INTERAGENCY PROGRAM OFFICE

AFCEA NOVA Warfighter IT Day

Medical/Health IT Panel

August 28th, 2012

INTERAGENCY PROGRAM OFFICE

AFCEA Warfighter IT Day

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

August 28th, 2012

Uniting To Better Serve Our Service Members, Veterans, and Beneficiaries

"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

DoD and VA Strategic Goals

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"*

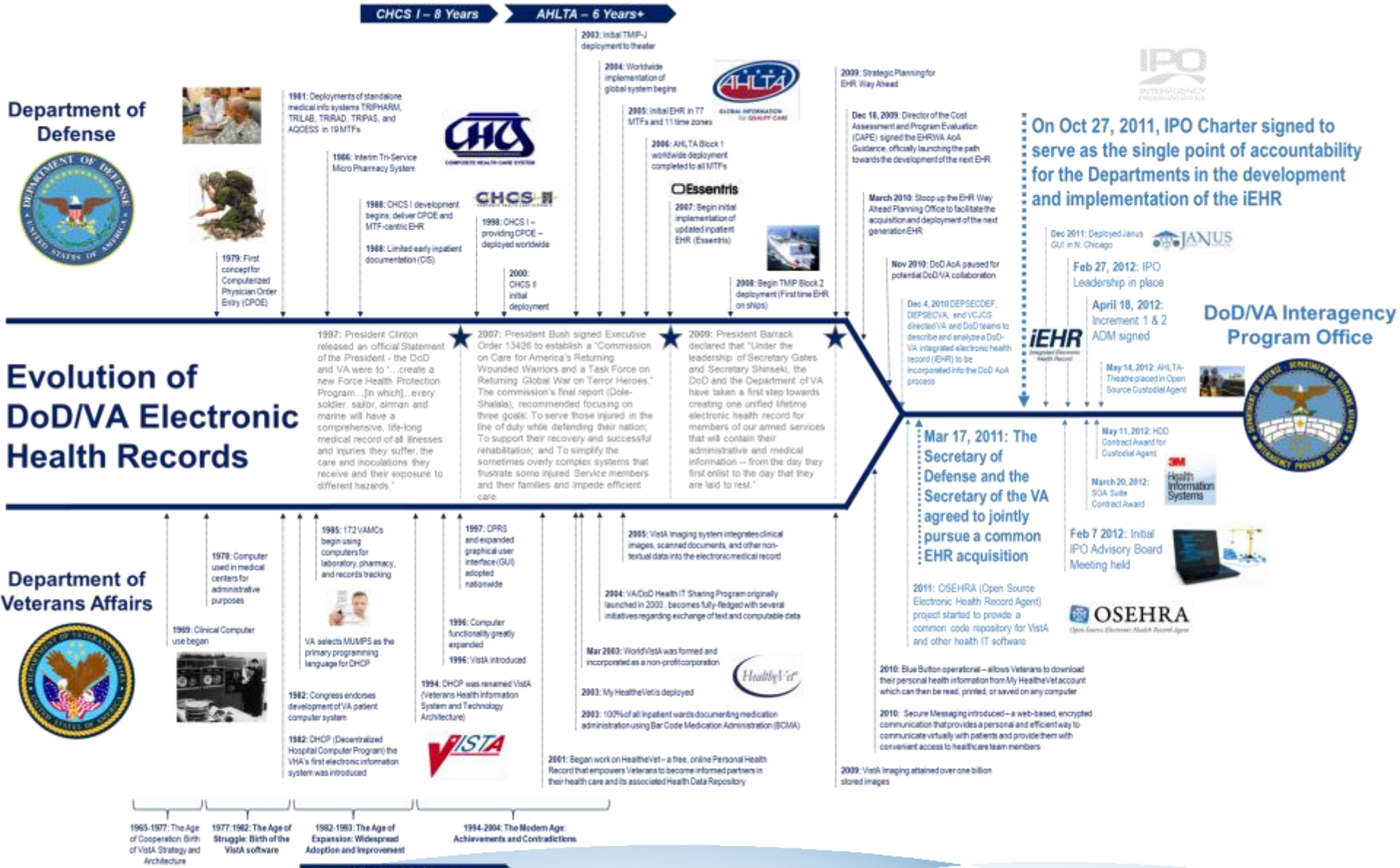
Military Health System Quadruple Aim

- **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

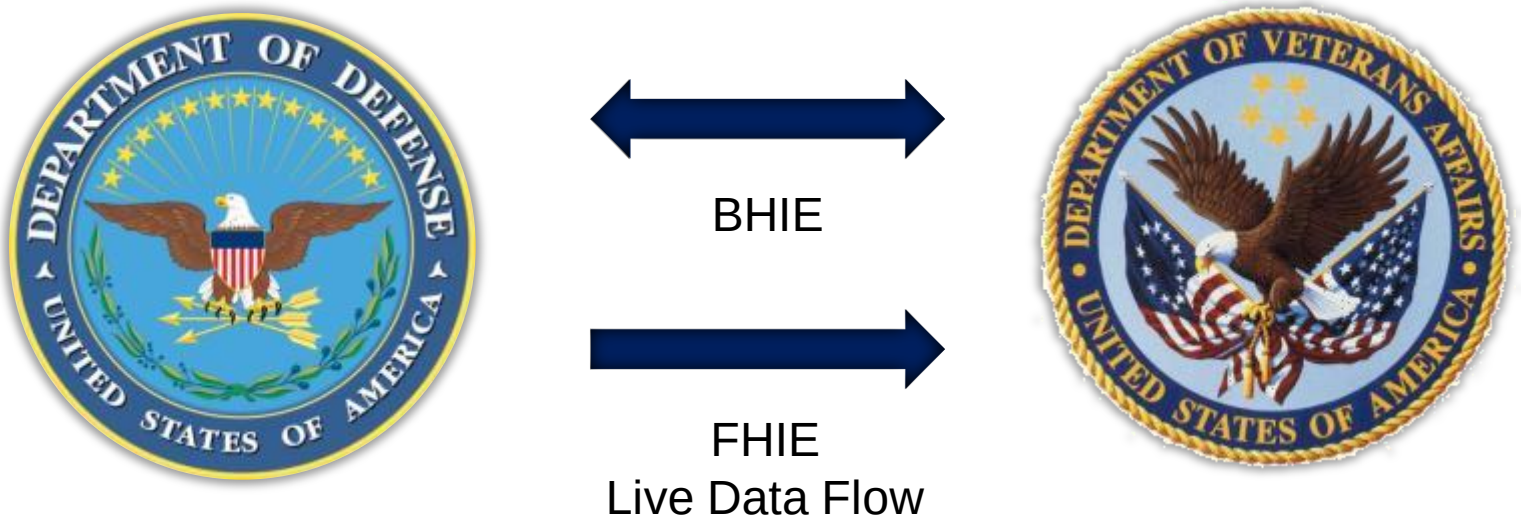
VA Strategic Plan Major Initiatives

- 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**

Evolution of DoD/VA Electronic Health Records



Previously Established DoD/VA Health Data Sharing



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

Summary of IPO Charter: Signed October 27, 2011

- 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

The Scope of Our Mission

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**

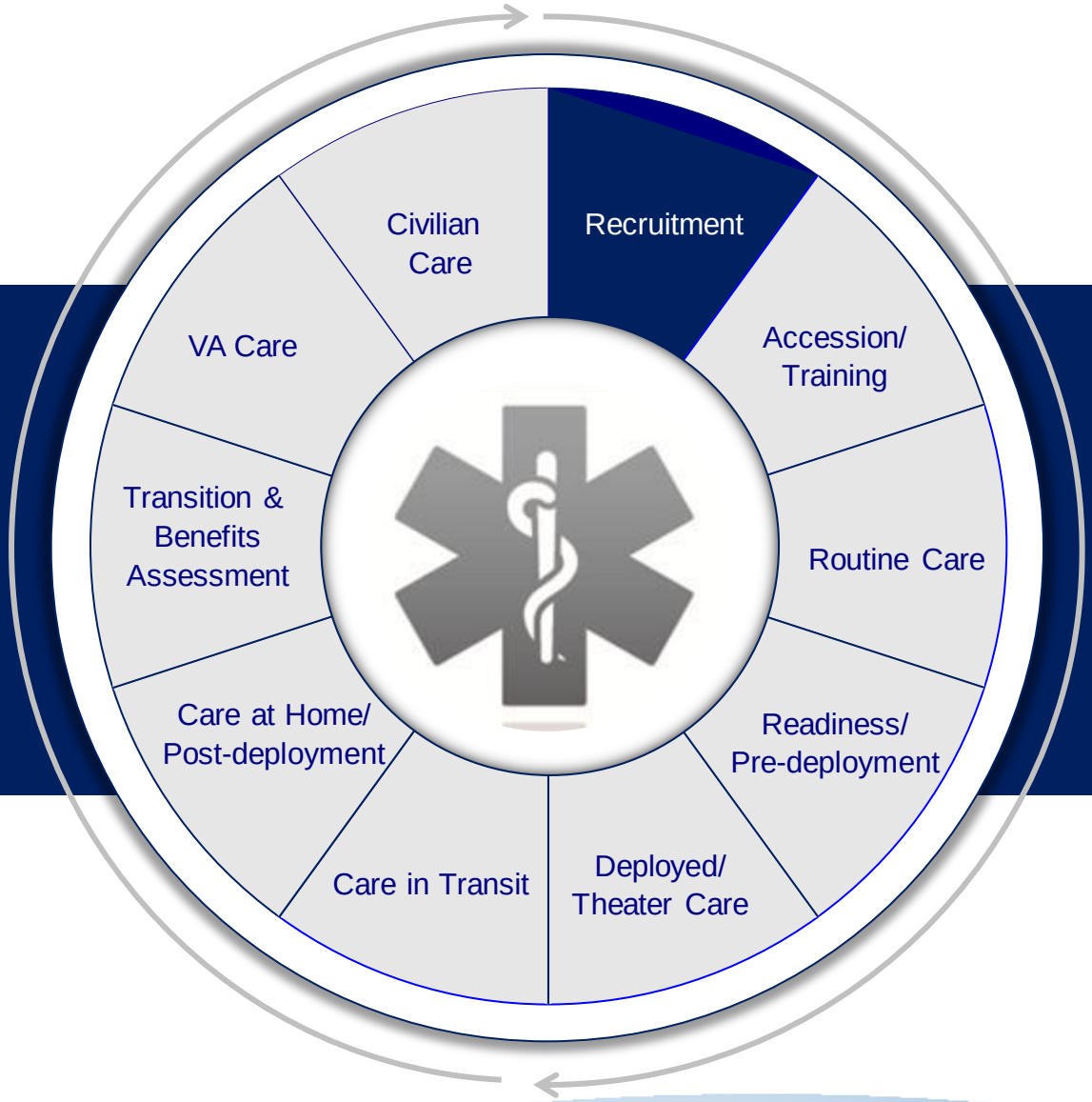
What We Do

- 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

A Full Continuum of Services and Benefits



The IPO provides the full continuum of services and benefits through patient-centric processes

What We Do

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

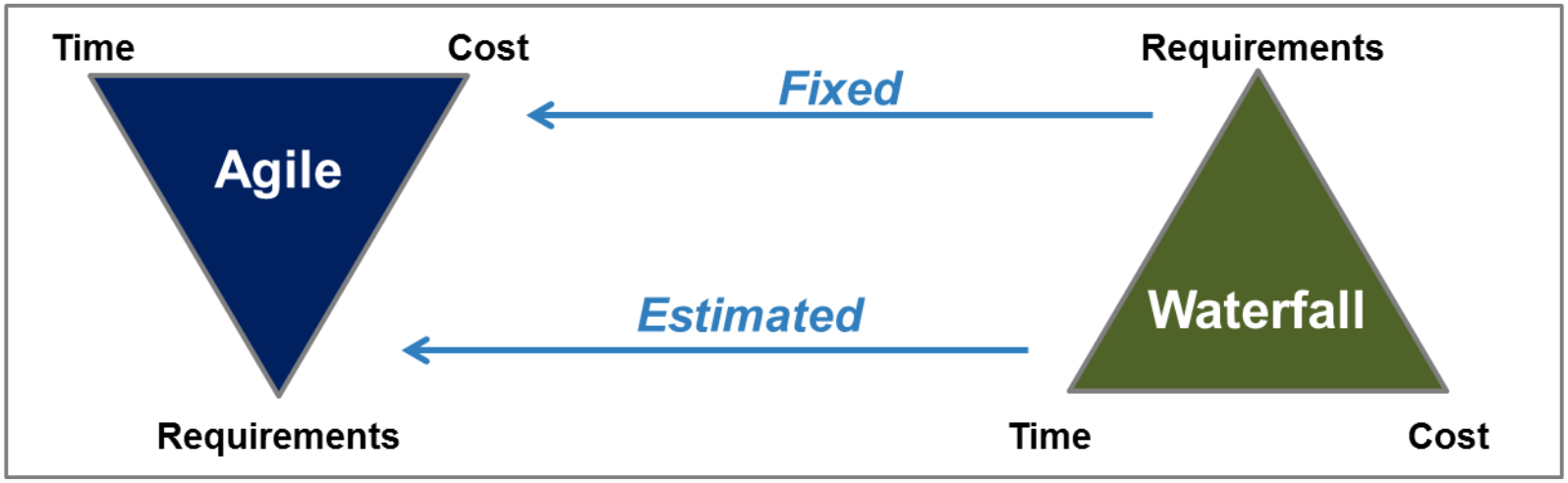
Oversight Mission JALFHCC

- 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

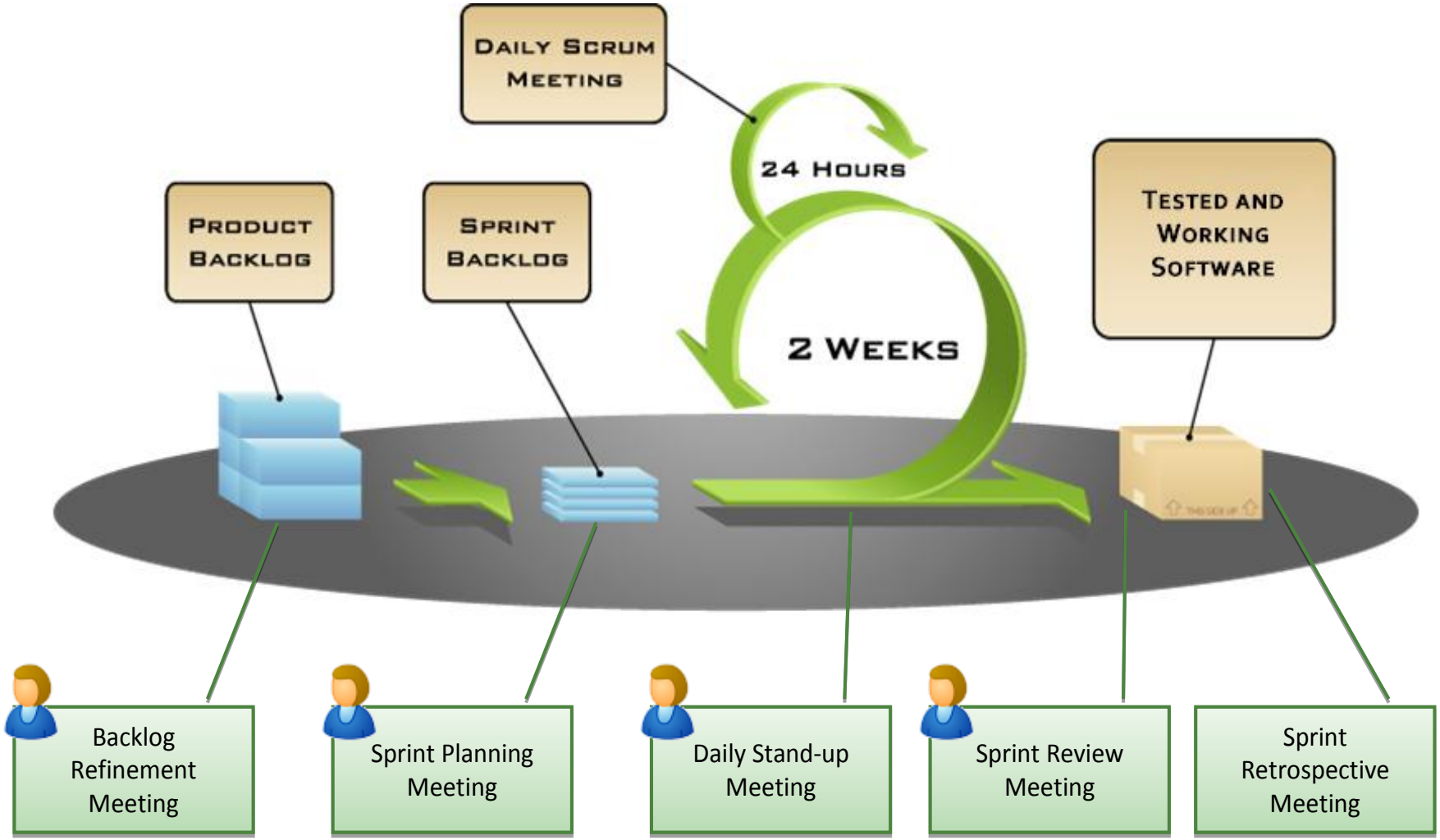
Agile Development & The Agile Manifesto
We have come to value…

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.

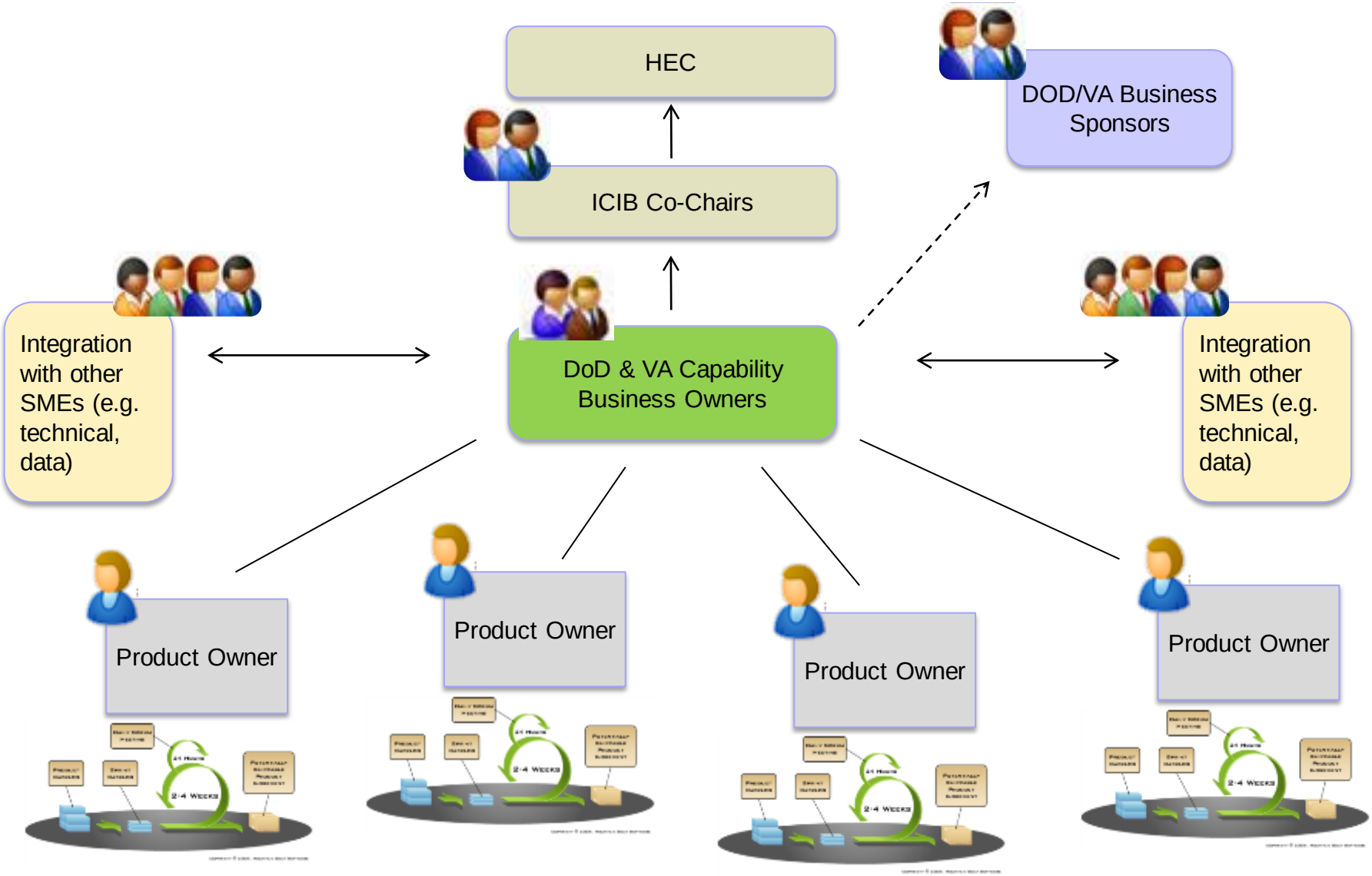


Agile Execution Process

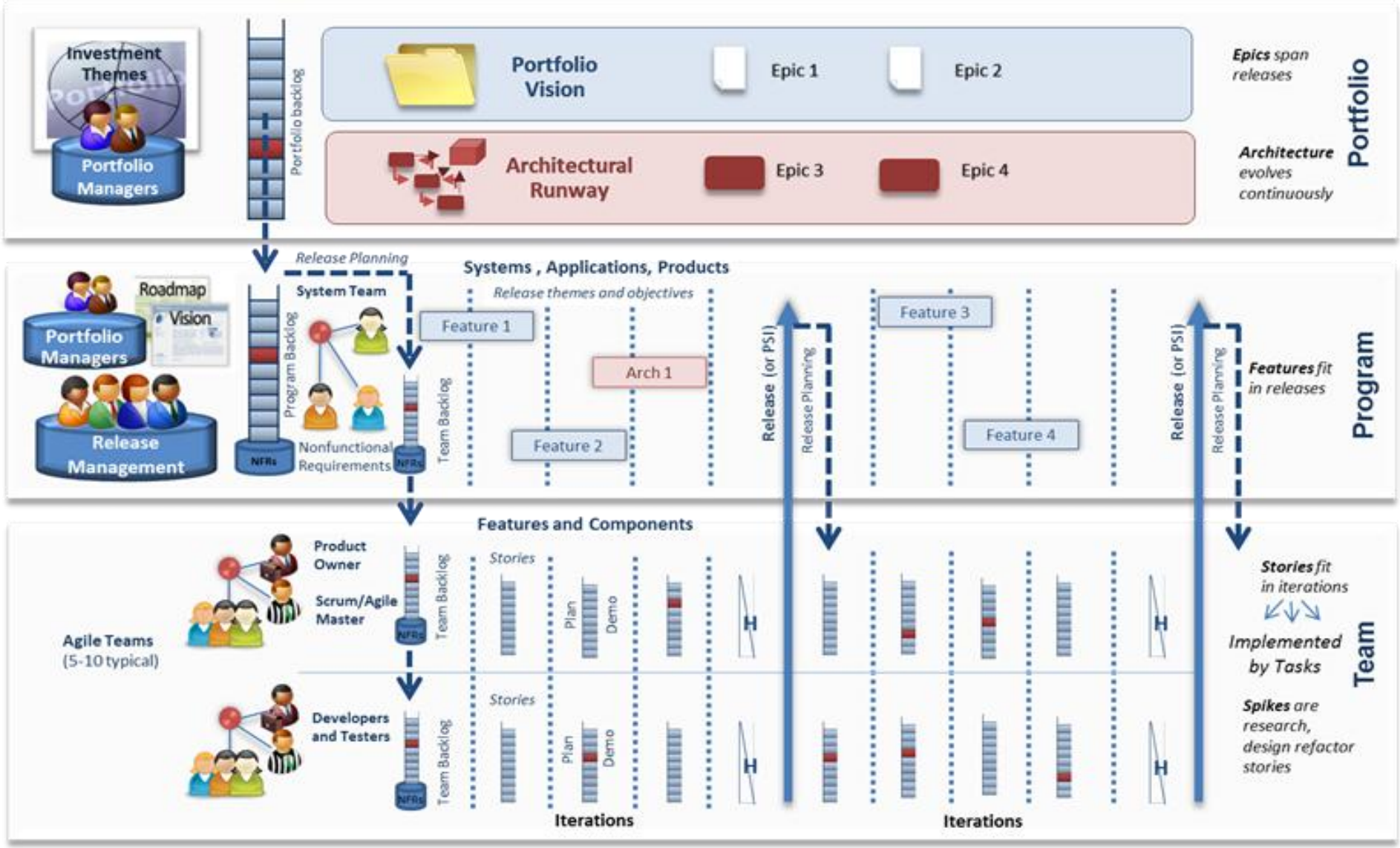


Source: Mike Cohn, mountaingoatsoftware.com

Agile Scrum Clinical Governance



Agile Program Management



Adapted from: Leffingwell, D. (2011). *Agile Software Requirements: Lean Requirements Practices for Teams, Programs, and the Enterprise (Agile Software Development Series)*. Boston: Addison Wesley.

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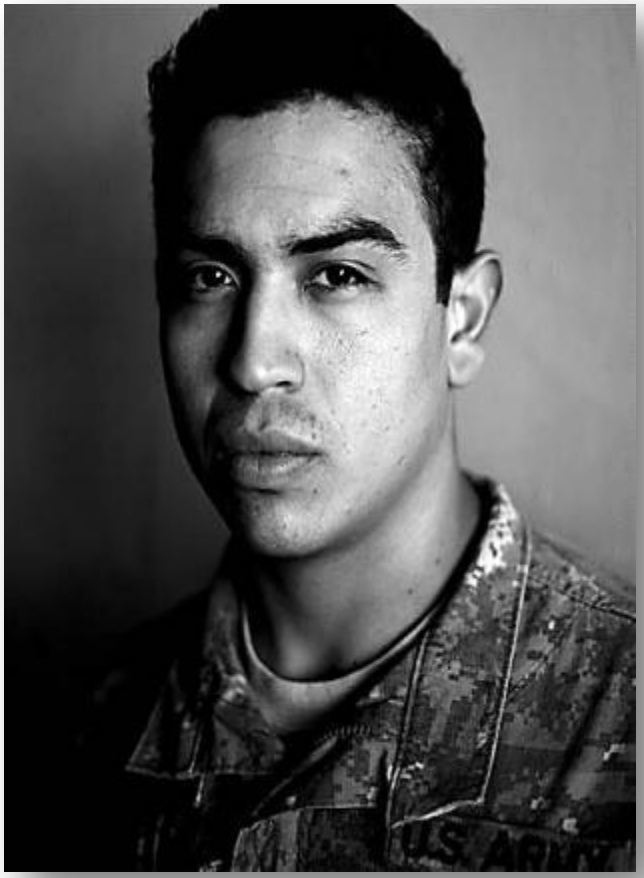
Integrated Electronic Health Record

Susan Perez
Co-iEHR Program Manager

August 28th, 2012

The Daniel Rodriguez Story



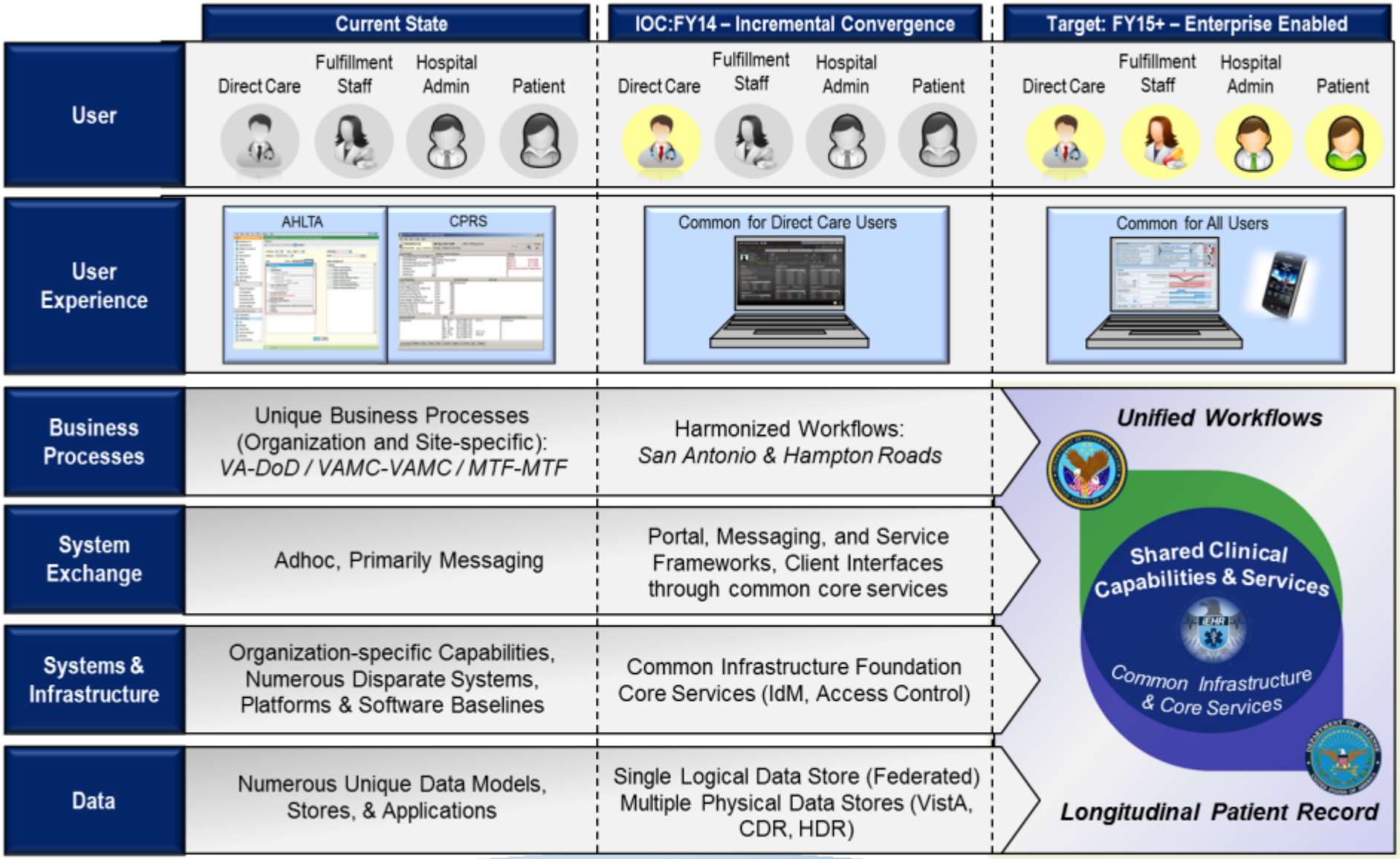
Why We Are Here . . .

"At 20 years old, Daniel Rodriguez, was making his second tour of duty overseas. He had first helped spearhead the Baghdad surge, surviving IED blasts and random gunfire. He returned home with a Bronze Star with Valor and a Purple Heart and memories of eight brothers in arms; fallen heroes who now rest on a silver bracelet on Rodriguez's wrist."

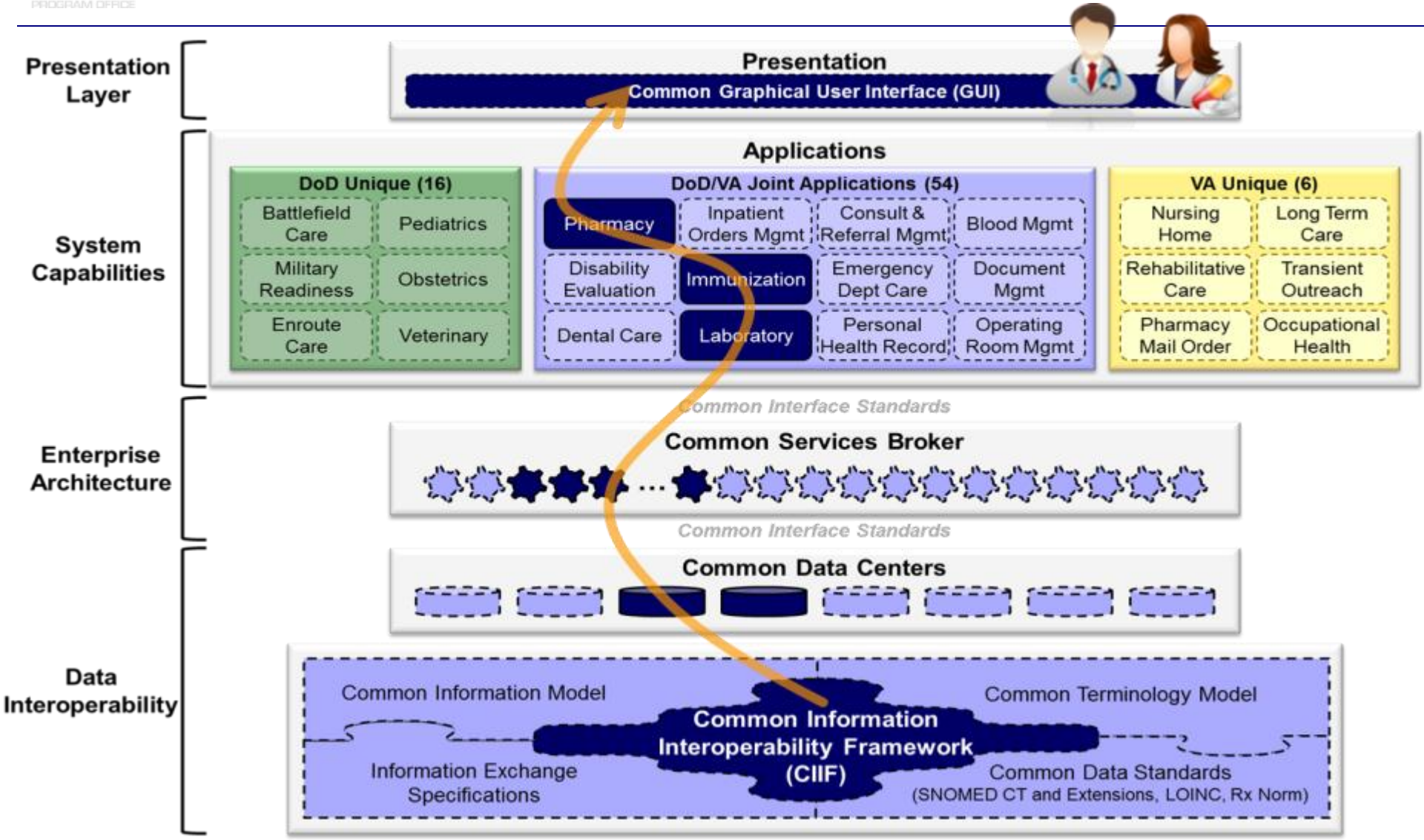
SOURCE: http://southernpigskin.com/ACC/view/the-daniel-rodriguez-story

"I fought for the guy next to me."
- Daniel Rodriguez

iEHR System Vision



iEHR Architecture



Require Components in All Layers of Architecture to Realize a Clinical Capability

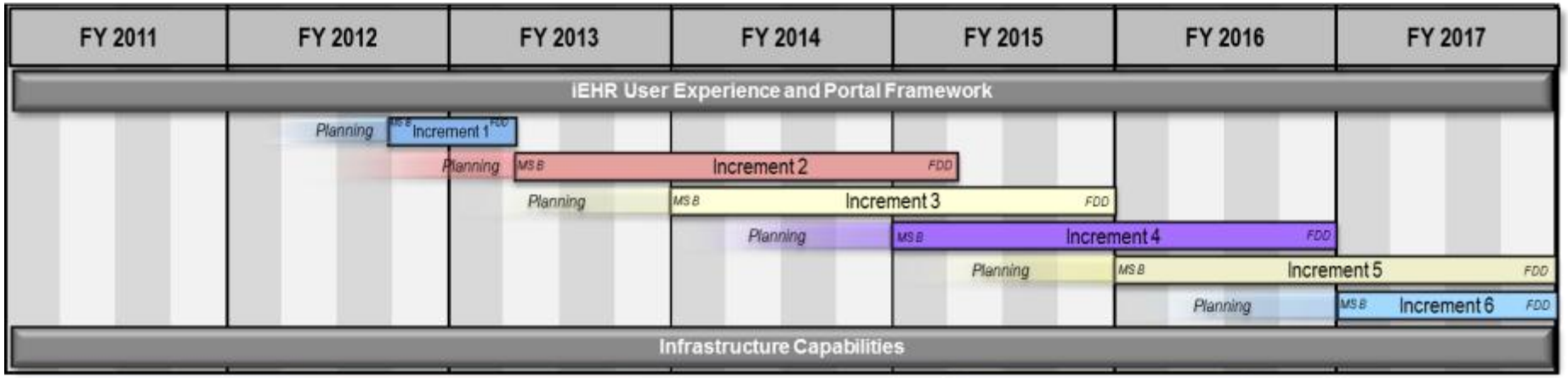
FY12/FY13 Objectives

FY12	FY13
• Define Program Baseline (Requirements, Architecture, Design, Cost) • Award Contracts (SOA Suite/ESB, Virtualization, SSO/CM, HDD) • Implement SSO/CM in San Antonio • Provide Allergies Write-Back capability in Janus GUI • Complete requirements documents for Lab, Pharmacy, Identity Management, Access Control, and Presentation Layer • Assess portal framework solutions • Initiate HDD Data Mapping Salt Lake City • Development and Test Center (DTC) / Development and Test Environment (DTE) Initial Operational Capability (IOC)	• SSO/CM to Tripler, Portsmouth, and Landstuhl • SSO/CM to additional 16 sites • Provide New iEHR Infrastructure – Enabling Capabilities (SOA Suite / ESB, Identity Management, Portal Framework, Access Control, etc.) • Complete HDD Data Mapping in Hampton Roads, San Antonio, and Richmond • iEHR Read-Only Portal (based on Portal Framework Assessment in 3QFY12) • Award Contracts (Lab, Pharmacy, Immunization) • DTC / DTE Full Operational Capability (FOC)

FY 12 Activities are Primarily Focused on Architecture, Design and Infrastructure Services

At the End of FY13, the IPO will have Developed Infrastructure and Core Services to Support Clinical Capability Insertion into the New iEHR Baseline

iEHR Functional Capabilities/Planning Increments



Increment 1 (2)

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

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)

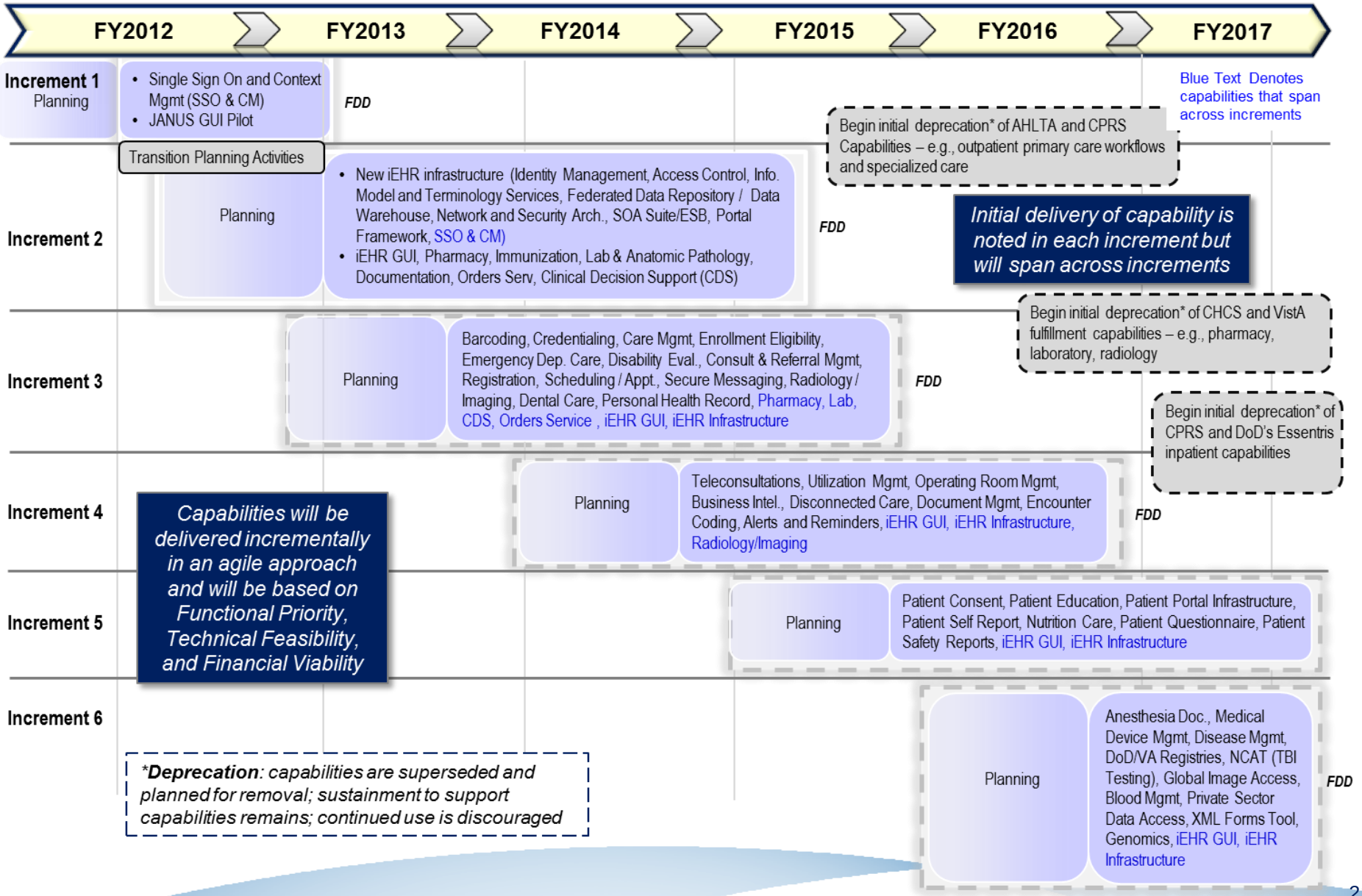
- Disease Management
- Patient Self Report
- Teleconsultations
- Blood Management
- Private Sector Data Access
- Business Intelligence
- Patient Safety Reports
- Utilization Management
- Genomics
- XML Forms Tool*

** Denotes iEHR Infrastructure Capabilities which can span across increments*

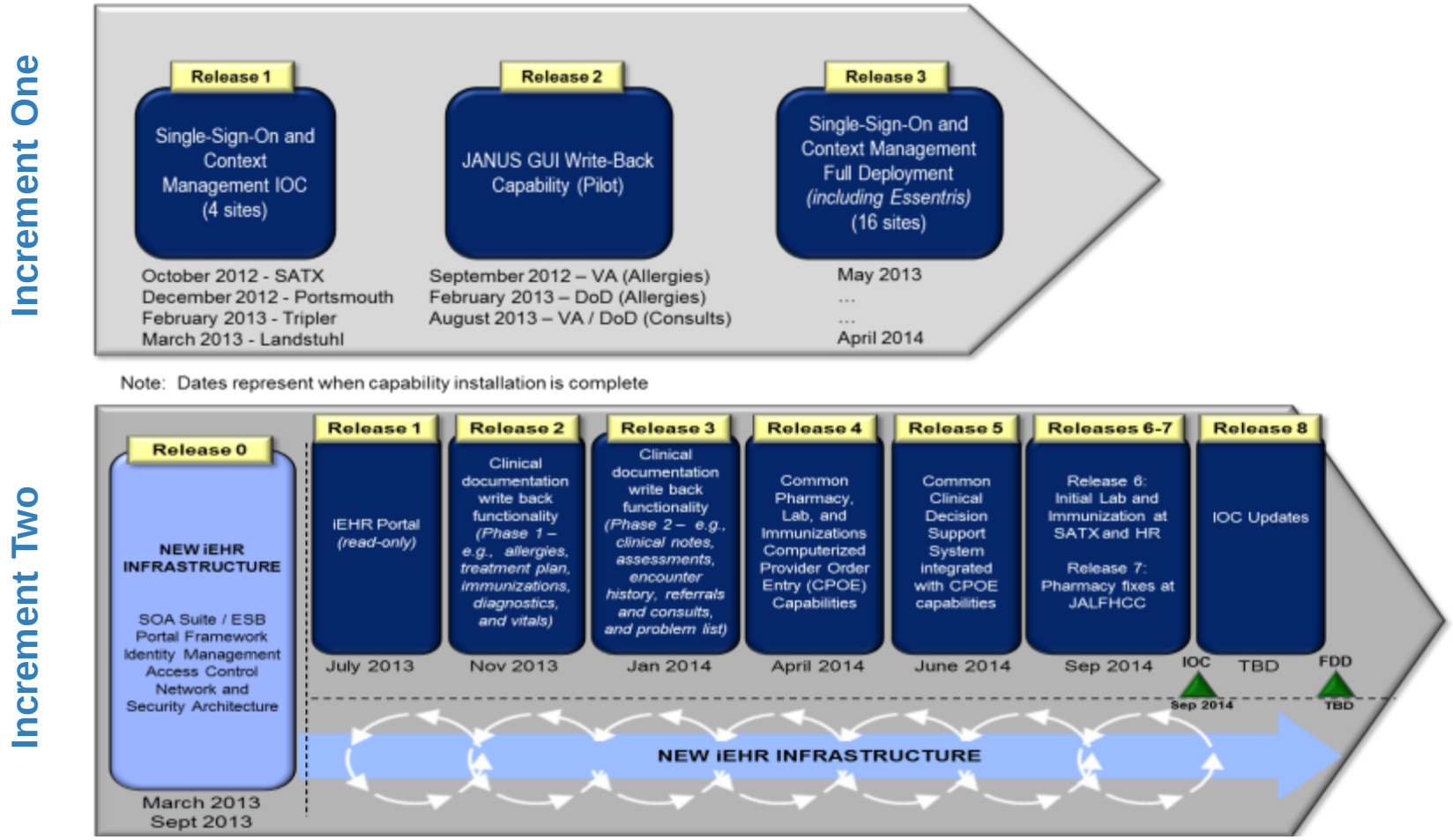
*** Denotes initial delivery of capability that will span across increments*

Capabilities will be delivered incrementally using agile methods and will be based on Functional Priority, Technical Feasibility, and Financial Viability

Proposed iEHR Long-Term Roadmap



iEHR Proposed Release Roadmap



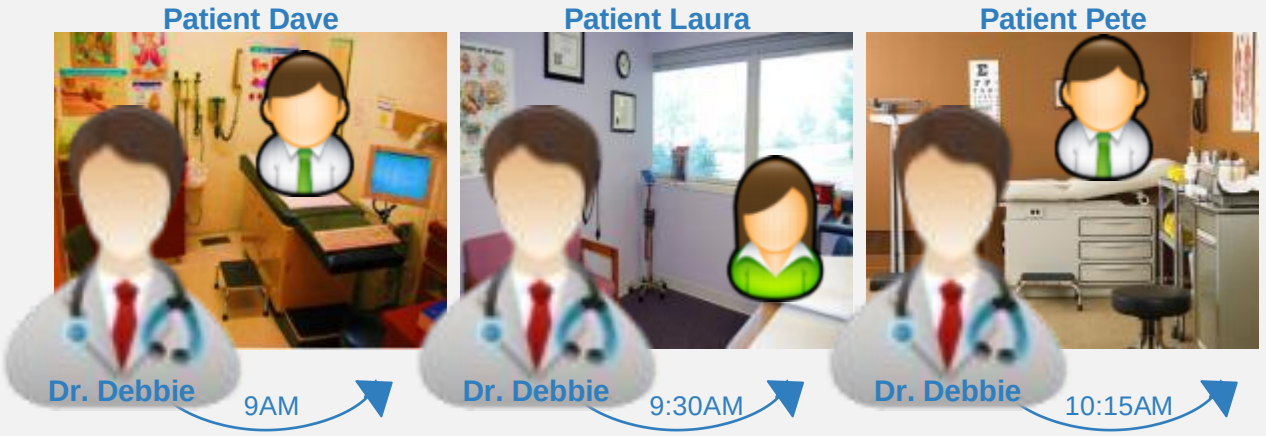
*Agile acquisition and development is being executed, requirements definition and refinement is in progress, industry engagement is ongoing, engineering analyses are being conducted, and build/buy/adopt decisions will be made. These efforts will inform actual completion dates and may result in reasonable and justifiable adjustments.

Functional Displacement for AHLTA and CPRS for Direct Care Providers

Single Sign-On/Context Management

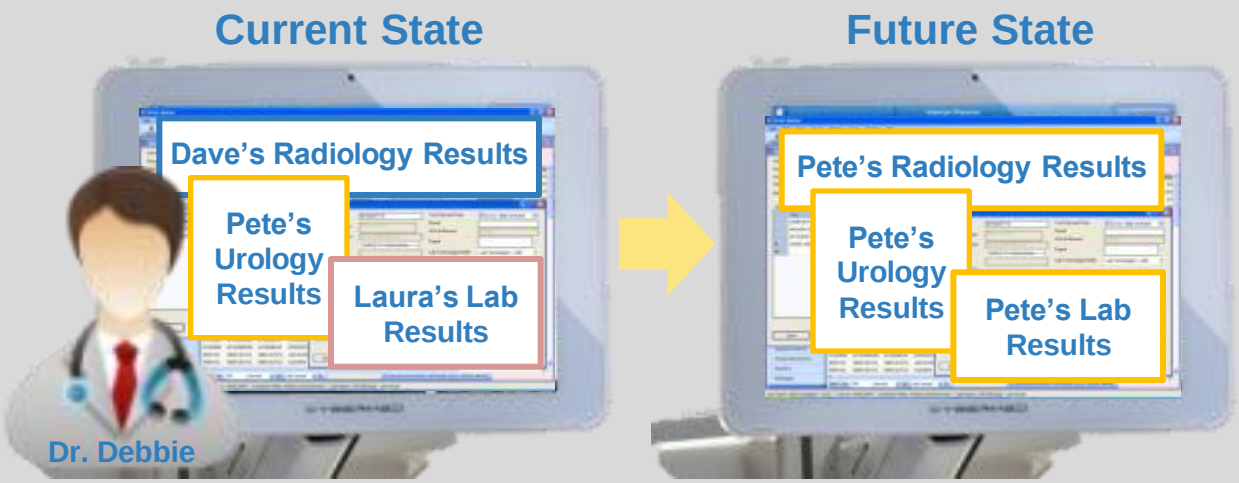
Single Sign-On with Smooth Roaming

- 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**



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**



Applications can display data on different patients

Applications display results for only one single patient

SSO/CM Improves Patient Safety and Results in More Time Per Patient

Near-Term Way Ahead

- Increment 1 Activities:
  - Complete Single Sign-On & Context Management (SSO & CM) User Acceptance Testing at San Antonio
  - Initiate SSO & CM User Acceptance Testing at Portsmouth, Virginia
  - Deploy SSO, CM, and Virtualization at San Antonio and Portsmouth
- Increment 2 Activities:
  - SOA Suite / ESB: initiate design and development
  - HDD Mapping: initiate at Salt Lake City followed by Hampton Roads and San Antonio
  - Presentation Layer (iEHR GUI and Portal Framework): release Request for Proposal (RFP)
  - Laboratory, Immunization, and Pharmacy Capabilities: release RFPs
- Increment 3 Planning Activities will commence in FY13

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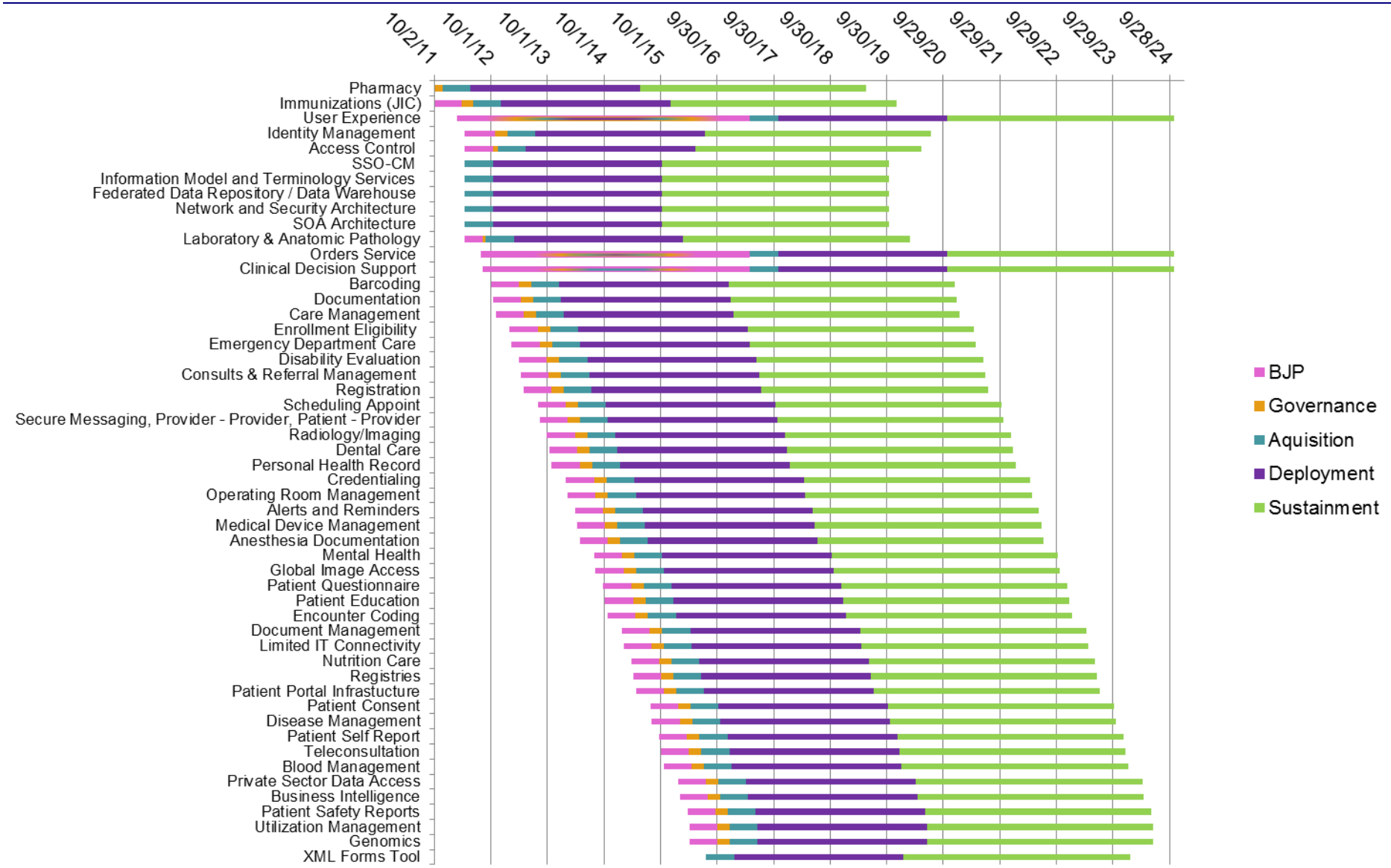
Clinical Involvement in iEHR Requirements and Business Processes

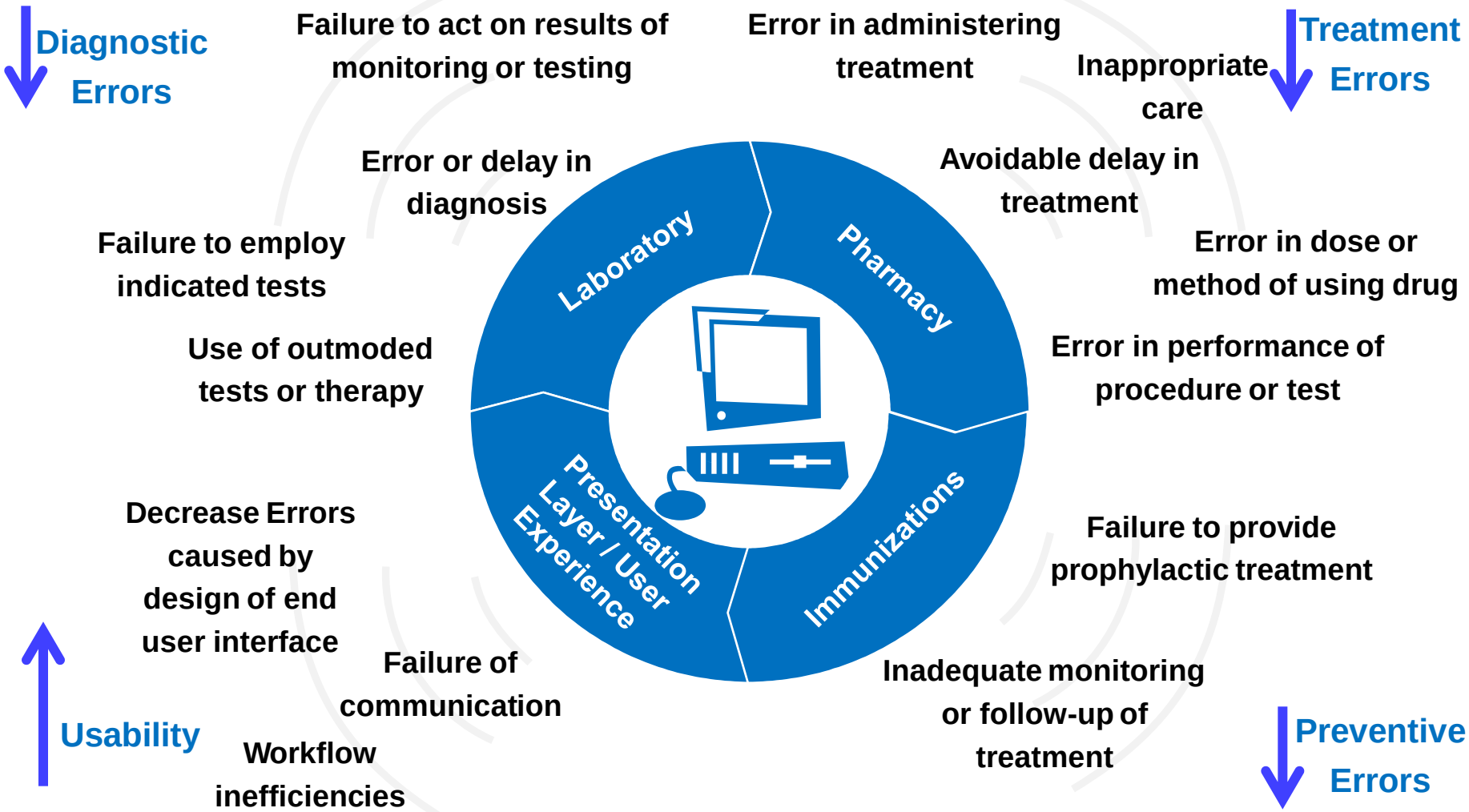
CAPT Michael S. Weiner, DO, MSM, MSIST
Director, Clinical Informatics & Requirements Division

August 28th, 2012

iEHR Capability Timeline



iEHR IOC Designed to Support DoD/VA Clinical Quality Aims

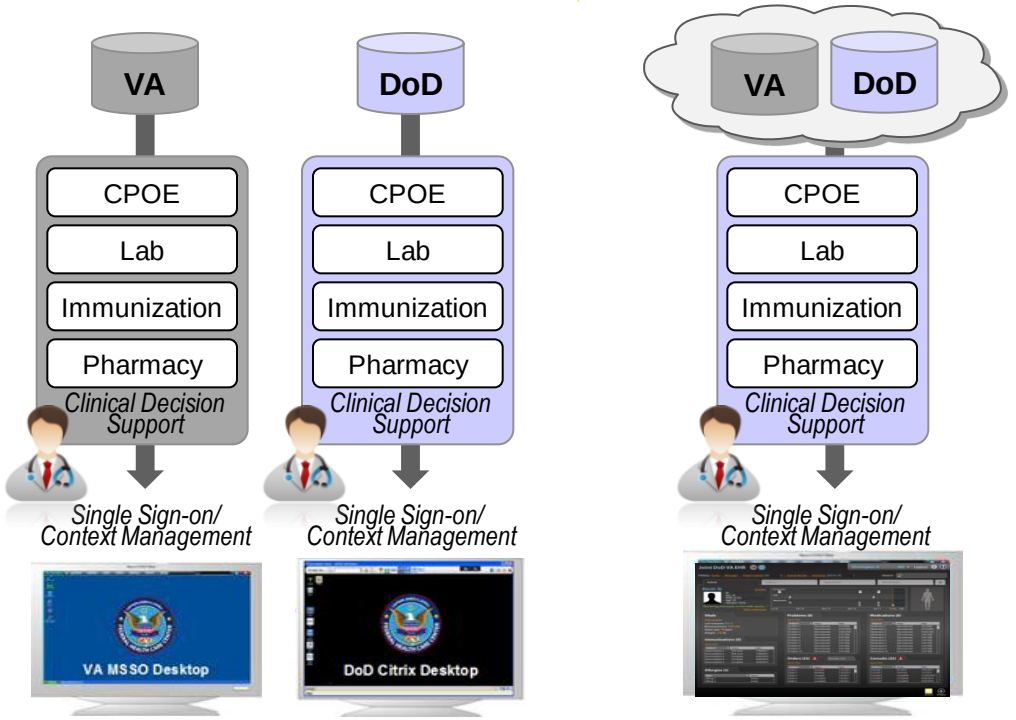


Sources: Institute of Medicine, *To Err Is Human* (1999); National Institute of Standards and Technology, *Technical Evaluation, Testing and Validation of the Usability of Electronic Health Records* (2011)

IOC Value Proposition for iEHR Presentation Layer, Laboratory and Immunization

2012 — September 2014 — 2015

Current State → Future State (IOC)



Separate Patient Views

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

Single Patient View

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

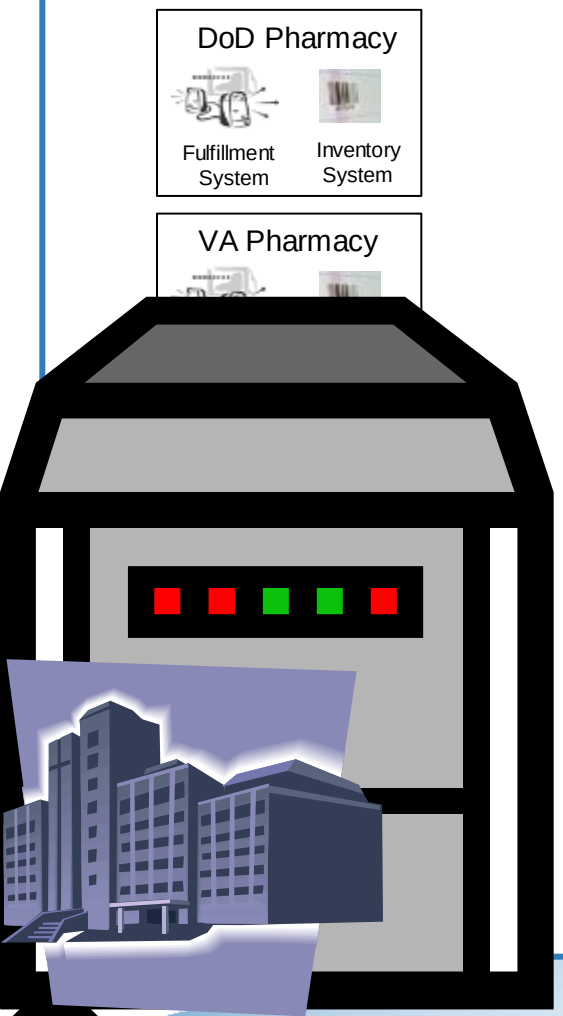
Key Benefits

- 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

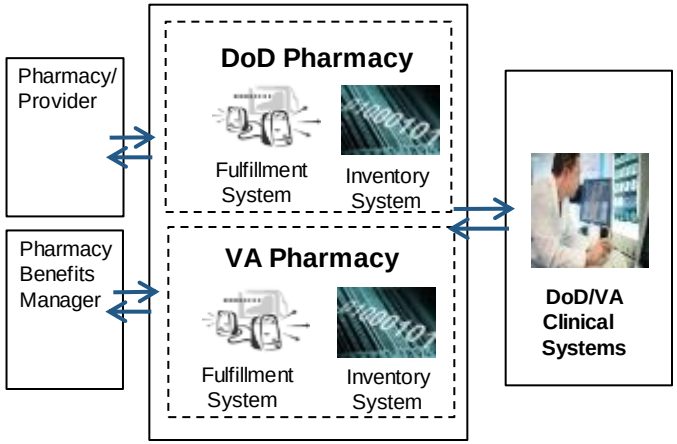
IOC Value Proposition for Enterprise Pharmacy System at FHCC

2012 — September 2014 — 2015

Current State



Future State (IOC)



Single Pharmacy System – Fully Interoperable

- Robust Inventory Management System
- State-of-the-Art Software
  - Updated functionality (e.g., achieve essential inspections)
- Supports HL-7 Standards

Key Benefits

- Reduced risk of medication errors
- Improved care transitions
- Enhanced medication
- Management
- Eliminated cost of manual drug-allergy checking
- Reduced inventory costs
- Increased third party reimbursement
- Improved patient satisfaction

Current Quality Measures

Healthcare Effectiveness Data and Information Set (HEDIS)

- Used by 90% of America's Health plans to measure performance
- Consists of 76 measures across 5 domains of care
- MHS and Services use to measure MTF healthcare quality

Joint Commission's National Hospital Quality Measures (ORYX)

- Performance measures used in the accreditation of hospitals
- Minimum requirements are to report on 4 core measure sets out of a possible 14 available

National Committee for Quality Assurance (NCQA)

- Offers accreditation, certification and recognition programs
- Recognition program for Patient Centered Medical Home Level 3

Agency for Healthcare Research and Quality (AHRQ)

- AHRQ is the research agency for Health and Human Services
- Developed Quality Indicators that make use of hospital inpatient data to address prevention, inpatient care, and patient safety

Kaiser maximized value by realigning its entire quality strategy with new capabilities available through its EHR

Translating Clinical Metrics to Lives Saved, 2004-2008 Q4

Metric	Increase	Savings per Decade
Cholesterol Control	16.8%	1,350 Lives
Blood Pressure Control	36.6%	4,890 Lives
HbA1C < 9.0	7.8%	738 Lives
Smoking Cessation	14.0%	787 Lives
Breast Cancer Screening	11.3%	565 Lives 4,349 Stage 4 Cases Prevented
Cervical Cancer Screening	5.8%	38 Lives
Colon Cancer Screening	24.2%	3,838 Lives
Total		**12,206 Lives Saved**

Linking Quality Improvements with Financial Outcomes

Potential Savings from Reducing Harm	Dollars
Estimate savings by reducing LOS cost for MRSA, C. Diff, and urinary tract infections	$34,000,000
Estimated savings based on extrapolated CMS costs for coded harm from falls and coded pressure ulcers	$17,000,000
Potential savings from medication reconciliation on admission	$9,000,000
Annualized savings estimate of reducing costs associated with BSI, VAP, and surgical site infections	$8,000,000
Conservative savings estimate (10 percent of admission savings)	$900,000
Above from med reconciliation at transfer, discharge, and other indirect savings	
Total (projected savings may be incremental, as some processes are already in place and achieving impact)	$68,900,000

Source: Liang, ed. *Connected for Health: Using Electronic Health Records to Transform Care Delivery*, 2010.

Clinical Quality – Value Proposition

Better healthcare to our beneficiaries, resulting in healthier outcomes

Compliance with Federal regulations

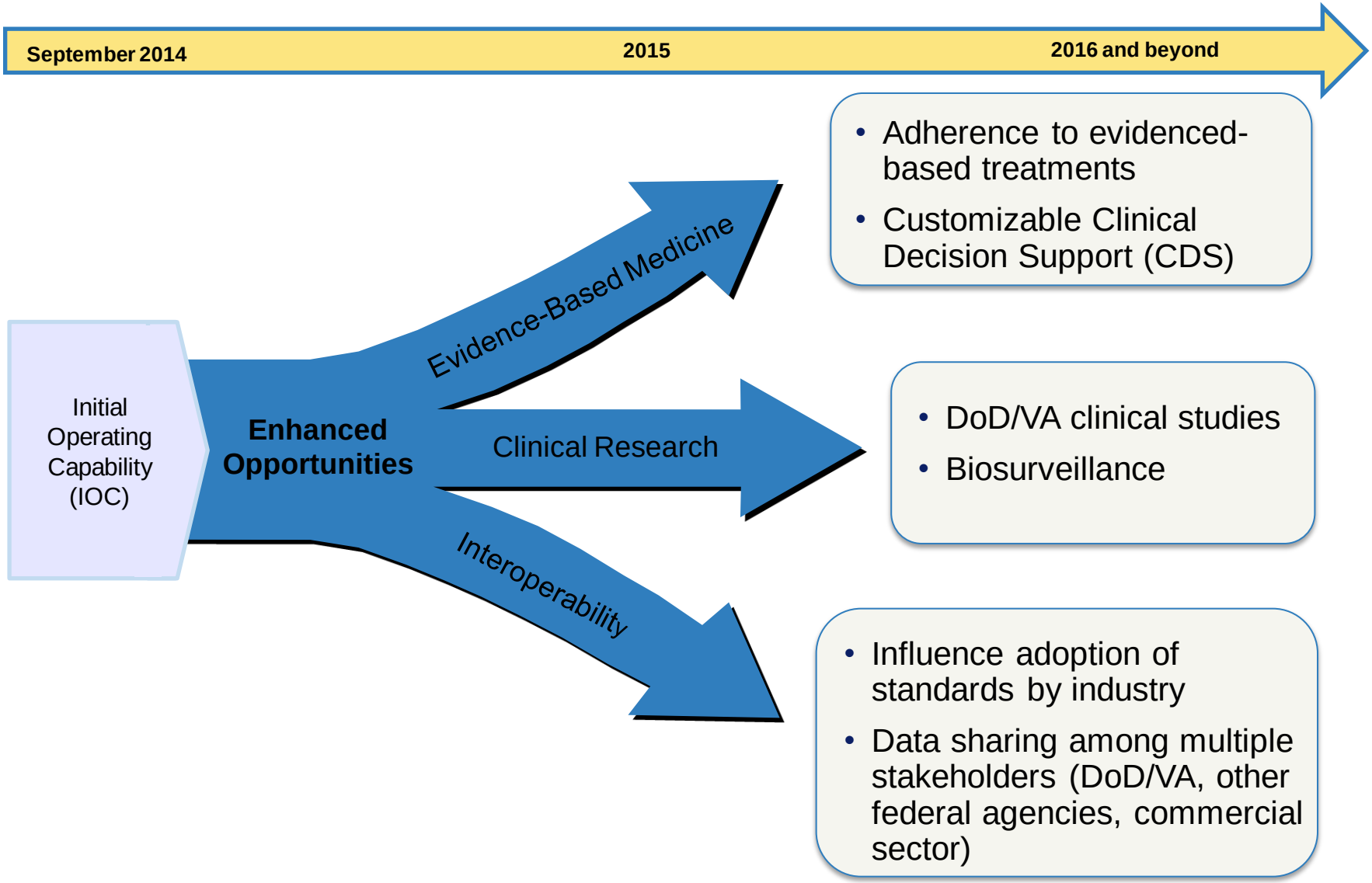
Improved patient safety

Increased patient satisfaction

Reduction in healthcare costs

Enhanced efficiency

Additional Benefits will be Realized Over Time



OPPORTUNITIES

Open Source Software

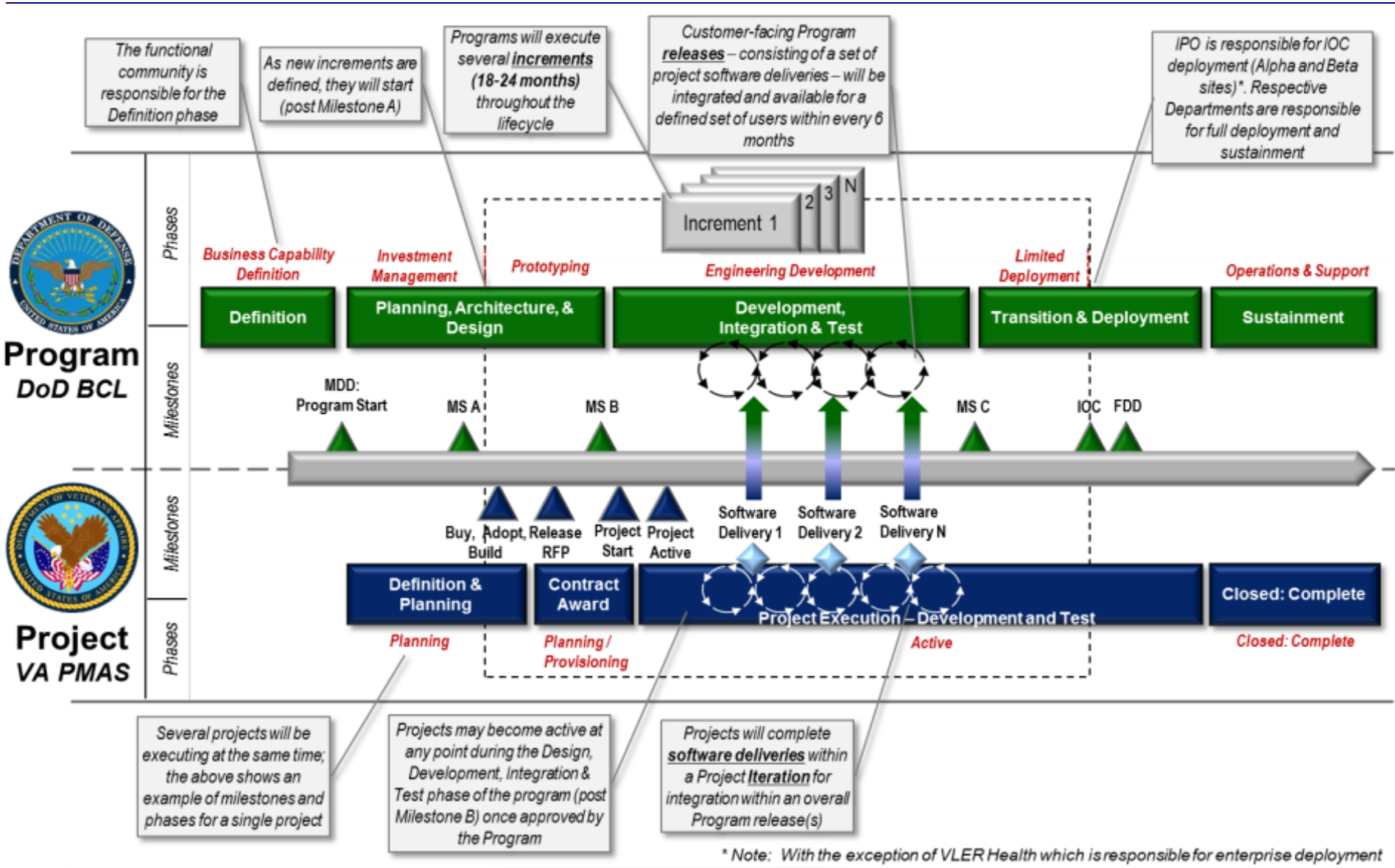
Principles

- Product: Software
  - the freedom
  - to run the software for any purpose
  - to study and modify the software
  - to copy the software
  - to improve the software
- Process – Collaboration
  - Community
  - Organized Participation

Benefits

- Promote Competition and Innovation
- Continuous Refresh of Code
- Continuous Quality Improvement
- Promote Plug and Play Apps Model
- Disciplined Documentation
- Promote Standards
- Avoid Vendor Lock-in

IPO Acquisition Framework



IPO Support Contracts to be Awarded

- Program Management Support (TAC T4 IDIQ) - 100 - 150 FTE*
- Testing / IV&V Support (USAMRAA TEAMS IDIQ) - 26-68 FTE*
- Procurement / Budget & Finance (GSA MOBIS) - 21-28 FTE*
- IPO Corporate Support (USAMRAA TEAMS) - 26-38 FTE*
- Clinical Informatics (NITAAC CIO-SP3 IDIQ) - 72-97 FTE*

*Range in FTE depends upon usage of optional CLINS for surge capability during life of contract