EMS and HIE in San Diego County

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“When you see a parade forming around an issue, you have two choices. You can throw your body in front of it and let them walk over you, or you can jump in front of the parade and pretend it is yours”
- Anonymous
Build and strengthen health IT infrastructure and exchange capabilities - positioning each community to pursue a new level of sustainable health care quality and efficiency over the coming years.

Improve cost, quality, and population health - translating investments in health IT in the short run to measureable improvements in the 3-part aim.

Test innovative approaches to performance measurement, technology integration, and care delivery - accelerating evidence generation for new approaches.

EHR Adoption and Meaningful Use as the Foundation
San Diego

- 3.2 million people
  - Second most populous County in the state, 5th most populous county in the U.S.
  - Has a larger population than 20 of the 50 States

- 4,526 square miles
- 70 miles of coastline
- Geographic diversity: Coast, mountain, desert
- 86 miles of international border - Busiest land-border crossing in the world

- 3 Military Facilities
- 18 federally recognized Indian Reservations
- 19 Acute Care Hospitals
- 4 Non-acute/Rehab Hospitals
- 115 clinics
- 9,000 physicians
Interoperability is an Imperative

The Need

- Health care needs the equivalent of ATM/ACH interbank network Interoperability to improve quality of care, contain costs and help providers realize value from HIE. To accomplish this, a broad and diverse group of industry stakeholders need to work collaboratively in an open, transparent and inclusive way to bridge current silos of connectivity.

The Challenge

- Disparate initiatives are working on interoperability, but not in a coordinated or cohesive way. Lack of a neutral convener industry coordination at a regional level. As a result, internetwork connectivity is limited; and limited essential services to enable internetwork interoperability

The Solution

- Neutral, Transparent and Open to All
- San Diego Health Connect
San Diego Health Connect Architecture

- Clinical Cloud Services
- 911/EMS Cloud Services
- Public Health Cloud Services
- Device/Environmental Cloud Services
Service Lines

- Services will add value for providers and patients
- Care coordination focus
- Right time, right place
- Provide a path to financial stability
- Patient records linked
Suite of Services

- Clinical Cloud
  - Community Clinical Exchange
  - Health-e-way Exchange
  - Direct Exchange
  - Radiology Imaging
  - Import Medical Device Data
  - Alert Notifications
Suite of Services

• Pre-hospital Cloud - where data is available to electronically
  – Pre-hospital Record, ECG, & Images
  – Search Capability into the HIE
  – Case Management
  – 911 Analytics

• Health Optimization
  – Immunization, Electronic Lab Reporting
  – Syndromic Surveillance
  – Alert Notifications
Pre-hospital HIE

- Pre-hospital data available to hospitals electronically
  - Pre-hospital record
  - Electrocardiograms
  - Images and video
- EMS Agency/Vendor Partners
  - SD City EMS
  - AMR
  - Fieldsaver
EMS Hub Architectural Review

- Intelligent/timely routing of EMS information to appropriate destination facility
  - Controlled access to EMS data in EMS Hub
  - Targeted push into destination system (e.g. referrals)

- Current Status
  - SSO from facilities and HIE SSO portal
  - Data directly from and to data sources
  - EMS patients not linked to HIE MPI
EMS Hub – Analysis and Recommendations

• All SSO through the SSO portal
• Data into and out from the EMS Hub through the HIE interface engine
• Tighter integration with HIE (patient identity data to update HIE MPI, access to Virtual Record from EMS Hub, and respond to HIE query)
EMS Hub - Updated
EMS Hub

1. CAD 911 data is sent in real-time.
2. EMS may send EKG prior to EMS Run Report.
3. EMS contacts MICN and indicates base hospital.
4. CAD data merges with EKG data and EMS Report.
5. MICN sees EMS Run data that is available.
6. EMS indicates destination hospital which displays at destination hospital application.
EMS Hub Jurisdictions

- San Diego
- Carlsbad
- Vista
- Escondido
- El Cajon
- Poway
- Oceanside

- Coronado
- Julian
- Cuyamaca
- San Marcos
- Santee
- Lakeside

Hospitals On Board

- Rady
- DoD
- Sharp
- UCSD
Benefits

- More efficient pre-hospital communication
- Frequent flyer identification and management
- Direct notification of receiving hospitals
- Elimination of redundancy
- More timely reporting
- Integration of CAD and ePCRs
- County reporting
- Streamlined medical control
- Regional preparedness and crisis response
EMS Hub – Future

- Broader market appeal
- Action items:
  - Determine if CAD and EKG data handling requires modification for integration
  - Determine if EMS routing rules and workflow variations require more configurability
  - Determine needs and feasibility of multi-tenancy support
Enhancements Implemented

- QCS Integration – integration of first responder reporting to County of San Diego
- Additional functionality
  - Runs matched
  - EKGs matched
  - CAD data created runs
  - Additional incidents to the Hub
Proposed Overall Architecture
SDRHIE MacroEconomics

- Financial model –
  - Exchange 70%
  - PH Reporting 15%
    - Target: ~$0.14 - $0.18 per life per year
  - EMS Services 10%
    - Target: $1.00 per run or ~$0.10 per life per year
  - Direct and messaging 5%
New EMS Products and Services

- Enhancements - Street Sense integration, Billing interface
- EMS Hub workgroup forming 1Q14
  - Complete HIE integration
  - Direct messaging and alerting
  - BLS Module
  - Public health reporting integration
  - Medication reconciliation
  - Complete EHR sharing capability
  - HIE mobile capability
  - ICE Blue Button
Future benefits

• Clinical closed loop feedback system
• Improve billing process
• Opportunity to create
  – Mobile Integrated Health
  – Community Paramedicine
• State network – AB 1621
Why We are Optimistic

• We have the relationships
• The technology is possible
• We already see improvements
• The conversation has started
• Agreement this is a marathon not a sprint
• We are committed
Questions?