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Leveraging Health Information Exchange for Disaster Preparedness and Response to Improve Patient Care

Southeast Regional HIT-HIE Collaboration Health Information Exchange Disaster Planning Project

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Public Health, Preparedness
and Response Training Summit
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www.rti.org

Disclaimer

The views in this presentation do not necessarily represent those of the U.S. Department of Health and Human Services (HHS) or the Office of the National Coordinator for Health IT (ONC)

Takeaways from this Presentation

- Today's presentation will cover the following topics:
  - Describe the general Health Information Exchange (HIE) framework and environment and how it applies to disaster preparedness and response activities.
  - Explore Emergency Support Function (ESF) 8 approaches to seamless interstate response before, during, and in the aftermath of a declared disaster, and how these practices can facilitate HIE.
  - Identify potential overlap between ESF 8 response and HIE activities, and how this can be leveraged to improve patient care.

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What is HIE?

The verb: electronic exchange of health information between providers, within or across health care organizations

The noun: An organization that facilitates the exchange of health information.
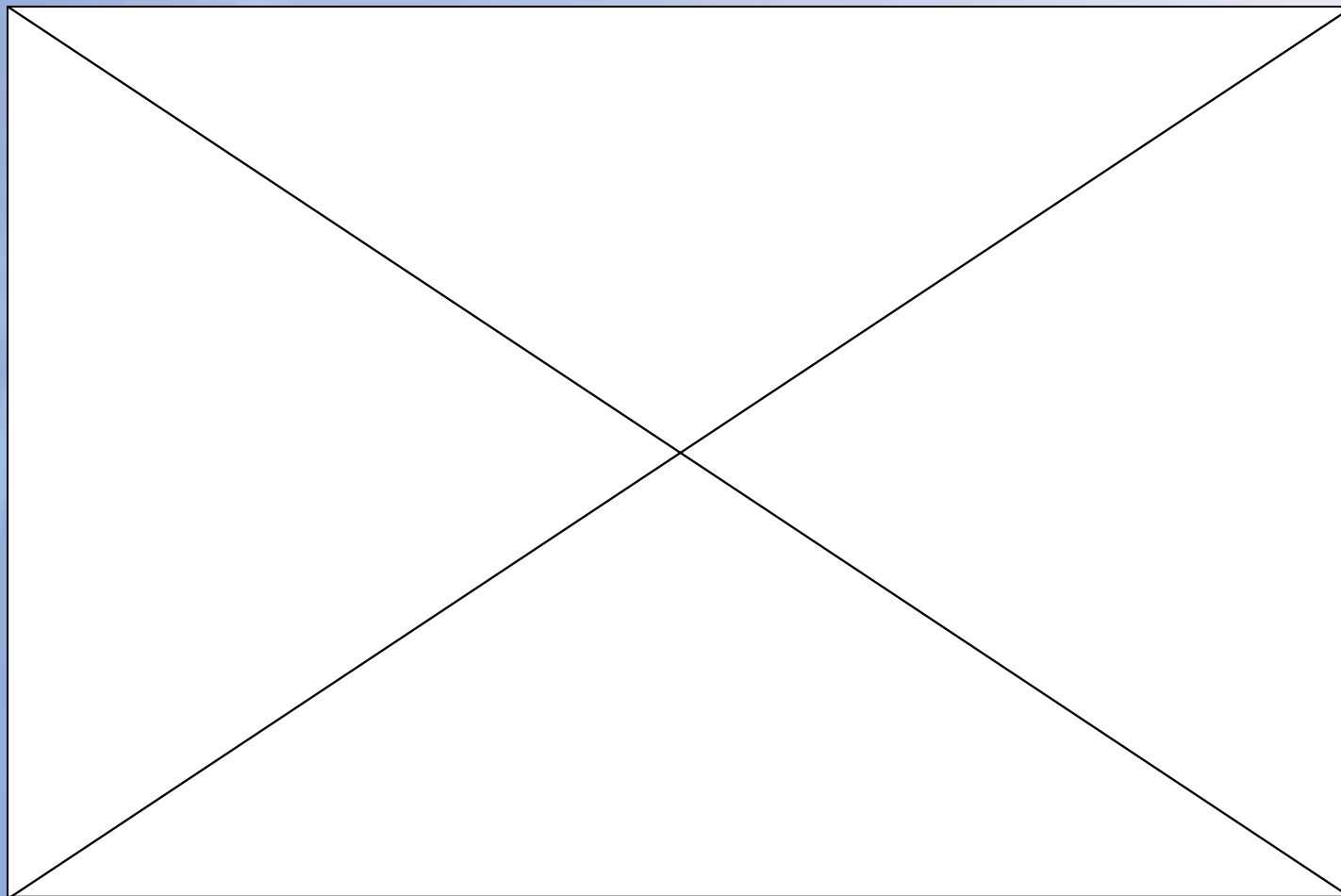
Let's try polling!

- Are you familiar with HIE?

Response	Code
Very Familiar	306011
Somewhat Familiar	306051
Not Familiar	306060

Text Response to 22333 THEN enter appropriate code below
Normal Messaging Rates May Apply

Polling Results

Evolution of Health IT and HIE

- 2004: President Bush issues executive order calling for all Americans to have electronic health records (EHRs) by 2014. Creates Office of the National Coordinator for Health IT (ONC)

- 2008: 17% of physicians in ambulatory practices have EHRs

- 2009: ARRA/HITECH passes
  - State HIE Cooperative Agreements
  - Regional Extension Centers
  - Beacon Communities
  - Medicare and Medicaid EHR Incentive Programs (Meaningful Use)

- 2012: 46.5% of physician practices have EHRs

Collaboration for HIE Disaster Planning

- The State Health Policy Consortium (SHPC): funded by ONC and administered by RTI International.

- The Southeast Regional HIT-HIE Collaboration (SERCH) HIE Disaster Planning Project: addressed use of HIE in preparing for natural disasters that displace patients and providers.

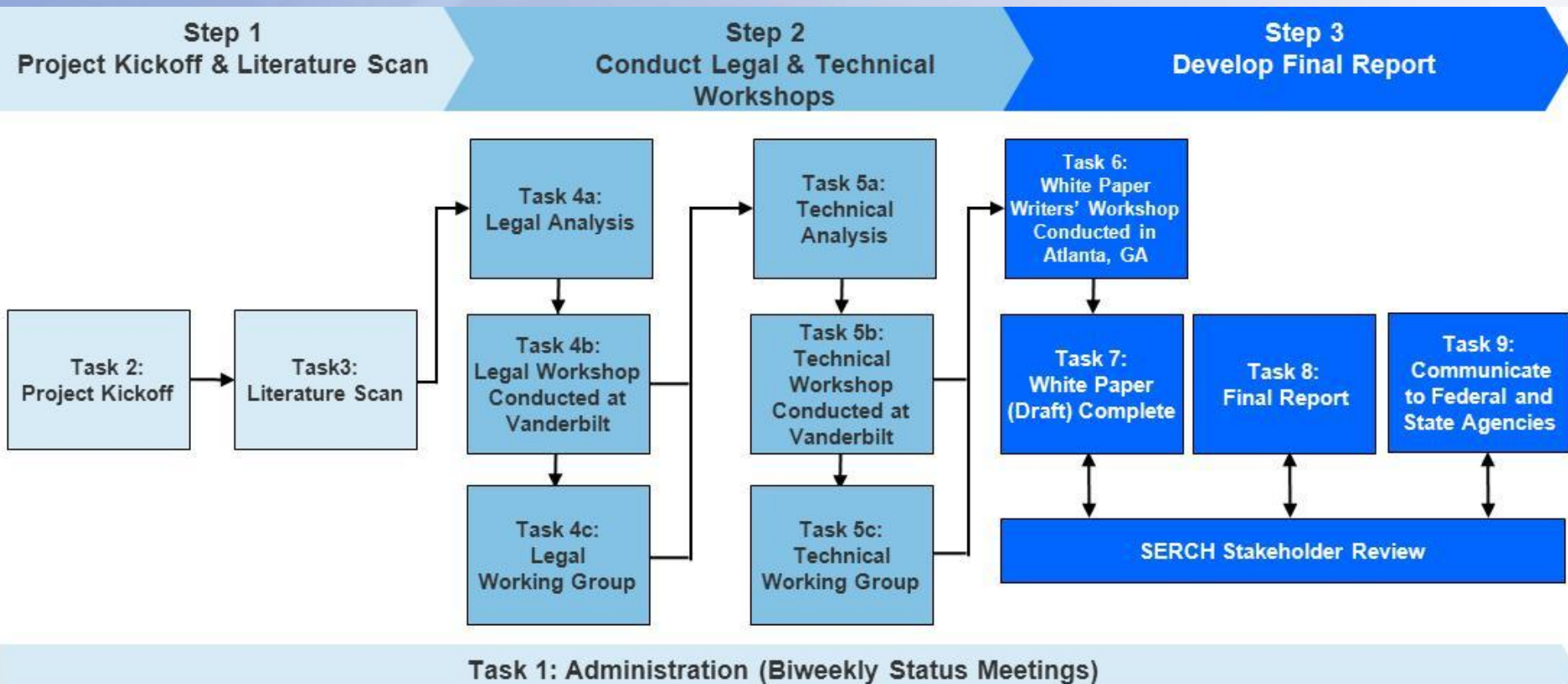- Alabama, Arkansas, Florida, Georgia, Louisiana, and Texas created the SERCH Consortium.

SERCH

Goals of the HIE Disaster Planning Project

- Develop a strategic plan and white paper for sharing health information data among the Southeast and Gulf States during and following a declared natural disaster.

- Identify existing legal gaps and obstacles among the Southeast and Gulf States.

- Assess the unique technical approaches used to achieve Statewide HIE in this region.

- Identify opportunities for creating regional exchange during a declared emergency.

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SERCH Consortium Project Approach

Step 1
Project Kickoff & Literature Scan

Step 2
Conduct Legal & Technical Workshops

Step 3
Develop Final Report

Task 2: Project Kickoff

Task3: Literature Scan

Task 4a: Legal Analysis

Task 4b: Legal Workshop Conducted at Vanderbilt

Task 4c: Legal Working Group

Task 5a: Technical Analysis

Task 5b: Technical Workshop Conducted at Vanderbilt

Task 5c: Technical Working Group

Task 6: White Paper Writers' Workshop Conducted in Atlanta, GA

Task 7: White Paper (Draft) Complete

Task 8: Final Report

Task 9: Communicate to Federal and State Agencies

SERCH Stakeholder Review

Task 1: Administration (Biweekly Status Meetings)

Lessons Learned from Previous Disasters

- 2005 Markle Foundation review of emergency responses to Hurricanes Katrina and Rita concluded that the health care system needed to address multiple challenges:

  - Engage in advance planning, improve communications strategies, and take advantage of existing resources.

  - Ensure the privacy and security of health information.

  - Ensure access to health data outside the disaster zone.

 - Overcome interstate policy barriers to develop and institute mutual aid agreements.

The Solution: HIE

- One solution to the challenges in disaster response is to implement HIE to provide access to clinical records at the point of care.

  - Health information exchange is computer-based clinical communications for care coordination.

  - Clinical records are available through a query to the HIE.

  - Or, clinical records can be sent directly to another physician through secure messaging.

  - HIE makes access to clinical records efficient and timely.

Three Approaches to HIE

- Several approaches to HIE can be deployed and were addressed by the SERCH Consortium:

  - The "patient lookup" model

  - Secure messaging

  - A patient's personal health record (PHR)

- Each of these approaches offers a unique opportunity to access patient records following a disaster.

- Each approach leverages a different technology solution.

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Patient Lookup Model of HIE
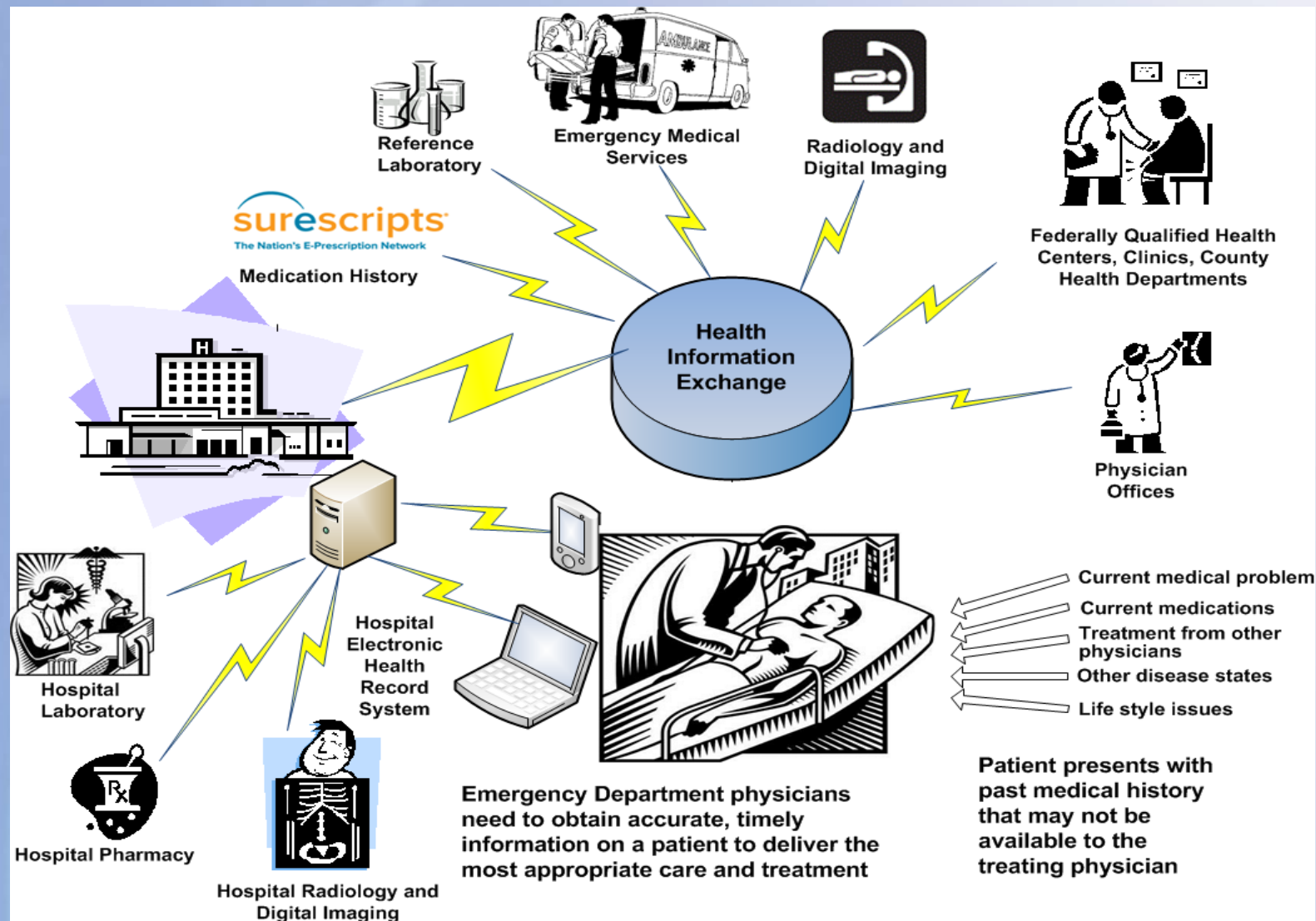
Challenges Facing State-Level HIEs

- Widespread data liquidity to support HIE is just beginning to occur within and between States now.

- The cost of large scale, query-enabled HIE is high and the time to develop is long.

- But HIE is poised to grow rapidly, spurred by new payment approaches.

- There are many new approaches and models that will spur HIE development, including private HIEs.
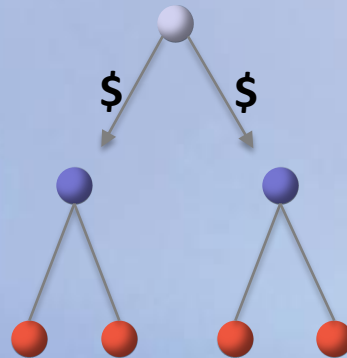
State-Level HIE Models

Elevator	**Capacity-builder**	**Orchestrator**	**Public Utility**
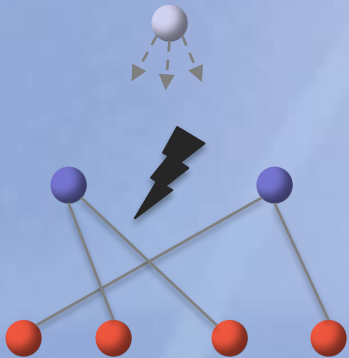
Rapid facilitation of directed exchange capabilities to support Stage 1 meaningful use

Bolstering of sub-state exchanges through financial and technical support, tied to performance goals

Thin-layer State-level network to connect existing sub-state exchanges

Statewide HIE activities providing a wide spectrum of HIE services directly to end users and to sub-State exchanges where they exist

Preconditions:
- ✓ Little to no exchange activity
- ✓ Many providers and data trading partners that have limited HIT capabilities
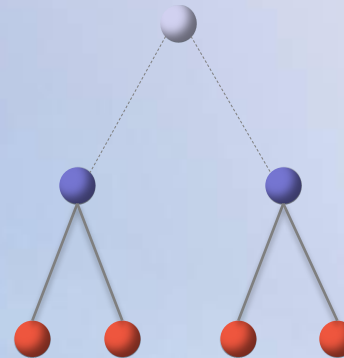- ✓ If HIE activity exists, no cross entity exchange

Preconditions:
- ✓ Sub-state nodes exist, but capacity needs to be built to meet Stage 1 meaningful use
- ✓ Nodes are not connected
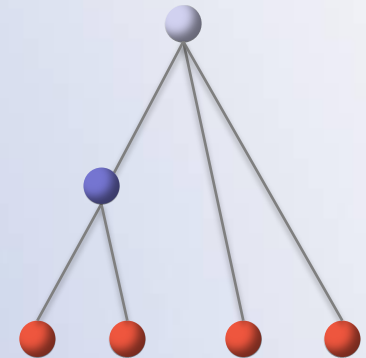- ✓ No existing statewide exchange entity

Preconditions:
- ✓ Operational sub-state nodes
- ✓ Nodes are not connected
- ✓ No existing Statewide exchange entity
- ✓ Diverse local HIE approaches

Preconditions:
- ✓ Operational State-level entity
- ✓ Strong stakeholder buy-in
- ✓ State government authority/financial support
- ✓ Existing staff capacity

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SERCH State-Level HIE Models

Statewide HIE Implementation
Overview of Coalition Models

| Elevator | Capacity-builder | Orchestrator | Public Utility |
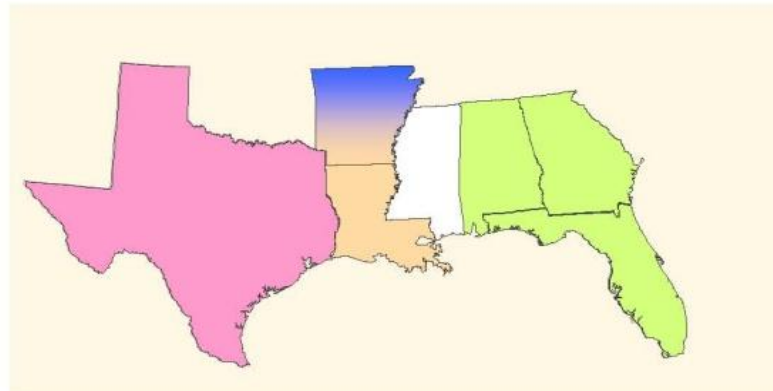
Findings

- Heterogeneous environment with a mix of models
- Four Coalition states (AL, AR, FL, GA) initially focusing on rapid deployment of "push" capabilities and adding "pull" capabilities over time

Secure Messaging for HIE

- Secure messaging supports the direct exchange of records between providers.

- Most EHR systems offer secure messaging, but often cannot communicate with other EHRs.

- ONC developed the Direct Secure Messaging platform as a secure e-mail solution for sending clinical records between providers.

- Direct Secure Messaging uses a Provider Directory to allow providers to locate the address of another physician and to attach clinical documents that can be sent using HIPAA-compliant encryption.

Direct Secure Messaging Platform

NHIN Direct – Endpoint to Endpoint (Routed Messages)

NHIN Direct HISP Routing Directory

Dr. D. Source — Send Patient Information → HISP A — Route Patient Information → HISP B — Deliver Patient Information → Dr. D. Destination

Conversion: transport, trust, metadata

Edge Interactions Unspecified

NHIN Gateway A — Submit Documents → NHIN Gateway B

Clinical Data Source

NHIN Exchange - Node to Node (Targeted Messages)

Edge Interactions Unspecified

Programs
CMS – Quality
CMS - Care Coord
CMS - Eligibility
CDC - Pub Health
States – Immunization Reg

NHIN Exchange Service Registry & Managed PKI

Clinical Data Repository

http://wiki.directproject.org/Intersection+with+Exchange

Personal Health Records (PHRs)

- Documents your health conditions and stores your medical records.

- Available from private entities (examples include HealthVault, Dossia, No More Clipboard) or your health plan and your provider.

- Store your information on a secure, password-protected website.

- Health records can be entered into a PHR by you, your health plan, or your doctor.

- With an Internet-based PHR, your health records are available to you any time if you can access the Internet.

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Areas Addressed by the SERCH Consortium

- Legal issues:
  - Addressing privacy and security of protected health information (PHI) following a disaster

- Technical issues among participating States:
  - Technical survey HIE
  - Different State-level HIE models being deployed

- Governance of disaster planning:
  - ESF 8 to take the lead.

Current State HIE Activity

- There is a mix of HIE models being deployed at different stages of development across the States.

- There is little or no cross-border data exchange taking place today.

- The projected volume of clinical data available is dependent on rates of health IT adoption and participation in statewide HIE.

- There are significant variations in State approaches to authorization or consent to disclose information that impact access to the records.

Legal Issues in HIE Following a Disaster

- The privacy and security of PHI are governed at the Federal level primarily by HIPAA.

- Even during a disaster, the privacy and security of PHI must be maintained when health information is exchanged.

- Other Federal and State laws address behavioral health, substance abuse treatment, and other sensitive information and are stricter than HIPAA.

- Each of these conditions was considered during the course of discussions among consortium members.

Proposed Waiver of Liability for Records

- The SERCH Consortium proposed a Memorandum of Understanding (MOU) to allow governors to waive the liability for disclosing conditions covered by State consent statutes.

- The MOU would allow States to share information resources, using HIPAA as the base standard rather than more stringent State laws for the duration of the disaster.

- State law precluding a PHI transmission could be preempted in a disaster by agreements for sharing data sets.

- The MOU could be embedded in State law, much as the Emergency Management Assistance Compacts are.

Approaches to Cross-Border Data Exchange

- The Legal Team of the SERCH Consortium made a number of recommendations for disaster planning.

    – Address HIE from a variety of data sources including PHRs, health claims databases, and EHRs.

    – Consider how your State would identify and authenticate authorized users during disaster transmissions.

    – Update participation agreements between the State HIE and participants to address disaster situations.

    – Address emergency, "break the glass" scenarios.

    – Build on lessons learned from Hurricane Katrina regarding waiving of legal requirements

Technical Issues in HIE

- The project team conducted a technical survey of HIE capability within the participating States.

  - Different HIE models are being deployed—both patient lookup and secure messaging models.

  - Little or no cross-border exchange of electronic data takes place today.

  - The volume of clinical data available for exchange will depend on EHR adoption and participation in HIE.

  - Each State varies in its approach to authorization or consent to disclose information.

Trends in HIE That Affect Disaster Planning

- The SERCH team identified a number of emerging trends that will affect State-level HIEs. These include:

  - PHR use is likely to increase over the next several years.

  - Increased implementation of cloud-based EHR systems will make clinical data more accessible.

  - HIE projects are taking two approaches to clinical information exchange–"pull" and "push" –that are changing the capabilities of HIE.

Phased Approach to HIE

- The project team identified a three-phase plan for providing access to data in the time of a regional disaster:

  1. Leverage available data sources such as PHRs, cloud-based EHRs, health plan claims data and other clinical data sources, and use of Direct Secure Messaging.

  2. Increase use of Direct with regional directories for physicians, integrate interfaces for HIEs, labs, and EHRs.

  3. Enable cross-border exchange of data by State-level HIEs and Implement cross-border authentication services for physicians and patients.

Governance of Disaster Planning

- There must be a lead agency to govern emergency planning, response, and recovery following a disaster.

- The ESF 8 Public Health and Medical Services are responsible for health care disaster planning and response in all States of the SERCH Consortium.

Roles of the ESF 8 Agency in HIE

- The roles for the ESF 8 agencies in working with the State-level HIE for disaster preparedness and emergency response include four areas:

  1. Planning—Establish planning activities that include the appropriate public and private organizations.

  2. Response—HIE capability should be ready to ensure access to patient records at the point of care.

  3. Recovery—HIE is important in delivering medical records for displaced patients who have returned home.

  4. Evaluation—Assess the success or failures in the exchange of health care data.

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Recommendations

- Recommendation 1:

    - Understand the State's disaster response policies and align with the State agency designated for ESF 8 (Public Health and Medical Services) before a disaster occurs.

Question 1

- Is adding coordination of the ESF 8 agency with the state HIE a responsibility that should be incorporated into the ESF 8 core mission?

Question 1 Voting

Text Response to 22333 THEN enter appropriate code below
Normal Messaging Rates May Apply

Response	Code
Yes – it fits quite well with the mission of the ESF 8 agencies.	138229
Yes – this is already a part of our ESF 8 core mission	139941
Somewhat – It adds work load without increasing resources, but it is a direction the ESF 8 agencies will have to move	139942
Maybe – This extra responsibility would have to be authorized and mandated before the ESF 8 agencies would be able to consider it	139943
No – This recommendation lies outside the scope of the ESF 8 agencies' mission	139944

Question 1 Voting Results
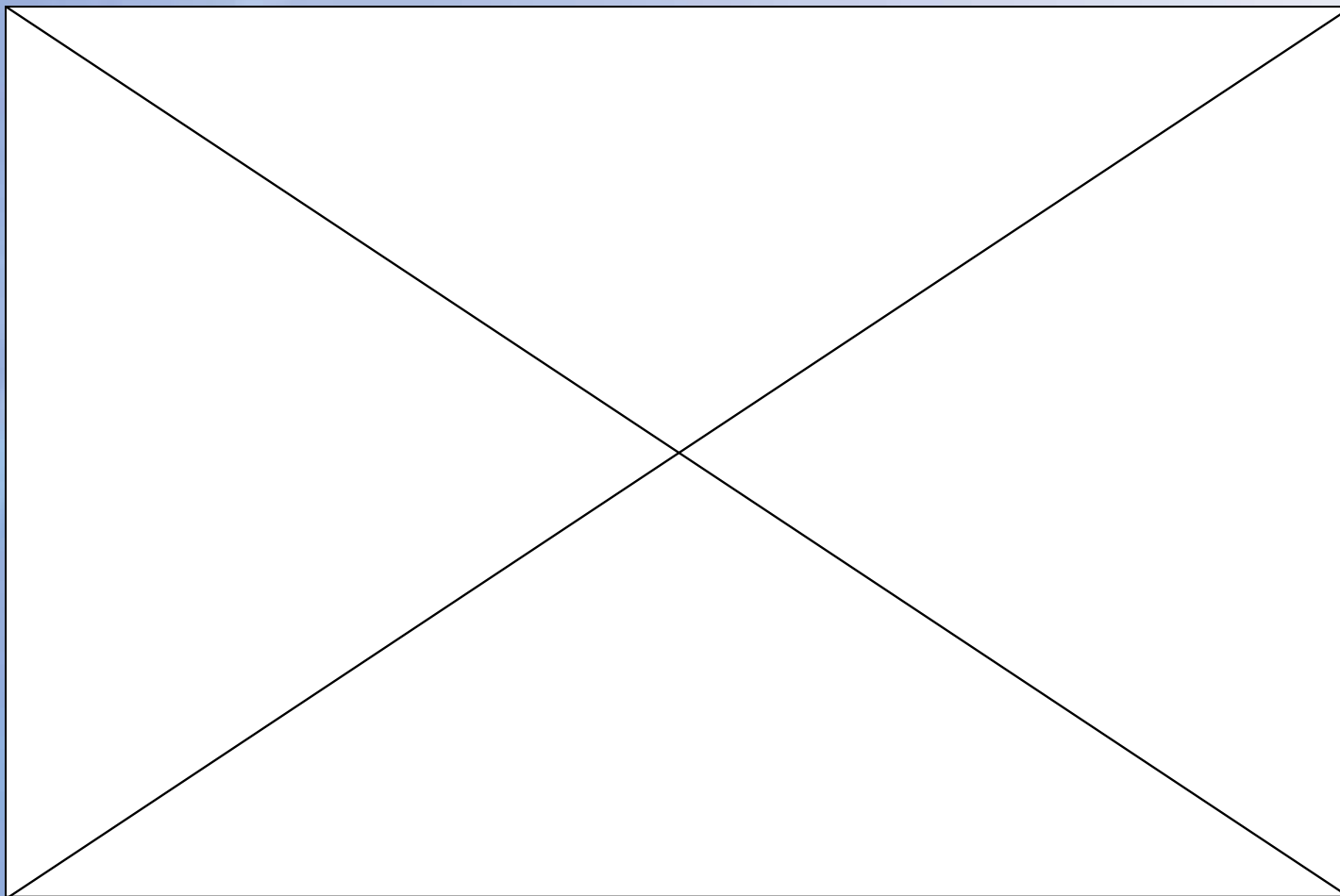
Recommendations (continued)

- Recommendation 2:
  - Develop standard procedures approved by relevant public and private stakeholders to share electronic health information across State lines before a disaster occurs.

Recommendations (continued)

- Recommendation 3:
  - Consider enacting the Mutual Aid MOU to establish a waiver of liability for the release of records when an emergency is declared and to default State privacy and security laws to existing HIPAA rules in a disaster. States should also consider using the Data Use and Reciprocal Support Agreement (DURSA) to address and/or expedite patient privacy, security, and health data-sharing concerns.

Recommendations (continued)

- Recommendation 4:
    - Assess the State's availability of public and private health information sources and the ability to electronically share the data using HIE(s) and other health data-sharing entities.

Question 2

- Should the ESF 8 agency be given the responsibility of assessing information availability from HIEs or other entities? Or should some other agency take on this responsibility?

Question 2 Voting

Text Response to 22333 THEN enter appropriate code below
Normal Messaging Rates May Apply

Response	Code
This responsibility is consistent with the ESF 8 mission.	140602
This responsibility is consistent with the ESF 8 mission but requires more resources or legislative or executive approval before it could be implemented.	140603
This responsibility is outside the mission of the ESF 8 agency.	140606

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Question 2 Voting Results
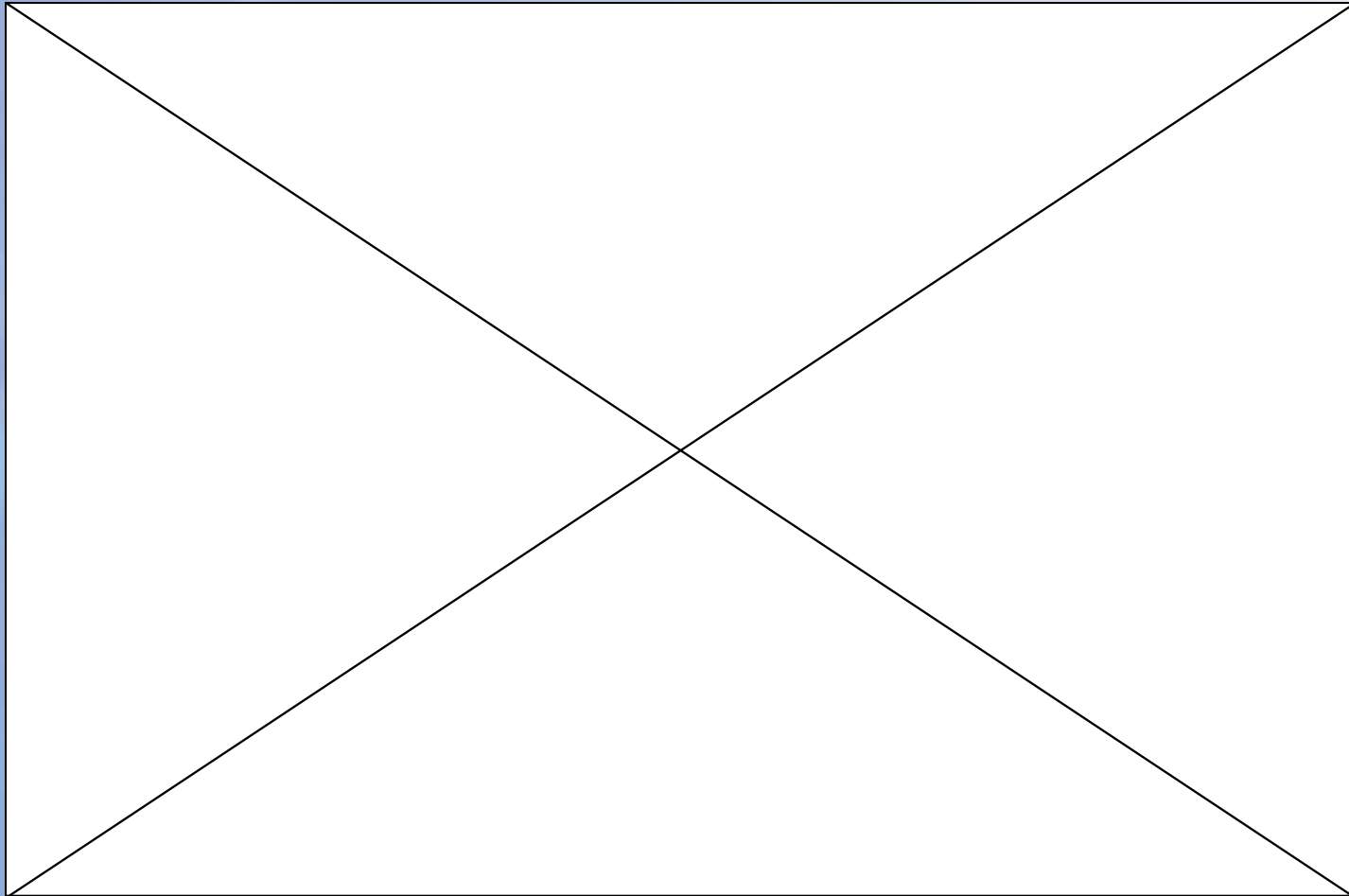
Recommendations (continued)

- Recommendation 5:
  - Consider a phased approach to establishing interstate electronic health information-sharing capabilities.

Conclusions

- The SERCH collaborative effort points to a method for developing multistate policy among neighboring States.

- The white paper addresses patient authorization for HIE and offers a solution for emergency access of patient records following a disaster.

- The white paper presents an actionable strategic plan for engaging State-level HIEs in disaster planning.

- The proposal to have ESF 8 agencies govern the disaster planning process integrates National Response Framework into the development of State-level HIE.

Next Steps

- Publication of the white paper (summer 2012)
  - http://healthit.hhs.gov/portal/server.pt?open=512&mode=2&objID=3035
  - www.rti.org/shpc
- Pilot testing
- Outreach and dissemination

"By failing to prepare you are preparing to fail."
Benjamin Franklin

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