

# Health Information Exchange in Emergency Medical Services

California Emergency Medical Services Authority  
July 2015



# California EMS Authority HIE Team

**Project Director:**

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**EMS Data Manager:**

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**Technical Advisor:**

**TBD (Contract)**

**Disaster Medical Coordinator:**

**Patrick Lynch, RN, DHV Manager**



# Office of the National Coordinator Health Information Exchange Grant

- \$2.75 million to develop technology, infrastructure, policies and agreements that enable interoperable, bidirectional HIE between multiple HIOs during a disaster and between EMS, HIOs, and hospitals in daily EMS operations.
- Term: July 27, 2015 – July 26, 2017
- Milestones: Adoption, Interoperability, Exchange
  - *Connectivity and exchange between at least four existing HIOs*
  - *Connectivity and exchange between ePCR and EHR in at least two LEMSAs*





**Vision:** EMS is a full participant in health information exchange with the ability to securely send, receive, find and use relevant patient information.

**Path:** Support technical and administrative infrastructure development to enable EMS providers and hospitals to securely share electronic patient information via health information organizations.

**Rationale:** Better patient care, outcomes and experiences; more complete longitudinal patient record; greater ability to aggregate and analyze system data; and more resilience in the face of disasters.



# Patient Unified Lookup System for Emergencies

## **PULSE**

- PULSE will connect multiple data sources to an interoperability broker
- using exchange specifications, direct secure messaging and federated directory services
- enabled by the California Trusted Exchange Network (CTEN) following “Integrating the Healthcare Enterprise” (IHE) standards
- accessed via several user interfaces created for different purposes and user types

**PULSE+EMS**

**PULSE+EHR-Link**

**PULSE+DHV**





- HIEs, HIOs, Health Systems



- Disaster Healthcare Volunteers (DHV) access to patient records from alternate care sites



- Hospital staff access to remote HIOs for EHRs on patients displaced during a disaster



- Hospitals, physicians, labs, imaging, pharmacies



- Search
- Alert
- File
- Reconcile

# PULSE+EHR-Link

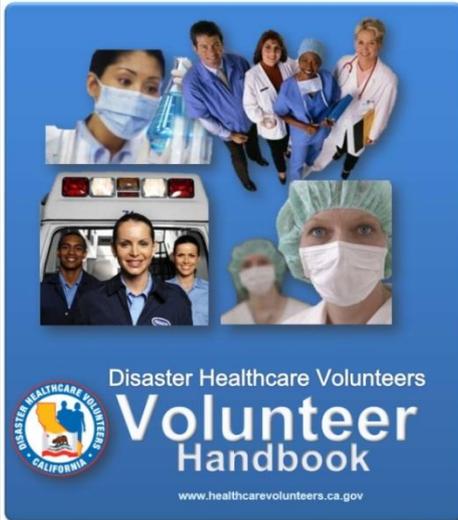
During disasters patients may be transported to a hospital outside the affected area for treatment.



- Establish pre-existing connectivity with participating HIOs that would be “turned on” under disaster declaration scenarios.
- Emergency department personnel may find health information for a relocated patient directly from EHR screen.

# PULSE+DHV

Provides access to patient health information for health care workers in alternate care sites.



- Web portal activated during a disaster
- 21,000 disaster health care personnel will have access
- Secure sign-on technology
- Health care professionals would be able to access patient records through their existing employer or HIO systems, or through a web portal.



# ESSENTIAL HIE FUNCTIONS IN PULSE +EMS

<b>S</b>	<b>SEARCH:</b>	PARAMEDICS and EMTs may look up and display patient problem list, medications, allergies, POLST and DNR in field on ePCR screen	Improve clinical decision making Improve patient care
<b>A</b>	<b>ALERT:</b>	Display patient Information on hospital dashboard at ED to alert and share incoming patient information to assist in time-sensitive therapies	Improve decision support Better transitions of care Improve patient care
<b>F</b>	<b>FILE:</b>	Incorporate ePCR data into hospital EHR in HL7 format (using NEMESIS 3.4 CDA standards)	Build better longitudinal patient record
<b>R</b>	<b>RECONCILE:</b>	Receive patient disposition information from hospital EHR to add to EMS provider patient record	Improve population health



## SEARCH



ePCR requests limited data set on patient from CHIO

HIO searches via PULSE and sends data to ePCR



## ALERT



ePCR sends patient information to ED while on-scene or enroute

ED may send instructions to EMS while on-scene or enroute



## FILE



ePCR sends patient data for merge into to EHR

ePCR data is merged into EHR



## RECONCILE



ePCR receives and incorporates close-out data from EHR

EHR sends outcome data to ePCR at conclusion



# Working Assumptions

- EMS Providers have ePCR systems that are NEMESIS 3 Compliant
- Utilize HL7 language with the NEMESIS CDA
- EHRs are modified to incorporate patient data from an ePCR
- Hospitals are 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
- All parties sign the California Data Use and Reciprocal Support Agreement (CalDURSA)



# Two-Year Budget Breakdown

- Total Project Budget: \$3,668,904
- Federal Share: \$2,751,678 (Disbursed at milestones)
- Non-Federal Share: \$917,226 (matching dollars)
- Contractual: \$2,281,522
- Personnel: \$325,440 (Project Coordinator and .5 FTE Grant Analyst)
- Travel: \$42,756 (Advisory Committee, Site Visits, ONC Grantee Meetings)
- Other: \$98,960 (HIE in EMS Conferences, Advisory Committee)
- Supplies: \$3,000



# Contracts

- Program Planning and Compliance at EMSA
- Contractual Services
  - *1 Contract Technical Advisor services (RFO out now)*
  - *1 Contract to build PULSE technical interoperability based upon PULSE architecture (SSO, SAML2)*
  - *Minimum of 4 HIO Contracts for PULSE Interoperability and Exchange*
  - *1 Contract for DHV Interface (SSO, SAML2)*
  - *Minimum of 2 Contracts for local +EMS implementation (HIO, 9-1-1 ambulance provider, hospital)*

*\*All contracts will follow federal and state procurement policies and requirements*



# QUESTIONS?

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