finalized Service Oriented Architecture (SOA) Services Catalogue
- Developed Architecture Standards & Compliance Criteria
- Identified technical Points of Contact (POCs) for 20 iEHR Project Managers to assist with planning and execution activities from a technical perspective
- Released second version of Technical Specifications Package and Summary
- Completed Portal Framework assessment of Liferay Performance and Viability Testing
- Established Deployment and Implementation workgroup to define major milestones, key membership, and draft timeline to develop Enterprise Deployment Strategy that will help define deployment roles and responsibilities
- Released Technical Specifications Request For Information
- Initiated development of Sourcing Methodology Procedure and Policy
- Developed and received approval for Network & Security Architecture (Joint Medical Communities of Interest)
- Finalized Recruitment Packages for both VA and DoD IPO resources and released vacancy announcements; conducted panels for 36 VA positions
- Health Data Dictionary (HDD) Mapping contract awarded; conducted project kick-off meeting
- Awarded Architecture Support contract to assist with definition and finalization of required architecture artifacts
- Developed report for Secretaries on JANUS GUI Deployment / Maturity Plan that delivers requested functionality for Initial Operating Capability (IOC)
- Defined "Technical Feasibility" for IOC and gained buy-in from functional / clinical community
- Prepared and released Integration contract package for design, development, and integration support
- Finalized Architecture artifacts required for iEHR Increment 1

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✓**VLER Health is the IPO program through which the Departments, as participants in the eHealth Exchange, share expertise and capabilities for the Direct Project.**

✓**FY 2012 IPO eHealth Exchange and Direct Project Activities include the following:**

1. Assisting HealtheWay, Inc., a partner in eHealth Exchange, with new interoperability specifications for the conformance testing process for on-boarding new Exchange members.

2. Meeting with the Texas State Health Authority and San Antonio HIE to gauge their ability to stand up Exchange and Direct capability. Subsequent meetings are planned, including possible site visits to San Antonio VA and Military Treatment Facilities when appropriate.

3. Consolidation of DoD and VA exchange and Direct program management at the IPO.

4. Continuing DoD business discussions for including non-active duty members in VLER Health Exchange.

5. Entry of DoD Direct Project Innovation Initiative (DPII) into the accreditation and certification process for Stage 1 (of 3 initiative stages).

6. Submission by DoD to the Joint Health Operations Council for approval a proposed location for a Direct Project pilot.

7. Communications by IPO senior staff with local health exchanges and providers in Washington DC, Alaska, Hawaii, Guam, Rhode Island, Connecticut, Texas, Nebraska, Idaho, California, Florida, and Pennsylvania about implementing Direct Project exchanges with VA facilities. Discussions center around guiding private sector providers in configuration of software, acquisition of Public Key Infrastructure (PKI) certificates, and business process redesign to prepare for pilots.

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The Departments maintained, deployed, and refined the following IT capabilities for the JAL FHCC during FY 2012:

▸ Deployed first component of iEHR modernized system architecture. iEHR Presentation Layer enables viewing of patient information from both VA and DoD legacy health care systems within a single graphical user interface (GUI). Healthcare data from different health care systems is presented in a combined view customizable to a health care providers prescribed workflow.

▸ Deployed Laboratory Orders Portability (OP) and the first increment of Consults OP, the latter providing to FHCC health care providers the ability to share orders and updates. All OP capabilities give a provider, or authorized user on behalf of a provider, the ability to place or enter an order in the VA or DoD clinical system and have the information available for another authorized user in either system.

▸ Conducted maintenance and enhancement activities for Laboratory and Radiology OP services to provide additional functionality. Increment 2 of Consults OP, providing the ability to review consultation notes data, is expected February 28, 2013.

▸ Enhanced Single Patient Registration to establish and maintain stability of the correlation of VA and DoD patient records. Through Single Patient Registration a patient record can be registered and updated via a single GUI employed by existing, separate VA and DoD systems. This facilitates maintenance of a single patient medical record while progress continues toward deployment of the integrated EHR system.

▸ Improved access to two different Medical Single Sign-on (MSSO) products used by health care providers when they are delivering care to Service member and Veteran patients. MSSO permits secure electronic access to clinical information about a patient. FHCC health care providers gain access to MSSO with either a VA Personal Identity Verification Card or a DoD Common Access Card. Enhancements provided additional capability for access using either card.

▸ Expanded Testing Platforms used to facilitate joint VA/DoD end-to-end testing for all FHCC releases. Testing supports joint IT capabilities and ensures interoperability.

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▶ Hosted first IOC Discussion between DoD/VA Interagency Clinical Informatics Board (ICIB) and IPO
▶ Completed first draft of Clinical Quality (CQ) branch metrics
▶ Gained IOC definition concurrence between ICIB and IPO
▶ CQ Branch completed 30, 60, 180, 360 day plan
▶ Launched CQ branch research on clinical benefits of SSO-CM capabilities
▶ Received resources to start conducting IOC Clinical Effectiveness Study
▶ Finalized Memorandum of Understanding (MOU) between the IPO and Telemedicine Advanced Technology and Research Center (TATRC)
▶ Submitted draft Clinical Physician Order Entry (CPOE) and Clinical Decision Support (CDS) Component Improvement Program Team [CIPT] packages to the Functional Coordinating Groups
▶ Draft pharmacy demo-scripts completed to be included in the Pharmacy Request For Proposals
▶ Finalized North Chicago Stakeholder Analysis – Clinical Information Systems Adoption (CISA)
▶ Completed FHCC Lessons Learned Program and validating Lessons Learned
▶ Completed Deployment Management Templates to be submitted to the ICIB
▶ Began Clinical Information Systems Adoption IOC site visits (FHCC North Chicago; Hampton Roads; San Antonio)
▶ Sought final approval of the integrated Project Level Requirements Document (iPLRD) by the Health Executive Council (HEC)
▶ Project Level Requirements posted to Military Health System website
▶ Inserted requirements into the interim tool, IBM Rational Jazz Suite
▶ Hosted the follow-up Pharmacy IOC definition to ensure pharmacy plans are included in the final IOC definition
▶ Collected all CIRD metrics for success of IOC to be in alignment with all work from the Joint Executive Council (JEC)
▶ Released vacancy announcements DoD leadership positions: Clinical Requirements Lead; Clinical Requirements Manager; Branch Chief for Patient and Provider Experience
▶ Completed 30, 90, 180, 365 Day Plans for CIRD Branches
▶ Acquired approval of VA Position Descriptions by the Resource Management Committee
▶ Planned for ICIB approval of iPLRD
▶ Planned for HEC approval of Enterprise Level Clinical Quality Requirements (ELCQR)

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- ➢ Released second version of Technical Specifications Package and Summary
- ➢ Completed Portal Framework assessment of Liferay Performance and Viability Testing
- ➢ Established Deployment and Implementation workgroup to define major milestones, key membership, and draft timeline to develop Enterprise Deployment Strategy that will help define deployment roles and responsibilities
- ➢ Released Technical Specifications RFI
- ➢ Initiated development of Sourcing Methodology Procedure and Policy
- ➢ Developed and received approval for Network & Security Architecture (Joint Medical COI)
- ➢ Finalized Recruitment Packages for both VA and DoD IPO resources and released vacancy announcements; conducted panels for 36 VA positions
- ➢ HDD Mapping contract awarded to LongView and conducted project kick-off
- ➢ Awarded Architecture Support contract to assist with definition and finalization of required architecture artifacts
- ➢ Developed report for Secretaries on JANUS-based GUI Deployment / Maturity Plan that delivers requested functionality for IOC
- ➢ Defined "Technical Feasibility" for IOC and gained buy-in from functional / clinical community
- ➢ Prepared and released Integration contract package for design, development, and integration support
- ➢ Finalized Architecture artifacts required for Increment 1
- ➢ Acquired EA Tool and Report Capability license & support
- ➢ Received responses from industry on TSP RFI; finalized analysis of responses and defined areas of improvement in the TSP
- ➢ Began transition from IPTs and workstreams into formalized Scrum teams, with a technical backlog
- ➢ Conducted pilot training session of the IPO Technical Essentials course

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Program Challenges/IPO Concerns

▸ Converging Department-unique business operations and program execution policies into defined, standardized joint clinical workflows across the Departments and Military Branches to operate under a single governance process

▸ Normalizing existing data to a common model so that legacy healthcare data is available to the iEHR user

▸ Defining a sufficient requirements baseline (e.g., requirements, use cases, user stories) to support acquisition timeline and execution activities, aligned with capability priorities

▸ Determining the Information Assurance and Accreditation authorities and procedures that will apply across DoD and VA

▸ Implementing 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

▸ Employing the Interagency cost-sharing MOU between the DoD and VA where the IPO is in control of the IPO funds, and where cost sharing is implemented.

▸ Concurrence on Test Strategy
  – Agreed-to way ahead with DASD(DT&E) on test approach and technical parameters
  – Working with DOT&E to mitigate perceived risk regarding co-existence of Increment 1 and Increment 2 architectures

▸ NDAA Restriction of Funds
  – If DoD is unable to transfer funds to VA, iEHR development efforts will be delayed

▸ Delays from Continuing Resolution
  – Need to obtain funds certification for FY13 in order to obligate funds the IPO receives

▸ Program Plan Execution
  – Specific application of agreed-to cost sharing principles
  – Affordability
  – Aggressive Schedule

Delivery of seamless Health Care and Benefits

The iEHR is a complex undertaking for the following reasons:

1. Composed of joint DoD and VA capabilities
   - Composed of unique requirements and potential unique solutions
   - Each capability is like a program in and of itself
   - 30+ separate teams coordinating to deploy released on 6 month cycles.

2. Cannot "rip and replace" as a method of upgrading
   - New clinical capabilities must work with both legacy systems and new systems during development of iEHR.

3. iEHR reliance upon common standard business practices between both Departments
   - Workflow for any one clinical capability requires development and concurrence between doctors, nurses, and technicians.
   - Unprecedented business process reengineering on this scale.

4. Large scope:
   - Service to over 18 million beneficiaries with…
   - 440 thousand care providers in…
   - 211 hospitals with…
   - 1171 clinics, 482 dental clinics, and…
   - Over 209 million outpatient visits per year.

   - 229 data centers consolidated into 9 regional sites

5. The complete infrastructure that supports the iEHR will be replaced.

6. Everything must also operate in mobile, deployed, and remote environments.

7. Single medical network and security enclave that supports the seamless transfer of medical information between doctors and nurses in the VA and DoD, as well as the three Services (a key lesson learned from the North Chicago effort).

iEHR 2014 Roadmap
Initial Operating Capabilities (IOC) – iEHR Platform
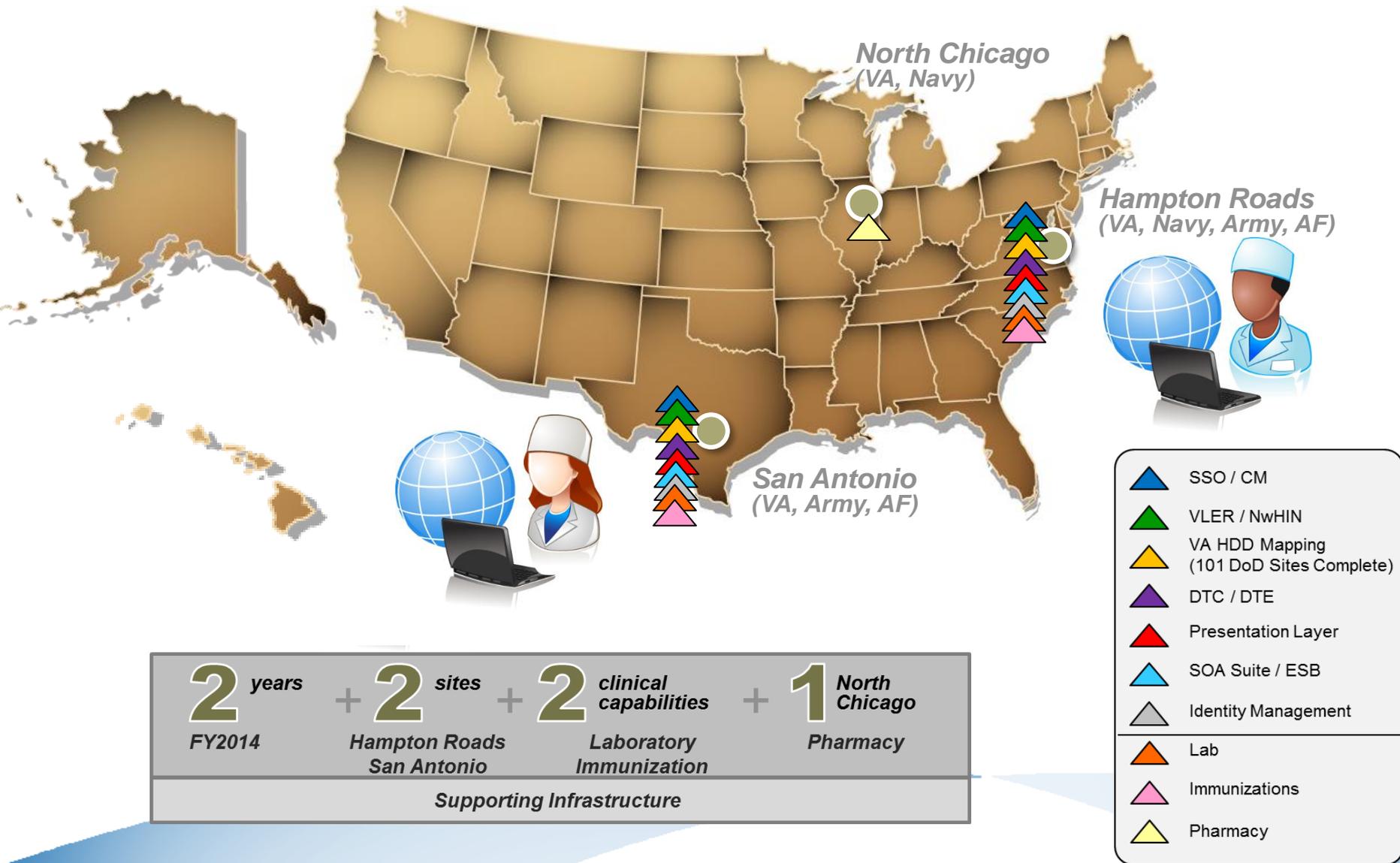
North Chicago
(VA, Navy)

Hampton Roads
(VA, Navy, Army, AF)

San Antonio
(VA, Army, AF)

2 years
FY2014

+ **2** sites
Hampton Roads
San Antonio

+ **2** clinical capabilities
Laboratory
Immunization

+ **1** North Chicago
Pharmacy

Supporting Infrastructure

Legend	
▲	SSO / CM
▲	VLER / NwHIN
▲	VA HDD Mapping (101 DoD Sites Complete)
▲	DTC / DTE
▲	Presentation Layer
▲	SOA Suite / ESB
▲	Identity Management
▲	Lab
▲	Immunizations
▲	Pharmacy

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IEHR

iEHR Program Overview

	Current State				IOC:FY14 – Incremental Convergence				Target: FY15+ – Enterprise Enabled			
User	Direct Care	Fulfillment Staff	Hospital Admin	Patient	Direct Care	Fulfillment Staff	Hospital Admin	Patient	Direct Care	Fulfillment Staff	Hospital Admin	Patient
User Experience	AHLTA	CPRS			Common for Direct Care Users				Common for All Users			
Business Processes	Unique Business Processes (Organization and Site-specific): VA-DoD / VAMC-VAMC / MTF-MTF				Harmonized Workflows: San Antonio & Hampton Roads				*Unified Workflows*			
System Exchange	Adhoc, Primarily Messaging				Portal, Messaging, and Service Frameworks, Client Interfaces through common core services				**Shared Clinical Capabilities & Services**			
Systems & Infrastructure	Organization-specific Capabilities, Numerous Disparate Systems, Platforms & Software Baselines				Common Infrastructure Foundation Core Services (IdM, Access Control)				*Common Infrastructure & Core Services*			
Data	Numerous Unique Data Models, Stores, & Applications				Single Logical Data Store (Federated) Multiple Physical Data Stores (VistA, CDR, HDR)				*Longitudinal Patient Record*			

Business Need (Problem Statement):
Integrate DoD/VA Medical Records and Applications

- Patient information physically exist in different paper and electronic formats maintained in different places
- Fragmented medical records are not interdepartmentally or externally accessible and cannot be organized into a logical or actual longitudinal patient health record
- VA and DoD have healthcare legacy systems and data stores that must be modernized to continue to provide and improve quality of care

iEHR Description

A DoD/VA collaborative effort to share Health Care business and system resources

System Capability

- 54 Joint DoD/VA Capabilities delivered in 6 Increments
- **Increment 1:** Single Sign-on (SSO), Context Management (CM), JANUS Graphical User Interface (GUI) Pilot, and Risk Reduction efforts
- **Increment 2:** Presentation Layer, Lab, Immunization, Pharmacy, Clinical Decision Support, Orders Service, Documentation, and supporting infrastructure

Program Specifics

- DoD and VA are committed to delivering iEHR capabilities in the next 5 years – a task that will be accomplished through incremental delivery of Electronic Health Record (EHR) components
- iEHR will impact the DoD and VA combined beneficiary population (18 million people) and practitioners (440,300 providers)
- iEHR scope provides Health Information Technology for
  - DoD medical facilities: 22 medical centers, 59 hospitals, and 364 medical clinics
  - VA medical facilities: 288 Veteran centers, 152 hospitals, and 807 medical clinics

Delivery of seamless Health Care and Benefits

The iEHR will impact the DoD and VA combined beneficiary population (18.3 million people) and practitioners (440,300 providers)

Who We Serve

- Service members
- Veterans
- Their families
- Other beneficiaries
- Operational Commanders
- Military Health System community
- VA community

	DoD	VA	Total
Total Beneficiaries	9.7 Million	8.6 Million	18.3 Million
Health Care Providers	325,000	115,300	440,300
Hospitals	59	152	211
Clinics	364	807	1,171
Dental Clinics	282	200+	482+
Inpatient Admissions	1,169,003	692,100	1,861,103
Outpatient Visits	129,152,879	79,800,000	208,952,879
Host Sites	101	128	229

What We Do

- Lead DoD and VA in the development and implementation of iEHR and VLER Health
- Lead, oversee, and manage, inform and otherwise complement other information sharing initiatives within DoD and VA
- Accelerate the exchange of health care information

Why We Do It

- Empowered Patient Care Model
- Robust Learning Health System
- Enhanced Access to Quality of Care
- Enhanced Patient Safety
- Enhanced Health Outcomes
- Improve the value proposition: increase quality of care for every dollar expended

Delivery of seamless Health Care and Benefits

The iEHR will be the modernization of legacy EHR capabilities, which are the product of over 40 years of development and innovation

CHCS I – 8 Years → **AHLTA – 6 Years+**

Department of Defense

1981: Deployments of standalone medical info systems TRIPHARM, TRILAB, TRIRAD, TRIPAS, and AQCESS in 19 MTFs

1986: Interim Tri-Service Micro Pharmacy System

1979: First concept for Computerized Physician Order Entry (CPOE)

1988: CHCS I development begins; deliver CPOE and MTF-centric EHR

1988: Limited early inpatient documentation (CIS)

1998: CHCS I – providing CPOE – deployed worldwide

2000: CHCS II initial deployment

2003: Initial TMIP-J deployment to theater

2004: Worldwide implementation of global system begins

2005: Initial EHR in 77 MTFs and 11 time zones

2006: AHLTA Block 1 worldwide deployment completed to all MTFs

2007: Begin initial implementation of updated inpatient EHR (Essentris)

2008: Begin TMIP Block 2 deployment (First time EHR on ships)

2009: Strategic Planning for EHR Way Ahead

Dec 18, 2009: Director of the Cost Assessment and Program Evaluation (CAPE) signed the EHRWA AoA Guidance, officially launching the path towards the development of the next EHR

March 2010: Stoop up the EHR Way Ahead Planning Office to facilitate the acquisition and deployment of the next generation EHR

Nov 2010: DoD AoA paused for potential DoD/VA collaboration

Dec 4, 2010 DEPSECDEF, DEPSECVA, and VCJCS directed VA and DoD teams to describe and analyze a DoD-VA integrated electronic health record (iEHR) to be incorporated into the DoD AoA process

On Oct 27, 2011, IPO Charter signed to serve as the single point of accountability for the Departments in the development and implementation of the iEHR

Dec 2011: Deployed Janus GUI in N. Chicago

Feb 27, 2012: IPO Leadership in place

April 18, 2012: Increment 1 & 2 ADM signed

May 14, 2012: AHLTA-Theatre placed in Open Source Custodial Agent

DoD/VA Interagency Program Office

Evolution of DoD/VA Electronic Health Records

1997: President Clinton released an official Statement of the President - the DoD and VA were to "...create a new Force Health Protection Program…[in which]...every soldier, sailor, airman and marine will have a comprehensive, life-long medical record of all illnesses and injuries they suffer, the care and inoculations they receive and their exposure to different hazards."

2007: President Bush signed Executive Order 13426 to establish a "Commission on Care for America's Returning Wounded Warriors and a Task Force on Returning Global War on Terror Heroes." The commission's final report (Dole-Shalala), recommended focusing on three goals: To serve those injured in the line of duty while defending their nation; To support their recovery and successful rehabilitation; and To simplify the sometimes overly complex systems that frustrate some injured Service members and their families and impede efficient care.

2009: President Obama declared that "Under the leadership of Secretary Gates and Secretary Shinseki, the DoD and the Department of VA 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."

iEHR Integrated Electronic Health Record

Mar 17, 2011: The Secretary of Defense and the Secretary of the VA agreed to jointly pursue a common EHR acquisition

May 11, 2012: HDD Contract Award for Custodial Agent

March 20, 2012: SOA Suite Contract Award

Feb 7 2012: Initial IPO Advisory Board Meeting held

Department of Veterans Affairs

1978: Computer used in medical centers for administrative purposes

1969: Clinical Computer use began

1985: 172 VAMCs begin using computers for laboratory, pharmacy, and records tracking

VA selects MUMPS as the primary programming language for DHCP

1982: Congress endorses development of VA patient computer system

1982: DHCP (Decentralized Hospital Computer Program) the VHA's first electronic information system was introduced

1997: CPRS and expanded graphical user interface (GUI) adopted nationwide

1996: Computer functionality greatly expanded

1996: VistA introduced

1994: DHCP was renamed VistA (Veterans Health Information System and Technology Architecture)

2005: VistA Imaging system integrates clinical images, scanned documents, and other non-textual data into the electronic medical record

2004: VA/DoD Health IT Sharing Program originally launched in 2000, becomes fully-fledged with several initiatives regarding exchange of text and computable data

Mar 2003: WorldVistA was formed and incorporated as a non-profit corporation

2003: My HealtheVet is deployed

2003: 100% of all Inpatient wards documenting medication administration using Bar Code Medication Administration (BCMA)

2001: Began work on HealtheVet – a free, online Personal Health Record that empowers Veterans to become informed partners in their health care and its associated Health Data Repository

2011: OSEHRA (Open Source Electronic Health Record Agent) project started to provide a common code repository for VistA and other health IT software

2010: Blue Button operational – allows Veterans to download their personal health information from My HealtheVet account which can then be read, printed, or saved on any computer

2010: Secure Messaging introduced – a web-based, encrypted communication that provides a personal and efficient way to communicate virtually with patients and provide them with convenient access to healthcare team members

2009: VistA Imaging attained over one billion stored images

1965-1977: The Age of Cooperation: Birth of VistA Strategy and Architecture

1977:1982: The Age of Struggle: Birth of the VistA software

1982-1993: The Age of Expansion: Widespread Adoption and Improvement

1994-2004: The Modern Age: Achievements and Contradictions

VistA – 14 Years+

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The IPO will develop and implement the iEHR utilizing a 'Best of Breed' approach to provide the most effective long-term solution

iEHR Best of Breed Solution

Pros

▲ **Cost:** Healthy competition in EHR space leads to better solutions at lower costs

▲ **Open Source:** Creates Open Source development opportunities

▲ **Benefit Timeliness:** Rapid delivery of clinically-relevant capability

▲ **"Future-Proofed":** Allows replacement/enhancement of individual capability modules

▲ **National Strategic Alignment:** Infrastructure ESB services, data architecture and standards are primary components of national alignment

▲ **Quality:** Encourages vendors to build flexibility, content expertise, and workflow analysis into their products

▲ **Responsible Spending:** Capitalizes on previous GOTS investments by reusing or repurposing mission-specific solutions

▲ **Communication/Collaboration:** Increased alignment between Departments and increased use of SOA

▲ **Efficiency:** Enhances alignment between systems and workflows through prioritization of end-user requirements

▲ **Patient Safety:** Customization allows site-specific alerts and reminders

▲ **Population Health**: Common data model and data centers allow improved delivery of population health

▲ **Clinician & Patient Benefit:** Best solution for each individual capability

Cons

▼ **Maintenance:** Increased reliance on internal maintenance/upgrades

▼ **Governance:** Complexity of interagency decision-making

▼ **Change Management:** Cyclical change management needed at all sites until FOC reached

▼ **Execution:** Higher technical and operational complexity

"One Size Fits All" Best of Suite Solution

Pros

▲ **Efficiency:** Enhanced system responsiveness driven by technical simplicity

▲ **Speed of Implementation:** Earlier achievement of full EHR capability required for current unmet needs

▲ **Change Management:** One time change management at each site
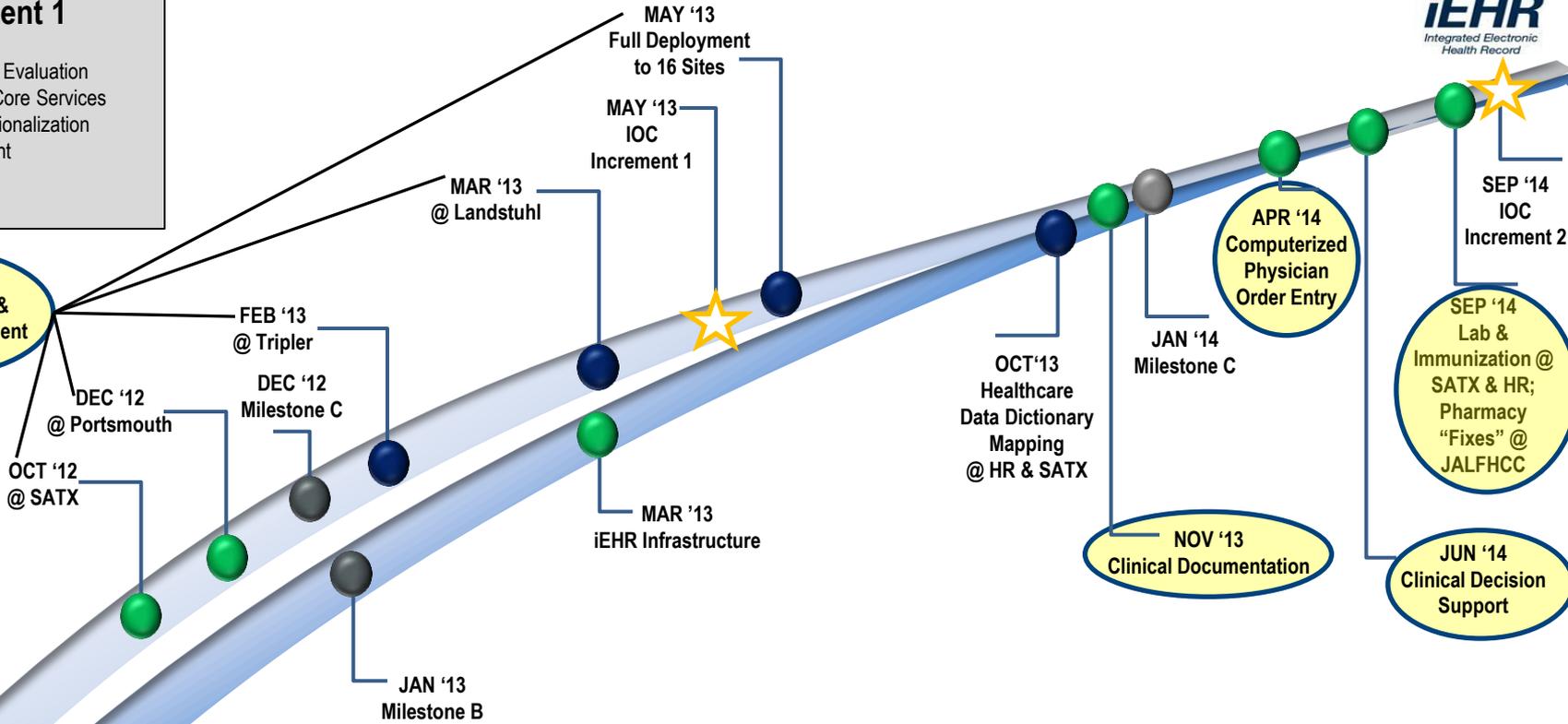
▲ **Execution:** Improved definitional clarity

Cons

▼ **Vendor Lock-in:** Vendor-driven solution and price

▼ **Data Lock-in:** Vendor-driven data solution

▼ **Repeating History:** Full-suite replacement in 5-10 years

▼ **Not "Future-Proofed":** Inextricable capability modules

▼ **Limits Compatibility:** Not compatible with n-Tier (flexible) SOA architecture

▼ **Limits Competitive Landscape:** Creates vendor monopoly

▼ **Limits Interoperability:** Not compatible with successful GOTS investments which increases reliance on COTS based capabilities

▼ **Data Limitations:** Many BoS solutions continue to use MUMPS

▼ **Configuration Complexity:** Increased configuration needed for packaged COTS solution

▼ **Clinician & Patient Benefit:** Decreased ability to align applications with workflows and priorities

▼ **Limits Innovation:** COTS vendor lock-in may reduce the ability to adapt new technologies in future

▼ **Increased Lead Time:** Benefits are not realized until full deployment

▼ **"One Size Fits All" Approach:** A packaged solution will not meet all critical needs and will require additional capabilities to support mission-specific activities (i.e. immunization, theater care)

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iEHR Critical Milestones:
Increments 1&2 make the iEHR platform

IPO INTERAGENCY PROGRAM OFFICE

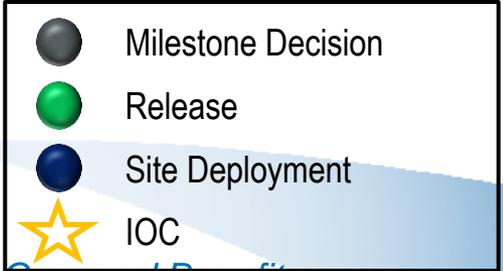**iEHR** Integrated Electronic Health Record

Increment 1
- Risk Mitigation
- System Test and Evaluation
- Infrastructure & Core Services
- Data Center Regionalization
- Data Management
- SSO & CM
- GUI Pilot

MAY '13
Full Deployment
to 16 Sites

MAY '13
IOC
Increment 1

MAR '13
@ Landstuhl

SEP '14
IOC
Increment 2

Virtualization, Single Sign On & Context Management

FEB '13
@ Tripler

APR '14
Computerized
Physician
Order Entry

DEC '12
@ Portsmouth

DEC '12
Milestone C

OCT '13
Healthcare
Data Dictionary
Mapping
@ HR & SATX

JAN '14
Milestone C

**SEP '14
Lab &
Immunization @
SATX & HR;
Pharmacy
"Fixes" @
JALFHCC**

OCT '12
@ SATX

MAR '13
iEHR Infrastructure

**NOV '13
Clinical Documentation**

**JUN '14
Clinical Decision
Support**

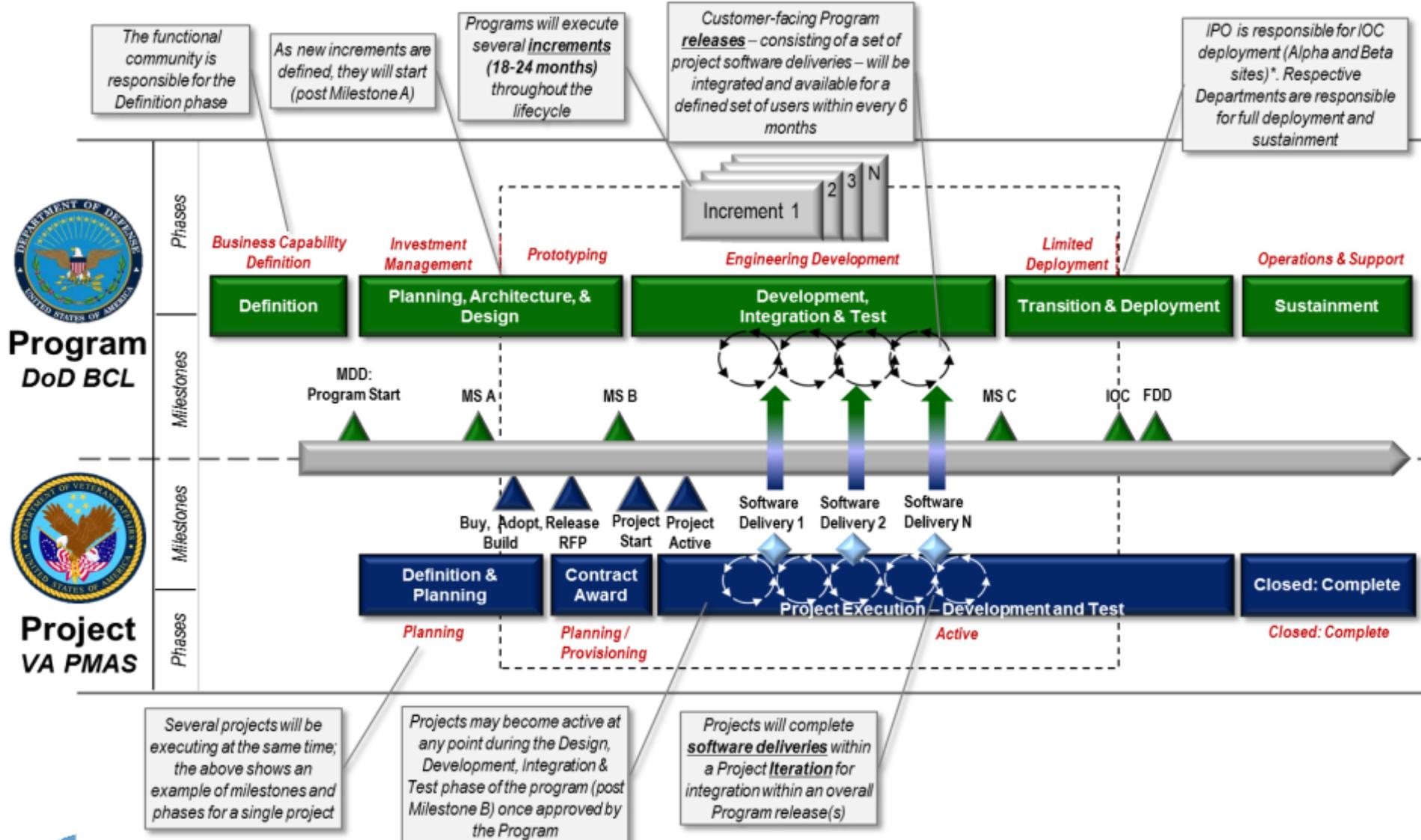JAN '13
Milestone B

**AUG '12
Milestone B**

Increment 2
- SOA Suite/ESB
- Identity Management
- Access Control
- Network & Security Architecture
- Information Model & Terminology Services
- iEHR GUI & Portal Framework
- Laboratory & Anatomic Pathology (SATX & HRVA)
- Immunization (SATX & HRVA)
- Pharmacy (SATX & HRVA)

AUG '12
Healthcare Data Dictionary
Mapping @ Salt Lake City

**AUG '12
Milestone A**

⚫ (gray)	Milestone Decision
⚫ (green)	Release
⚫ (blue)	Site Deployment
⭐	IOC

Health Care and Benefits

Delivery of seamless Health Care and Benefits

Capabilities will be delivered incrementally based on functional priority, technical feasibility, and financial viability

FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017

iEHR User Experience and Portal Framework

- Planning — MS B — Increment 1 — FDD
- Planning — MS B — Increment 2 — FDD
- Planning — MS B — Increment 3 — FDD
- Planning — MS B — Increment 4 — FDD
- Planning — MS B — Increment 5 — FDD
- Planning — MS B — Increment 6 — FDD

Infrastructure Capabilities

Increment 1 (2)
- Single Sign On/Context Management (SSO-CM)*
- JANUS GUI Allergies Write-Back (Pilot)

Denotes iEHR Infrastructure Capabilities which can span across increments

**Denotes initial delivery of capability that will span across increments*

Increment 2 (14)
- Access Control*
- Identity Management*
- User Experience**
- Information Model and Terminology Services*
- Federated Data Repository / Data Warehouse*
- Network and Security Architecture*
- SOA Suite / ESB
- Pharmacy**
- Immunization**
- Portal Framework*
- Laboratory & Anatomic Pathology**
- Orders Service**
- Clinical Decision Support (CDS)**
- Documentation**

Increment 3 (13)
- Barcoding**
- Care Management**
- Registration/Enrollment/ Eligibility
- Document Management
- Emergency Department Care
- Disability Evaluation
- Consult & Referral Management
- Scheduling / Appointment
- Secure Messaging
- Radiology / Imaging
- Dental Care
- Personal Health Record
- Credentialing**

Increment 4 (7)
- Operating Room Management
- Alerts and Reminders
- Medical Device Management
- Anesthesia Documentation
- Mental Health
- Global Image Access
- Patient Questionnaire

Increment 5 (7)
- Patient Education
- Encounter Coding
- Limited IT Connectivity
- Nutrition Care
- DoD/VA Registries
- Patient Portal Infrastructure
- Patient Consent

Increment 6 (10)
- Disease Management
- Patient Self Report
- Teleconsultations
- Blood Management
- Private Sector Data Access
- Business Intelligence
- Patient Safety Reports
- Utilization Management
- Genomics
- XML Forms Tool*

Delivery of seamless Health Care and Benefits

The iEHR system architecture will require components in all layers of architecture to realize a clinical capability

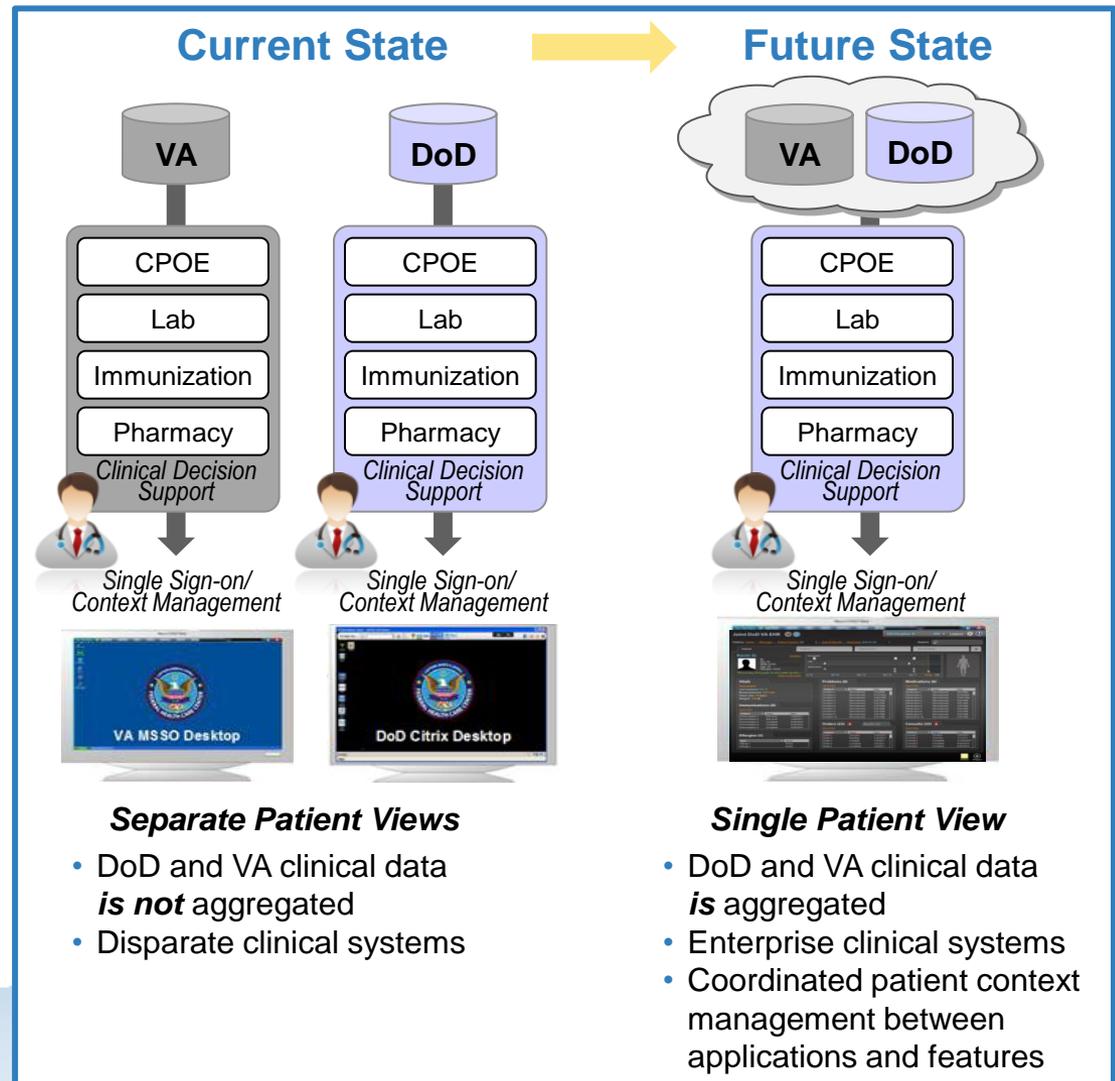**Presentation Layer**

Presentation
Common Graphical User Interface (GUI)

System Capabilities

Applications

DoD Unique (16)
- Battlefield Care
- Pediatrics
- Military Readiness
- Obstetrics
- Enroute Care
- Veterinary

DoD/VA Joint Applications (54)
- Pharmacy
- Inpatient Orders Mgmt
- Consult & Referral Mgmt
- Blood Mgmt
- Disability Evaluation
- Immunization
- Emergency Dept Care
- Document Mgmt
- Dental Care
- Laboratory
- Personal Health Record
- Operating Room Mgmt

VA Unique (6)
- Nursing Home
- Long Term Care
- Rehabilitative Care
- Transient Outreach
- Pharmacy Mail Order
- Occupational Health

Common Interface Standards

Enterprise Architecture

Common Services Broker

Common Interface Standards

Common Data Centers

Data Interoperability

Common Information Model

Common Terminology Model

Common Information Interoperability Framework (CIIF)

Information Exchange Specifications

Common Data Standards
(SNOMED CT and Extensions, LOINC, Rx Norm)

Delivery of seamless Health Care and Benefits

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Key Benefits

- Improved patient safety and clinical outcomes

- Reduced waste from unnecessary tests and procedures

- Improved diagnostic accuracy

- Improved adherence to treatment and immunization guidelines

- Expanded public health protections through decreased risk of preventable infections

- Reduced administrative costs

- Increased efficiencies from improved workflows

- Improved Force Health Protection and Readiness

Current State → **Future State**

Current State — VA and DoD separate stacks:
- CPOE
- Lab
- Immunization
- Pharmacy
- Clinical Decision Support
- Single Sign-on/Context Management
- VA MSSO Desktop / DoD Citrix Desktop

Separate Patient Views
- DoD and VA clinical data ***is not*** aggregated
- Disparate clinical systems

Future State — VA and DoD combined:
- CPOE
- Lab
- Immunization
- Pharmacy
- Clinical Decision Support
- Single Sign-on/Context Management

Single Patient View
- DoD and VA clinical data ***is*** aggregated
- Enterprise clinical systems
- Coordinated patient context management between applications and features

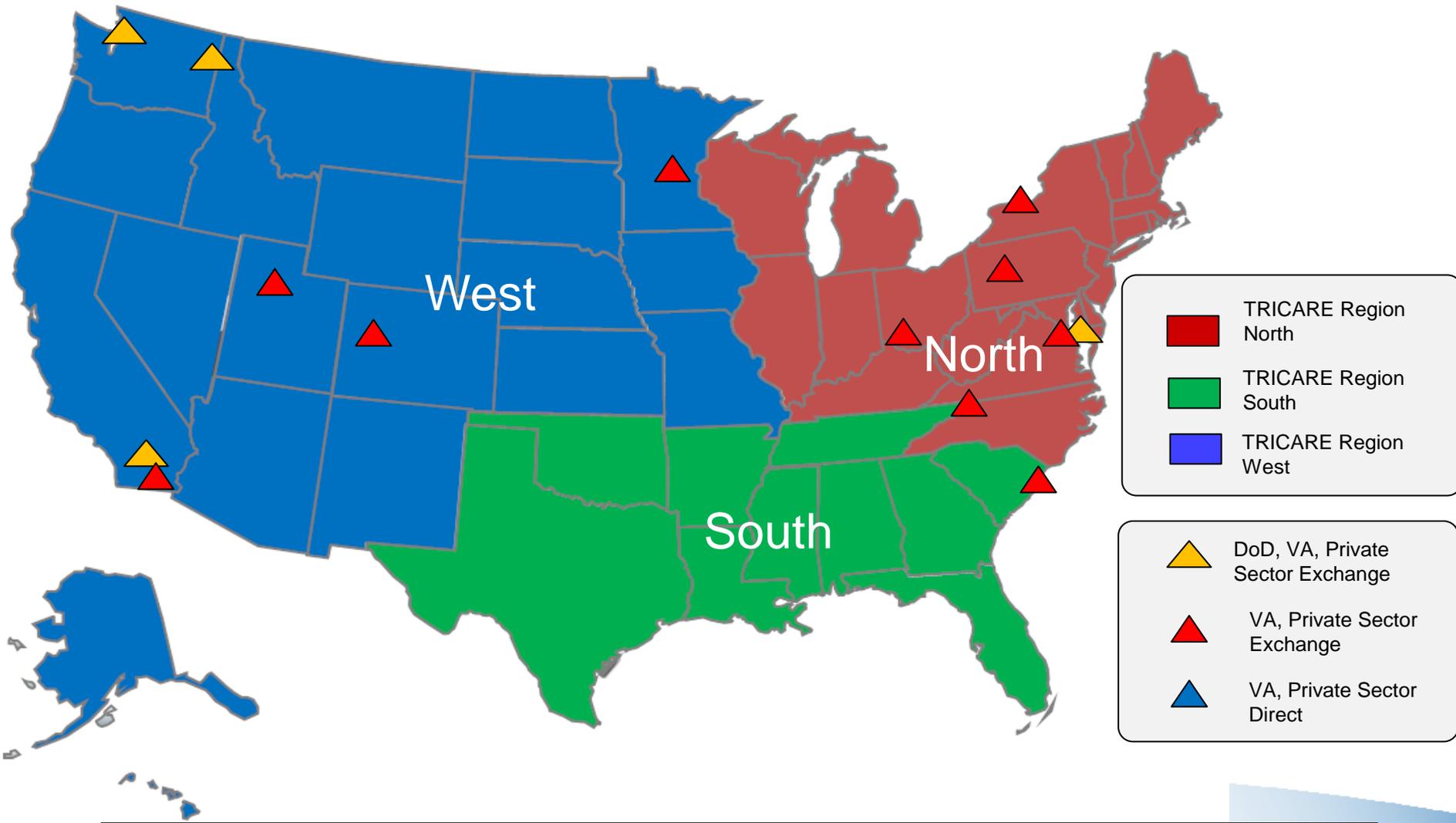*Delivery of seamless Health Care and Benefits*

VLER HEALTH

JEC approved a "Go" decision for the incremental rollout of VLER Health capabilities

- IPO and Departments have established site selection criteria

1) High volume of potential exchanges
   - High population of shared patients
   - High volume of private sector care for Veterans and/or Service members (and eventually non-active duty beneficiaries)
2) Exchanges have high value for VA and DoD clinicians
   - Private sector HIE partner is capable of exchanging clinically relevant health information with a fully populated electronic Summary of Care document
3) Mature Private Sector Health Information Exchange Partner
   - Private sector HIE uses health information technology standards and trait matching criteria to achieve a high percentage of correlated shared patients
4) Add exchange partners at iEHR initial operating capability sites
   - Examples: San Antonio, Hampton Roads
5) Emphasize gaps to promote regional health exchange
   - Examples: Southeast, Intermountain West

Incremental Approach to NwHIN Exchange

6 Month Increments

San Diego Pilot	Tidewater Pilot	Spokane Pilot	Puget Sound Pilot
January 31, 2010	**September 15, 2010**	**March 25, 2011**	**September 30, 2011**

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
  - Support

- *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

- *McDonald Army Health Center (MCAHC) at Fort Eustis*
- *633 Medical Group at Langley AFB*

Spokane Pilot — March 25, 2011

- *Health Record Data*:
  - HITSP C32 subset (from Tidewater)
  - Vital Sign
  - Chemistry Lab Result

- *Partners*:
  - 92nd Medical Group at Fairchild AFB
  - Spokane VA Medical Center
  - Inland Northwest Health System

Puget Sound Pilot — September 30, 2011

- *Health Record Data*:
  - HITSP C32 subset (from Spokane)
  - Encounter
  - Immunization
  - Insurance Provider
  - Procedure
  - 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

Delivery of seamless Health Care and Benefits

VLER Health Deployment Current Locations

West

North

South

Legend:

- TRICARE Region North (red)
- TRICARE Region South (green)
- TRICARE Region West (blue)

- DoD, VA, Private Sector Exchange (yellow triangle)
- VA, Private Sector Exchange (red triangle)
- VA, Private Sector Direct (blue triangle)

Future Deployments tied to DoD/VA Regions, Private Sector Health Information Exchange Capabilities

Puget Sound, WA
DoD/VA/MultiCare

Spokane, WA
DoD/VA/Inland Northwest Health Services

Salt Lake City, UT
Utah Health Information Network

Grand Junction, CO
Utah Health Information Network

Twin Ports/Minneapolis, MN
Community Health Information Collaborative

Buffalo, NY
Western New York Healthelink

Indianapolis, IN
Indiana Health Information Exchange

Tidewater (VA)
DoD/VA/MedVirginia

Richmond, VA
Med Virginia

San Diego, CA
DoD/VA/Kaiser Permanente

Asheville, NC
Western Carolina Health Network

Charleston, SC
South Carolina Health Information Exchange

★ **DoD/VA/Private Sector Health Information Exchange Partner 3-Way Exchange**

★ **VA/Private Sector Health Information Exchange Partner 2-Way Exchange**

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VLER Health Private Sector Pilots Implemented

Puget Sound, WA
DoD/VA/MultiCare Healthcare Services

Spokane, WA
DoD/VA/Inland Northwest Health Services

Twin Ports/Minneapolis, MN
Community Health Information Collaborative

Buffalo, NY
Western New York Healthelink

Salt Lake City, UT
Utah Health Information Network

Indianapolis, IN
Indiana Health Information Exchange

Richmond, VA
Med Virginia

Grand Junction, CO
Utah Health Information Network

Tidewater (VA)
DoD/VA/MedVirginia

San Diego, CA
DoD/VA/Kaiser Permanente

Asheville, NC
Western Carolina Health Network

Charleston, SC
South Carolina Health Information Exchange

★ **DoD/VA/Private Sector Health Information Exchange**
3-Way Exchange

★ **VA/Private Sector Health Information Exchange**
2-Way Exchange

Delivery of seamless Health Care and Benefits

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- VA is in production exchanging Veterans health information via the NwHIN at 8 two-way pilot locations (12 total) between VA Medical Facilities and private sector partners

  - ▶ Grand Junction, CO/Utah Health Information Network

  - ▶ Salt Lake City, UT/Utah Health Information Network

  - ▶ Charleston, SC/South Carolina Health Information Exchange

  - ▶ Buffalo, NY/Western New York Healthelink

  - ▶ Twin Ports/Minneapolis, MN/Community Health Information Collaborative

  - ▶ Indianapolis, IN/Indiana Health Information Exchange

  - ▶ Asheville, NC/Western Carolina Health Network

  - ▶ Richmond, VA/MedVirginia

Systems Infrastructure for VLER Health
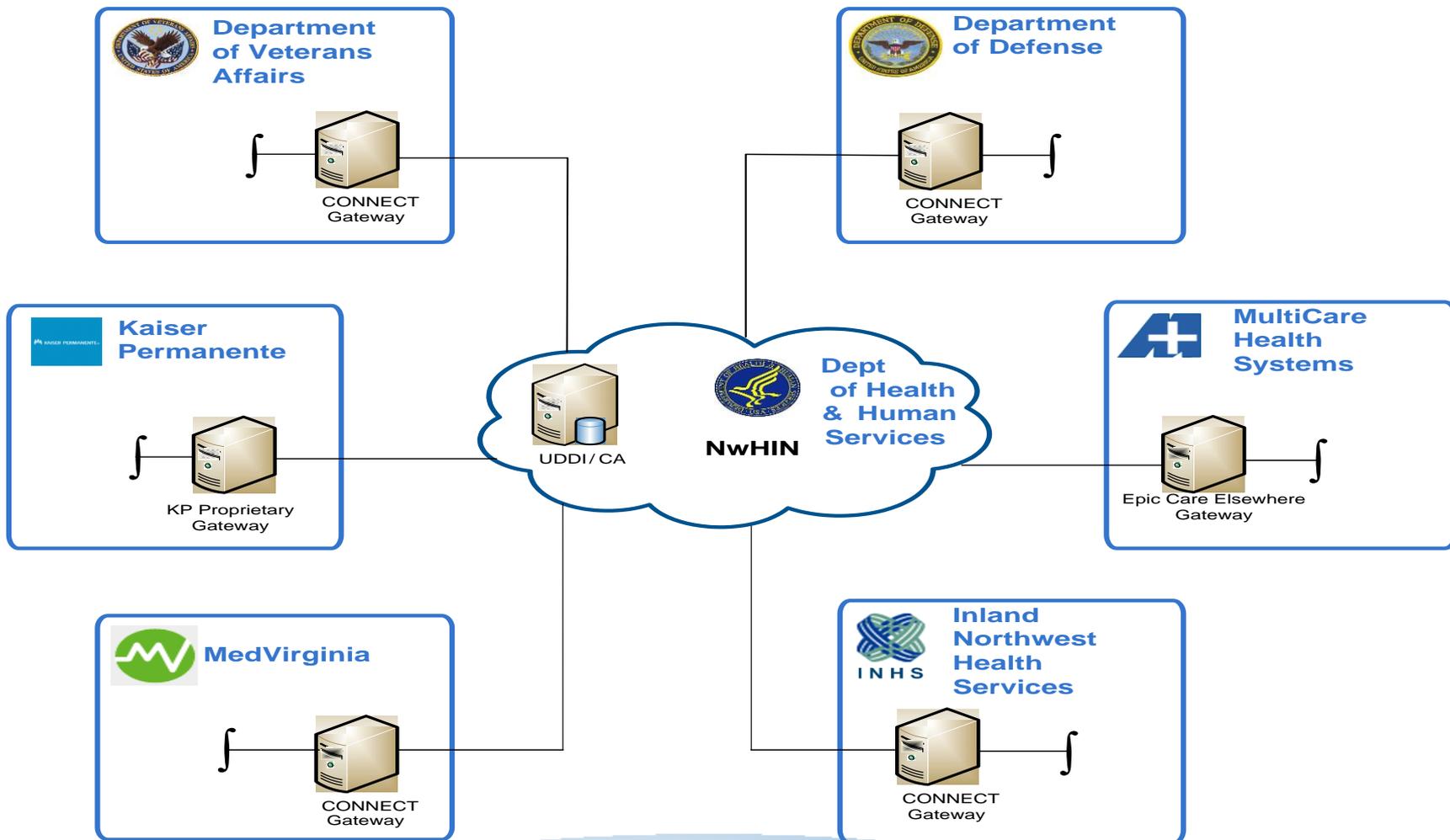
JAL FHCC

James A. Lovell Federal Health Care Center (JAL FHCC)

- ▸ The James A. Lovell Federal Health Care Center (JALFHCC) in North Chicago, Illinois, is a one-of-a-kind facility, integrating both Department of Defense (DOD) and Department of Veterans Affairs (VA) health services for the first time in our nation's history

- ▸ The Joint health IM/IT goal for the JALFHCC Demonstration Project is to safely interface DOD and VA legacy systems to support an integrated DOD/VA facility with multiple care locations

- ▸ Active-duty service members, veterans, and their beneficiaries are able to receive care by both DOD and VA providers at the joint facility

Delivery of seamless Health Care and Benefits

Facts and Figures

- **Established on**: October 2010

- **Patient Population**: 146,000 Beneficiaries

  (Veterans, active duty, dependents, and recruits in northeastern Illinois and southeastern Wisconsin)

- **Hospital Beds**: 400 (150 Acute Care)

- **Projected Annual Outpatient Medical**: 900,000

- **Dental Visits**: More than 200,000

- **Employees**: More than 2900

  - 2,185 civilians

  - 728 Active-Duty military

Delivery of seamless Health Care and Benefits

James A. Lovell Federal Health Care Center

December 2010
- Infrastructure
  - Data Center
  - Virtualization
  - Enterprise Service Bus
- Build a Single Patient Registration process
- Create Medical Single Sign-On with Patient Context Management

Fiscal Year 2011
- Single Order Entry process for Laboratory

2010 — **2011** — **2012**

Fiscal Year 2011
- Single Order Entry process (orders portability) for Radiology
- Single Graphical User Interface (GUI)

Fiscal Year 2012
- Consults Management

Delivery of seamless Health Care and Benefits

BACKUP

"*Too many wounded warriors go without the care that they need. Too many veterans don't receive the support that they've earned. It's time to change all that; it's time to give our veterans a 21st-century VA.*

Under the leadership of Secretary Gates and Secretary Shinseki, 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…

…And that's why I'm asking both departments to work together to define and build a seamless system of integration with a simple goal: When a member of the Armed Forces separates from the military, he or she will no longer have to walk paperwork from a DOD duty station to a local V.A. health center. Their electronic records will transition along with them and remain with them forever."

President Barack Obama
April 9, 2009

Delivery of seamless Health Care and Benefits

JEC Co-Chairs

| USD P&R | DEPSEC VA |

IPO Advisory Board

HEC | **BEC**

- Functional/Perf Requirements
- Data Standards & Compliance
- Architectural Requirements
- Clinical/Ops Workflow
- Bus. Process Reengineering

Interagency Program Office (IPO)

- iEHR
- VLER Health
- Oversight Mission (JALFHCC)
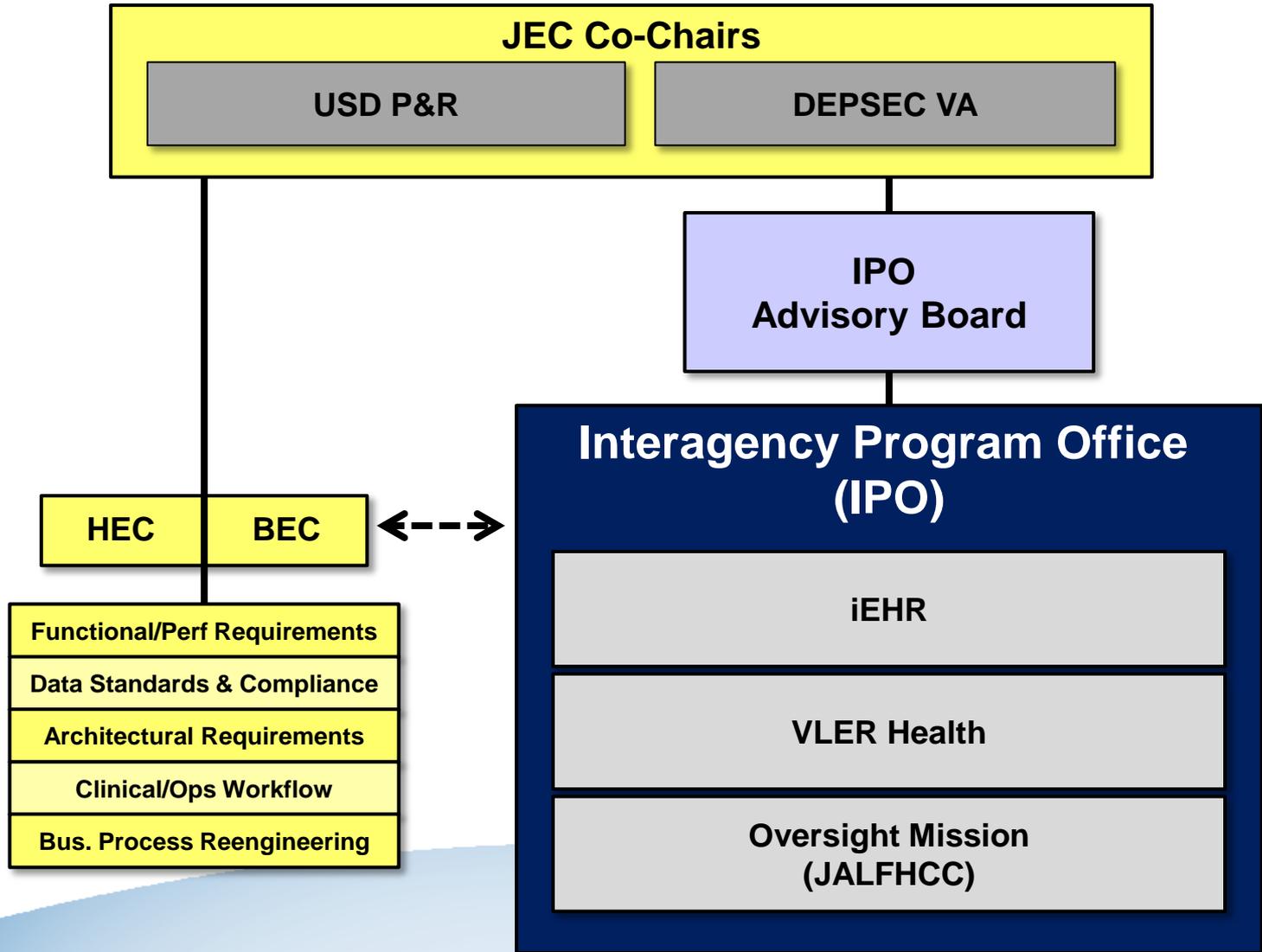
Delivery of seamless Health Care and Benefits

VA/DoD Joint Executive Council Goal: High Quality Health Care

*"Improve the **access**, **quality**, **effectiveness**, and **efficiency** of health care for beneficiaries through collaborative activities"*

Military Health System Quadruple Aim	VA Strategic Plan Major Initiatives Related to Health Care

• **Readiness**
• **Population** health
• A positive **patient experience** of care
• Responsibly **managing the total cost** of health care
• Quadruple Aim is implemented through a series of **Strategic Initiatives, such as:**
  • Implement DoD/VA joint strategic plan for **mental health** to improve coordination
  • Improve measurement and management of **population health**
  • Implement evidence based practice to **improve quality and safety**
  • Implement **Patient Centered Medical Home**
  • Implement **Pay for Value Programs**
  • Implement **modernized EHR** to improve outcomes and enhance interoperability
	• Enable **21st Century benefits delivery** and services
	• Create a **VLER**
	• Improve Veterans' **mental health**
	• Design a **Veteran-centric health care system** model to help Veterans navigate the health care delivery system and receive coordinated care
	• Enhance the Veteran experience and **access** to health care
	• **Improve the quality** of health care while **reducing costs**
	• Transform the delivery of health care delivery through **health informatics**

Delivery of seamless Health Care and Benefits

- The IPO serves as the single point of accountability for the Departments in the development and implementation of

  - the integrated Electronic Health Record (iEHR) and

  - Virtual Lifetime Electronic Record (VLER) Health systems, capabilities, and initiatives with the goal of full interoperability between the DoD and VA.

  - all interagency activities related to the iEHR and VLER Health Programs - lead, oversee and manage.

- Tasks include

  - Planning
  - Programming and Budgeting
  - Contracting
  - Architecture
  - Capability Acquisition and Development
  - Data Strategy and Management

  - Infrastructure Requirements and Funding
  - Common Services
  - Implementation
  - Sustainment
  - Testing and Evaluation Planning

Delivery of seamless Health Care and Benefits

The iEHR will build upon previously established DoD and VA information exchanges

BHIE
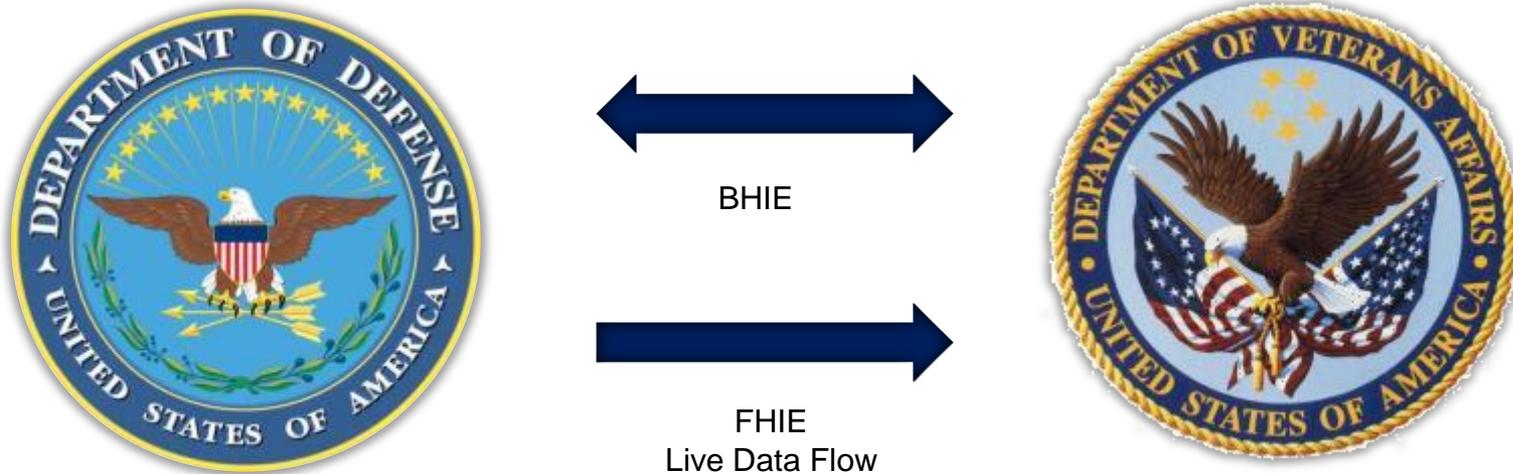
FHIE
Live Data Flow

Bidirectional Health Information Exchange (BHIE)	Federal Health Information Exchange (FHIE)	Live Data Flow
• Allows DOD and VA providers to view clinical information in real time for patients who receive care in either agency health system	• A health information sharing project that allows the Department of Defense to share service members' personal health information in a joint storage area also accessible by the Veterans Health Administration. This information includes demographics, any medication taken and lab results.	• One-way transfer of health data initiated at time of decision to transfer patient • From Walter Reed National Military • Medical Center in Bethesda and Brooke AMC

Delivery of seamless Health Care and Benefits

Medical history for beneficiaries will be available to any provider seen within DoD and VA

Patient and Provider Benefits

- No more paper records; medical records will follow beneficiaries as they relocate

- Medical history for beneficiaries will be available to any provider seen within DoD and VA through the iEHR

- Availability of medical information will allow providers to be informed of the beneficiary's health status, to include medications, allergies, etc. directly supporting patient safety

- Beneficiaries will be able to directly communicate with providers through Secure Messaging for test results, etc.

Your Provider

Your Radiology Results

Your Urology Results

Your Lab Results

Real-time Access to Medical Data At Time of Appointment

Delivery of seamless Health Care and Benefits
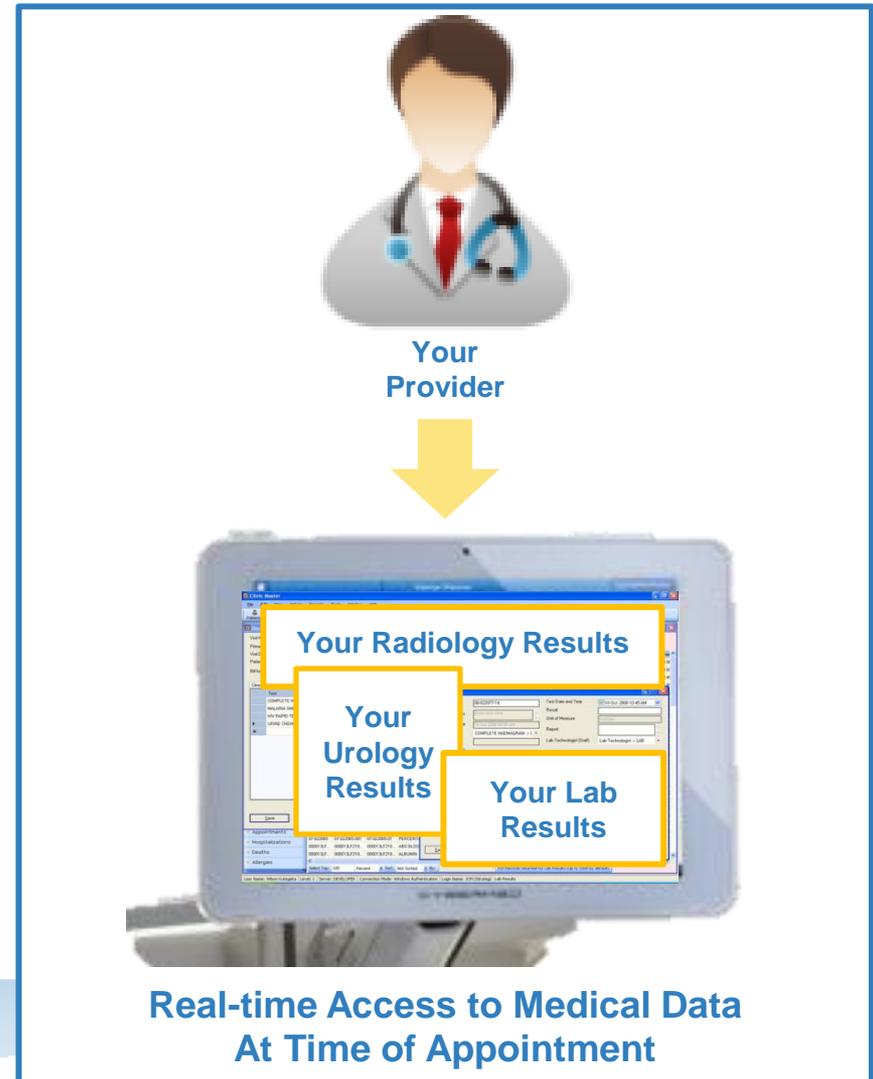
One of the first capabilities to be delivered, SSO/CM, improves patient safety and results in more time per patient for the provider

Single Sign-On with Smooth Roaming

- Doctor signs-on to system during first appointment
- Session will move virtually as doctor moves rooms to provide care to the next patient, eliminating the need to sign-on multiple times
- **Saves 10 minutes/hour/doctor**

Patient Dave — Dr. Debbie — 9AM
Patient Laura — Dr. Debbie — 9:30AM
Patient Pete — Dr. Debbie — 10:15AM
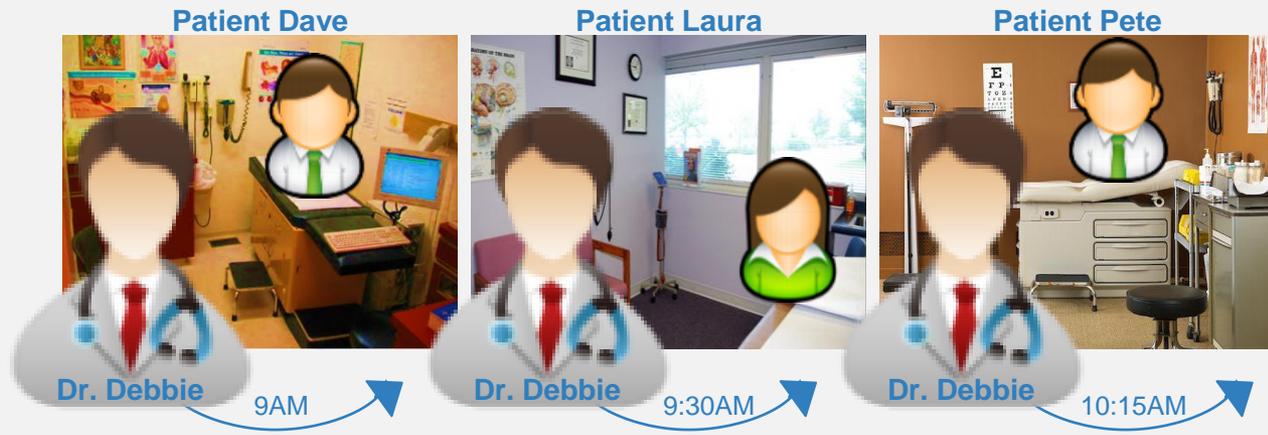
Context Management

- Doctor moves to the next examination room and enters patient's name in a single application
- All clinical applications will display only information for one single patient
- **Improves Patient Safety**

Current State
Dave's Radiology Results
Pete's Urology Results
Laura's Lab Results

Applications can display data on different patients

Future State
Pete's Radiology Results
Pete's Urology Results
Pete's Lab Results

Applications display results for <u>only</u> one single patient

Delivery of seamless Health Care and Benefits
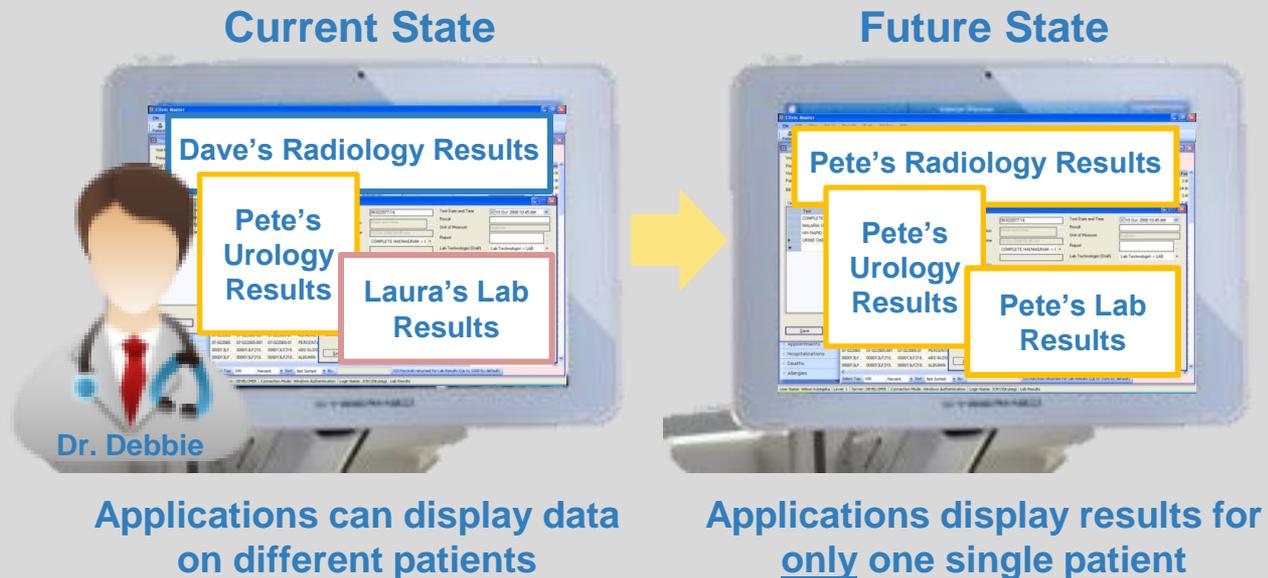
Population Health Benefits

- Improved patient safety and health outcomes as a direct result of one source system for all medical data

- Longitudinal population health data available for trend studies will allow for identification of proactive measures that can be taken to improve health outcomes

- Overall customer satisfaction will increase as moving through DoD and VA healthcare systems will be seamless in receiving care

All Metrics for Feb 2012 at Large MTF
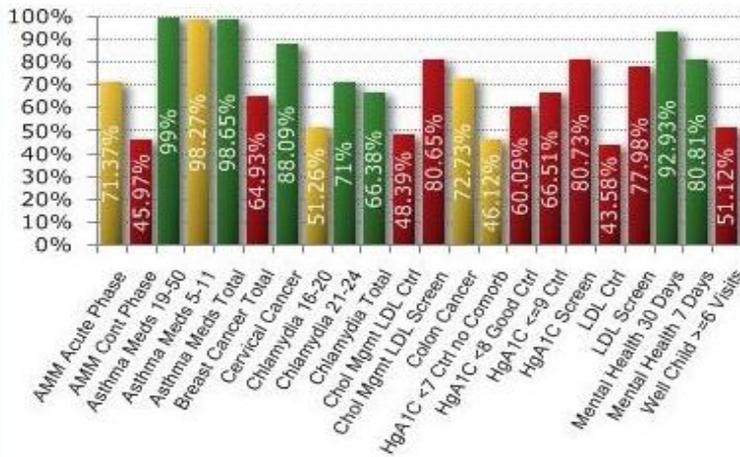
As of JAN 2012 data: Only TRICARE Prime Enrollees are included, and continuous enrollment requires 11 of 12 month

Cholesterol Management LDR Screening at Large MTF
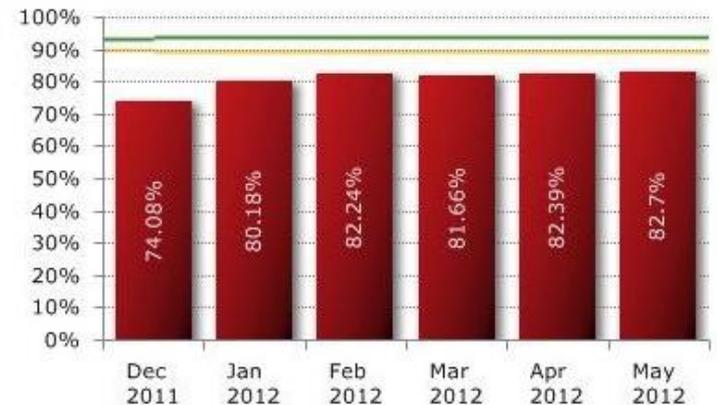
2011 Benchmarks: 90th - 93.2%, 50th - 89.5% | 2012 Benchmarks: 90th - 93.7%, 50th - 89.3% | As of JAN 2012 data: Only TRICARE Prime Enrollees are included, and continuous enrollment requires 11 of 12 month

Delivery of seamless Health Care and Benefits

*Charts are from MHS Population Health Portal and have been de-identified

Interagency Agreements

- The two Departments agreed to:
  - a new system (joint acquisition/ development)
  - align to a common data model that includes common terminology models, data exchange specifications, common standards and translation services to ensure data interoperability.
  - move to a single, common data base for health information
  - use common data centers run by the DoD Defense Information Systems Agency (DISA) (based on cost and SLAs)
  - use common measures of success and establish standard end-to-end business processes
  - a Federated Development and Test Center - establish joint presence at DoD Richmond development and test center (DTC) and Joint Integration and Test Center (JITC) Maui
  - use a federated (cloud) approach
  - Single Sign On with Context Management: with approved selection of Citrix/Carefx as the single DoD-VA joint solution to be implemented in North Chicago in the near term and included in iEHR going forward
- The DoD Defense Manpower Data Center (DMDC) will serve as the single "identity management" source for both Departments.
- DoD will acquire a common Enterprise Service Bus on behalf of both Departments and we would use a shared "Common Service Broker" approach.
- VA will lead the development of a common presentation layer for both Departments.

Guidance

- Implement a common architecture, data and services, data centers, interface/exchange standards and presentation layer
- Implement a single joint common platform using the following sequentially ordered business rules:
  - Purchase commercially available components for joint use whenever possible and cost effective
  - Adopt applications developed by VA, DoD, or other federal agencies if a modular commercial solution is not available and currently exists inside government
  - Approve joint application development on a case by case basis, and only if a modular commercial or federally-developed solution is not available
- Implement a high-level governance structure that includes the IPO, whose Director serves as the Program Executive, and an IPO Advisory Board
- Provide iEHR customer-facing capability increments every six months
- Complete development of the 54 capabilities by SEP 2017

Policy and Directives

- National Defense Authorization Act (NDAA), Sections 804, 805, 1635, and 2222
- NOV 15, 2010: DoD DTM 11-009: Business Capability Lifecycle (BCL) Model
- VA Program Management Accountability System (PMAS)
- VA Directives for Security (6212), Protective Health Information (PHI), Privacy (6600, 6507), and Section 508
- Health Insurance Portability and Accountability Act (HIPAA)
- Secretary-directed Interoperability Objectives, i.e., Federal Health Information Exchange (FHIE); Bidirectional Health Information Exchange (BHIE)
- Open Source (Custodial Agent)
- Governance
  - Interagency Program Office (IPO) Charter (OCT 27, 2011)
  - VA/DoD Joint Executive Council (JEC) and VA/DoD Health Executive Council (HEC)
  - DoD/VA Interagency Clinical Informatics Board (ICIB)
  - Health Architecture Review Board (HARB)

Delivery of Seamless Health Care and Benefits

DoD/VA iEHR Increment 1 Major Milestones

Version: 6   Date: 20 SEP 12
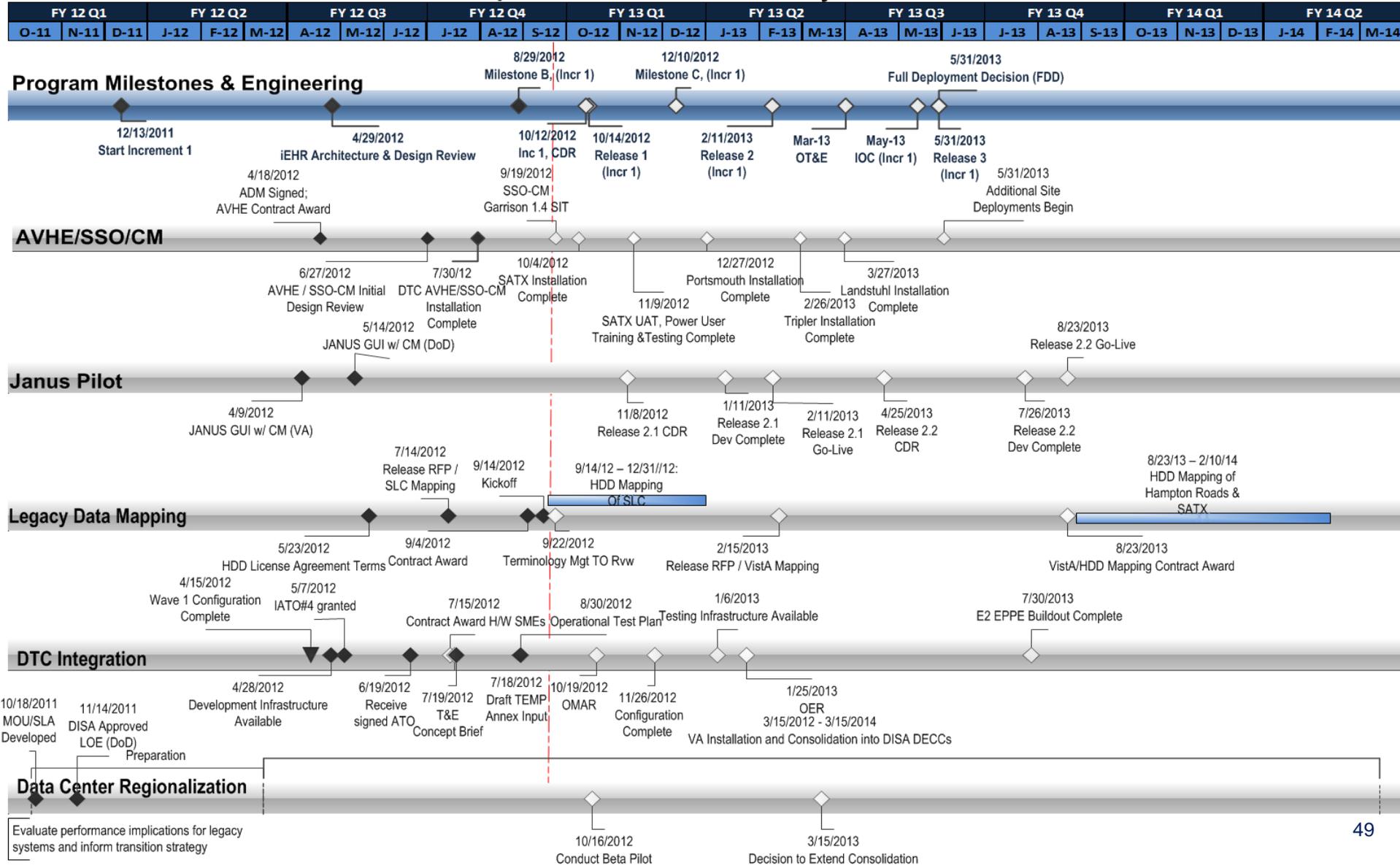
Increment Two Major Milestones

DoD/VA iEHR Increment 2 Major Milestones

50
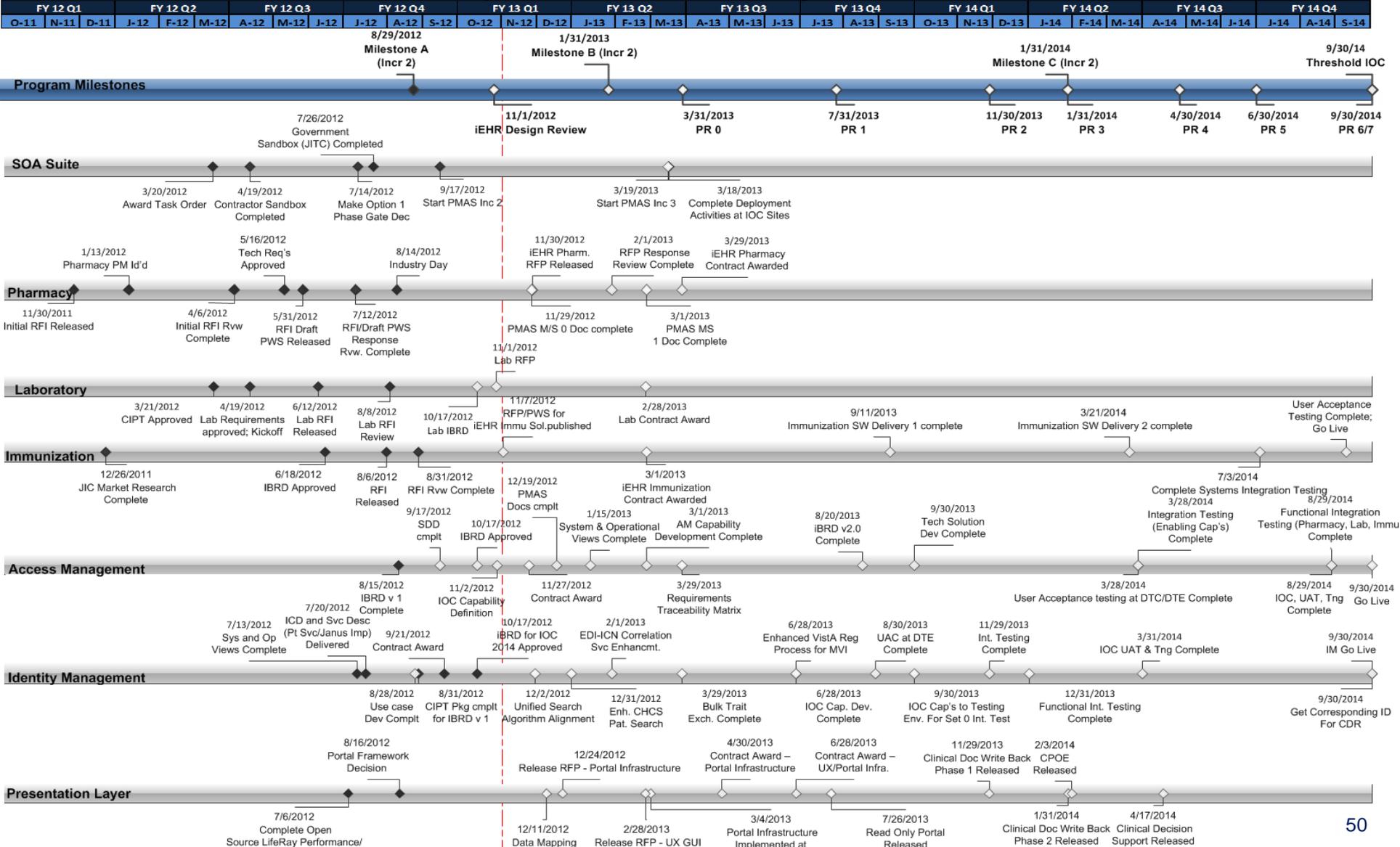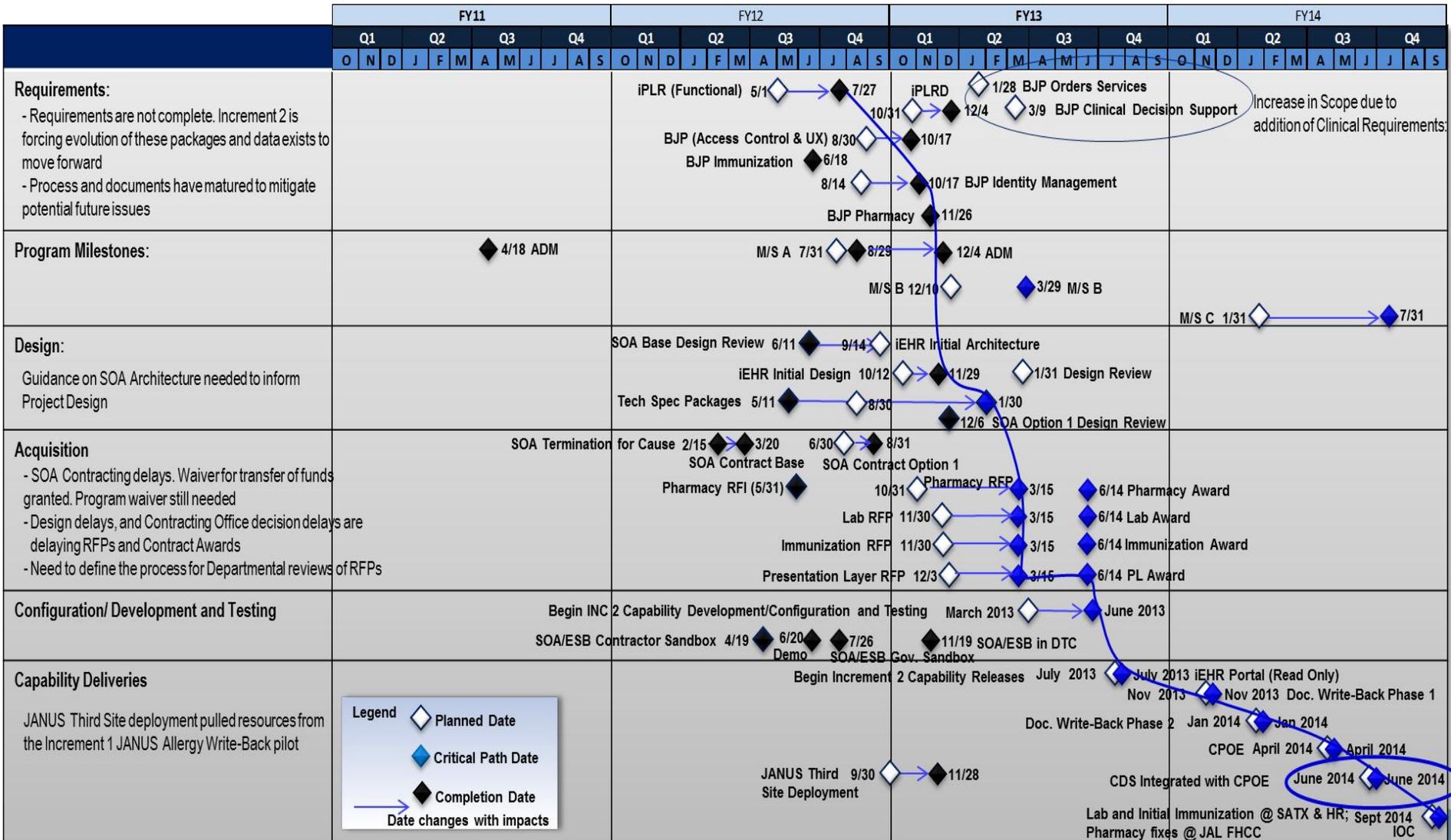
The Agile Manifesto

We have come to value…

Agile	over	Waterfall
Individuals and Interactions	over	Processes and Tools
Working Software	over	Comprehensive Documentation
Customer Collaboration	over	Contract Negotiation
Responding to Change	over	Following a Plan

**That is, while there is value in the items on the right,
we value the items on the left more.**
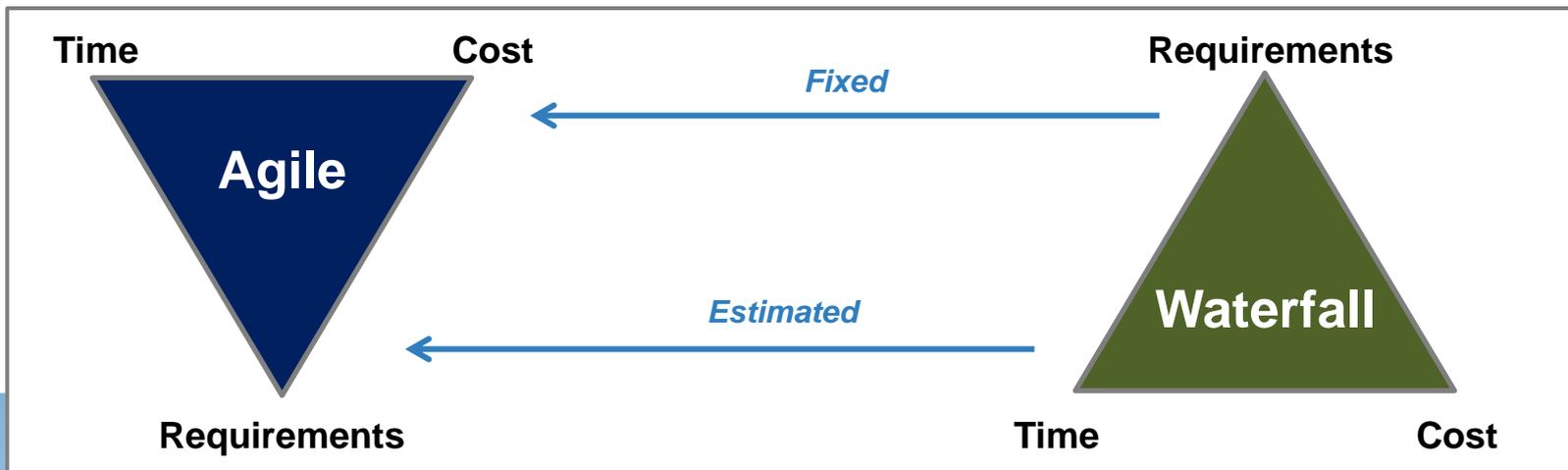
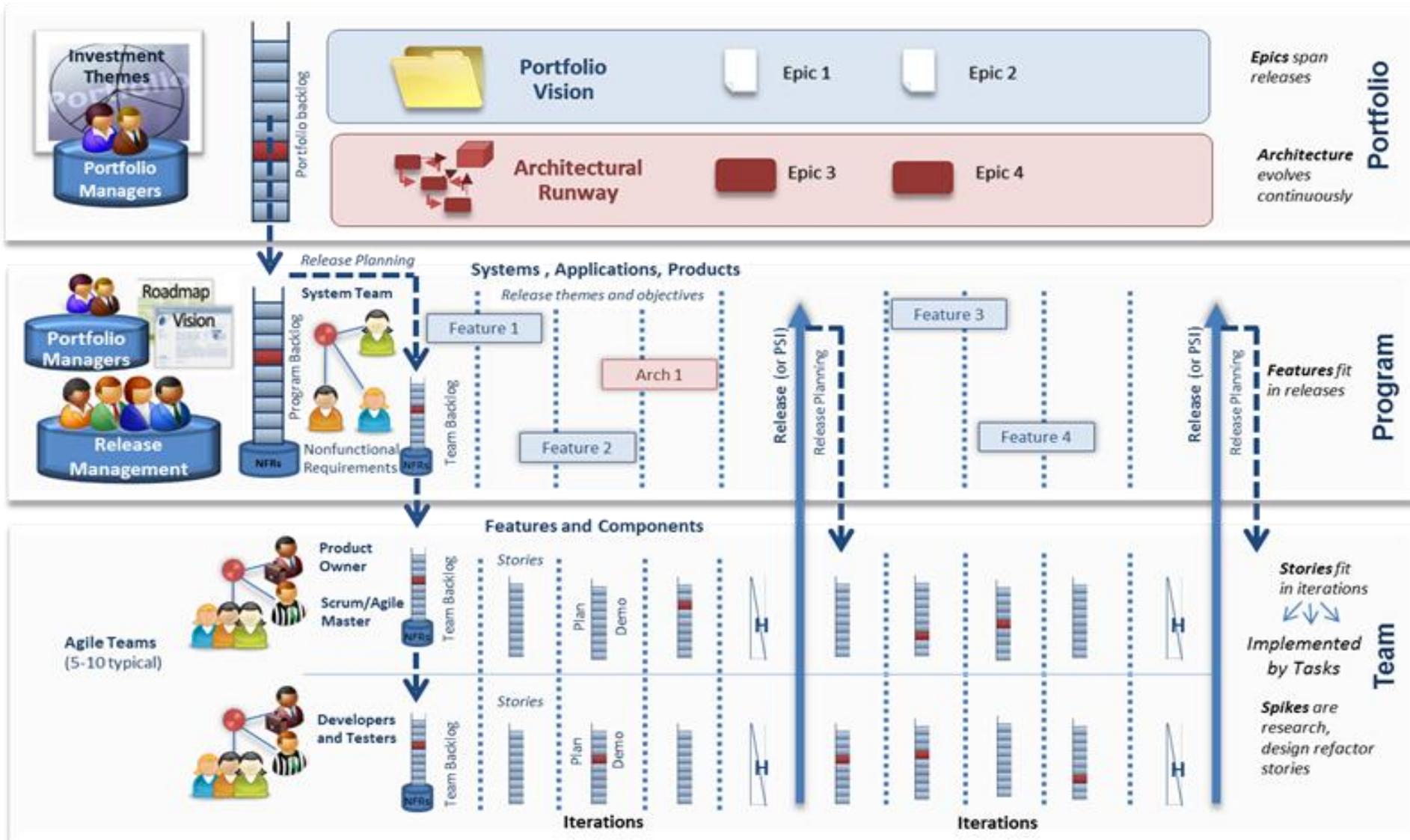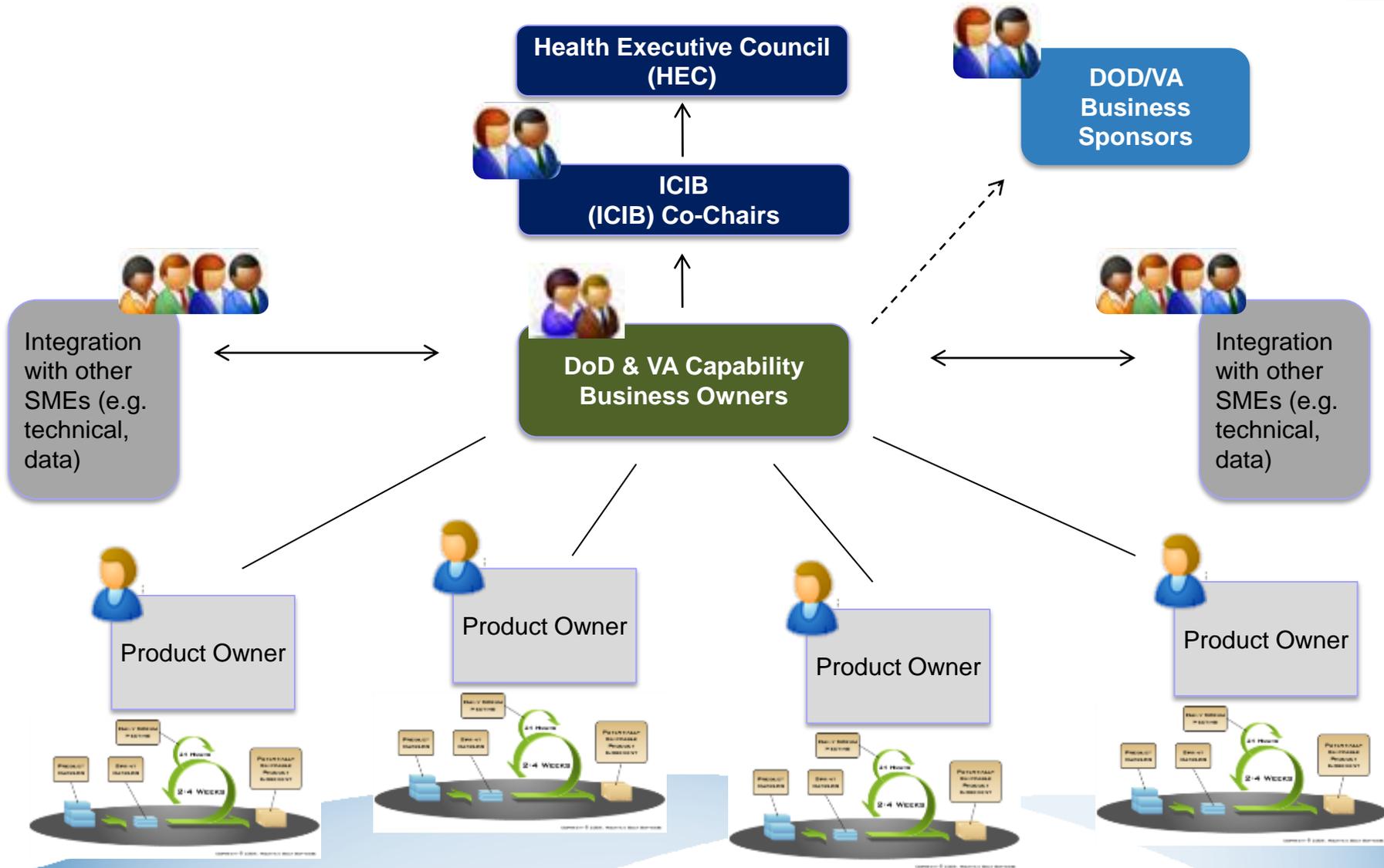Source: Adapted from Scrum Methodology and Deloitte Framework

Agile Program Management

Delivery of seamless Health Care and Benefits

54
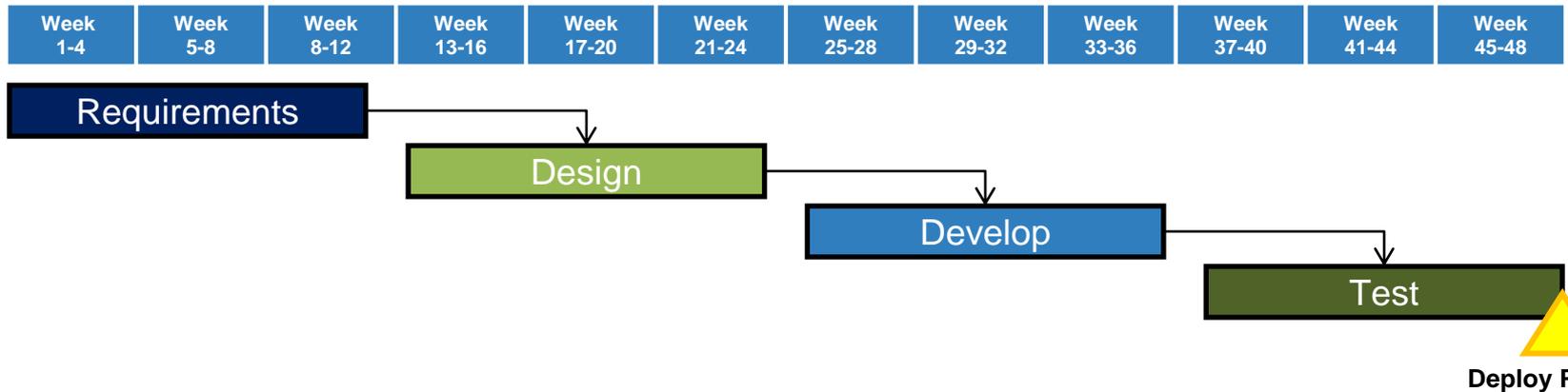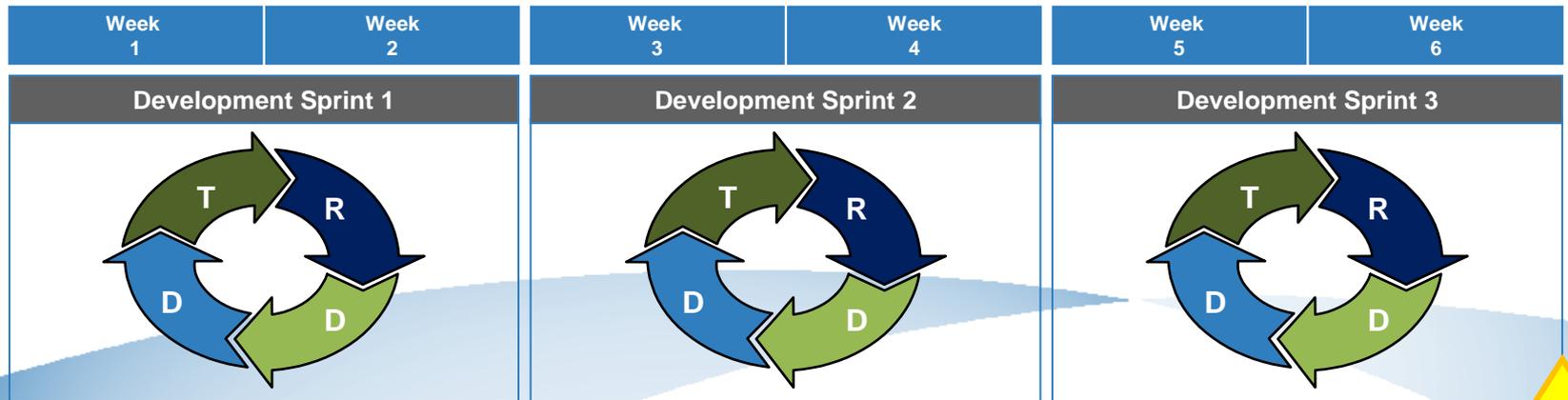
Agile Scrum Clinical Governance

Delivery of seamless Health Care and Benefits