2010 Military Health System Conference

News From the MHS CIO and the EHR Way Ahead Strategy

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January 26, 2010

Office of the Chief Information Officer

Agenda

- IM/IT at the MHS Conference
- MHS IM/IT Major Accomplishments in 2009
  - Support to the Warfighter, Provider, Beneficiary
  - Support to the Business of Healthcare
  - Information Technology Foundation
  - Better Processes…Better Products
- MHS IM/IT Strategic Plan 2010–15
- DoD's EHR
  - Overview
  - Way Ahead

IM/IT at the MHS Conference

- Education sessions
  - Monday
    - DoD/VA Data Sharing - Successes to Date
    - High Touch/Ready Assist: Mission, Warriors, Families
    - CoE Support to Families and Wounded Through a Patient-Centered Approach
  - Tuesday
    - News From the MHS CIO; The EHR Way Ahead Strategy
    - Wounded Warrior Program: The CAP Model
  - Wednesday
    - The MHS Personal Health Portal: A Key to Patient Activation
    - Top 10 Beneficiary Challenges
- Exhibits (MHS Pavilion, booth 123)
  - Computer/Electronic Accommodations Program (Kiosk 13)
  - Electronic Health Record (Kiosk 17)
  - Nationwide Health Information Network (Kiosk 18)
  - Interagency Program Office (Kiosk 20)
  - Patient Safety Reporting (Kiosk 21)

MHS IM/IT Major Accomplishments in 2009

Support to the Warfighter

TMIP Onboard U.S. Naval Ships

New version of Theater Medical Information Program (TMIP) suite of applications deployed onboard 13 Naval ships

- Key Features
  - First time joint medical application onboard Navy ships
  - Drug-drug/drug-allergy interaction screening
  - Off-line demographic verification
  - Technical refresh: Windows XP, Oracle 10g, Server 2003
- Key Benefits
  - Healthcare providers aboard ships now using the military's joint deployed EHR
    - Similar look and feel as MTFs
    - Ability to document patient care onboard

Theater Medical Data Store / Joint Patient Tracking Application (JPTA)

Expanded view of health information across all levels of care with enhancements to integrated JPTA functionality

- Key Features
  - Capability to view, track, and manage ill or injured patients as they move through Theater levels of care, sustaining-base MTFs, and facilities shared with VA
  - Ability to access Theater medical data and pass medical data to the Clinical Data Repository
  - Services-oriented architecture
- Key Benefits
  - Allows VA to access Theater medical data for a patient who has entered a VA medical facility
  - Provides central location for all medical data generated in Theater…integrated into the electronic health record

TMIP Composite Health Care System (CHCS) Cache (TC2) Upgrades

Documentation for Theater inpatient healthcare and ancillary services order entry and result reporting

- Key Features
  - Lab/rad/pharm ordering and results retrieval
  - Scheduling for outpatient clinic and radiology procedures
  - Data transmission to Theater Medical Data Store
  - Clinical notes for different procedures, including admission, discharge, and patient progress; transportable Clinical Patient Records
  - 39,473 total records from June 2007 to present
- Key Benefits
  - Enhances inpatient / ancillary continuity of care
  - Enables paperless inpatient record in Theater
  - Increases clinical and administration efficiency by providing clinical documentation capabilities

Theater Medical Data Integration (TMDI)

Improvements in transferring Theater medical data to the Clinical Data Repository

- Key Features
  - Improves patient matching algorithms to move more Theater care data to the CDR
  - Makes Theater data available to Clinical Data Mart users
  - Improves reliability of data communications between CDR and DEERS
- Key Benefits
  - Enhances continuity of care
  - Enables DoD users to view Theater data through the current AHLTA clinical workflow
  - Supports mission of sharing DoD data with VA

Joint Medical Workstation (JMeWS)

Ongoing support for medical command and control (C2) requirements

- Key Features
  - Web-based application
  - Medical information, unit status, and readiness data available to medical leadership
  - Ad hoc reports based on patient data
  - Medical unit readiness reporting and aggregation capability (Annex Q reporting)
- Key Benefits
  - Enhances situational awareness and decision making for Joint Planners and Command and Control Staff
  - Displays data that is required by planners and operational staff at respective levels

AHLTA-Mobile

Expanded tools for first responders, including documentation, data access, reference libraries, and medical resources

- Key Features
  - Point of injury clinical documentation (now including traumatic brain injury)
  - Health history information, including allergies and medical readiness data
  - Medical references (pharmacy library, Thomson Clinical Reference)
  - Data feed to AHLTA-Theater
- Key Benefits
  - Helps ensure accuracy of information with automated medical coding
  - Enables providers to access information at any location supporting the highest level of care
  - Improves visibility of documented Level 1 care

Patient Movement Items Tracking System (PMITS)

Supported more than 2,000 aeromedical evacuations in 2009

- Key Features
  - Tracks Patient Movement Item (PMI) equipment used during aeromedical evacuation missions
  - Provides hand-held scanners and bar code technology to capture PMI inventory movement
- Key Benefits
  - Provides timely and accurate identification of PMI equipment at each site
  - Supports less investment in inventory while improving equipment availability

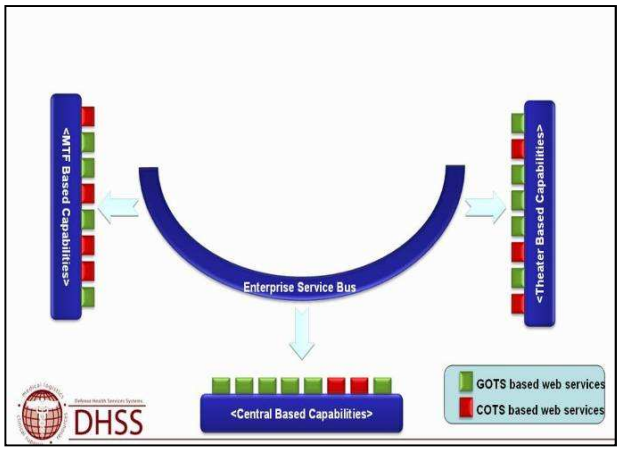
Defense Customer Assistance Module

85 percent of Level 1 / 2 Medical Logistics customers in Iraq use DCAM to submit orders for medical (class VIII) supplies

- Key Features
  - Replenishes battlefield medical supplies
  - Generates supply orders and status while managing unit level medical assemblages
- Key Benefits
  - Handles medical logistics orders, follow-up requests and receipt confirmations worldwide
  - Enables medical logistics mission at lower Levels of Care (Levels 1 and 2 in Theater) and some small clinics

Defense Medical Logistics Standard Support (SOA Initiative)

Launched four logistics pilot projects to integrate core functions into a service-oriented architecture (SOA)



- Key Features
  - Common Services partnership with Defense Health Services Systems (DHSS)
  - SOA principles (accessibility, modularity, open standards, re-use, agility, and enterprise level data management)
  - Best-fit technologies and technologies proven and implemented by other DoD organizations
- Key Benefits
  - Supports both sustaining base and operational (Theater) environments
  - Enables transition of key medical logistics functions into a single integrated system
  - Promotes efficiency and increased commonality and interoperability of medical materiel

MHS IM/IT Major Accomplishments in 2009

Support to the Provider

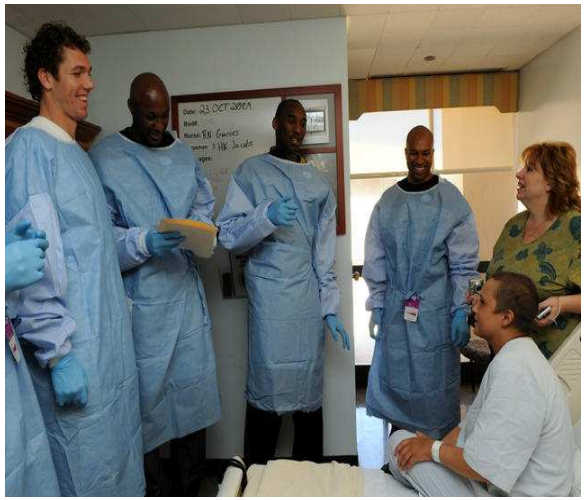
AHLTA Improvements

Increased operational availability, speed, DoD/VA sharing, and provider capabilities

- Key Features
  - AHLTA 3.3 deployed to more than 50% of sites
  - Multiple upgrades at Landstuhl
  - Deployment of Local Cache Servers complete
  - Pharmacy Data Transaction Service (PDTS) interface to the Clinical Data Repository (CDR)
- Key Benefits
  - Implements enhancements based on user requests and lessons learned
  - Supports wounded warrior care
  - Allows for continued AHLTA documentation in the event of network outage
  - Supports processing of 380,000 retail and mail order medications daily

Inpatient EHR Solution

Expanded inpatient EHR capability to 3 additional high-priority acute care hospitals and upgraded 14 of 24 existing sites



- Key Features
  - Integration of COTS product Essentris™
  - Expansion to Fort Leonard (Army), Bremerton (Navy), and Travis (Air Force)
  - Software upgrades for 14 of 24 sites
  - Outbound lab, radiology, and medical orders from Essentris™ to CHCS
- Key Benefits
  - Enhances provision of care to Wounded Warriors
  - Decreases need for paper-based inpatient documentation
  - Enhances readiness
  - Increases clinical and administrative efficiency

Clinical Data Mart (CDM)

Army providers used the CDM to identify more than 44,000 patients at risk for chronic kidney disease

- Key Features
  - Allows analysts and clinicians to securely report actionable clinical data
  - Measures clinical performance and outcomes
  - Supports clinical/business decisions and strategic planning
- Key Benefits
  - Reports actionable clinical data
  - Monitors adverse events from treatments or medications

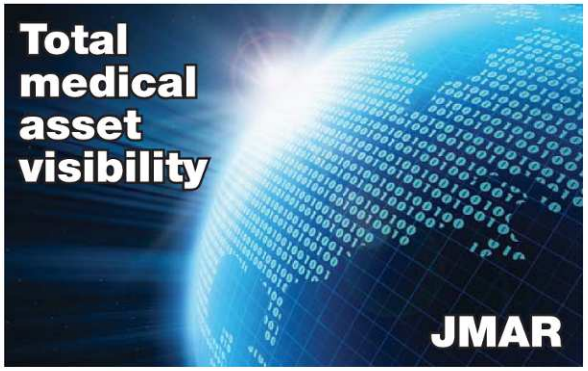
ESSENCE

DoD's Electronic Surveillance System selected to link DoD and VA biosurveillance systems with the CDC

- Key Features
  - Early detection and warning of potential communicable disease outbreaks or symptoms of biological warfare
  - Alerts, interactive reporting, structured analysis, and ad hoc queries
- Key Benefits
  - Allows MHS epidemiologists and public health officers to obtain medical situational awareness and investigate reportable disease events
  - Provides actionable data for investigation and/or validation

H1N1 Tracking

Several systems are actively tracking and reporting the impact of the H1N1 Influenza A outbreak worldwide



Detect → **Analyze** → **Respond**

ESSENCE MEDICAL SURVEILLANCE
- Detecting and reporting on infectious diseases and biological out breaks

CLINICAL DATA MART (CDM)
- Reporting actionable clinical data, identifying high-risk patients and population health trends

JOINT MEDICAL ASSET REPOSITORY (JMAR)
- Providing timely data on the location, status, and identity of DoD medical supplies, pharmaceuticals, and critical inventory available to support our troops

MHS Learn

Online training on Post Traumatic Stress Disorder (PTSD) and Traumatic Brain Injury (TBI) in partnership with VA

- Key Features
  - Enterprise e-learning and collaborative portal for training throughout the MHS
  - Continuing education and content sharing with the Uniformed Services University and VA
- Key Benefits
  - Offers more than 1,800 courses online, 24/7
  - Supports traditional classroom, Web-based training, Webinars, and discussion forums

Defense Medical Logistics Standard Support (DMLSS)

Enabled $4.3B in pharmacy and medical / surgical purchases for MHS facilities throughout the DoD and the combat theater

- Key Features
  - Just-in-time logistics
  - Best-value item selection and ordering
- Key Benefits
  - Eliminates need to maintain large inventories at the wholesale level
  - Standardizes medical logistics management among the Services
  - Reduces time spent on logistics planning and management
  - Improves the effectiveness, efficiency, and quality of healthcare delivery

MHS IM/IT Major Accomplishments in 2009

Support to the Beneficiary

Bidirectional Health Information Exchange (BHIE)

Created an interface that allows VA providers to access Health Assessment Review Tool data from the CDR

- Key Features
  - First of four phases of BHIE Release 5 complete
  - Data exchange, including:
    - Outpatient medications, lab and radiology reports, encounters / clinical notes and questionnaires, problem lists / procedures / diagnoses, allergies and vital signs, Theater clinical data, inpatient documentation from Essentris™
- Key Benefits
  - Enhances provision of care to Wounded Warriors
  - Reduces exchange of paper records with VA
  - Enhances delivery of patient care
  - Enhances readiness
  - Increases clinical and administrative efficiency

TRICARE Online (TOL)

MHS beneficiaries booked more than 200,000 appointments using TRICARE Online in 2009

- Key Features
  - Patient portal for MHS beneficiaries
  - Appointment scheduling
  - Prescription refill requests
  - COTS enhancements that will decrease new feature deployment time
- Key Benefits
  - Empowers beneficiaries with online appointment scheduling and prescription refill request capabilities
  - Provides beneficiaries access to information about TRICARE benefits, their facilities, and other Government agencies

Clinical Data Repository / Health Data Repository (CHDR)

Enhanced interoperability between DoD and VA, incorporating the exchange of standardized data

- Key Features
  - Comprehensive allergy and outpatient medication profiles for Active Dual Consumers
  - Automated registration of Active Dual Consumers
  - Drug-drug/drug-allergy interaction screening
- Key Benefits
  - Increases ability to register Active Dual Consumers 10 fold
  - Enhances provision of care to Wounded Warriors
  - Reduces need to exchange paper records
  - Enhances delivery of patient care
  - Enhances readiness
  - Increases clinical and administrative efficiency

Joint Strategic Plan (JSP)

Met ALL FY09 DoD/VA interoperability objectives

Objective Description	Objective Description
Refine social history data	DoD will begin sharing with VA social history data currently captured in the DoD electronic health record. Such data describe, for example, patients' involvement in hazardous activities and tobacco and alcohol use.
Share physical exam data	DoD will provide an initial capability to share with VA its electronic health record information that supports the physical exam process when a service member separates from active military duty.
Demonstrate initial network gateway operation	DoD and VA will demonstrate the operation of secure network gateways that provide expanded bandwidth to support information sharing between DOD and VA healthcare facilities.
Expand questionnaires and self assessment tools	DoD will provide all periodic health assessment data stored in its electronic health record to the VA such that questionnaire responses are viewable with the questions that elicited them
Expand DOD inpatient medical records system	DoD will expand its inpatient medical records system to at least one additional site in each military medical department (one Army, one Air Force, and one Navy for a total of three sites)
Demonstrate initial document scanning	DoD will demonstrate an initial capability for scanning Service members' medical documents into its electronic health record and sharing the documents electronically with the VA.

Special Needs Program Management Information System (SNPMIS)

Managed the medical support and social services for more than 5,000 young beneficiaries with special needs

- Key Features
  - Referral, evaluation, eligibility, and service plan data
  - Tracking of services provided during each child's evaluation
- Key Benefits
  - Supports educational and developmental intervention services
  - Certifies that the MHS meets the Individuals with Disabilities Education Act requirements

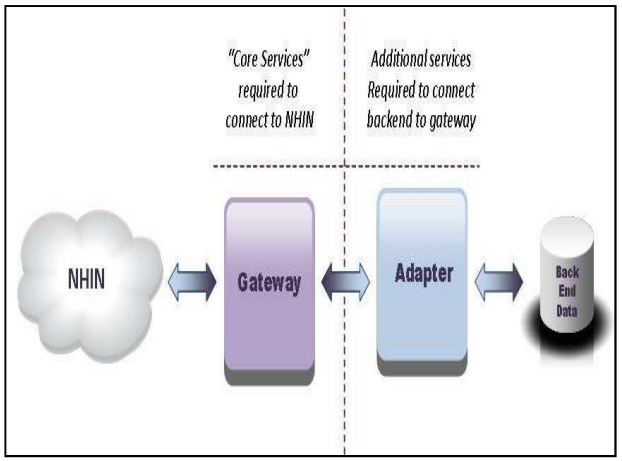
MHS Data Repository (MDR)

Recognized by the Secretary of the Army for support to the Army Suicide Prevention Task Force

- Key Features
  - Captures, validates, and distributes health network data worldwide
  - Delivers one-time data capture and validation
- Key Benefits
  - Supplies interagency data sharing with the Department of Veterans Affairs
  - Serves as the system's single point for data integration, data quality edits, and healthcare data transfers

Virtual Lifetime Electronic Record (Phase 1a)

Initiated pilot project for VLER (1a) to share standardized data among DOD, VA, and private sector health care organizations



- Key Features
  - Partnership with the Telemedicine and Advanced Technology Research Center (TATRC)
  - One of first health care organizations to leverage Nationwide Health Information Network
  - Summary of Care information at point of care
  - Standardized data shared among care settings
- Key Benefits
  - Provides health summary information at point of care — DOD, VA, or civilian facility
  - Eases Warrior transition to civilian care
  - Improves communication among care settings

MHS IM/IT Major Accomplishments in 2009

Support to the Business of Healthcare

Patient Encounter Processing and Reporting (PEPR)

Helped TMA's Program Integrity Office identify a $100M fraud case…the largest in TRICARE history

- Key Features
  - Collects, validates, and tracks purchased care health data
  - Reports and scrutinizes health data
- Key Benefits
  - Identifies and reports fraudulent and duplicate claims
  - Analyzes data by region, state, or MTF
  - Reports billions of dollars in annual government health funds expenditures

Third Party Outpatient Collection System (TPOCS)

Enabled collection of $200M from insurance providers in 2009 to support local initiatives at MTFs worldwide

- Key Features
  - Enables electronic billing to insurance companies for eligible care provided at MTFs
  - Provides detailed reports automatically
  - Monitors funds paid or denied by insurance companies
- Key Benefits
  - Creates automatic claims
  - Processes clinical data into required claims forms

Nutrition Management Information System (NMIS)

Supports an estimated $38M annual funding stream to MTFs

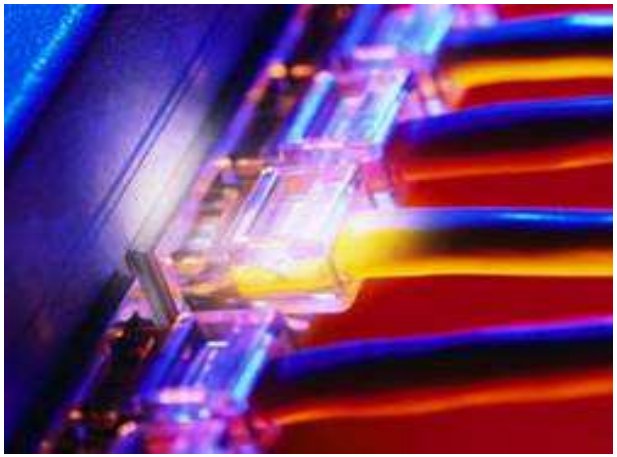
- Key Features
  - Medical nutrition therapy and food management
  - Upgrades in 2009 providing many new features, including bedside menu ordering
  - Food service management
- Key Benefits
  - Monitors diets
  - Ensures appropriate nutrition to hospitalized patients

MHS IM/IT Major Accomplishments in 2009

Information Technology Foundation

Local Area Networks

Upgraded local area networks at 49 MTFs worldwide in 2009



- Key Features
  - Standard network components within the boundary of the MTFs in support of centrally managed automated information systems
- Key Benefits
  - Ensures compliance with DoD guidance and regulations
  - Replaces end of life equipment and accommodates site growth and facility changes
  - Supports emergent MHS and Service requirements

Servers

Upgraded 275 servers at MTFs worldwide in 2009

- Key Features
  - Acquisition, installation, and sustainment of MTF-based server and data storage devices
  - Procurement, testing, installation, asset and warranty management, and just-in-time repair
  - Enhanced Redundant Array of Inexpensive Disks, tape back-up capabilities, random access memory, and computer processing unit capacity
- Key Benefits
  - Ensures standard server configurations within the MTFs
  - Reduces potential for critical data loss

End User Devices (EUD)

Delivered approximately 10,000 end user devices per month to MTFs during 2009

- Key Features
  - Ordering, deployment, installation, and maintenance of EUDs required to support MHS centrally managed applications
  - Personal computers, laptops, printers, scanners, bar code readers, etc.
  - Installation services including PC imaging, PC and printer installation, data migration, and EUD de-installations
- Key Benefits
  - Ensures a standard set of devices and associated software to support end users

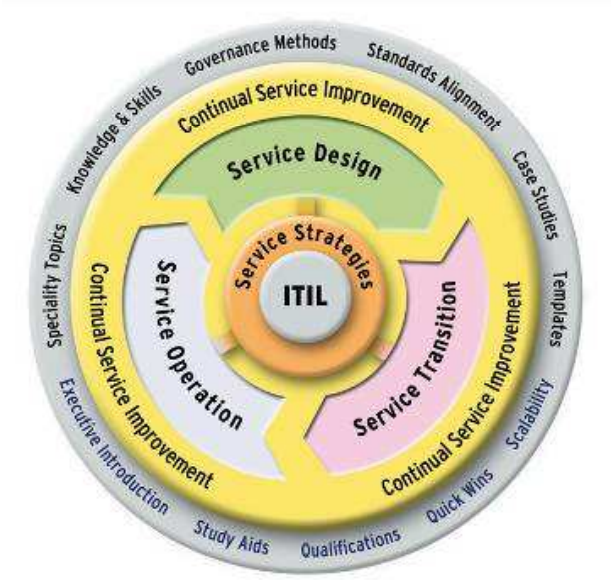
Enterprise Remote Access (ERA)

Secure, remote access to MHS standard applications for authorized providers and end users across the enterprise

- Key Features
  - Access for users without access to MHS VPN
  - Solution independent of Service affiliation or location of host
  - Access to EHR systems for authorized users
- Key Benefits
  - Enables Reserve and Guard access to MHS systems
  - Improves access to healthcare information
  - Provides centrally managed, easily maintained solution
  - Complies with MHS and Service enterprise objectives, security and infrastructure standards

MHS Service Center

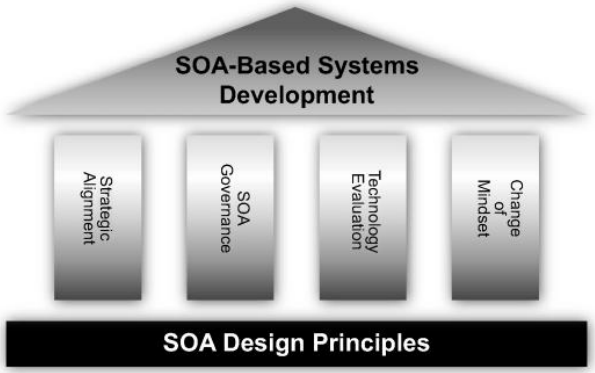
Consolidated and integrated multiple help desks into single service desk



- Key Features
  - 24x7 support to centrally managed MHS applications
  - Standard trouble ticket management application
  - Enterprise-wide incident management and problem resolution
  - Service-neutral hosting environment
- Key Benefits
  - Implements single point of control for MHS resources
  - Prioritizes use of resources to address incidents and problems efficiently
  - Provides Services and end users tools to track and manage trouble tickets

Common Services Expansion

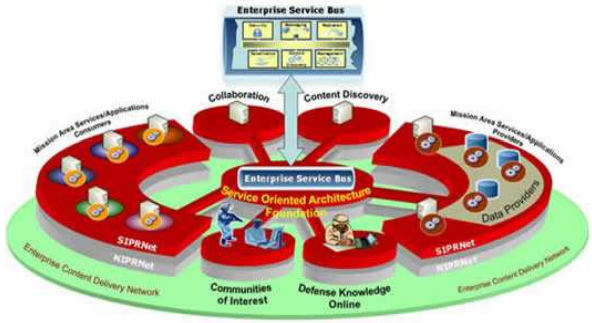
Comprehensive strategy for enterprise-wide, service-oriented approach to software development and lifecycle management



- Key Features
  - Common Services Office
  - Uniform approach to lifecycle management
  - Army, Navy, and Air Force as equal participants
  - Compliance with DoD and Federal architectures
- Key Benefits
  - Enhances agility for new application development
  - Enhances interoperability
  - Reduces time to field new capability
  - Standardizes business processes and technologies for developing/fielding applications
  - Improves application performance through an evolutionary model of service enhancement
  - Supports DoD vision for Net-centricity

Enterprise Service Bus

Began implementation activities for key infrastructure components to support service-oriented approach



- Key Features
  - Common Services partnership with Tri-Service Infrastructure Management Program Office
  - Configurable, standards-based solution
  - Platform independent / vendor neutral approach
- Key Benefits
  - Adapts to performance needs in Garrison or in Theater
  - Minimizes expensive point-to-point interfaces for data exchange between systems
  - Eliminates single-point failures
  - Enhances interoperability among applications and organizations

MHS IM/IT Major Accomplishments in 2009

Better Processes…Better Products

Contracting and Support Agreements

Completed numerous process improvement efforts resulting in streamlined processes, improved cycle time, and reduced cost

- Key Features
  - Lean Six Sigma value stream mapping of the contracting process
  - Workout sessions on communication and the support agreement process
  - Lean Six Sigma principles and tools to ensure best practice process improvement
- Key Benefits
  - Reduces non-value added steps
  - Improves cycle time
  - Reduces costs
  - Transforms organization to a customer focused approach

Independent Verification & Validation

Implemented Independent Verification & Validation (Phase 1) to improve the quality of MHS IT products

- Key Features
  - Code quality reviews on AHLTA 3.3
  - Baseline for future IV&V efforts
  - Agile test model
  - Standardized, repeatable procedures
  - Ability to save and re-use multiple test cases and data sets for regression testing
- Key Benefits
  - Reduces developmental risk
  - Improves application testing
  - Provides for direct code improvements in AHLTA
  - Ensures functional requirements are met
  - Improves product quality, reduces time to market, and reduces lifecycle costs

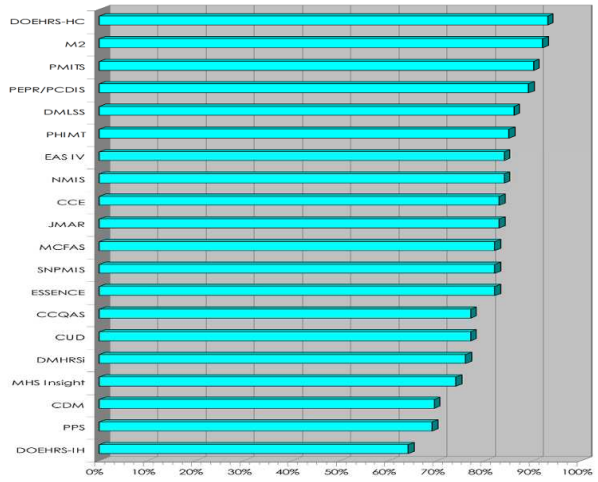
Distributed Development Toolbox

Organized, standards-based guidance for ongoing and new application development efforts

- Key Features
  - Distributed Development Toolbox Release 1
  - Single point for software standards and guidance
  - Single Common Development Environment for all distributed development activities
  - Re-use code/component and common services library
- Key Benefits
  - Reduces development time and cost
  - Increases quality and “plug-and-play” deployment
  - Increases visibility of development initiatives

Customer Satisfaction Survey

Survey mechanisms for products and services



- Key Features
  - User survey initiated for Defense Health Support Systems (DHSS) products
  - Future surveys for all products
- Key Benefits
  - Supports MHS IM/IT Strategic Goal "… enable rapid, affordable, secure delivery and life cycle support of IT products and services that meet the operational needs of the MHS and its service medical components, and consistently exceed customer expectation."

MHS IM/IT Strategic Plan 2010–15

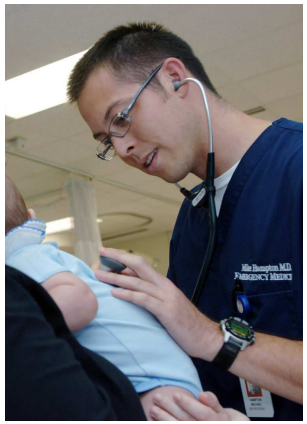
Overview of IM/IT Strategic Plan

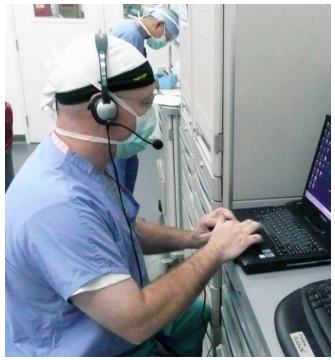
- Roadmap to guide investments, unify efforts, inspire people, and foster healthy debate
  - Reaffirms the IM/IT mission and vision
  - Describes the 10 main goals that MHS IM/IT will focus on over the next 5 years
  - Highlights the initiatives the MHS will undertake to be successful
- First formally approved plan since 1999
  - Approved by Senior Military Medical Advisory Council on January 14, 2010
  - Living document to be reviewed annually
- Joint effort
  - Army, Navy, Air Force, Health Affairs, TMA, Joint Staff, and Joint Task Force National Capital Region Medical

Top Priorities

Architecture

Enable responsive and reliable solutions and rapid delivery of new capabilities





Electronic Health Record

- Aggregate data for each patient over time across providers
- Operate in all care settings
- Allow information sharing with our health partners

DoD's EHR

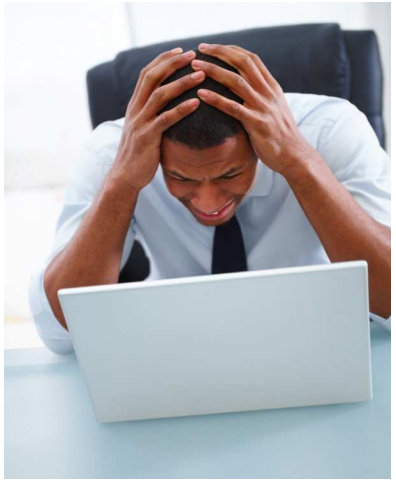
Overview

DoD's EHR -- Quick Update

- Enhancements underway (3.3)
  - Based on user requests and lessons learned
  - Currently deployed to more than 50% of sites
- Theater
  - More than 3 million outpatient clinical encounters documented in Iraq, Afghanistan, and Kuwait
  - Theater data available to all authorized users
- Inpatient solution
  - Currently at 29 sites (62% of DoD's inpatient beds)
  - Expansion continues in 2010

EHR Satisfaction

"It's been a complete nightmare…I can't see my patients because I'm at a screen entering data…Physician productivity and satisfaction have fallen off the cliff."



"I didn't go through all my training to have my ability to take care of patients destroyed by devices that are an impediment to care."

"I can't tell from the medical display whether a patient is receiving 4mg or 8mg of a certain drug. It took us two years to get a back-button on our [Electronic Health Record] browser."

EHR Satisfaction

Emergency room physician at St. Mary Mercy Hospital in Livonia, Michigan, which switched to electronic records three years ago

Senior internist at a major hospital, where electronic records were installed in 2006

Who Said That

Internist in Dubuque, Iowa, whose practice implemented electronic records 6 years ago

Source: *The Washington Post,* October 25, 2009

EHR Effect

"But the critical question is whether, on balance, care is better than before. I think the answer is yes."

David Blumenthal, National Coordinator for Health Information Technology

DEPARTMENT OF HEALTH & HUMAN SERVICES

Source: *The Washington Post,* October 25, 2009

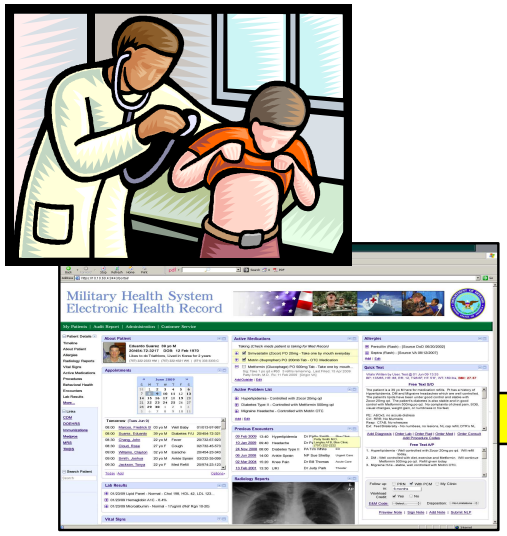
Drivers for Evolution of DoD's EHR

- Access to all needed data at point of care
  - Mobile beneficiary and provider populations
  - Continuum of care from Theater to Garrison, VA, and civilian care
- Technology advancement
  - Moore's Law (1965) – the number of transistors on a chip doubles every 24 months
  - Tele-radiology, tele-dermatology, bedside tele-consulting
- Multiple uses for same data
  - Standardized, computable data collected once, used many times

Healthcare is local…
Information is global

Data Collected Once, Used Many Times

Collected Once | Stored Centrally | Available Globally



Patient Visit
(Point of Care)

Clinical Data Repository

Standardized,
Computable Data

Beneficiary Self-Care Management
Personal Health Record

Provider Care
Patient Record, Safety Alerts, Best Practice Reminders

Business Decisions
Health System Management

Research
Clinical Practice Guidelines

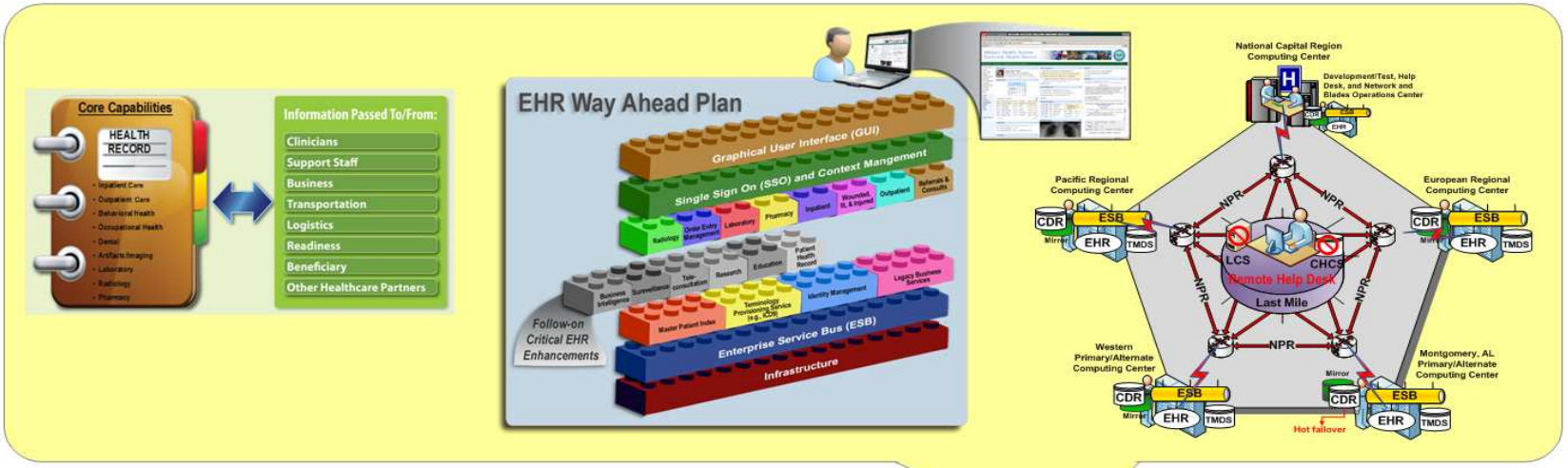
Command and Control
Health Surveillance

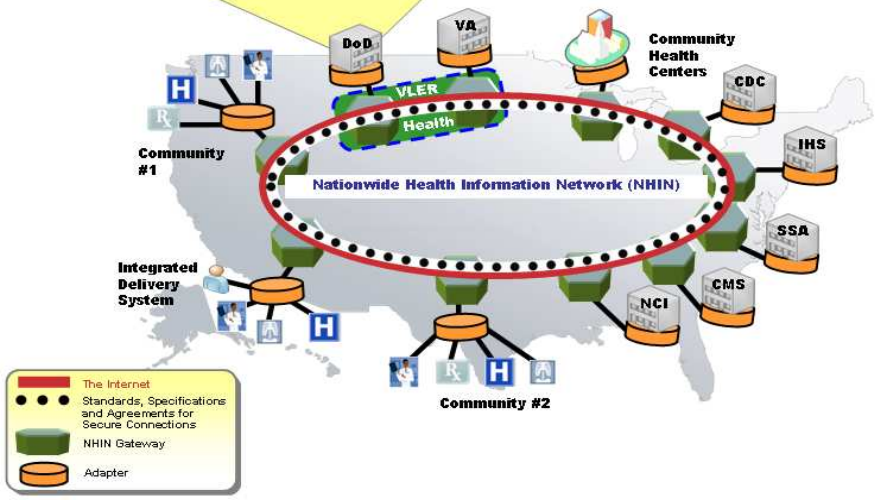
Billing Processes
Coding, 3rd-Party Collections

DoD's EHR

Way Ahead

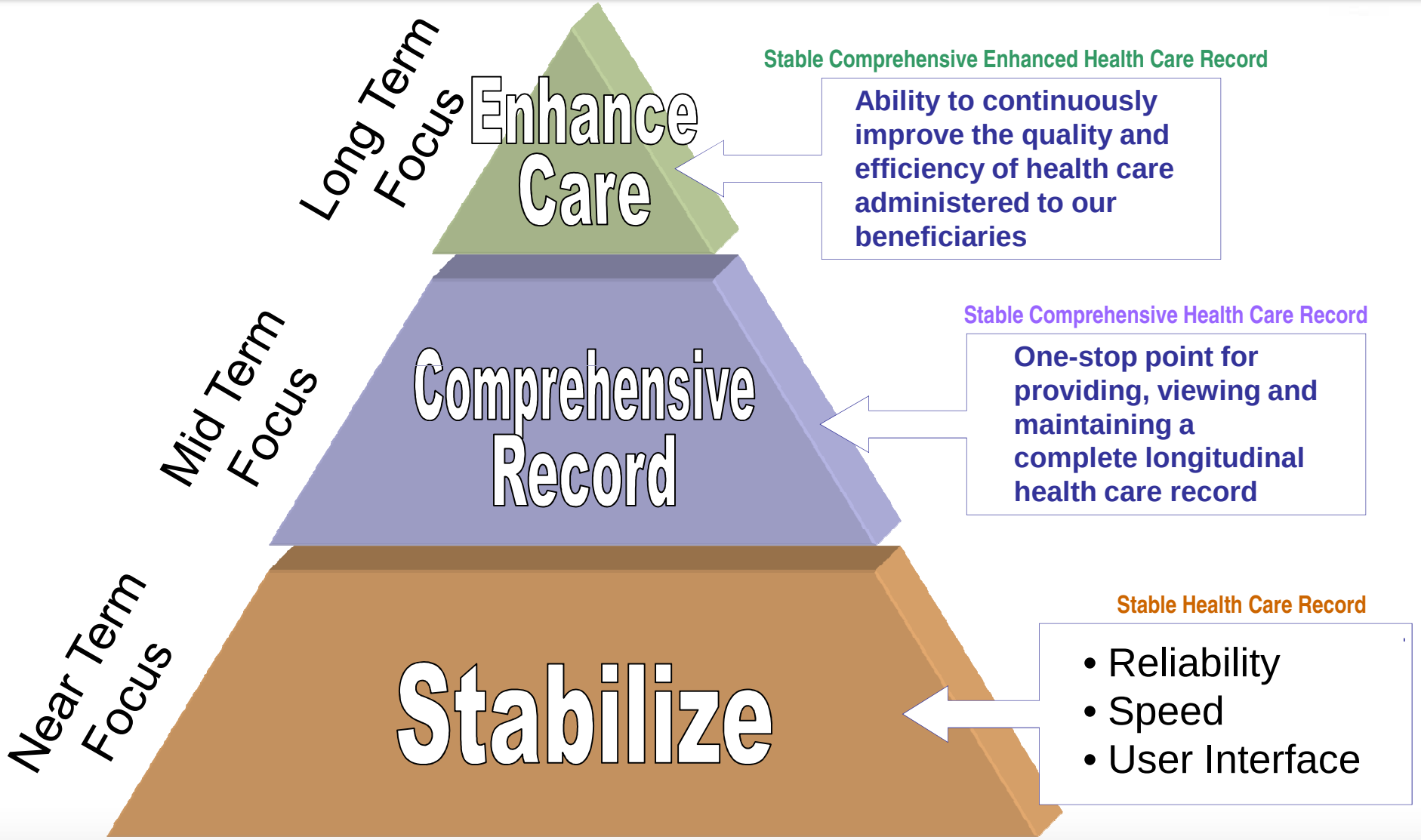
EHR Way Ahead -- Strategic Direction





- ***Stable EHR*** **- maximize reliability and availability to all levels of care**
- ***Agile*** **- rapid development to adapt to evolving medical business practices**
- ***Responsive*** **- high performing system that is fast and user friendly**
- ***Extensible*** **- open standards based, open architecture**
- ***Data Sharing*** **- optimize continuity of care through seamless and transparent sharing of comprehensive health information**
  - Virtual Lifetime Electronic Record (VLER)
  - Nationwide Health Information Network (NHIN)
- ***Enhance Information Integrity*** **- ensuring the right information on the right patient/context is presented to the right user at the right time**

AHLTA Legacy -- Near Term Focus



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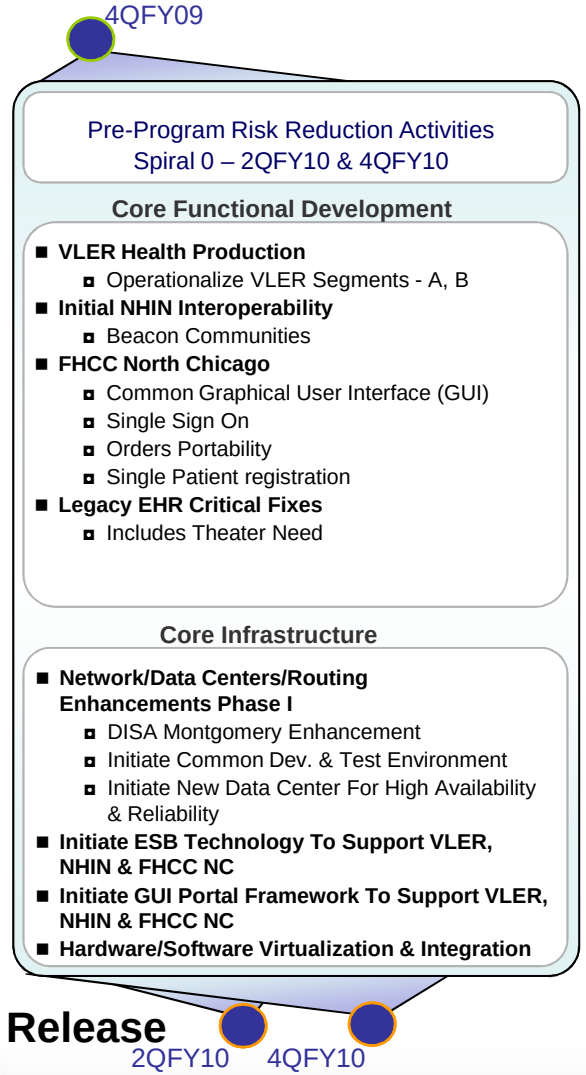


Major Actions ongoing in support of Pre-Program Risk Reduction Activities Spiral 0

Core Functional efforts:

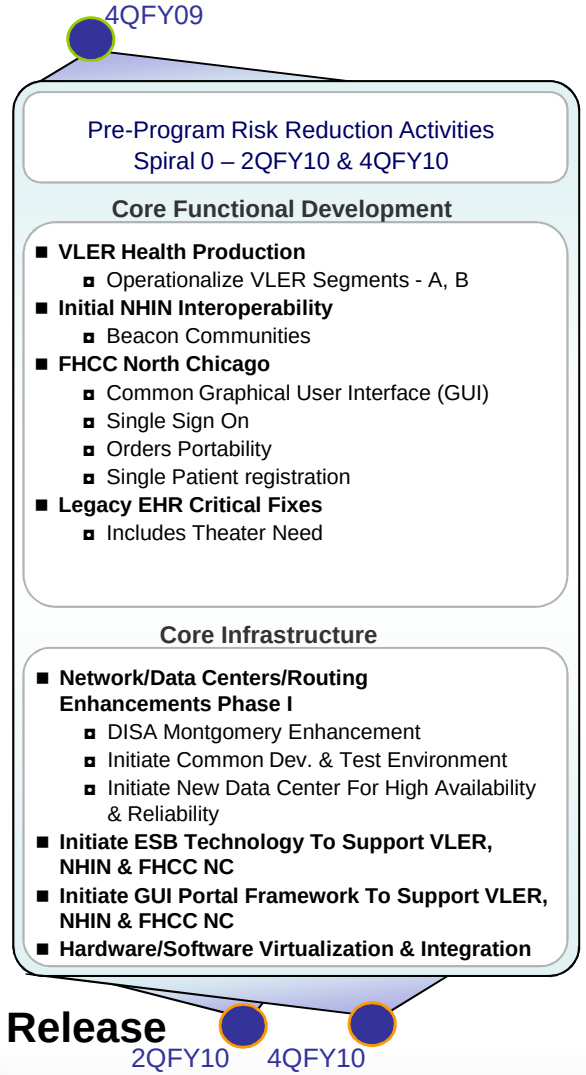
1. Single-Sign On with Context Management COTS *
2. Graphical User Interface Portal Framework COTS *
3. AHLTA/CHCS Critical Fixes and Support *

Core Infrastructure efforts:

4. Enterprise Service Bus COTS *
5. East Coast Operational Test Center
6. AHLTA/CHCS Sustainment Support
7. Enterprise Level Virtualized Information Services

* *Also supports FHCC N Chicago Requirements*

Spiral 0 – In Progress



1. Single Sign-On with Context Management COTS

- Unified access to clinical data at the point of care in both Garrison and Theater
- Reduce multiple logons, access patient data in seamless manner
- Select patient once, active clinical applications display patient's data
  - Eliminates the need for the patient to be selected in each system
  - Transition patient information with the same patients (e.g. context) information
- Role-Based Access Control is defined by each individual system

Spiral 0 – In Progress

4QFY09

Pre-Program Risk Reduction Activities
Spiral 0 – 2QFY10 & 4QFY10

Core Functional Development

- **VLER Health Production**
  - Operationalize VLER Segments - A, B
- **Initial NHIN Interoperability**
  - Beacon Communities
- **FHCC North Chicago**
  - Common Graphical User Interface (GUI)
  - Single Sign On
  - Orders Portability
  - Single Patient registration
- **Legacy EHR Critical Fixes**
  - Includes Theater Need

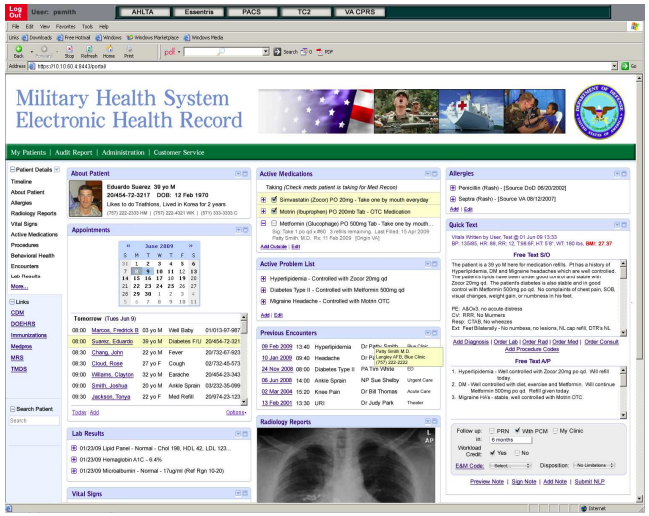
Core Infrastructure

- **Network/Data Centers/Routing Enhancements Phase I**
  - DISA Montgomery Enhancement
  - Initiate Common Dev. & Test Environment
  - Initiate New Data Center For High Availability & Reliability
- **Initiate ESB Technology To Support VLER, NHIN & FHCC NC**
- **Initiate GUI Portal Framework To Support VLER, NHIN & FHCC NC**
- **Hardware/Software Virtualization & Integration**

Release

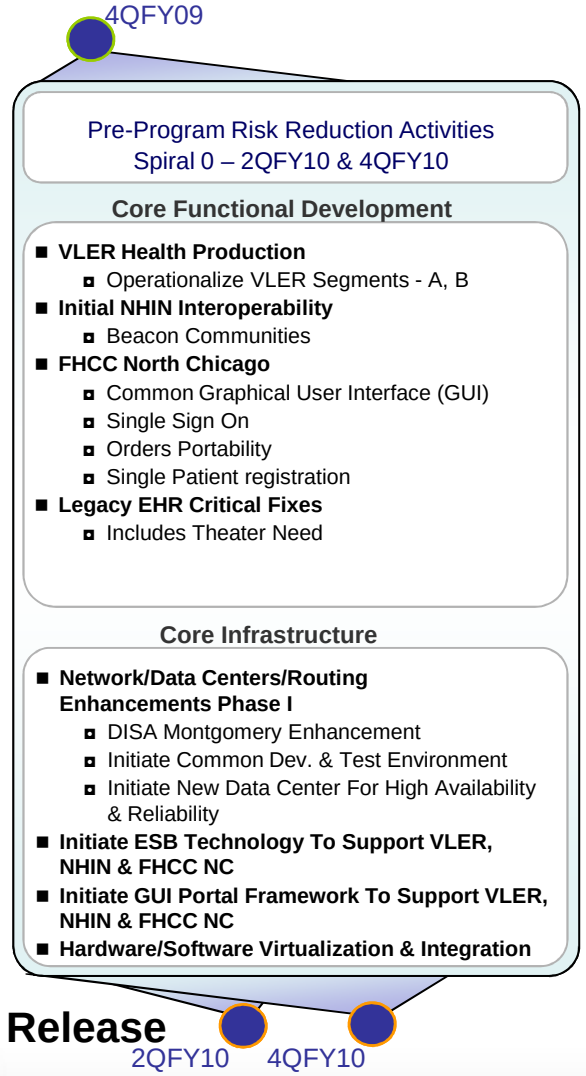
2QFY10 4QFY10

2. Graphical User Interface Portal Framework COTS



- Platform component for access to applications
- Hosts discreet functionality (services) through standards compliant portlets
- Enables access to non standards compliant legacy applications
- Works in conjunction with SSO/CM capability
- Operates with the MHS Enterprise Service Bus

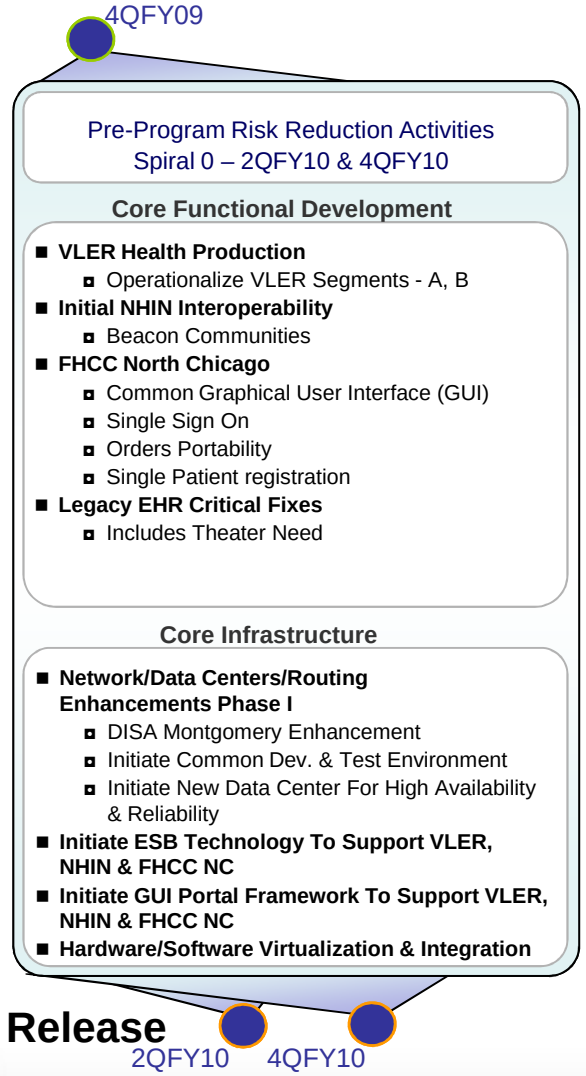
Spiral 0 – In Progress



3. AHLTA/CHCS Critical Fixes & Support

- AHLTA/CHCS Stabilization
  - Leverages IV&V (phase 1) code quality effort
  - Multiple known architectural deficiencies
- Theater Improvements
  - Bi-directional PACS support
  - Lab instrument interface
- FHCC Enterprise Data Sharing
- Content Management System
- Operational & Maintenance Activities
- Leverage ESB
- Leverage Enterprise Portal Framework

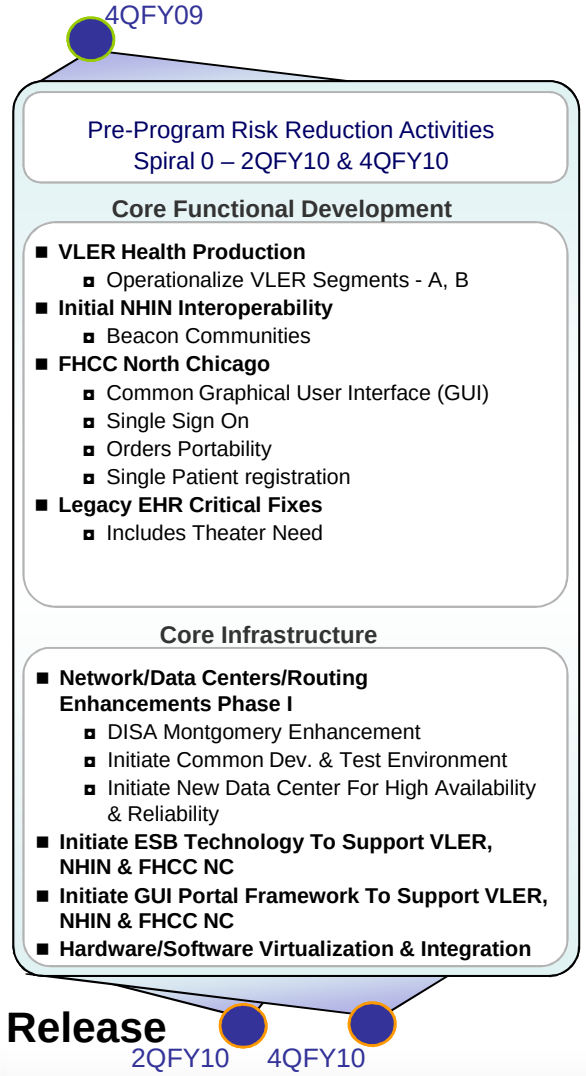
Spiral 0 – In Progress



4. Enterprise Service Bus (ESB) COTS

- Messaging services that ensure access for all applications via standard protocols
- Supports interoperability & data sharing within the MHS, and between the MHS, the VA, and civilian treatment facilities
- Capable of sustaining and meeting MHS system performance and availability requirements
- Seamless, real-time failover and load balancing
- Operationally dynamic to eliminate single point failures and provide high availability
- Provides redundancy and diversity
- Dynamic, scalable, and secure

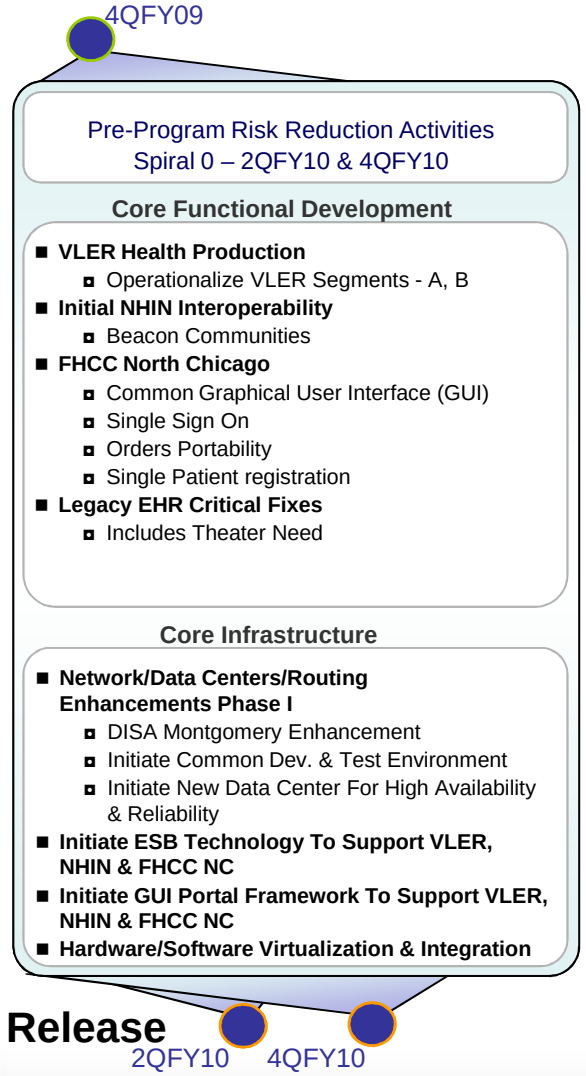
Spiral 0 – In Progress



5. East Coast Operational Test Center

- Consolidates development and testing into one center
- Simulates actual production environments to improve product quality
- Provides production failover capabilities
- Expandable
- Government on-site

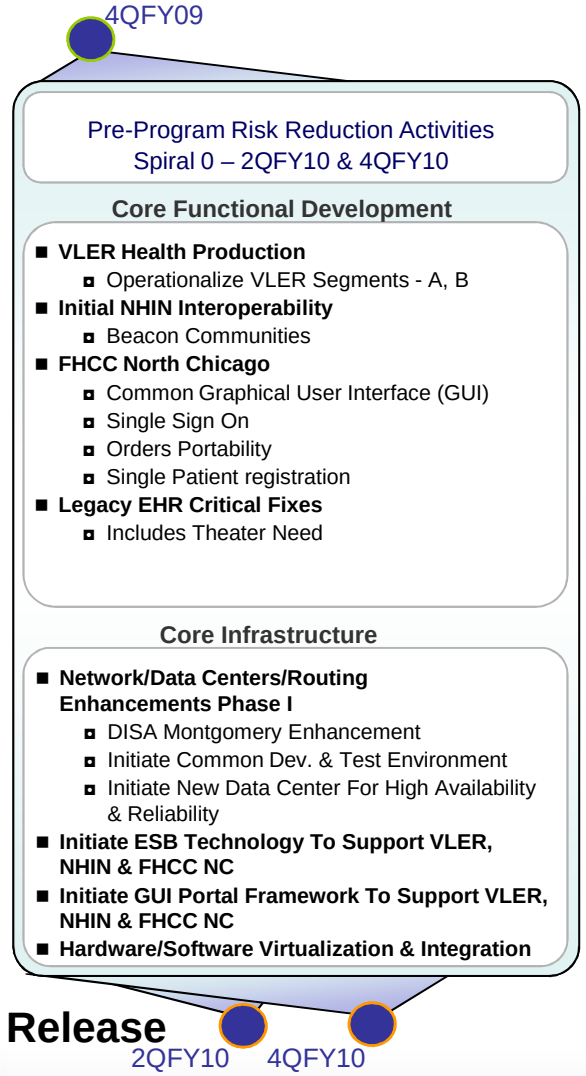
Spiral 0 – In Progress



6. AHLTA/CHCS Sustainment Support

- System maintenance
- Site Operations
- Security accreditation
- Tier III trouble tickets
- Subject Matter Experts
- System engineering

Spiral 0 – In Progress



7. Enterprise Level Virtualized Information Services

- Provides virtualized environment for 42 applications
- Best of breed COTS technologies
- Supports migration & virtualization of legacy applications
- Supports virtualization of future EHR COTS/GOTS as needed

Summary

- Significant progress in 2009 – New world order
  - Improvements to IM/IT systems, capabilities, infrastructure, and processes based on lessons learned and user input
  - Unprecedented collaboration with stakeholders
- Just getting started – What to watch for in 2010
  - EHR Way Ahead
  - Nationwide Health Information Network
  - Virtual Lifetime Electronic Record
  - Ongoing enhancements and collaboration building on foundation established in 2009


Questions?