U.S. Department of Defense

MHS MILITARY HEALTH SYSTEM

OCIO Office of the Chief Information Officer

# Transitioning Legacy MHS EHR Systems to a Modern Platform

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Military Health System (MHS)

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# Agenda

- Background
- Supporting the Initiative
  - Interagency Program Office (IPO)
    Infrastructure Capability Set Integrated Project Teams (IPTs)
  - Service Oriented Architecture (SOA) principles
    - Key Activities
    - Benefits
  - Prioritizing and Sequencing Investment Decisions
    - Understanding the framework
  - Creating a Health IT Transition Office
    - Transition Application Planning (TAP) Project
- Synchronizing Efforts
- Next Steps
- Questions

# Background

- The Department of Defense (DoD) and Department of Veterans Affairs (VA) **share a significant amount of health information**
- The Departments continue to spearhead numerous interagency data sharing activities and are delivering information technology solutions that significantly improve the secure sharing of appropriate electronic health information
- These initiatives enhance healthcare delivery to beneficiaries and improve the continuity of care for those who have served our country

Recognizing the need within both Departments to modernize their electronic health records (EHRs), Congress directed the DoD and VA to undertake a cooperative effort to establish an integrated EHR (iEHR)

# Background (continued)

- In support of this initiative, the DoD/MHS is…
  - Working closely with the Interagency Program Office's (IPO) **Infrastructure Capability Set Integrated Project Teams (IPTs)** to define the future state iEHR architecture
  - Preparing to transition to a net-centric environment based on **Service Oriented Architecture (SOA) principles**
  - Leveraging quantitative frameworks that support data-driven analysis in an effort to **prioritize and sequence investment decisions**
  - Creating a **Health IT Transition Office** to serve as the central POC for identification and resolution of cross-functional migration issues

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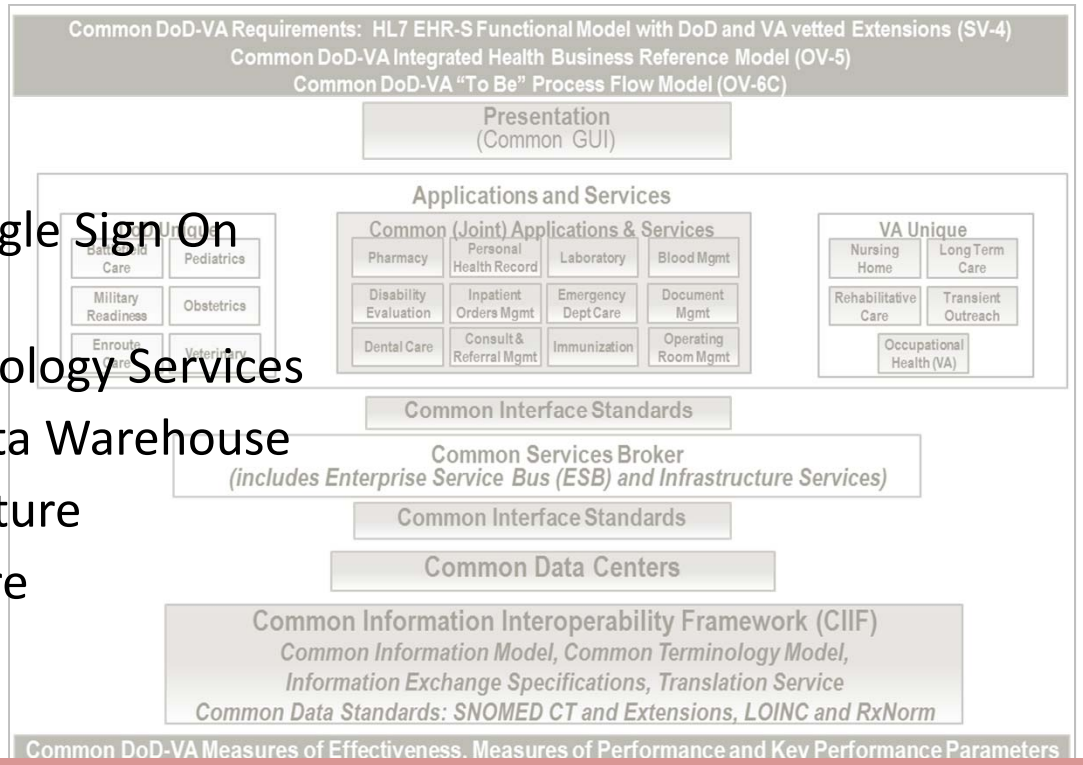
# #1: iEHR Infrastructure Capability Set IPTs

- DoD/VA have agreed to **implement a joint, common EHR platform**
  - Plans have been approved to implement the iEHR and an effective governance structure to oversee the effort
  - Decision was made to leverage both "open source" and traditional approaches to software acquisition in order to foster innovation and accelerate capability delivery
- **The Secretaries of the DoD and VA committed their respective Departments to the following**
  - Common architecture, data and services, data centers, interface/exchange standards, and presentation layer
  - Joint development and acquisition of a number of functional capabilities and applications for the iEHR
- The IPO has **established several IPTs** that are helping to identify, plan, and implement the future state architecture

#1: iEHR Infrastructure Capability Sets IPTs

# Key Infrastructure Working Groups

- Development and Test Environment (DTC)
- Identity Management
- Access Control
- Presentation Layer
- Desktop Virtualization with Single Sign On (SSO)/ Context Management
- Information Model and Terminology Services
- Federated Data Repository/Data Warehouse
- Network and Security Architecture
- SOA Services and Infrastructure




The MHS is currently in the process of making a set of EA artifacts publicly available.

**Check www.health.mil/OCTO for more information**

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# #2: Leveraging SOA Principles at the MHS

- Today the MHS is moving towards **Net-Centric Service Oriented Enterprise (SOE) framework**
  - Mandated as **joint governance and technology approach** by the Secretary of Defense (SECDEF) and Secretary of the Department of Veterans Affairs (SECVA) during pre-acquisition synchronization
  - SOE is based upon leveraging SOA principles and extending it across an enterprise

The objective of the OCTO's SOE strategic initiative is to

**define, implement, and manage the creation of a Service Oriented Enterprise that is aligned with business priorities by providing an organizational framework for instilling, governing, and evolving the culture of 'reuse' and 'sharing' of enterprise assets for improved interoperability and agility in the delivery of health care**

#2: SOA

# SOE Activities at the MHS

- Defined the SOE **strategy and foundational framework**
  - Identified target maturity state (Level 4/5) on the Open Group Service Integration Maturity Model (OSIMM)
- Captured the **"As-Is" SOE maturity assessment** of the enterprise based on OSIMM
- Completed the SOE **Gap Analysis** that highlights gaps in maturity levels between current and future states
- Developed the SOE **Roadmap** that outlines the MHS' transition to its target OSIMM maturity state. Revealed **three key tenants**:
  - Establish a **SOE Governance Center (SOEGC)** to coordinate and implement SOA activities and training opportunities across the enterprise
  - Create a **SOA Repository** or central location for SOA project artifacts (e.g., SOA-related business processes, policies, agreements, architectures)
  - Provide **SOA blueprints and reference implementations**

## #2: SOA Principles

# Translating SOA Benefits

| | |
|---|---|
| Supports migration from systems-based to **services-based** approach | The transformation to service based delivery will reduce duplication of functionality and increase the speed to market by reusing the services available enterprise-wide at the MHS. **Faster Capability Release for Our Warfighters.** |
| **Reusable** enterprise assets lifecycle | Business services become reusable, reducing the need for, and cost of, redeveloping the same functionality for multiple systems through reusable services and standardized interfaces. **Increased Enterprise Cost Savings.** |
| Improves **interoperability** and streamlined external partner interaction | Enterprise-wide practices and policies will allow consistent data sharing with a minimum investment in addressing interoperability issues. **Improved Health Care Data Exchange Practices.** |
| Improves ability in **adapting** to changing enterprise business needs | SOA blueprints and toolkits provide a means to accelerate SOA adoption and implementation to maintain consistency across the enterprise while remaining aligned with business plans. **Shortened Development Lifecycle/Capability Deployment.** |

**Helping to improve adaptability, agility, interoperability, usability, and data availability**

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# #3: Prioritizing and Sequencing Investment Decisions

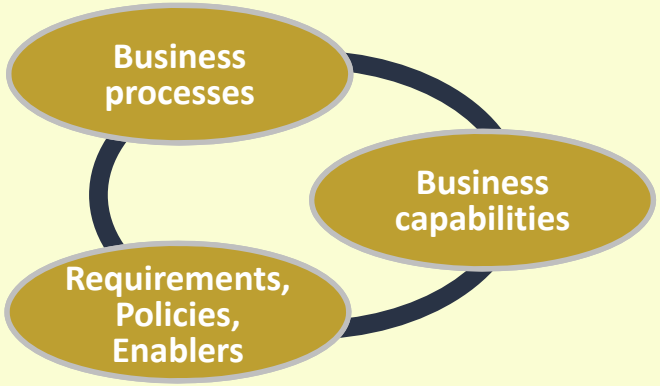
- Today the MHS has a multitude of applications that are helping to facilitate the clinical, administrative, and logistical aspects of its business needs
- Given the complexity of these systems, it is **often difficult to interpret and make decisions about these systems in isolation**
  - The MHS is leveraging the Dynamic Business Capability Mapping (DBCM) and MIT CSR Application Health Grid methodologies as the key framework for **measuring the business value and technical maturity of current MHS and Service-specific systems**
    - Unlike other investment sequencing tools, DBCM **focuses on quantitative, data-driven decisions**, as well as its ability to incorporate qualitative information into its objective framework
    - Based on a system's business value and technical maturity scores, an application falls into one of the **Application Health Grid's four quadrants**, recommending that the application be nurtured, upgraded, consolidated/retired, or re-evaluated

## #3: Sequencing Investment Decisions

# How it Works

**DBCM** measures the <u>productivity of an application</u> based on **business processes, business capabilities, and enablers/ investments**

- considers errors in business processes, effectiveness and efficiency issues, as well as the degree to which a capability fulfills a specific requirement

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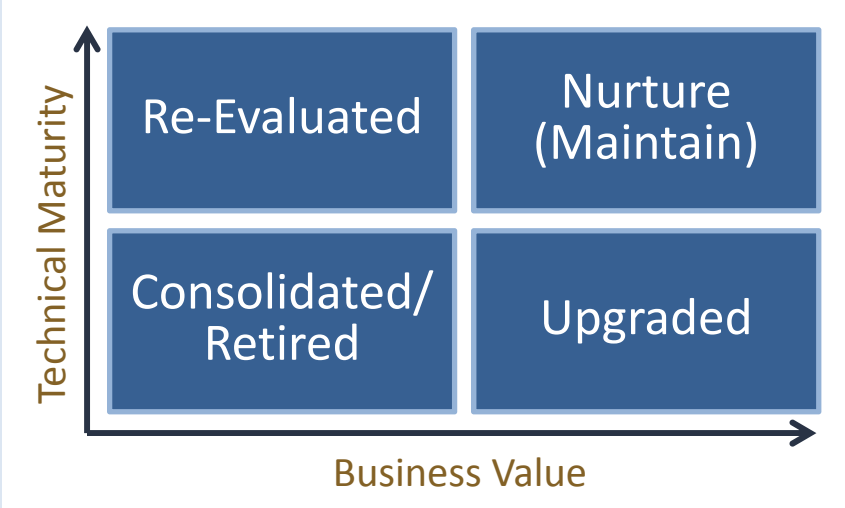
## Application Health Grids

measure and map the collective **business value and technology maturity** of a Portfolio

- The technical maturity of a legacy capability reflects its level of system availability, maintainability, vulnerability, and flexibility



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# #4: New Health IT Transition Office

- In April 2012, MHS leadership announced Mr. Verlin Hardin as the interim Director of the **newly established Health IT Transition Office**. As Director, Mr. Hardin
  - Reports directly to the Principal Deputy Assistant Secretary of Defense for Health Affairs (PDASD(HA)) regarding the migration of the MHS' current legacy systems to the iEHR architecture
  - Serves as the central point of contact for identification and resolution of cross-functional issues for transitioning legacy systems
  - **Oversees the development of the MHS' Transition Application Planning (TAP) Project,** which is helping to facilitate and synchronize the strategic, technical, functional, infrastructure, and financial processes of transitioning the MHS' current automation capabilities and legacy systems to the future integrated and service-oriented enterprise architecture of the iEHR

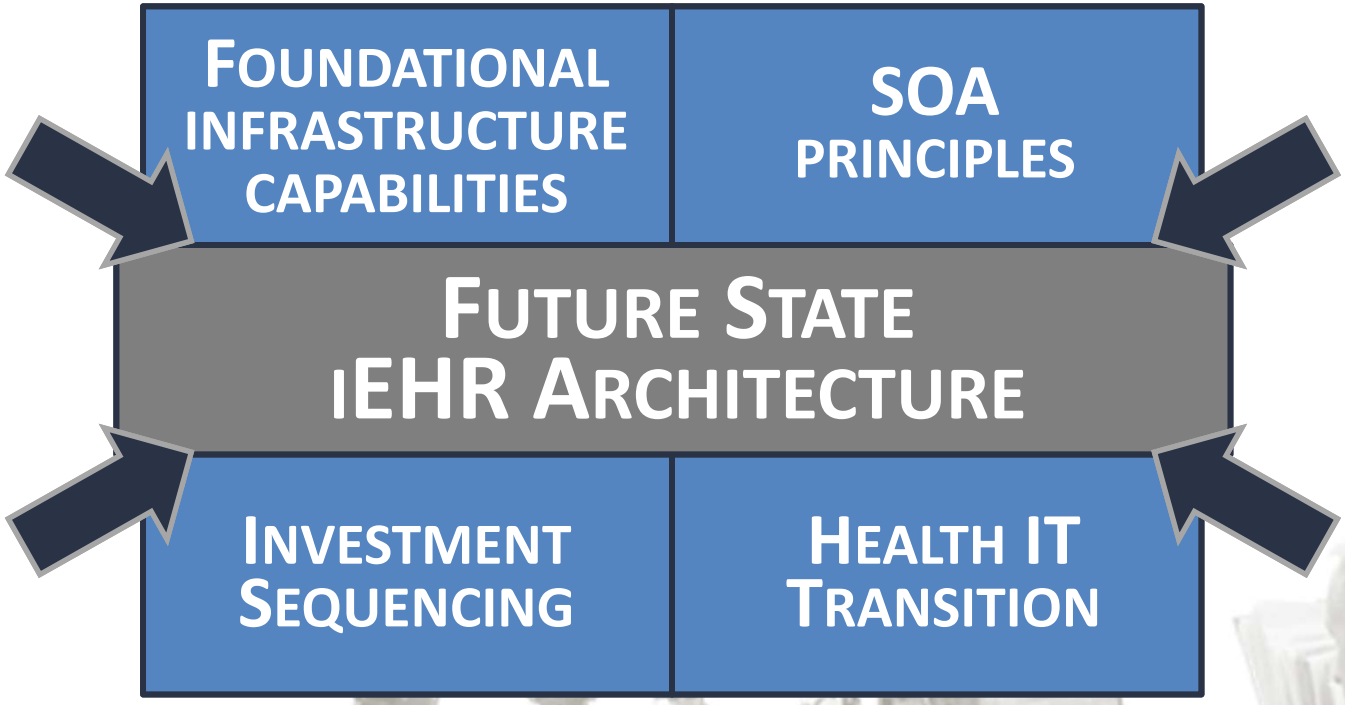
#4: New Health IT Transition Office

# Transition Application Planning (TAP) Project

- The overarching goal of the TAP is to **assist MHS Program Managers and the Services with planning for legacy transition** while maintaining program alignment with the iEHR acquisition schedule
- The TAP…
  - Outlines the methodology to address functionalities of the current EHR and its existing programs/projects/initiatives (PPIs)
  - Provides a roadmap to achieve the future state by analyzing current and future systems and by identifying opportunities for migration, upgrade, downsizing or retirement
  - Provides stakeholders with the information and tools to support the transition from the current EHR to the future state iEHR using selected functional, technical, and financial analysis

Contact the Office at: **MHS.Transition@tma.osd.mil**

# Synchronizing Efforts



# Going Forward/Next Steps

The MHS' transition to the future state **will require significant enterprise collaboration**, adherence to architectural 'best practices', and proof of concept development. Additional key activities include:

- **IPO IPTs/Future-State iEHR Architecture**
  - Continue execution of 30, 60, 90-day deliverables
- **SOA/SOE Principles**
  - Establish SOEGC and further define member roles and responsibilities
  - Develop toolkits (e.g., templates, proofs of concepts, reference architecture)
  - Create central repository for SOA-related artifacts
- **Decision Support/Investment Sequencing**
  - Collect and analyze additional system data
  - Refine tool(s) to support evolving needs of warfighters
- **Health IT Transition Office/TAP Project**
  - Outline the MHS' migration strategy for transitioning legacy systems to the future-state iEHR architecture while also ensuring incremental delivery of EHR capabilities for MHS providers

# Questions???

For more information on the OCTO's strategic initiatives visit: **health.mil/OCTO**

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- Order prescription refills
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### Blue Button(R)

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- Allergy Profile
- Medication Profile
- Lab Results
- Encounter Data
- Problem Lists

**www.tricareonline.com**

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