Health Information Exchange
Improving Health by Improving Communication
SacValley MedShare
Health Information Exchange

ENLOE MEDICAL CENTER

Oroville Hospital

Adventist Health
Feather River Hospital

Ampla Health
Care to improve your life.

SACVALLEY MEDSHARE

MEDICAL CENTER

BGMS

SHD

Orchard Hospital
You're Our Priority

NORTH STATE RADIOLOGY
Traditional Urban HIE

- Focused on querying stored data
- Data mostly from large facilities
  - Acute-care hospitals
  - Large multi-specialty clinics
  - Few small-group providers
  - Rarely any solo practitioners
- Interfacing cost and maintenance
Our region
Mostly frontier or rural
<table>
<thead>
<tr>
<th>Hospital</th>
<th>Size</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enloe Medical Center</td>
<td>298 beds</td>
<td>Level 2 Trauma</td>
</tr>
<tr>
<td>Oroville Hospital</td>
<td>153 beds</td>
<td></td>
</tr>
<tr>
<td>Feather River Hospital</td>
<td>100 beds</td>
<td></td>
</tr>
<tr>
<td>Orchard Hospital</td>
<td>46 (includes SNF)</td>
<td>Critical access</td>
</tr>
<tr>
<td>Seneca Hospital</td>
<td>26 beds</td>
<td>Critical access</td>
</tr>
<tr>
<td>Glenn Medical</td>
<td>47 beds (includes SNF)</td>
<td>Critical access</td>
</tr>
<tr>
<td>Colusa Hospital</td>
<td>30 beds</td>
<td>Critical Access</td>
</tr>
</tbody>
</table>
Our physician practices

Number of Physicians

Physicians practice size

MEDIAN
Rural HIE

• To survive, it has to be:
  • Adaptable
  • Affordable
  • Willing to collaborate
  • Prepared to innovate
Basic Services

- **Secured user-to-user information transfer**
  - Direct® protocol
  - Can carry many types of information
  - Simple, economical
  - Nowhere near to its potential yet

- **Ability to retrieve information across locations**
  - Query-response protocols
  - Patient medical summaries
  - Stored patient data from EHRs and/or HIE
Direct

Secure, encrypted information transfer for health professionals
HIPAA and security

- HIPAA allows personal health information transfer without explicit patient authorization
  - Between covered health providers
  - For treatment purposes
  - Using reasonable safeguards for transfer

- Normal e-mail or text-messaging are NOT secure
  - Message body is in plain text
  - Attachments are unprotected files.
Direct

- Highly secure information transport
  - Digitally signed
  - Digitally encrypted
- Fully HIPAA-compliant, endorsed by CMS
- Can be accessed like web-based email
  - Can carry many kinds of information as attached files
  - Very economical to deploy
  - Very simple to implement and use
  - Connectivity via basic wireless/cellular internet
- Potential uses >> Current use
What can go via Direct?

Adventist Health
Feather River Hospital

CCD

Choose well. Choose Enloe.

Oroville Hospital

EMERGENCY CARE

EMTALA

Ampla Health
Care to improve your life.
How do I access it?

- Access wherever there is an internet data connection
  - Wired
  - Wireless Wi-Fi
  - Cellular
- Web-based – portal
- Access from
  - Desktop computer
  - Laptop computer
  - Tablet
  - Smart-phone
Access via SVMS portal
Send information out

Attached images and files
Message text
Message with attached files

From: test.meditech@enloe.sacvalleymedshare.org
Subject: Testing for presentation
Date: February 19, 2014 11:17am CST
To: narinder.singh@orovillehosp.sacvalleymedshare.org

Attached files:
- DriverLicence.PNG
- Scene.jpg
- EKG.png

Trauma on highway 70 near Chester, one victim, driver
Driver License info attached
EKG looks like AMI

ETA 15 min.
Background info
Victim identity
Vital information
Receive information back

Important information
sent by receiving facility or
other source
### POLST/ AD info.

#### Physician Orders for Life-Sustaining Treatment (POLST)

First follow these orders, then contact physician. This is a Physician Order Sheet based on the person’s current medical condition and wishes. Any section not completed implies full treatment for that section. A copy of the signed POLST form is legal and valid. POLST complements an Advance Directive and is not intended to replace that document. Everyone shall be treated with dignity and respect.

**Patient Last Name:** BIN-LADEN  
**Date Form Prepared:** 2-10-10

**Patient First Name:** Osama  
**Patient Date of Birth:** 3-17-60

**Patient Middle Name:** Medical Record #: (optional)

### Cardiopulmonary Resuscitation (CPR):
- If person has no pulse and is not breathing.
- When NOT in cardiopulmonary arrest, follow orders in Sections B and C.

- ☐ Attempt Resuscitation/CPR (Selecting CPR in Section A requires selecting Full Treatment in Section B)
- ☒ Do Not Attempt Resuscitation/DNR (Allow Natural Death)

### Medical Interventions:
- If person has pulse and/or is breathing.

- ☒ Comfort Measures Only  
  Relieve pain and suffering through the use of medication by any route, positioning, wound care and other measures. Use oxygen, suction and manual treatment of airway obstruction as needed for comfort. **Transfer to hospital only if comfort needs cannot be met in current location.**

- ☐ Limited Additional Interventions  
  In addition to care described in Comfort Measures Only, use medical treatment, antibiotics, and IV fluids as indicated. Do not intubate. May use non-invasive positive airway pressure. Generally avoid intensive care.  
  **Transfer to hospital only if comfort needs cannot be met in current location.**

- ☐ Full Treatment  
  In addition to care described in Comfort Measures Only and Limited Additional Interventions, use intubation, advanced airway interventions, mechanical ventilation, and defibrillation/cardioversion as indicated. **Transfer to hospital if indicated. Includes intensive care.**

**Additional Orders:** You use AED on me, I use LED on you!
Continuity of Care Document

Good Health Clinic Consultation Note

Patient: Henry Levin, the 7th
Date of birth: September 24, 1932
Sex: Male
Contact info: address not available, Telecom information not available
Document Id: c266 2.16.840.1.113883.19.4
Document Created: April 7, 2000
Author: Robert Dolin, MD
Encounter Id: KPENC1332 2.16.840.1.113883.19.6
Encounter Date: at April 7, 2000
Encounter Location: General internal medicine clinic
Legal authenticator: Robert Dolin, MD signed at April 8, 2000
Document maintained by: Good Health Clinic

Table of Contents
- History of Present Illness
- Past Medical History
- Medications
- Allergies and Adverse Reactions
- Family History
- Social History
- Physical Examination
- Labs
- In-office Procedures
- Assessment
- Plan

History of Present Illness

Henry Levin, the 7th is a 67 year old male referred for further asthma management. Onset of asthma in his teens. He was hospitalized twice last year, and already twice this year. He has not been able to be weaned off steroids for the past several months.

Past Medical History

- Asthma
- Hypertension (see HTN.cda for details)
- Osteoarthritis, right knee

Medications

- Theodur 200mg BID
- Proventil inhaler 2 puffs QID PRN
- Prednisone 20mg qd
- HCTZ 25mg qd
Query-response

Search for any available information across participating locations
Query-response

- Able to request information by patient identifiers
- Broadcast a request to all online HIE participants
- Returns lists of available medical information
  - Condensed medical summaries (CCDs) from connected office and hospital EHRs
  - Stored CCDs on the HIE
  - Stored data fed to HIE (labs, imaging results, etc.)
- View data via web portal
Patient/Visit Summary - CCD

```xml
<component>
  <section>
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    <text>
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        <item>Proventil inhaler 2puffs QID PRN</item>
        <item>Prednisone 20mg qd</item>
        <item>HCTZ 25mg qd</item>
      </list>
    </text>
  </section>
  <entry>
    <substanceAdministration classCode="SBADM" moodCode="EVN">
      <text>Theodur 200mg BID</text>
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        <period value="12" unit="h"/>
      </effectiveTime>
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      <doseQuantity value="200" unit="mg"/>
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          </manufacturedLabeledDrug>
        </manufacturedProduct>
      </consumable>
    </substanceAdministration>
  </entry>
</component>
```
History of Present Illness

Henry Levin, the 7th
is a 67 year old male referred for further asthma management. Onset of asthma in his teens. He was hospitalized twice last year, and already twice this year. He has not been able to be weaned off steroids for the past several months.

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Medications

Theodur 200mg BID  Proventil inhaler 2puffs QID PRN  Prednisone 20mg qd  HCTZ 25mg qd
The Summary of Care CCD

- Demographics (and insurance info) for the patient
- Medications, allergies and medical problems
- Recent labs and procedures done
- Functional and cognitive status evaluation
- List of Care-Team members, providers involved.
- Instructions provided, referrals made
- Many other optional elements +/- attachments
Direct + Query-Response

**Direct**
- Secure system for transferring data and text
- Querying and sending is user-controlled
  - Only available to the named recipient
  - Confidential information not otherwise released
- Wide range of attachments possible

**Query-Response**
- Automated search for information from all participants
- Levels of confidentiality
  - Open across providers
  - Emergency-only (“break-glass”)
  - No access granted
- Information limited to available content
Implementation

• Direct
  • In active testing now
  • Live +/- beginning of Q2 2014

• Query-Response
  • Initial infrastructure +/- Q2-Q4 2014
  • Initial testing Q3-Q4 2014
  • Aiming for live +/- end of 2014
Going beyond traditional HIE

- What information would I like to send inward securely?
  - To base
  - To receiving facilities

- What information do I want that the fixed facilities have?
  - Blind search?
  - Direct request for particular documents?
Adapt, adjust, survive

- We will provide the traditional tools
  - Query-response for summarized medical information
- We will provide secured communication
  - Direct messaging for HIPAA-compliant two-way data transfer
- We will work with you to solve your communication problems
  - Innovation, expertise
  - Technology
Help SacValley MedShare to help you

We provide secure exchange of clinical data to assist you with providing better healthcare
Discussion