Webinar Series

Emergency Responder
Electronic Health Record
Emergency Information Infrastructure Project

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enabling healthcare interoperability
● HITSP is a volunteer-driven, consensus-based organization that is funded through a contract from the Department of Health and Human Services.

● The HITSP Panel brings together public and private-sector experts from across the healthcare community to harmonize and recommend the technical standards that are necessary to assure the interoperability of electronic health records.
Deliverables and Mode of Operation

- The HITSP Standards Harmonization Framework
  - Identify a pool of standards for an AHIC (American Health Information Community) Use Case
  - Identify gaps and overlaps in the standards for this specific Use Case
  - Make recommendations for resolution of gaps and overlaps
  - Select standards using HITSP-approved Readiness Criteria
  - Develop **Interoperability Specifications (IS)** that use the selected standard(s) for the specific context
  - Test the IS
### Current Interoperability Specifications (IS)

<table>
<thead>
<tr>
<th>IS 01</th>
<th>Electronic Health Record (EHR) Laboratory Results Reporting</th>
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<td>IS 02</td>
<td>Biosurveillance</td>
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<td>IS 03</td>
<td>Consumer Empowerment and Access to Clinical Information via Networks</td>
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<td>IS 04</td>
<td>Emergency Responder Electronic Health Record (ER-EHR)</td>
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<td>IS 05</td>
<td>Consumer Empowerment and Access to Clinical Information via Media</td>
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<td>IS 06</td>
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<td>IS 07</td>
<td>Medication Management</td>
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**HITSP** – *enabling healthcare interoperability*
This Interoperability Specification defines specific standards required to track and provide on-site emergency care professionals, medical examiner/fatality managers and public health practitioners with needed information regarding care, treatment or investigation of emergency incident victims.

— Version: 1.0 Accepted
  (Secretary of HHS has accepted for a period of testing)

— Version: 1.1.1 Panel Review
Emergency Responder Use Case

- On-site Care
  - Small Scale (e.g., car accident)
    - Local Response
- Emergency Care
  - Medium Scale (e.g., chemical spill)
    - Regional Response
- Definitive Care
  - Large Scale (e.g., pandemic)
    - National Response

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Integrated Emergency Medical Response
Emergency Responders’ Clinical-Care Information-Technology Settings

External Information Sources
- Telematics
- EHR/PHR
- Remote Devices
- Traffic

Core Services
- Agency Locator
- Identity Management/Access Control
- Digital Rights Management
- Patient Locator

Improved Processes
- Brain Injury Protocols
- Chronic Disease Care
- Heart Patient Protocols
- Transportation Safety

9-1-1/EMD
EMS
Hospitals (ED & In-Patient)
Research

Enhanced Emergency Patient Care

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AHIC Use-Case Stakeholders and Information Exchange Requirements

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Proposed Model State Emergency IT

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HITSP specifies interoperability standards; not implementation architectures.
Technology Infrastructure

- Agency Locator Service
- Identity Management/Access Control
- Message Brokers
- Systems Integration Services
- Wireless and Wired Transport
- Interoperability & Data Transformation

DATA PROVIDERS

Public
- Monitoring Devices
- Cell Phones
- Telematics
- Special Needs & Evacuation Registries

Patient Data
- Electronic Health Records
- Personal Health Records
- Emergency Contact Registries
- Insurance Information

Decision Support
- Just-in-Time Training
- Dynamic Protocols
- Predictive Algorithms

ENTRY REPRESENTATIVES

9-1-1
- Computer Aided Dispatch
- Emergency Medical Dispatch

Emergency Responder
- Patient Care Recording
- Electronic Monitoring Devices
- Input Devices
- Tracking Devices

ED/Hospital
- ED Systems
- Bed Availability Systems
- Definitive Care Systems
- Lab Systems
- Pharmacy Systems

DoD/VA
- Patient Tracking
- Health Records

Emergency Management
- Crisis Information Management Software
- Resource Management

Public Health
- Biosurveillance
- Biosensors
- Health Alert Network
- Public Health Information Network

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## Use Case Stakeholders

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Example: Patient ID Cross-Referencing Service (PID) / Emergency Contact Registry (ECON)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emergency Communications System (ECS)</strong></td>
<td>• 9-1-1&lt;br&gt;• Dispatch&lt;br&gt;• Emergency Management&lt;br&gt;• Private sources of information (e.g., OnStar)&lt;br&gt;• Supporting IT systems&lt;br&gt;• Police, fire</td>
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<tr>
<td><strong>On-Site Care Providers / Incident Commander</strong></td>
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<td><strong>Emergency Department Staff</strong></td>
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<tr>
<td><strong>Network Service Providers and Other Healthcare Systems</strong></td>
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<tr>
<td><strong>Electronic Health Record (EHR)</strong></td>
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<td><strong>Clinician</strong></td>
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<td><strong>Public Health Agencies</strong></td>
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<td><strong>Appropriate Shared (HIS) repositories</strong></td>
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<tr>
<td><strong>Another Facility</strong></td>
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<tr>
<td><strong>Medical Examiner / Fatality Manager</strong></td>
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<tr>
<td><strong>Personal Health Record (PHR)</strong></td>
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ER-EHR
Gap Harmonization Projects

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ER-EHR Gaps and Overlaps Projects

- In October 2007, the HITSP Care Delivery Technical Committee (CDTC) formed an Emergency Medical Awareness and Response (EMAR) tiger team workgroup to address its IS04 ER-EHR identified standards gaps and overlaps.
- The work was planned to be completed in 2008, resulting in an updated version of IS 04.
- National Emergency Medical Services Information System (NEMSIS) assumed the leadership of the EMAR tiger team, which is addressing or monitoring the ER-EHR related projects described on the following pages.
Integrated Emergency Medical Response
Emergency Responders’ Clinical-Care Information Technology Settings

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Gap and Harmonization Project #1
Incident and Victim Identifiers

- Develop a standard practice for the initial first responder organization (normally government) to become aware of an incident
  - assigns unique identifiers to an incident, any victims, and the other actors
  - adopts those identifiers for all information exchanged about the person or incident
  - associates person’s actual identity, when established, with the unique identifiers (UIDs) noted above
  - links a person’s historical health information and new information developed about the victim, patient, and or incident to the UIDs

The UID for both victims and incidents is a temporary ID and is used for the duration of the event by all involved
Gap and Harmonization Project #2
Common Approaches to Delivering Incident Information

- Exploring whether delivery of telematics data to the ECS and other emergency responders can be generalized to other third party incident information. This effort will consider, at a minimum:
  - OASIS EDXL Distribution Element as the routing “header” for the pre-hospital messaging, along with different payloads (VEDS, IEEE 1512)
  - The use of
    - core services to route data and provide security, including a managed list of incident types
    - internet accessible electronic maps to share information before interfaces to legacy systems are established
    - decision support tools in 9-1-1 and medical control to manage the use of the new data
Gap and Harmonization Project #3
Standardized List of Incident Types

- Develop a consensus among leaders of the key emergency response domains on incidents, names and types

— NOTE: Though this is not a standards development process, it does support the OASIS EDXL Distribution Element calls for a Managed List of Incident types
Utilize the OASIS EDXL DE and OASIS Resource Messages for Situational Awareness Reporting

- Other Situational Awareness Reporting messages are in early stages of development by a Department of Homeland Security (DHS)-sponsored process
- The DHS-Disaster Management PWG is developing potential standards
Gap and Harmonization Project #5
Emergency Contact Registry (ECON)

- IHE is developing a standardized query for law enforcement on-site access and exchange of patient-specific emergency contact information from a nationwide database, “ECON”, based upon a unique identified, such as a Vehicle Identification Number (VIN#)

  - On 12/3/07 the IHE ITI Technical Committee approved the ECON Query Profile Proposal

  - The IHE PCC Technical Committee is reviewing a Pre-Hospital Patient Care Report (PCR) Profile Proposal which will develop a standard for on-site care provider electronic download and automated entry patient-specific Emergency Contact Registry, Personal Health Record (PHR), and/or EHR data into an on-site Pre-Hospital Patient Care Report (PCR) system
Gap and Harmonization Project #6
Patient Information and Tracking Data Vocabulary / Terminology Harmonization

- The project will identify current data and exchange standards (e.g., DEEDS and NEMSIS harmonization) that are being used within EMAR enterprise and harmonize them
Gap and Harmonization Project #7
Patient Information and Tracking Messaging and Document Sharing

- Standard methods to support system to system exchange and notification of appropriate entities regarding all the information related to emergency medical response

- The resulting standards will be based upon HL7, HITSP constructs, the NEMSIS standards or the harmonized data standards that are established from Project #6
Gap and Harmonization Project #8
Nursing Terminology Overlap

- An overlap in standards has been identified by the ER-EHR Work Group in the Use Case scenario for Present Episode of Care
  - Many of the individual data elements may be captured by nursing and dependent on nursing terminology
  - A work group of nurses with expertise in nursing terminologies and emergency nursing is being convened to address this overlap.

- CONCLUSION
  - This IS will use SNOMED CT as a reference terminology with the HITSP IS pre-condition that the sending and using systems must use formal coded nursing terminologies, such as the Clinical Care Classification (CCC) System or the Omaha System
Gap and Harmonization Project #9
Development of a new HITSP Construct to support EMS cross-domain messaging

- This project will compare and contrast the prevalent OASIS pre-hospital and HL7 hospital transport protocols in order to create a HITSP transport construct that is consistent with DOT, DHS, HHS and other relevant non-healthcare On-Site ER-EHR Use Case Perspective domains
Gap and Harmonization Project #10
Remote Monitoring of Ambulance or Field-based Devices

- The goal is to have data from these electronic devices automatically update the Episode of Care Record, saving time and avoiding errors by responders.

- The 2008 Remote Monitoring (RMON) Use Case is being addressed by the Consumer Perspective TC. Its focus is home health care and does not include first responders’ life support remote monitoring devices.
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Electronic Health Record

Questions and Answers

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