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# **Emergency Preparedness and Health Information Technology**

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**Update for the e-Health Advisory Committee-  
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# Patient Unified Lookup System for Emergencies (PULSE)

1. Developed by the State of California with the support of the Centers for Medicare and Medicaid Services and the Office of the National Coordinator for Health Information Technology.
2. Enables authorized emergency responders to query for and view patient records with a focus on disaster response situations.
3. Functions
  - a. Utilizes connections established with healthcare information providers and other data sources leveraging Health Information Exchanges (HIEs) to enable real-time access to patient records.
  - b. Controls access to the system using role-based security, leveraging health care workers pre-registration, where available.
  - c. Uses a federated approach for querying requests to minimize duplication of patient records.



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# Topic Areas

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- Governance and Operations
- Technical Infrastructure and Operational Support
- Deployment Considerations
- Healthcare Information Providers
- Emergency Responders
- Training
- Interstate Considerations



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# Governance and Operational Infrastructure

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1. Governance structure must be developed
2. Must align with emergency preparedness/response plans
3. Activation plan for state and/or sub-state emergencies
4. Method(s) of funding
  - a. Acquisition
  - b. Ongoing costs
5. MOU/contract development and management
  - a. Infrastructure
  - b. Health information providers
  - c. Emergency responders
6. Operational rules development and oversight



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# Technical Infrastructure and Operational Activities

1. PULSE requires technical infrastructure to operate (servers/network connectivity)
2. Secure data center
3. Reliable power/connectivity/failover
4. Operational support
  - a. Connectivity
  - b. Healthcare information provider helpdesk
  - c. Emergency responder helpdesk
  - d. Incident management and coordination with emergency operations center
    - i. Activation
    - ii. Closeout activities
5. PULSE system enhancements



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# Deployment Considerations

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1. Use of specialized support team for initial deployments
2. Scalability for medical teams self-administration
3. Validating credentials and training status for users
4. Maintenance of equipment and provision of wireless services



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# Health Information Providers

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1. Provider types
  - a. HIEs, hospitals, ambulatory care providers, residential care providers, behavioral health providers, pharmacies, long-term care providers, others
2. To participate, users must agree to provide access to protected health information (could leverage other agreements/laws)
3. Recruitment/onboarding/retention plan
4. Communications plan



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# Emergency Responders

1. PULSE uses individuals registered in an existing volunteer registry system.
2. Volunteer categories include an array of medical and medical-related roles.
3. Managed through response activation and the appropriate plan (local/regional/state).
4. At activation, access can be “turned on” at the direction of the incident commander for select volunteers.
5. At incident end, access is deactivated.
6. Shelters must have equipment and connectivity.



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# Training Needs

1. Audience
  - a. Health Information Providers
  - b. Emergency Response
    - i. Emergency Operations Center staff
    - ii. Medical team leads
    - iii. Medical team
2. Topics
  - a. Value of participation
  - b. Resolving patient identity
  - c. Records selection/review
  - d. Records maintenance
3. Methods
  - a. Table-top exercise
  - b. Drill



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# Potential PULSE Use Cases in Texas

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1. Medical shelter
  - a. Coordinated with DSHS medical shelter
  - b. Complex patient needs
2. General population shelter
  - a. Identify missing medication
  - b. Emergent issue in shelter
3. Examples of previous activities using HIEs in Texas
  - a. Texas Health Services Authority's and HIE activities response to Hurricane Harvey
  - b. State facilities in Hurricane Harvey



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# State-level Workgroup

1. HHSC, DSHS, and THSA conducted two workgroup meetings on 09/17 and 09/25.
2. Short-term planning (e.g., what if Hurricane Michael had “taken a left turn” toward Texas?)
3. Long-term planning
  - a. Broader stakeholder workgroups representing state and local level
  - b. Funding
  - c. Infrastructure
  - d. Training
4. Next steps: Work with all stakeholders to secure funding and implement system into state disaster response plan.



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# PULSE Technology

1. PULSE is a “read only,” standards-based web application.
2. PULSE uses national standards (HL7® FHIR®) to find locations where patient data is stored.
3. PULSE uses other national standards (IHE XCPD/XCA) to query responding systems containing patient medical data.
4. All communications are encrypted.
5. PULSE logs all requests.
6. PULSE is HIPAA compliant.
7. The clinical information (HL7® consolidated continuity of care document architecture) can include: allergies, problems (conditions), medications (current and historical), advanced directives, care team members, family members, care plan, hospital discharge summaries, and more.



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# National PULSE Update

1. Genesis was Hurricane Katrina
2. PULSE was developed with the support of ONC and CMS via a grant which confirmed viability and need
3. National governance of PULSE was transferred to The Sequoia Project
4. Sequoia current is working with a large stakeholder group to:
  - a. Continue refinements to PULSE at the technology and governance levels,
  - b. Educate states about the availability of PULSE, and
  - c. Deploying PULSE as a national-scale product.
5. Nora Belcher (from Texas) sits on the national PULSE Advisory Council.



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# PULSE Status

1. Federal Department of Health and Human Services has indicated that matching funding may be available for states to support PULSE.
2. Other states have activated and deployed PULSE in response to natural disasters based on the pilot version.
3. PULSE would likely connect to local, state, and national networks, providing:
  - a. Connectivity to HIEs,
  - b. Connectivity to neighboring states when such disaster response coordination is needed, and
  - c. Connectivity to other data sources including the Veteran's Health Administration electronic health record system to help Texas veterans during disasters.



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# PULSE

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## Questions?



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