

CALIFORNIA +EMS
PROJECT TO IMPLEMENT
THE SAFR FUNCTIONAL
MODEL FOR HIE

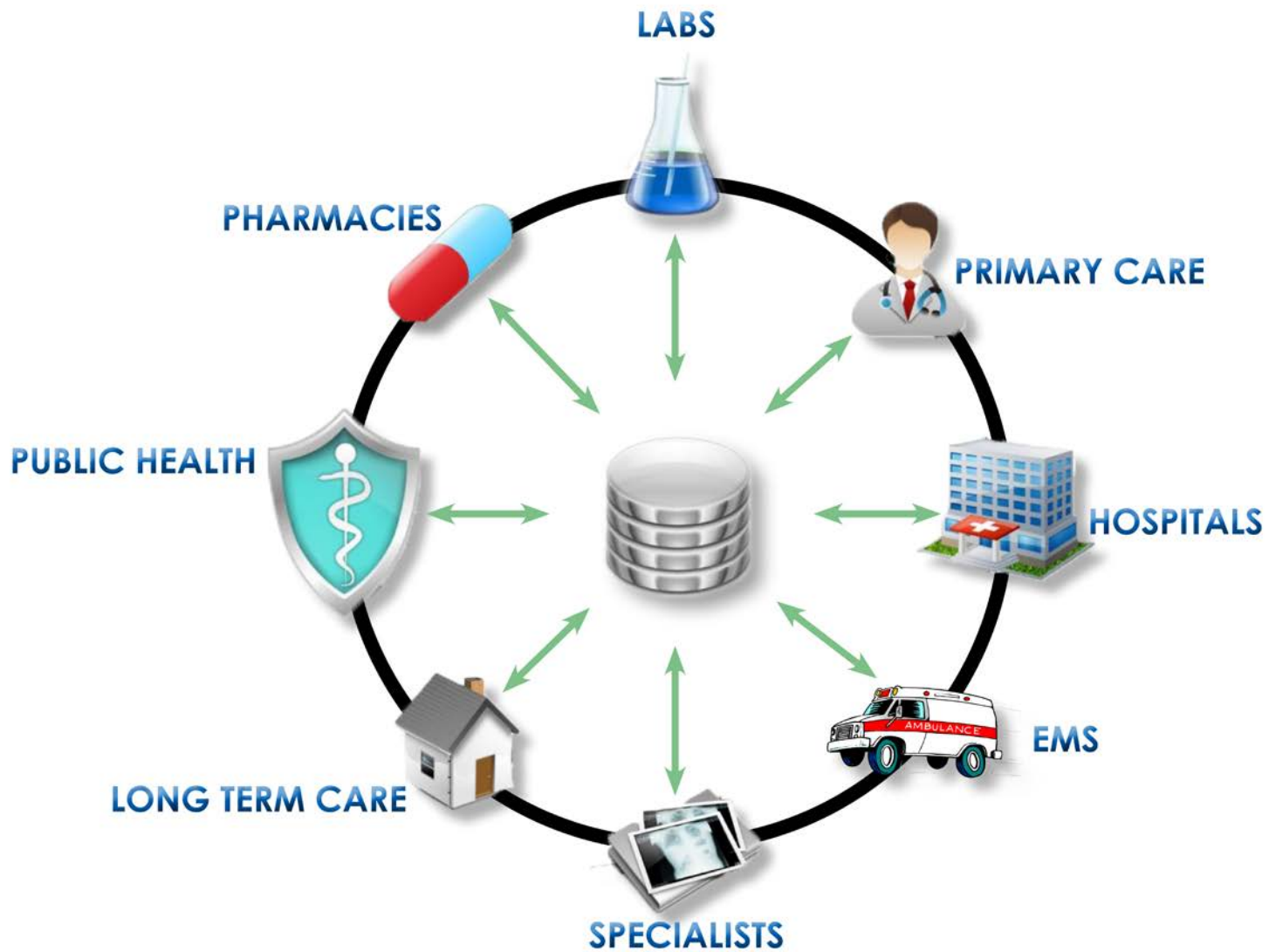
Daniel Smiley

Chief Deputy Director

*California Emergency Medical
Services Authority*

State of California





Vision

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

Connecting EMS to the broader healthcare system

Purpose

- Better patient outcomes and experiences
- Improved transitions of care
- More complete longitudinal patient record
- Greater ability to aggregate and analyze system data
- Resilience in the face of disasters

Strategy

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

PULSE +EMS History



ONC funded an initial study by Ai in 2014 that concluded that HIE can improve disaster medical response and daily EMS.

The result was the conceptualization of a disaster response medical history portal (PULSE).

It also recommended exchange of patient health information for daily EMS use (+EMS).

HHS IDEA Lab Ventures Award to ASPR funded the PULSE architecture by Ai in 2015.

The Project Team (ONC, ASPR, EMSA CAHIE, Ai) developed the use case for a pilot of PULSE in California.



- 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

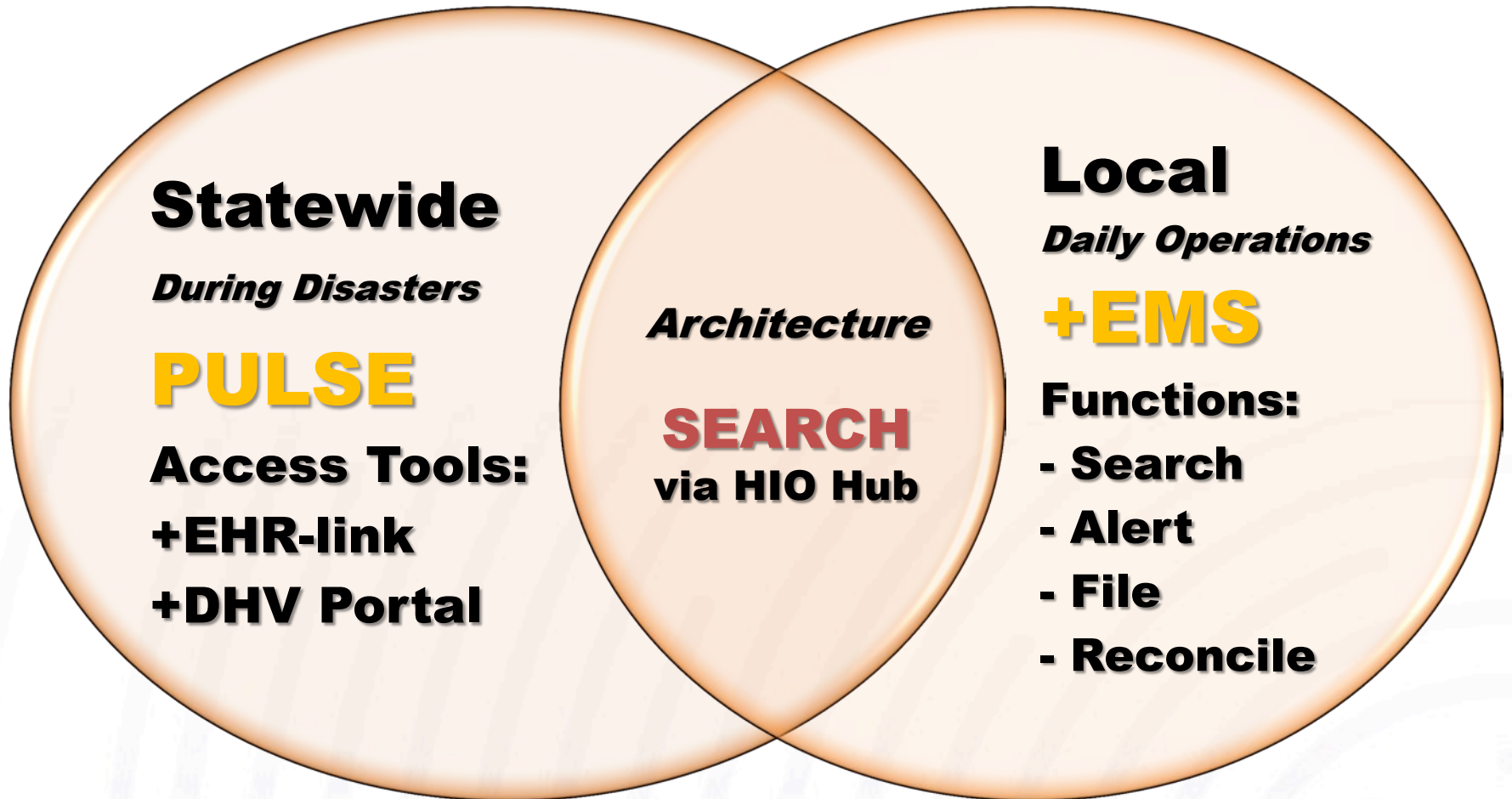


- Hospitals, physicians, labs, imaging, pharmacies

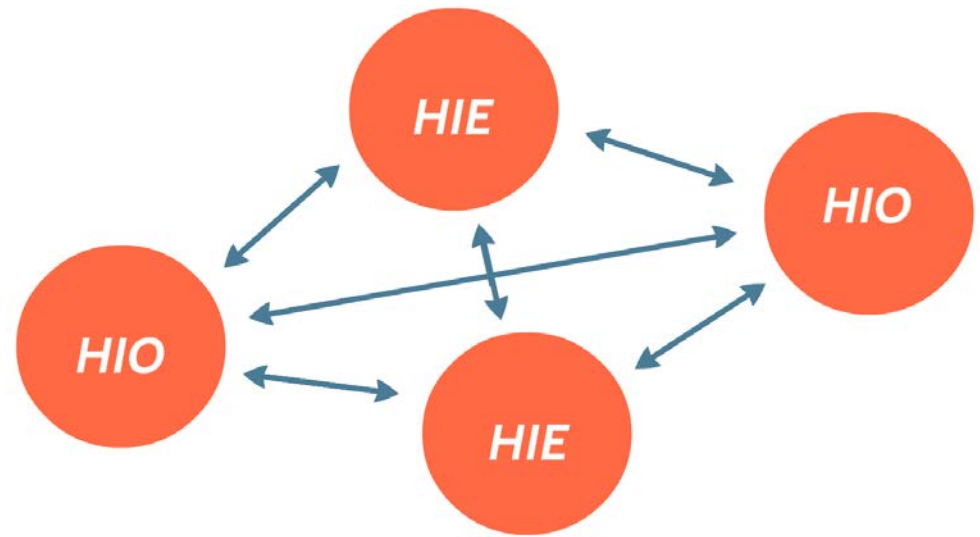


- Search
- Alert
- File
- Reconcile

PULSE+EMS Project Relationships



PULSE



- Multiple data sources
- Interoperability broker
- Search function for three use cases
- Direct secure messaging and federated directory services
- Enabled by the California Trusted Exchange Network (CTEN)
- Integrating the Healthcare Enterprise (IHE) standards



+DHV

Access to web portal with CCD information on patients being treated in an alternate care site, shelter or field hospital



+EHR-link

Access to EHRs on relocated patients from within existing hospital EHR system

Statewide
Intended for use during disaster response



+EMS

Will enable EMS providers on scene to exchange patient health information with local hospitals.

***Local Area
Intended for use during daily EMS operations***

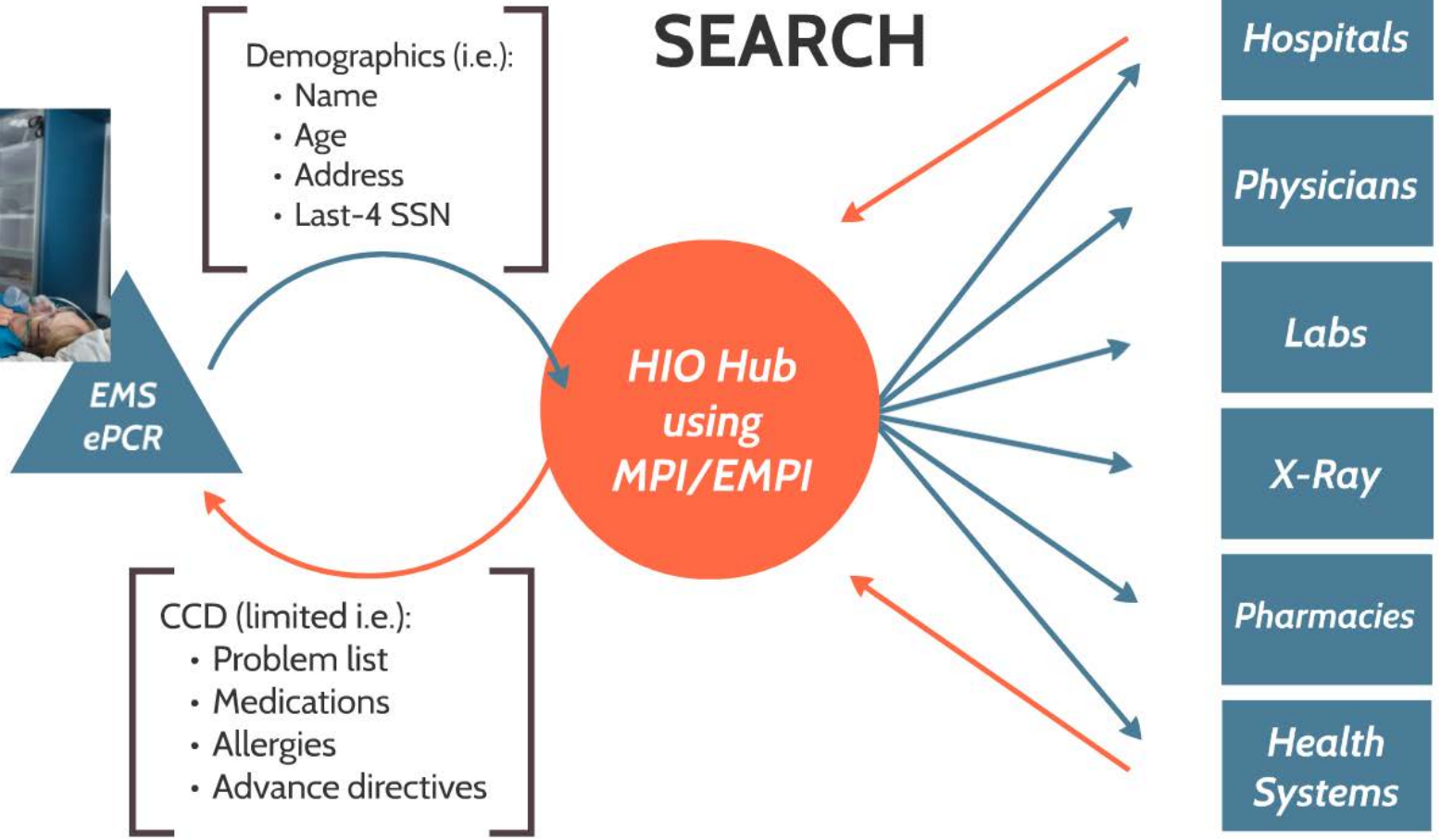
+EMS

Four HIE Functions for EMS:

Search, Alert, File, Reconcile

SAFR

S	SEARCH:	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
A	ALERT:	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
F	FILE:	Incorporate ePCR data into hospital EHR in HL7 format (using NEMESIS 3.4 CDA standards)	Build better longitudinal patient record
R	RECONCILE:	Receive patient disposition information from hospital EHR to add to EMS provider patient record	Improve population health



Demographics (i.e.):

- Name
- Age
- Address
- Last-4 SSN
- Cell phone
- Etc.

CCD (limited i.e.):

- Problem list
- Medications
- Allergies
- Advance directives



EMS
ePCR

ALERT



NEMSIS format CDA
to ED dashboard



Emergency
Department



EMS
ePCR

FILE



NEMESIS 3 XML to HL7
Structured data, not PDF



Hospital
EHR

FILE Challenges

- Current practice is to attach a PDF of PCR
- Under the ONC grant PDF is not considered HIE because it's not consumable information
- EHRs are not currently structured to receive NEMESIS 3 data elements in HL7 format
- Need to align NEMESIS 3 elements with the 18 CCD elements



**EMS
ePCR**

RECONCILE



NEMESIS eOutcome Measures



***Hospital
EHR***

Advance Interoperable Health IT to Support HIE Program

- Expand HIE functionality and benefits to provider types that were not included in the meaningful use incentive program
- Promote access to external sources of health information to improve care delivery
- Develop interoperability to improve longitudinal patient records and QA/QI efforts

PULSE+EMS Grant from ONC

Funded by Cooperative Agreement

Grant #90IX0006/01-00

Office of the National Coordinator,

U.S. Department of Health and Human Services

- 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

Adoption

- Service level agreements, governance documents
- SEARCH and ALERT connectivity in +EMS
- PULSE user testing of +DHV and +EHR-link

Exchange

- SEARCH and ALERT functionality in +EMS
- PULSE tabletop drill for +DHV and +EHR-link

Interoperability

- FILE and RECONCILE functionality in +EMS

Contractual Services

- 1 Contract for Technical Advisor services
- 1 Contract for PULSE 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*

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 the EHR
- Work with Community Health Information Organizations (HIOs) as the information hub, in some cases
- Match EMS providers and EMS receiving hospitals
- Review California Data Use and Reciprocal Support Agreement (CaDURSA) for consistency with PULSE+EMS Project

Next Steps

- Working with federal, state and local partners
 - ONC
 - NHTSA
 - NEMSIS
 - ASPR
 - CalOHII
 - CAHIE
 - Local EMS Agencies
- EMSA will issue grants to implement PULSE+EMS

Contact Information

Dan.Smiley@emsa.ca.gov

Jim.Switzgable@emsa.ca.gov

June.Iljana@emsa.ca.gov

(916) 431-3723

Website: www.emsa.ca.gov/HIE

Blog: hieinemsinca.wordpress.com