State and National Directions for HIE and Quality in Emergency Medical Services (EMS)

Daniel R. Smiley
Chief Deputy Director
California EMS Authority
February 20, 2014
Today ....

What is HIE related to EMS?

- Health Information Exchange allows health care professionals and patients to appropriately access and securely share a patient’s vital medical information electronically.
- Data Exchange for Meaningful Use
- Data Exchange for EMS Core Measures

HIE Grant Outcomes

HIE Directions

- State
- Office of the National Coordinator
LEMSAs, EMS Providers, and Hospitals working together for health information exchange
HIE for EMS
HIE for EMS

Meaningful Use
HIE for EMS

Local Quality Improvement

LEMSA

Ambulance Provider

Hospital
HIE for EMS

EMS Core Measures

LEMSA

EMS Authority
Meaningful Use

Uses **EHR Technology** to:

- Improve quality, safety, efficiency
- Reduce health disparities
- Engage patients and family
- Improve care coordination and public health
- Maintain privacy and security of patient health information

**Leads to:**

- Better clinical and population health outcomes
- Increased transparency and efficiency
- Empowered individuals
- More robust research data on health systems
**Meaningful Use**

Uses **EHR Technology**

Improve quality, safety, and efficiency
Reduce health disparities
Engage patients and families
Improve care coordination and public health
Maintain privacy and security of patient health information

Leads to:
Better clinical and population health outcomes
Increased transparency and efficiency
Empowered individuals
More robust research data on health systems
EMS Core Measures

20 Measures
- Trauma
- Acute Coronary Syndrome/Heart Attack
- Cardiac Arrest
- Stroke
- Respiratory
- Pain Intervention
- Pediatric
- Skill Performance by EMS Providers
- Response and Transport
- Public Education of bystander CPR

Next information due March 31, 2014 -- for 2012 and 2013 data
2013 HIE Project Goals

Cal-OHII Grant to EMSA

- August – Dec 2013
- $300,000 Grant

Deliverables

- EMS Readiness Assessment for HIE
- 3 Local Demonstration Projects
  - Monterey
  - Contra Costa County
  - Inland Counties EMS
- EMS and HIE Conference (Nov 2013)
California HIE Readiness Assessment

Approximate Percentage of Agency Providers on ePCR or paper

- ePCR: 71%
- Paper: 29%
## California HIE Readiness Assessment

<table>
<thead>
<tr>
<th>Stages</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 7</td>
<td>HIE functional, bidirectional sharing of data between the ePCR and hospital based EHR, business and clinical intelligence.</td>
</tr>
<tr>
<td>Stage 6</td>
<td>HIE capable, Transfer of data from the ePCR to hospital based EHR.</td>
</tr>
<tr>
<td>Stage 5</td>
<td>HIE capable, Advanced clinical decision support (on-line medical direction) through hospital Dashboard, proactive care management, and structured messaging.</td>
</tr>
<tr>
<td>Stage 4</td>
<td>ePCR transmission to Hospital Dashboard, including EKG, available at the hospital, receiving unidirectional information from the field “real-time”.</td>
</tr>
<tr>
<td>Stage 3</td>
<td>ePCR entry, computers have replaced the paper chart for “real-time” data entry, clinical documentation and clinical decision support (pre-hospital protocols).</td>
</tr>
<tr>
<td>Stage 2</td>
<td>Beginning of a computerized data record (CDR), computers may be at point-of-care.</td>
</tr>
<tr>
<td>Stage 1</td>
<td>Desktop access to PCR information entered after the call, multiple data sources.</td>
</tr>
<tr>
<td>Stage 0</td>
<td>Paper chart based</td>
</tr>
</tbody>
</table>
California HIE Readiness Assessment

<table>
<thead>
<tr>
<th>Stages</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stage 7</strong></td>
<td>HIE functional, bidirectional sharing of data between the ePCR and hospital based EHR, business and clinical intelligence.</td>
</tr>
<tr>
<td><strong>Stage 6</strong></td>
<td>HIE capable, Transfer of data from the ePCR to hospital based EHR.</td>
</tr>
<tr>
<td><strong>Stage 5</strong></td>
<td>HIE capable, Advanced clinical decision support (on-line medical direction) through hospital Dashboard, proactive care management, and structured messaging.</td>
</tr>
<tr>
<td><strong>Stage 4</strong></td>
<td>ePCR transmission to Hospital Dashboard, including EKG, available at the hospital, receiving unidirectional information from the field “real-time”.</td>
</tr>
<tr>
<td><strong>Stage 3</strong></td>
<td>ePCR entry, computers have replaced the paper chart for “real-time” data entry, clinical documentation and clinical decision support (pre-hospital protocols).</td>
</tr>
<tr>
<td><strong>Stage 2</strong></td>
<td>Beginning of a computerized data record (CDR), computers may be at point-of-care.</td>
</tr>
<tr>
<td><strong>Stage 1</strong></td>
<td>Desktop access to PCR information entered after the call, multiple data sources.</td>
</tr>
<tr>
<td><strong>Stage 0</strong></td>
<td>Paper chart based</td>
</tr>
</tbody>
</table>

71% of EMS providers are at Stage 3 or above.
Describe what level your agency is at based on the 7 levels of EMS ePCR and HIE Adoption Model (more than one option may apply)

- Stage 0 - Paper chart based: 30.3%
- Stage 1 - Desktop access to PCR information entered after the call: 18.2%
- Stage 2 - Beginning of a computerized data record (CDR), computers may... 35.4%
- Stage 3 - ePCR entry, computers have replaced the paper chart for "re... 78.8%
- Stage 4 - ePCR transmission to Hospital Dashboard, including EKG, ava... 42.4%
- Stage 5 - HIE capable, Advanced clinical decision support (cn-line me...  
- Stage 6 - HIE capable, Transfer of data from the ePCR to hospital bas...  
- Stage 7 - HIE functional, bidirectional sharing of data between the e...
California HIE Readiness Assessment

64% of LEMSAs transmit patient care information to the hospital

By using one or more of the following:

- Faxes: 81%
- Emails: 25%
- Programs to submit directly to “patient record”: 37%
California HIE Readiness Assessment

- 62% of LEMSAs transmit patient information to the hospital, prior to arrival
- 12% say they integrate ePCR data directly into the hospital EMR system
California HIE Readiness Assessment

- 50% Nyet, 50% Da: Is cost a barrier?
- 68% Nyet, 32% Da: Is time to implement a barrier?
- 42% Nyet, 58% Da: Is training a barrier?
- 36% Nyet, 64% Da: Is change management a barrier?
# 2013 HIE Project Outcomes

<table>
<thead>
<tr>
<th>Monterey</th>
<th>Contra Costa</th>
<th>ICEMA</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Purchased Hospital Data Exchange software</td>
<td>• Agency-level data systems analysis using IHI and Six-Sigma</td>
<td>• Purchased software for deploying real-time hospital dashboards</td>
</tr>
<tr>
<td>• Established test environment</td>
<td>• Roadmap for EMS data integration with Contra Costa Health System Information Services</td>
<td>• Testing begun</td>
</tr>
<tr>
<td>• Software deployed, live transactions successful between AMR and Natividad Medical Center.</td>
<td></td>
<td>• Extension of capabilities of ImageTrend to NorCal EMS, North Coast EMS, parts of SSV EMS</td>
</tr>
<tr>
<td>• Peer-to-Peer Connection</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Barriers to HIE

• Agencies at various stages of HIE system development
• Myths about HIPAA and liability discourage patient data sharing
• Not everyone’s path to HIE success is the same
• New forms of collaboration across organizational boundaries raise policy questions that must be addressed
Health Insurance Portability and Accountability Act (HIPAA)

- Emphasis on “Portability”
- Not a barrier to Health Information Exchange
- EMSA and LEMSAs are not covered entities
- EMSA and LEMSAs are public health oversight agencies
- Entitled to receive information
Working Model for EMS and HIE

- EMS Providers must have ePCR capability
- Hospitals must be willing to accept ePCR data into their EHR
- Work with Community Health Information Organizations (HIOs) as the information hub
- Match EMS providers and EMS receiving hospitals
Model for Use of Community HIO

- Community HIO
  - Multiple Ambulance Providers
  - Multiple Receiving Hospitals
SB 1621 (Lowenthal)

- Just Introduced and will likely see many changes
- Requires EMSA to write regulations
- Requires EMSA to have Statewide EMS Data System
- Requires standards for data (ie NEMSIS 3) and transmission (ie HL7)
- Requires “Real-Time” information from field to hospital
- Requires hospitals to participate in connecting with EMS for Health Information Exchange
HIE Implementation Roadmap for EMS

• Project with ONC to create roadmap
• Must consider Emergency Preparedness
• Potential Steps
  – Implement Provider ePCR
  – Coordinate with Community HIO
  – Transmission to Hospital Dashboard
  – Incorporation of electronic data into EHR at hospital
  – Emergency Preparedness applications with patient tracking
Next Steps for HIE and EMS

• Continue with Projects:
  • Contra Costa EMS, Kaiser, AMR, and HealthShare Bay Area (HIO)
  • Santa Clara County ($)
• Road Map for HIE Implementation
• Connecting Regional HIOs with EMS and Hospitals
• Another Conference????
Thank you!

Dan.smiley@emsa.ca.gov