Welcome to the 4th California HIE for EMS Summit

The convergence of data, information, and quality in California

Howard Backer MD, MPH, Director
Daniel Smiley, Chief Deputy Director
California Emergency Medical Services Authority
EMS Agenda for the Future (1996)

1. Uniform set of data elements and definitions;
2. mechanisms to generate and transmit data that are valid, reliable, and accurate;
3. information systems that describe the entire EMS event so that patient outcomes and cost-effectiveness issues can be determined;
4. collaborate with other health care providers and community resources to develop integrated information systems; and
5. provide feedback to those who generate data through research results, quality improvement programs, and evaluations.
Converging Forces for Data

• National
  – NEMSIS 3.4
  – DOT/NHTSA support
  – HIE grant
  – Health care quality and policy
  – Compass initiative
  – EMS future success

• State
  – EMSA priority
  – Statutory mandates
  – DOT/OTS support
  – Need for data, quality, performance improvement
“Better Care, healthier people, and lower costs”
Office of the National Coordinator for HIT
Legislation affecting Data and HIE

AB1129 – 2015

HSC 1797.227

1. Each emergency medical care provider must use an electronic health record;

2. The electronic record must be compliant with the current version of NEMSIS (3.4) and CEMSIS.

3. Providers must submit data to LEMSA
Data to Information
Do We Need Performance Measures?

- Evaluate performance of EMS services
- Demonstrate value
  - Pay for performance is coming
- Develop a culture of performance improvement
- Improve patient care and outcomes
EMS Core Measures

- Now analyzing year 4 data
- 17 measures in 8 sets
- Includes process, outcome, and structural measures
- 27 LEMSAs reported 15-17 measures in 2016
  - 6 reported fewer measures

http://www.emsa.ca.gov/core quality measures
Compass Project: National Performance Measures
Recommended 14 measures in 8 categories

- Trauma destination
- Trauma Pain
- Pediatric medication error prevention
- Vehicle operations safety
- Pediatric respiratory
- Hypoglycemia treatment
- Stroke
- Seizure and status epilepticus
Data for Performance Improvement: Ambulance Patient Offload Time

AB 1223 — 2015
Health and Safety Code 1797.120 and 1797.225
Statewide standard methodology for the calculation and reporting of ambulance patient offload time

APOT 1
90% percentile of time interval for time to transfer care from EMS to Emergency Dept staff

APOT 2
Proportion of calls beyond a standard transfer time—the outliers
Chart 2 - Ambulance Patient Off-load Performance 2nd Quarter 2016

as Measured by the Percentage of Patients Off-loaded at each Hospital within Established Time Segments

<table>
<thead>
<tr>
<th>Hospital</th>
<th>&lt;30 Minutes</th>
<th>30 to 60 Minutes</th>
<th>&gt;60 Minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sutter-Tracy Hospital</td>
<td>42%</td>
<td>55%</td>
<td>3%</td>
</tr>
<tr>
<td>St Josephs M.C.</td>
<td>15%</td>
<td>58%</td>
<td>27%</td>
</tr>
<tr>
<td>San Joaquin General</td>
<td>24%</td>
<td>54%</td>
<td>22%</td>
</tr>
<tr>
<td>Lodi Memorial</td>
<td>41%</td>
<td>54%</td>
<td>5%</td>
</tr>
<tr>
<td>Kaiser Hospital</td>
<td>55%</td>
<td>36%</td>
<td>9%</td>
</tr>
<tr>
<td>Doctors Hospital</td>
<td>65%</td>
<td>24%</td>
<td>12%</td>
</tr>
<tr>
<td>Dameron</td>
<td>28%</td>
<td>44%</td>
<td>28%</td>
</tr>
</tbody>
</table>

Total Number of Patient Off-loads Per Hospital

**LEGEND**
- Green: <30 Minutes
- Yellow: 30 to 60 Minutes
- Red: >60 Minutes
Alameda County EMS APOT 2

February 2017

APOT Occurrence Bins:
- >180 Min.
- 121-180 Min.
- 61-120 Min.
- 21-60 Min.
- <20 Min.

NOTE: APOT occurrence bins conform to the APOT-2 specification as approved by EMS Commission 12-14-16 (Rev 11-17-2016)

<table>
<thead>
<tr>
<th>Hospital</th>
<th>&lt;20 Min</th>
<th>21-60 Min</th>
<th>61-120 Min</th>
<th>121-180 Min</th>
<th>&gt;180 Min</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABMC - Berkeley</td>
<td>72%</td>
<td>76%</td>
<td>78%</td>
<td>81%</td>
<td>66%</td>
</tr>
<tr>
<td>ABMC - Summit</td>
<td>76%</td>
<td>72%</td>
<td>78%</td>
<td>81%</td>
<td>66%</td>
</tr>
<tr>
<td>Alameda Hospital</td>
<td>81%</td>
<td>70%</td>
<td>81%</td>
<td>86%</td>
<td>56%</td>
</tr>
<tr>
<td>Children's Hospital</td>
<td>81%</td>
<td>70%</td>
<td>81%</td>
<td>86%</td>
<td>56%</td>
</tr>
<tr>
<td>Eden</td>
<td>41%</td>
<td>28%</td>
<td>18%</td>
<td>13%</td>
<td>32%</td>
</tr>
<tr>
<td>Highland</td>
<td>24%</td>
<td>26%</td>
<td>25%</td>
<td>26%</td>
<td>21%</td>
</tr>
<tr>
<td>John George</td>
<td>24%</td>
<td>26%</td>
<td>25%</td>
<td>26%</td>
<td>21%</td>
</tr>
<tr>
<td>Kaiser - Walnut Creek</td>
<td>26%</td>
<td>24%</td>
<td>25%</td>
<td>26%</td>
<td>21%</td>
</tr>
<tr>
<td>Kaiser Fremont</td>
<td>26%</td>
<td>24%</td>
<td>25%</td>
<td>26%</td>
<td>21%</td>
</tr>
<tr>
<td>Kaiser Oakland</td>
<td>85%</td>
<td>70%</td>
<td>76%</td>
<td>75%</td>
<td>70%</td>
</tr>
<tr>
<td>Kaiser San Leandro</td>
<td>75%</td>
<td>70%</td>
<td>76%</td>
<td>74%</td>
<td>73%</td>
</tr>
<tr>
<td>San Leandro Hospital</td>
<td>75%</td>
<td>70%</td>
<td>76%</td>
<td>74%</td>
<td>73%</td>
</tr>
<tr>
<td>St. Rose</td>
<td>75%</td>
<td>70%</td>
<td>76%</td>
<td>74%</td>
<td>73%</td>
</tr>
<tr>
<td>ValleyCare</td>
<td>75%</td>
<td>70%</td>
<td>76%</td>
<td>74%</td>
<td>73%</td>
</tr>
<tr>
<td>Washington</td>
<td>75%</td>
<td>70%</td>
<td>76%</td>
<td>74%</td>
<td>73%</td>
</tr>
</tbody>
</table>
Health Information Exchange

- Greater ability to aggregate and analyze system data to ultimately improve population health
- Improve clinical decision support
- Improved transitions of care
- Build more complete longitudinal patient record
- Better patient experiences
- Reduced cost
Health Information Exchange

2015-2017 Grant from Office of the National Coordinator for HIT:

to develop technology, infrastructure, policies and agreements that enable interoperable, bidirectional HIE between EMS, HIOs, and hospitals in daily EMS operations and between multiple HIOs during a disaster.

Goal is for EMS to become a full participant in the electronic exchange of health information
Use Case #1: Day-to-Day EMS use (+EMS: Orange, San Diego, ICEMA)

SAFR Functionality Model

- **SEARCH** -- Paramedics may look up and display patient problem list, meds, allergies
- **ALERT** -- Display real-time patient information on hospital dashboard
- **FILE** -- Incorporate the ePCR data into the hospital EHR
- **RECONCILE** -- Receive patient disposition data from hospital EHR

- Improve patient decision-making
- Improve patient care
- Improve transitions of care
- Build better longitudinal patient record
- Improve population health
Use Case #2: Mobile Integrated Health Care/Community Paramedicine

Innovative collaborations with community health partners to fill gaps in health care delivery

Paramedics in Non-Emergency Settings
- Frequent Users of EMS
- Post Discharge follow-up to decrease 30-day readmission
- Hospice
- Public Health (TB therapy)

Transport to Alternate Destinations
- Behavioral health
- Sobering
- Urgent Care
Use Case #3: POLST eRegistry (Physician’s Order for Life Sustaining Treatment)

• Allows Emergency Medical staff to honor patient’s end-of-life wishes

Funded by California Health Care Foundation (CHCF) Funded

Still in development phase
California POLST eRegistry Pilot Act (SB 19)

Probate Code 4788

– establish a pilot project, in consultation with stakeholders, to operate an electronic registry system on a pilot basis

– Improve compliance with end-of-life wishes through linkage with electronic medical records within health systems to send, receive, find, and use POLST information
Use Case #4: Disaster Patient Unified Look-up System for Emergencies (PULSE)

- Disaster HIE network with EMS, health system EHR, DHV
- Disaster Healthcare Volunteers: Physicians, FNPs, PAs, Nurses, Pharmacists, Paramedics
- Access outside of standard medical facility: Alternate Care Facility, medical shelter, field triage site
Sustainability and Growth of HIE for EMS

State Medicaid Director Letter (SMDL) #16-003, February 29, 2016

• Supports “Connecting Health and Care for the Nation: A Shared Nationwide Interoperability Roadmap Version 1.0”

• Potential for federal funding at 90% / 10% federal / state match for activities promoting health information exchange (HIE) that supports Eligible Providers and meets Meaningful Use
EMSA STRATEGY/GOALS FOR DATA, INFORMATION, AND QUALITY

- Fully digital system using current NEMSIS (3.4)
- Complete data submission
- Data analysis at LEMSA and State level
- Continue to develop EMS Core Measures
- Revision of CQI Regulations (Chapter 12)
- Develop HIE between EMS and Hospitals
- Seek Medi-Cal Funding to expand HIE
Noteworthy Challenges from Report

• A single, more comprehensive national standard dataset
• Motivating EMS to accurately collect data
• Reluctance to share data and information with other agencies.
• Stronger connection between data collected the information to address local issues.
• Underuse of national and State EMS data for research and decision-making.

Beyond EMS Data Collection, NHTSA 2016
Challenges for the future

- Data culture
- Standard reports and performance measures
- Technology: User friendly and promotes data quality (automate and data rules)
- Decision-support software within ePCR
- Integration with EMR
- Return on Investment for data systems

Beyond EMS Data Collection, NHTSA 2016
Contact Information

Howard.Backer@emsa.ca.gov
Dan.Smiley@emsa.ca.gov

(916) 322-4336

Website: www.emsa.ca.gov/