NCSL Executive Committee Task Force on Military and Veterans Affairs

Strategies for States and the Military to Share Health Information

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Agenda

• Considerations for Legislation
• Defense Health Information Management System (DHIMS) Electronic Health Record (EHR) efforts
• Telemedicine and Advanced Technology Research Center (TATRC) Nationwide Health Information Network (NHIN) efforts
Considerations for Legislation
Security

• HIPAA – minimum standard
• EMPI – biggest security consideration
• “Defense in Depth” strategy
• Only as good as your weakest link

HIPAA: Health Insurance Portability and Accountability Act of 1996 (P.L. 104-191)
EMPI: Enterprise Master Patient Index - a reference locator for finding and matching patients between different healthcare systems and resolving multiple instances of a patient in a single or multiple organizations that may refer to one more unique patients.
Ecosystem of Health Information
Ecosystem of Health Information
The aim of the Institute for Triple Helix Innovation is to harness and leverage the complementary expertise of academia, industry and government to facilitate new systems for innovation and novel collaborative processes for creative development.

By serving as a center for collaboration technologies, a champion for flexible organizational structures, and an arbiter of triple helix best practices, the Institute endeavors to foster international, interdisciplinary collaborations amongst the public and private sectors and develop new methodologies for achieving economic and social benefit.
Use Relevant Standards

- IHE: standards for communicating patient information (http://www.ihe.net/)

- HITSP: harmonizes standards for sharing information among organizations and systems (http://www.hitsp.org/)

- HL7: standards for interoperability of health information technology (http://www.hl7.org/)

For further info: http://www.himss.org/ASP/topics_standards.asp
Privacy

• Review HIPAA law, especially recent updates in PPACA
• Consider opt-in provisions for HIE sharing
• Consider standards for response if privacy is breached

PPACA: Patient Protection and Affordable Care Act, P.L. 111-148
HIE: Health Information Exchange – a mechanism for sharing healthcare information electronically across organizations within a region, community or hospital system
Management of Public Pay Patients

- Analytics
- Case Management
- Quality measures (HEDIS, Oryx)
- Pay for Performance (P4P)

HEDIS: a tool used by most US health plans to measure performance on important dimensions of care and service
ORYX: The Joint Commission’s performance measurement and improvement initiative
• Electronic Submission of reportable info
• Analytics
• Trending and response
• CDC Grants began in 1998 to create Immunization Registries (http://www.cdc.gov/vaccines/vac-gen/policies/ipom/downloads/chp-03-immz-info-sys.pdf)

• Best Practices: 
  http://www.immregistries.org/pubs/mirow.phtml

• Data Standards:
  (http://www.cdc.gov/vaccines/programs/iis/standards/downloads/hl7-guide2010-508.pdf)
EHR Lessons Learned

- Large Systems
- Regional Extension Centers (RECs)
- Trade Associations (HIMSS, CHIME)

HIMSS: Healthcare Information and Management Systems Society
http://www.himss.org
CHIME: College of Healthcare Information Management Executives
http://www.cio-chime.org
Defense Health Information Management System (DHIMS) Electronic Health Record (EHR) efforts
In 1997, President Bill Clinton released an official Statement of the President based on the Special Report of the Presidential Advisory Committee on Gulf War Veteran’s Illnesses (Executive Order 12961), stating that the Departments of Defense (DoD) and Veterans Affairs (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.”

In 2007, President George W. 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.

In 2009, President Barrack Obama declared that “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.”
From the initial concept of the Electronic Health Record in 1979 to the deployment of today’s patient-focused system at Military Treatment Facilities worldwide.

1979: First concept development to provide Computerized Physician Order Entry (CPOE) capability
1981: Deployment of standalone medical information systems TRIPHARM, TRILAB, TRIRAD, TRIPAS and AQCESS (Quality of Care Evaluation) in 19 MTFs
1988: CHCS development begins; deliver CPOE and MTF-centric EHR. Integrates outpatient ancillary services - laboratory, radiology, and pharmacy – providing MHS’ first online MTF hospital-centric clinical support system
1988: Limited early inpatient documentation (CIS)
1996: CHCS - providing CPOE - completed worldwide. Concept exploration for clinically-oriented graphical user interface underway
1998: CHCS II initial concept development (patient-centric system)
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: Began initial implementation of updated inpatient EHR (Essentris)
2008: Began TMIP Block 2 deployment (EHR first time on ships)
2009: Strategic Planning for EHR Way Ahead
DOD’s Healthcare Information Support for the Warfighter Mission

- Medical Situation Awareness for Command and Control
- Force Health Protection
- Medical Readiness

- Transient Patient Population
- Transient Healthcare Team
- Austere Environments
  - Theater Operations
    - Shipboard Operations
    - Medical/Aeromedical Evacuation

- Security Requirements
  - Secret Internet Protocol Router (SIPRNet)
  - DOD Information Assurance Posture

- DOD Acquisition Process
  - Interdependencies with other departmental programs
Telemedicine and Advanced Technology Research Center (TATRC) Nationwide Health Information Network (NHIN) efforts
Presidential Executive Order 13335: April 30, 2004

“...Provide leadership for the development and nationwide implementation of an interoperable health information technology infrastructure to improve the quality and efficiency of health care.”
The Internet

Standards, Specifications and Agreements for Secure Connections

NHIN – “Network of Networks”

Common “Dial Tone” & Chain of trust

Gateway

Community #1

Gateway

Gateway

Gateway

Community #2

DoD

VA

Rx

Rx

H

H

Network of Networks
Federal Health Architecture (FHA) ensures federal participation in ONC-led initiatives such as the NHIN, NHIN Direct, EHR adoption, and CONNECT.

E-gov initiative managed by ONC within HHS

• 26+ federal agencies participate in FHA
Goal for NHIN Phase 2 ("Trial Implementation"): By December 2008, exchange a standards-based document using the NHIN infrastructure.
Specifically, exchange a HITSP defined C32 document (i.e. "Summary of care document").
Resources

- Office of the National Coordinator (ONC) for Health Info Tech: [http://healthit.hhs.gov/](http://healthit.hhs.gov/)
- Help for healthcare providers transitioning to electronic health records (Regional Extension Centers or RECs): [http://healthit.hhs.gov/portal/server.pt/community/hit_extension_program/1495/home/17174](http://healthit.hhs.gov/portal/server.pt/community/hit_extension_program/1495/home/17174)
- CONNECT Federal Health Architecture NHIN Gateway: [http://ConnectOpenSource.org](http://ConnectOpenSource.org)
- ORYX: [http://www.jointcommission.org/assets/1/18/ORYX_for_Hospitals_1_25_11.pdf](http://www.jointcommission.org/assets/1/18/ORYX_for_Hospitals_1_25_11.pdf)
Questions

“The views expressed in this presentation are those of the author and do not reflect the official policy or position of the Department of the Army, Department of Defense, nor the U.S. Government.”
Understanding the Value of an EHR in the Department of Defense

WE MUST DO IT
- Service Member Mission
- Enables DOD's health care part of the Virtual Lifetime Electronic Record
- Document and Monitor Wounded, Ill and Injured
- Enhanced Health Outcomes
- Cost Effectiveness
- Better Health Resource Management
- Health Community Satisfaction
- Patient Centric Medical Home
- Enhanced Access and Quality of Care
- Enhanced Patient Safety
- Foundation for Benefits Assessment

WE DO IT FOR
- Service Members
- Retirees
- Their Families
- Other Beneficiaries
- Operational Commanders
- Military Health System Community
- Other Stakeholders

WE WILL ACHIEVE
- Decision Support for High Quality Cost Effective Health care
- Right Information
  - Comprehensive
  - Integrated
  - Interoperable
  - Intuitive
  - Accurate
- Right Community
  - Health Care Team
  - Patients
  - Commanders
  - Veterans Affairs
  - Nationwide
    - Health Information Network
- Right Place
  - Global Presence
  - Theater Operations
  - Contingency Operations
  - Austere Environments
  - Mature Communications
  - Mobile Operations
- Right Time
  - Fast
  - Dependable
  - Clinical Workflow
  - Highly Available
  - Time to Market
  - Innovative
Service Member Health Care Continuum

Health Care is Local...Information is Global

Virtual Lifetime Electronic Record (VLER)

- Civilian Care
- Recruitment
- Accession/Training
- VA Care
- Routine Care
- Transition & Benefits Assessment
- Care at Home/Post-Deployment
- Care in Transit
- Deployed/Theater Care
- Readiness/Pre-Deployment
EHR Support to the Continuum of Care
Areas of Responsibility
Clinical and Theater Systems and Capabilities

- Ancillaries (Lab, Rad, Pharm)
- Blood Management
- Case Management
- Clinical Decision Support
- Consults/Referral Management
- Dental
- DoD/VA Data Sharing
- Enterprise-Wide Scheduling & Registration
- Health Surveillance
- Imaging
- Inpatient
- Longitudinal Health Record
- Medical Command and Control
- Medical Planning
- Medical Readiness
- Order Entry/Results Retrieval
- Outpatient
- Patient Administration
- Patient Tracking
- Personal Health Record
- Population Health
- Preventive Health
- Spectacle Requisition
- Tele-Health
- Theater Occupational/ Environmental/ Radiological Health
- Trauma Registry Documentation
- Traumatic Brain Injury/Behavioral Health
- Utilization Management
- Veterinary Medicine
- Workload Accounting
DOD EHR Family of Systems

- **AHLTA-Garrison Outpatient Documentation**
  - Covers every time zone
  - 77,000+ active users
  - 110,000+ end user devices
  - 140,000+ new encounters daily
  - 9.6+ million beneficiaries with clinical data
  - 70+ Terabytes (mostly non-image)

- **Essentris® Inpatient Documentation**
  - 41 sites
  - (77% of DOD inpatient beds)

- **Military Treatment Facilities**
  - 60+ Hospitals
  - 350+ Medical Clinics
  - *White House Medical Unit*

- **AHLTA-Theater**
  (As of 31 August 2010)
  - 15 Theater Hospitals, 262 Forward Resuscitative sites
  - 31 U.S. Naval Ships
  - 8.60+ million orders of ancillary services (laboratory, radiology, pharmacy)
  - 3.60+ million outpatient encounters captured in AHLTA-Theater

Supporting **transient patient populations** and **transient healthcare teams**
AHLTA is...

AHLTA Garrison
(Hospital)

AHLTA-Mobile

AHLTA-Theater
AHLTA Outpatient Documentation:
Enterprise-wide Medical Clinical Information System

- **Provides** worldwide secure online, role-based access to longitudinal health records 24 hours a day, 7 days a week
- **Enables MHS providers** to document a patient’s health information and history
- **Data is consolidated in a single clinical database known as the Clinical Data Repository (CDR)**
  - VA providers access Theater data via the Bidirectional Health Information Exchange (BHIE)
Essentris® Inpatient Documentation

- Supports inpatient and Emergency Department documentation
- Deployed at MHS sites
  - In FY2011, Essentris will cover more than 90% of inpatient beds
- Information is shared with the Department of Veterans Affairs (VA)
- Integrates with medical equipment (e.g., fetal monitors, physiological monitors)
AHLTA-Theater Family of Systems

- Customizes Garrison-based AHLTA EHR capabilities to deployed medical units
  - Same look and feel as Garrison
  - “Train as you fight”
- Enables complete clinical care documentation, medical supply and equipment tracking, patient movement visibility and health surveillance in Theater environments (low/no communications)
- Data is consolidated into a single database known as the Theater Medical Data Store (TMDS)
  - Data is then transmitted to the Clinical Data Repository (CDR) to provide secure worldwide access to Service members’ health records
AHLTA-Mobile (Block 2 Release 1)

- DOD’s enterprise-wide **first responder tool** intended to support medical documentation at point of injury
  - Mobile handheld platform
  - **Point of injury documentation**
  - Automated medical coding
  - Medical reference
  - Clinical decision support
  - Feeds AHLTA-Theater
  - Enhanced data mapping and data availability in AHLTA-Theater

2009 Honorable Mention for Achievement in Government Computer News (GCN)
Joint Medical Workstation (JMeWS)

- Web-based medical command and control application hosted on the SIPRNET
- Provides medical information and unit status and readiness to medical leadership from the unit level through Joint Task Force, Combatant Commanders and on to our Service/DOD Components
Framework for Joint VA/DoD EHR

Joint Program Office Oversight

Presentation
(Common GUI)

Common Core Functionality (Notional)
- Inpatient EHR
- Radiology
- Laboratory
- Ambulatory EHR
- Scheduling
- Disability
- Pharmacy
- Survey Registry
- Blood

Common Interface Standards

Common Data Centers

Common Information Model

Common Data Model

DOD Program Office Responsibility
VA Program Office Responsibility
Potential Joint DoD/VA Responsibility

Mission Requirements & Performance Outcomes
Systems Capabilities Team
Presentation Layer Team
Infrastructure & Enterprise Architecture Team
Data Interoperability Team

DOD Primary Functionality
- Veterinary
- Pediatrics
- Battlefield Care
- OB
- Neo-natal

VA Primary Functionality
- Nursing Home
- Long Term Care
- Rehabilitate Care
- Transient Outreach

Veterinary
Pediatrics
Battlefield Care
OB
Neo-natal
Inpatient EHR
Radiology
Laboratory
Ambulatory EHR
Scheduling
Disability
Pharmacy
Survey Registry
Blood
Presentation Layer Team
Systems Capabilities Team
Mission Requirements & Performance Outcomes
Business Process Team
Infrastructure & Enterprise Architecture Team
Data Interoperability Team

Common Data Centers
Common Interface Standards
Common Interface Standards
Common Data Centers
Common Information Model
What the heck is a C32?

- “C32” = “Summary of Care” document to support emergency use case. Analogous to the DoD form “DD2766”...
- C = “Component Document” defined by HITSP
- Many varieties of “C” documents have been defined by HITSP: C37, C32, C48, C62, C84, etc...


C32 Data Modules (“Domains”). Defined by HITSP: (* = required)

- **Person Information** *
  - Language Spoken
  - Support Module
  - Healthcare Provider
  - Insurance Provider
  - Allergy/Drug Sensitivity
- **Condition**
  - Medication
  - Pregnancy
  - **Information Source** *
  - Comment
  - Advance Directive
- Immunization
- Vital Sign
- Result
- Encounter
- Procedure
CONNECT – Open source NHIN solution

Open source release

FHA

Federal Adapter

open source release

NHIN

Federal Gateway

Adapter Common Services

“Abstraction Layer”
CAL = Common Access Layer

Represents flexible adapter architecture
capability not implementation

NHIN

CONNECT – Open source NHIN solution
More than 2,000 organizations from the public and private sectors participate in the CONNECT open source community.

Focus on collaborative progress in health IT has won many awards, including the Wall Street Journal Innovation Award.

• Social Security Administration: Able to reduce disability determination processing time by 42% receiving data from MedVirginia using CONNECT

• Department of Defense and Department of Veterans Affairs: Using CONNECT as part of their Virtual Lifetime Electronic Records initiative to support lifelong health needs of active duty military and veterans

• Centers for Disease Control and Prevention: Using CONNECT to receive de-identified public health data from regional public health organizations
CONNECT – Open source NHIN solution

• CONNECT Code is Released Under the New BSD License
• Release as Open Source April 2009
• CONNECT Open Source Community Announcement June 2009
• CONNECT Community Events
  – CONNECT Training Seminars/Webinars
  – CONNECT Code-A-Thons
• CONNECT Community Focus
  – Getting organizations into production exchanging health information
    • NHIN Exchange based production
    • Non-NHIN Exchange based production