

Health Information Exchange (HIE) Learning Series

EMS Exercise: DESIGN YOUR HIE SYSTEM FOR EMS

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Course Overview/Purpose

- The *Design your own HIE System for EMS: Exercise* course addresses the development and sustainability of a model that provides a platform for EMS engagement and integration of HIE in both the community (Public HIE) and private setting (Enterprise HIE). The course addresses the unique considerations related to *Multi-Agency Coordination and Interoperability* from a variety of stakeholder perspectives as well as structural considerations associated with creation of an HIE model for Emergency Medical Services systems.

Learning Objectives

At the conclusion of this Exercise, participants will be able to:

1. Identify the purpose and value of stakeholder engagement in the integration of public and private HIE to transfer patient information from EMS to hospitals;
2. Develop strategies for implementation of HIE related to EMS;
3. And, prioritize activities to improve emergency care and disaster planning.

HIE Planning Scenario

- You are assigned to plan for the development of an Health Information Exchange program for your EMS service area.
- Using your planning group at your table, discuss the following scenario and answer some questions regarding key design elements.

2 Local EMS Agencies

- 1 Urban
- 1 Mix of some Urban and some Rural

HIE Planning Scenario

- 2 Local EMS Agencies (2 Counties) work closely together and have natural patient flow patterns that make these interdependent
- 1 million Population
 - 8 Hospitals
 - 5 Ambulance Providers
 - 6 Fire Department First Responders (Non-transport)
 - 1 CHIO
 - 4 Private HIEs

8 Hospitals

- University Hospital, uses **EPIC** for their EHR, and runs their own Private HIE
- Kaiser Hospital, has 2 Hospitals in the area, uses **EPIC** for their EHR , (but it is a different EPIC build). They run their own Private HIE.
- St. Elsewhere Hospital and Health System, has 2 Hospitals, and uses **Cerner** EHR. They run their own Private HIE.
- Acme Health System has 2 hospitals, and uses **EPIC** for their EHR. They run their own Private HIE.
- Independence Hospital has 1 hospital and uses **Epic** for their EHR. They have connected with the CHIO for HIE capability.

Hospitals

- Each LEMSA and hospital uses ***Reddi-Net*** as their Emergency Communications Provider.
- What can be the potential role in health information exchange, disaster medical response, or patient tracking?

5 Ambulance Providers

- 2 Fire Department Ambulance Providers uses **ImageTrend** as their ePCR software vendor (running NEMSIS 2.2.1). Uses tablets for entry at the patient. They also have **Physio-Control** monitor/defibrillators with a capability to use the LIFENET/CODE-STAT 9.0 System.
- 1 Private Ambulance Provider uses a homegrown electronic system on NEMSIS 2.2.1. No “gurney-side” entry.
- 1 Private Ambulance Provider uses **Zoll** for their ePCR.
- 1 Private Ambulance provider uses ESO to collect its ePCR data in a NEMSIS 3x format.

6 Fire Department First Responders (Non-transport)

- 2 Fire Department First Responder Agencies that provide ambulance services also with ePCR capability
- 4 Fire Department First Responder Agencies that provide first response services and are on paper PCRs.
 - 2 are ALS Providers
 - 2 are BLS providers

HIEs

- 1 Public Community HIO, that operates using a Federated Model (*Mirth*)
- 4 Private HIEs
- A Private Provider that uses a Cloud-based Solution

Stakeholder Engagement?

- What Stakeholders do you need to bring together to design a system?
- LEMSA
- EMS Providers
- Hospitals
- Public and Private HIEs
- Medical Society

Roles?

- What is the possible roles of the LEMSA in designing and operating the system?
- What is the role of the California Trust Network?
- CAHIE?
- Hospital Association or Hospital Council?

Benefits of Connectivity?

- Meaningful Use
- Syndromic Surveillance
- Core Clinical Measures
- POLST, DNR, Advance Directives

What Information Do You Want to Exchange?

- Send to Hospital
- Receive from the Hospital

System Design?

- What linkages between EMS providers and hospitals would you use?
- Create a simple Diagram
- Should you to use a Cloud platform to connect your EMS services to the hospital?

Connectivity to the Health Information Exchanges?

- Who connects to whom?
- Will you use Direct Messaging or Exchange (Query) methodologies to obtain information?
- ***San Diego Health Connect*** has offered to assist your jurisdiction set up a system if you have a Federated Model. Thoughts?

Technical Aspects?

- What System upgrades do you need to consider to prepare this system for HIE?
 - Hardware
 - Software
- What is your Priority Order of Implementation?

Technical Aspects?

- Who needs to be on a ePCR now?
- Does NEMESIS 3x currently have CDA, CCDA and CCD documentation that has been approved by HL7?
- What critical information must EMS personnel collect and enter in the ePCR in order to connect with a Master Patient Index (MPI)?

Legal and Privacy?

- What HIPAA Privacy and Security Rules and California Confidentiality of Medical Information Act (CMIA) issues must be addressed?
- What Agreements (ie Business Associate) are required and between whom?
- Who needs to participate in a DURSA?

What Barriers Do You Need to Overcome?

- Initial Funding for Infrastructure?
- Sustainability? How would you pay for the system to be self-sustaining?
- Would the providers be willing to pay \$1 a record? \$2 a record?
- Privacy and Security?

Disaster Planning?

- The 2 adjacent LEMSAs wish to connect their operational HIEs to yours for disaster response. One is running a *Mirth* platform and another an *Orion* platform.
- Can ADT messages be used to help with patient tracking?

Disaster and Emergency Planning for Individuals?

- There is a large disaster planning group that is pushing individuals to have BlueButton technology (*Humetrix*).

What other Considerations are Required in Designing Your System?

Questions???

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