
**Use Case Title: Disaster Preparedness**

**Overview:** The Patient Unified Lookup System for Emergencies (PULSE) is a web-based platform used by authorized disaster healthcare volunteers, who are credentialed by the state to treat individuals injured or displaced by disasters in alternative care facilities, such as field clinics.

Volunteers log into PULSE to request and access essential information needed for treatment such as medications, allergies and problems from providers who previously treated those individuals.

**Value:** The PULSE system is designed to provide healthcare professionals caring for displaced persons with medical conditions with consistent, concise individual document representations of individuals' health information which may be drawn from disparate systems in the region, in case of major disaster event. The disparate systems could include HIOs, health systems, ambulatory practices, emergency medical service agencies, etc.

**Scheduled times:**
Tuesday: 12-12:30
Tuesday: 2:30-3
Tuesday: 5-5:30
Wednesday: 12-12:30
VIP Tour: Wednesday 1:30-2

the sequoia project

PULSE
Patient Unified Lookup System for Emergencies

| Scenario |
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| ***1: Incident***<br>August 7th, at, 11:00 am, a magnitude 7.0 earthquake strikes the Hayward Fault along 52 miles in the San Francisco Bay area. Berkeley, Oakland, San Leandro, and Hayward are the hardest hit, impacting a densely urbanized, interconnected area with more than 7 million people.<br>• 77,000 households are displaced due to the main shock, with 800 fatalities and 18,000 nonfatal injuries<br>• > 2,500 people require rescue from collapsed buildings; 22,000 people from stalled elevators.<br>• In the coming days/weeks/months, up to 152,000 households (411,000 people) are impacted by landslides, fires, aftershocks |
| ***2: During the 1st 72 hours***<br>The state immediately declares a disaster and activates local and State command and disaster response.<br>• The number of injuries in the hardest hit areas will far exceed the available resources for medical treatment<br>• There is significant damage to existing care delivery facilities, limiting capacity to treat those affected<br>• There is loss of power and water supply for 7 days, and in some areas, for 6 months.<br>• Net result: tens of thousands of people who are injured, medically fragile, or displaced (e.g chronically ill, Rx refills, etc.) will need treatment outside of the regular care delivery system. |

| Scenario | | | |
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| ***3: Starting August 8th***<br>• Alternate care facilities, equipped with laptops and satellite internet access, are set up to provide medical treatment for non-life-threatening circumstances.<br>• Disaster health volunteers (who are credentialed and authorized to treat patients in disasters) are deployed to provide medical treatment at these locations.<br>• PULSE is activated and deployed, providing volunteers access to medication history, allergies and care summaries from where the patient was previously treated. | Sequoia Project | PULSE | **IHE:** HPD, XCPD, XCA, XCA-I, XDS, XDS-I, XDR, XUA,<br><br>**HL7** V2.x, HITSP C32, HL7 C-CDA R1.1, & R2.1<br><br>eHealth Exchange Specification |
| ***4: Emergency Responder***<br>Jeremy Wong is disaster healthcare volunteer who has just reported to a nearby ACF in Oakland. Jeremy authenticates to the PULSE System and is able to access the health history of the patients he is treating. | Sequoia Project | PULSE | |

**Data exchange standards:**

- **Transport: IHE IT Infrastructure Technical Framework** (Online at http://ihe.net/uploadedFiles/Documents/ITI/IHE_ITI_TF_Vol2b.pdf)**:**
  - Cross-Community Access (XCA)
  - Audit Trail and Node Authentication (ATNA)
  - Cross-Community Access for Imaging (XCA-I)
  - Cross-Community Patient Discovery (XCPD)
  - Cross Enterprise Document Sharing (XDS.b)
  - Cross-Enterprise Document Sharing for Imaging.b (XDS-I.b)
  - Cross-Enterprise Document Reliable Interchange (XDR)
  - Cross-Enterprise User Assertion (XUA)
- **HL7 Messaging Standard (v2.x)** (online at http://www.hl7.org)
- **Clinical Content: (Learn more online at https://sequoiaproject.org/ehealth-exchange/testing-overview/content-testing/)**
  - HITSP C32 (online at http://hitsp.org/Handlers/HitspFileServer.aspx?FileGuid=e1b99525-a1a5-48f6-a958-4b2fc6d7a5c7)
  - HL7 Implementation Guide for CDA® Release 2: IHE Health Story Consolidation, Release 1.1 - US Realm (HL7 C-CDA R1.1) (online at http://www.hl7.org/implement/standards/product_brief.cfm?product_id=258) and associated MU companion guide: http://www.hl7.org/implement/standards/product_brief.cfm?product_id=374
  - HL7 Implementation Guide for CDA® Release 2: Consolidated CDA Templates for Clinical Notes (US Realm), Draft Standard for Trial Use Release 2.1, August 2015 (HL7 C-CDA R2.1) (online at hhttp://www.hl7.org/dstucomments/showdetail.cfm?dstuid=168) and the associated companion guide: http://www.hl7.org/implement/standards/product_brief.cfm?product_id=447
- **eHealth Exchange Specifications and Data Sharing Agreement**
  - eHealth Exchange Specifications: https://sequoiaproject.org/resources/exchange-specifications/
  - eHealth Exchange Data Use and Reciprocal Support Agreement (DURSA) link is https://sequoiaproject.org/ehealth-exchange/onboarding/dursa/