

Strategic Issues in Disaster Planning to Deploy Health Information Exchange

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Strategic Issues in Disaster Planning to Deploy Health Information Exchange

This presentation on HIE for disaster preparedness will address technical, governance and legal issues:

- **Technical:** How to include Health IT in disaster planning to ensure that medical records are available at the point of care following a natural disaster.
- **Governance:** Issues of Health IT governance necessary for ensuring that a patient's medical records are available following a natural disaster.
- **Legal:** The regulatory and legal constraints on health information exchange that must be addressed in disaster planning for the delivery of medical records to the point of care following a natural disaster.

Technical Issues in HIE Planning

This section of the presentation will address:

- “Pull” approaches to health information exchange such as the patient lookup model being deployed in most states.
- “Push” approaches to health information exchange such as Direct Secure Messaging.
- Patient-centered approaches to health information exchange such as Personal Health Records.
- The use of smart phones and mobile computing devices for accessing health records.

HIT/HIE is a Disaster Preparedness Foundation

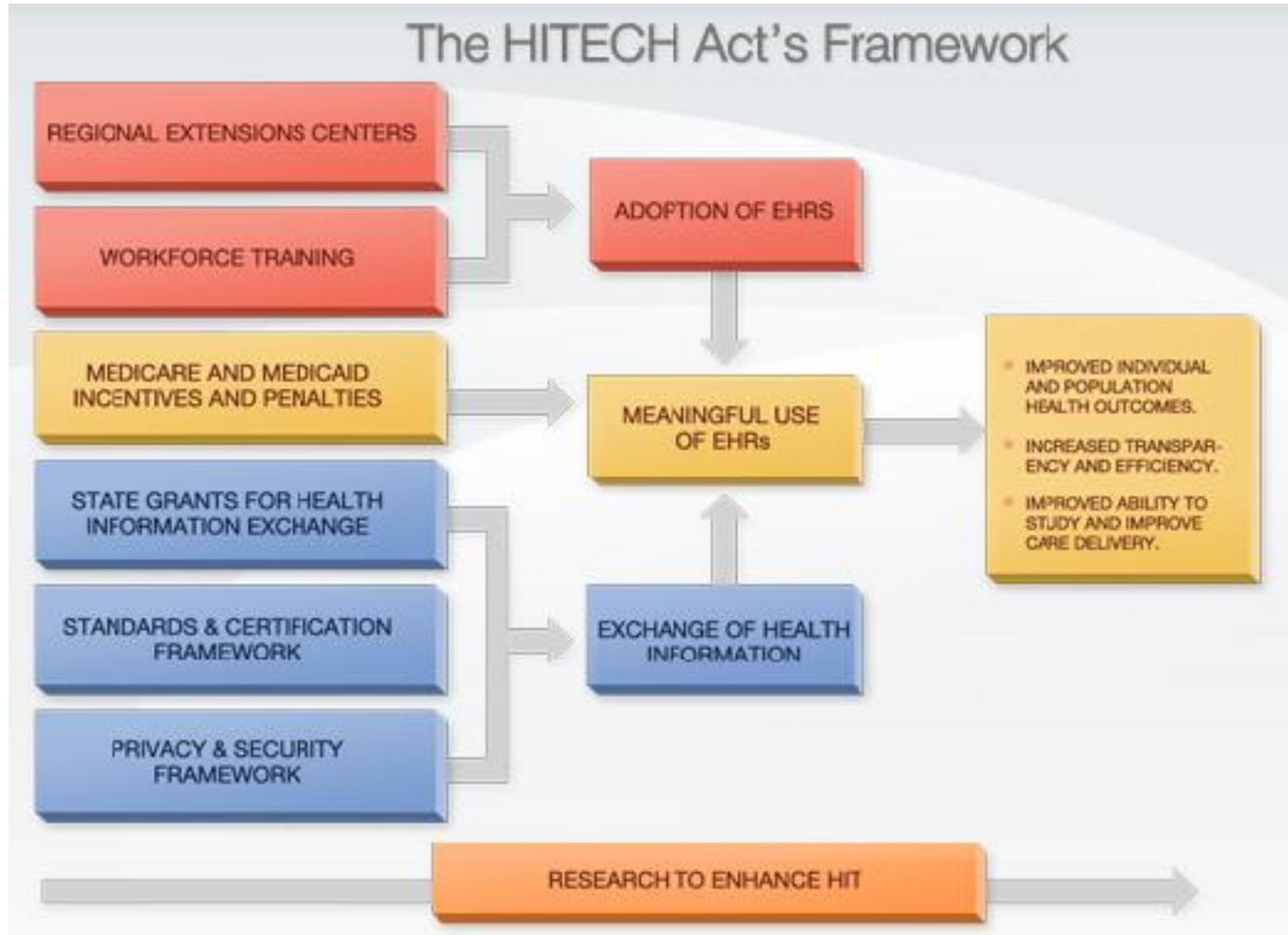
- Health information technology (HIT) is the use of computer hardware and software to privately and securely store, retrieve, and share patient health and medical information.
- Health information exchange (HIE) is the movement of health information electronically across multiple organizations.
- Exchanging health information is important:
 - Make sure that health care providers have access to the most up-to-date information.
 - Make the most informed decisions about patient care that is possible.



HIT/HIE are Building Blocks That can be Leveraged in the Time of a Disaster

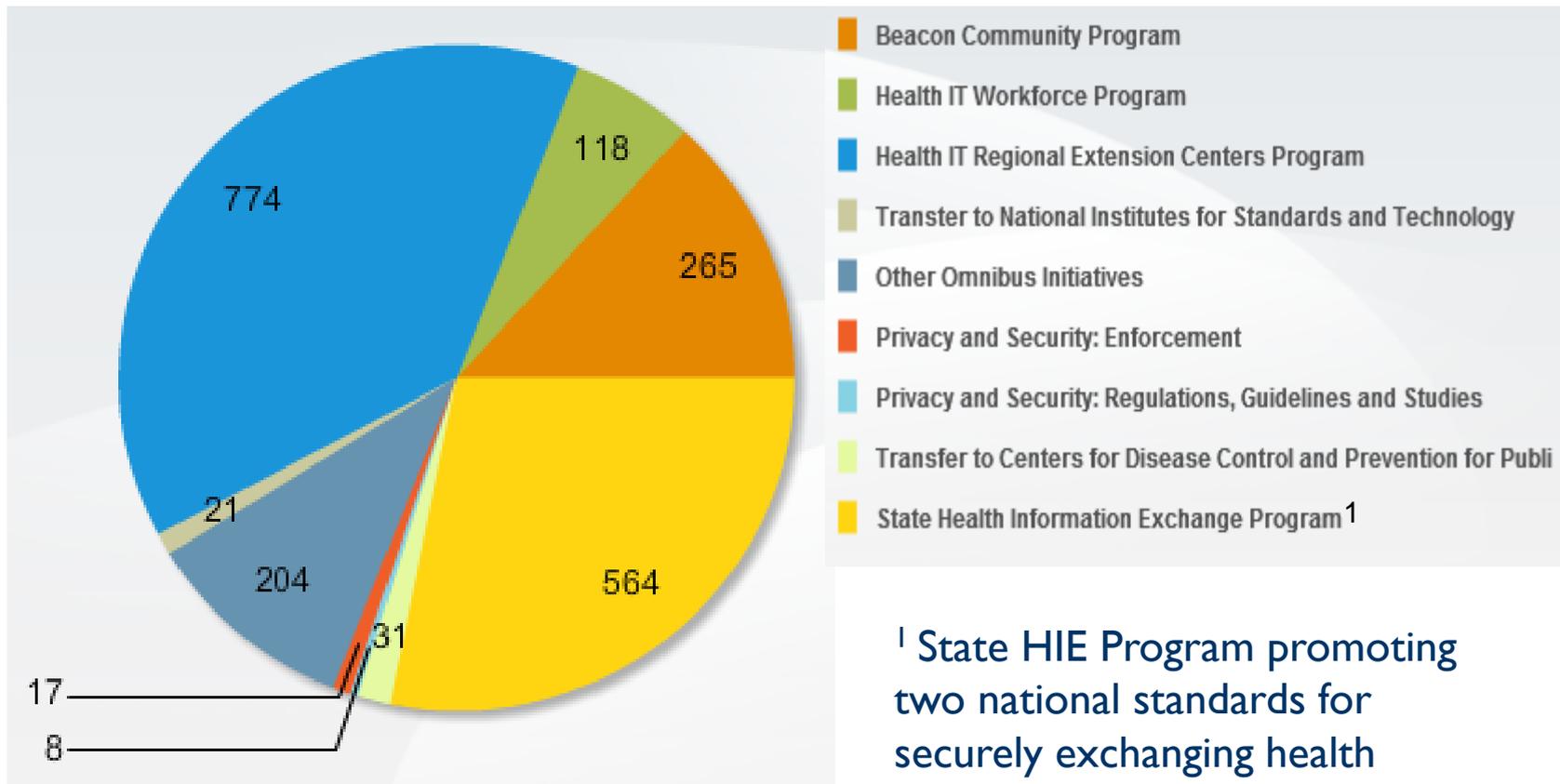
- Signed into law in February 2009, the Health Information Technology for Economic and Clinical Health Act (HITECH) is a component of the American Recovery and Reinvestment Act (P.L. 111-5, Recovery Act).
- This law provided legislation, statutory authorization, and \$2 billion in stimulus funds to the Office of the National Coordinator for Health IT (ONC) to accelerate the development and diffusion of health information technology through a number of grant programs, policy activities, and strategic partnerships.

Health Information Technology for Economic and Clinical Health Act (HITECH) Framework



ONC as of 1/2013

Components of the Planned HITECH Funding for 2009-2014



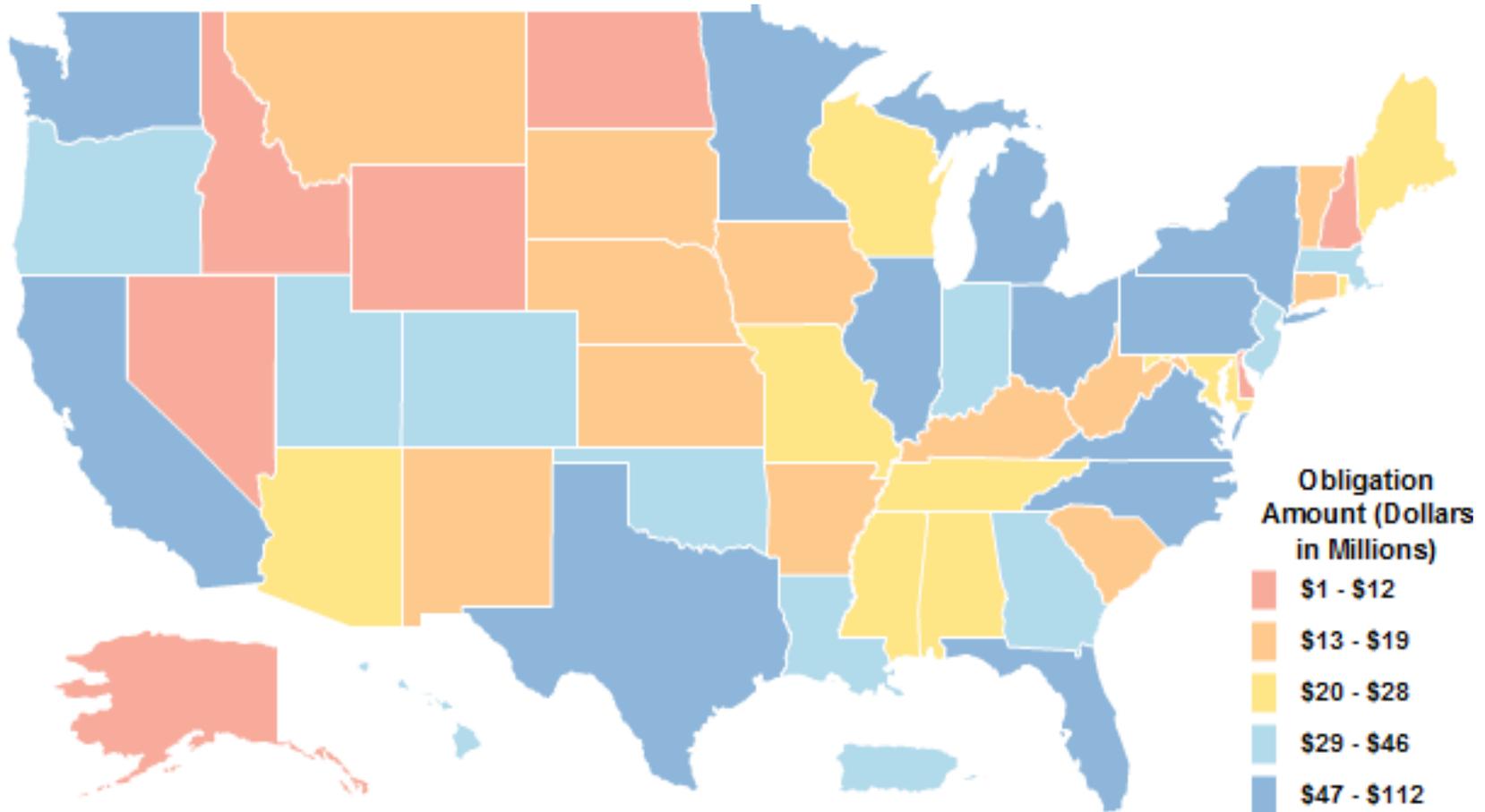
(Dollars in Millions)

ONC as of 1/2013

¹ State HIE Program promoting two national standards for securely exchanging health information:

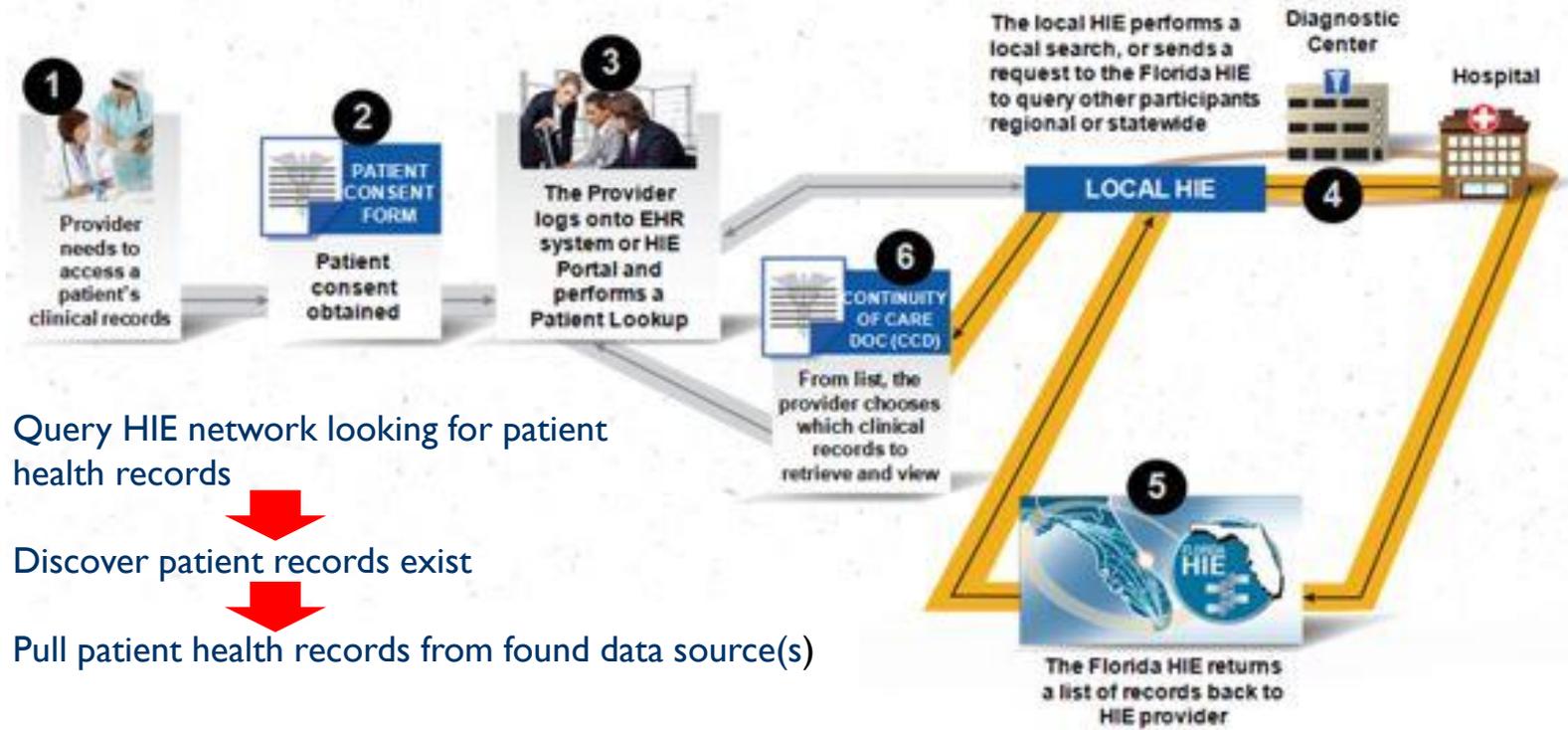
CONNECT and DIRECT

HITECH Funding Distributed by Office of the National Coordinator for HIT (ONC)



ONC as of 1/2013

Leveraging CONNECT(Query/Pull) in a Disaster



Query HIE network looking for patient health records



Discover patient records exist

Pull patient health records from found data source(s)

- **Standards-based.** Free, open-source software solution, developed by more than 20 federal agencies.
- **Not Simple.** Potentially expensive custom EHR interfaces are generally needed to support EHR/HIE integration with CONNECT.
- **Evolving.** Many State implementations just starting to come online.
- **Limited.** Defined document types

Leveraging DIRECT Messaging in a Disaster



b.wells@direct.aclinic.org

Direct Project specifies a simple, secure, scalable, standards-based way for participants to send encrypted health information directly to known, trusted recipients over the Internet.



h.elthie@direct.ahospital.org

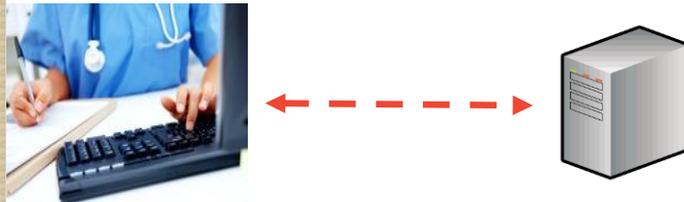
- **Standards-based.** Built on Internet standards for secure e-mail communication wrapped around special governance and policies.
- **Simple.** Connects healthcare stakeholders through universal addressing using simple push of information in any format.
- **Secure.** Users can easily verify messages are complete and not tampered with in travel.
- **Scalable.** Enables Internet scale with no central network authority.
- **Flexible.** Any message payload.

Value of DIRECT in a Disaster

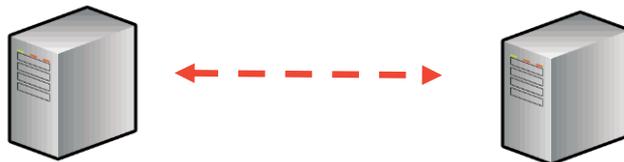
Communication Pathways



Between People



Between People & Machines



Between Machines

Communication Content

I've attached the study of Mr. Author. Thanks for seeing him.



Readable by People

I've attached an x-ray and electronic record for Mr. Author



```
EVN|A28|20060501140008|||00
0338475^Author^Arthur^
^RegionalMPI&2.16.840.1.1138
83.19.201&ISO^L|2006050114
0008<cr>
```

Readable by People and/or Machines

```
EVN|A28|20060501140008|||000338475^Author^Arthur^
^Regional
MPI&2.16.840.1.113883.19.201&ISO^L|20060501140008<cr>
PID|||000197245^^NationalPN&2.16.840.1.113883.19.3&ISO^PN
~4532^
```

Readable by Machines

Acute Care Emergency Via DIRECT

Workflow	Data Flow
<p>1. A previously healthy 64 year old Florida panhandle resident presents to a Georgia Acute Care Emergency Facility (ER) after having evacuated his home in a hurricane and suffering a laceration to his arm and face.</p>	<p>HL7 Admit (ADT) or C-CDA Direct Message Pushed to:</p> <ul style="list-style-type: none"> A. Rendering Georgia Physician if not on ER/EHR B. Patient's Florida Primary Care Physician (others) C. Patient's Health Plan and/or other data sources <p style="text-align: center;">OR</p> <p>Simple email (or form) containing patient demographic information and situation Pushed to B or C</p>
<p>2. Provider, Payer or other Data Source submits current clinical status of patient including:</p> <ul style="list-style-type: none"> - Medication List - Problem List - Provider List - Allergy List - Other data as available 	<p>Health Plan or other data source (Patient's Florida Primary Care Physician) Clinical Status of Member/Patient (PDF/C-CDA/Other attachment) Direct Message Pushed to:</p> <ul style="list-style-type: none"> A. Georgia Acute Care Emergency Facility B. Rendering Georgia Physician if not on ER EHR C. Patient's Florida Primary Care Physician (and others) <p>NOTE: Remember to inquire about a Patient Personal Health Record (PHR)</p>

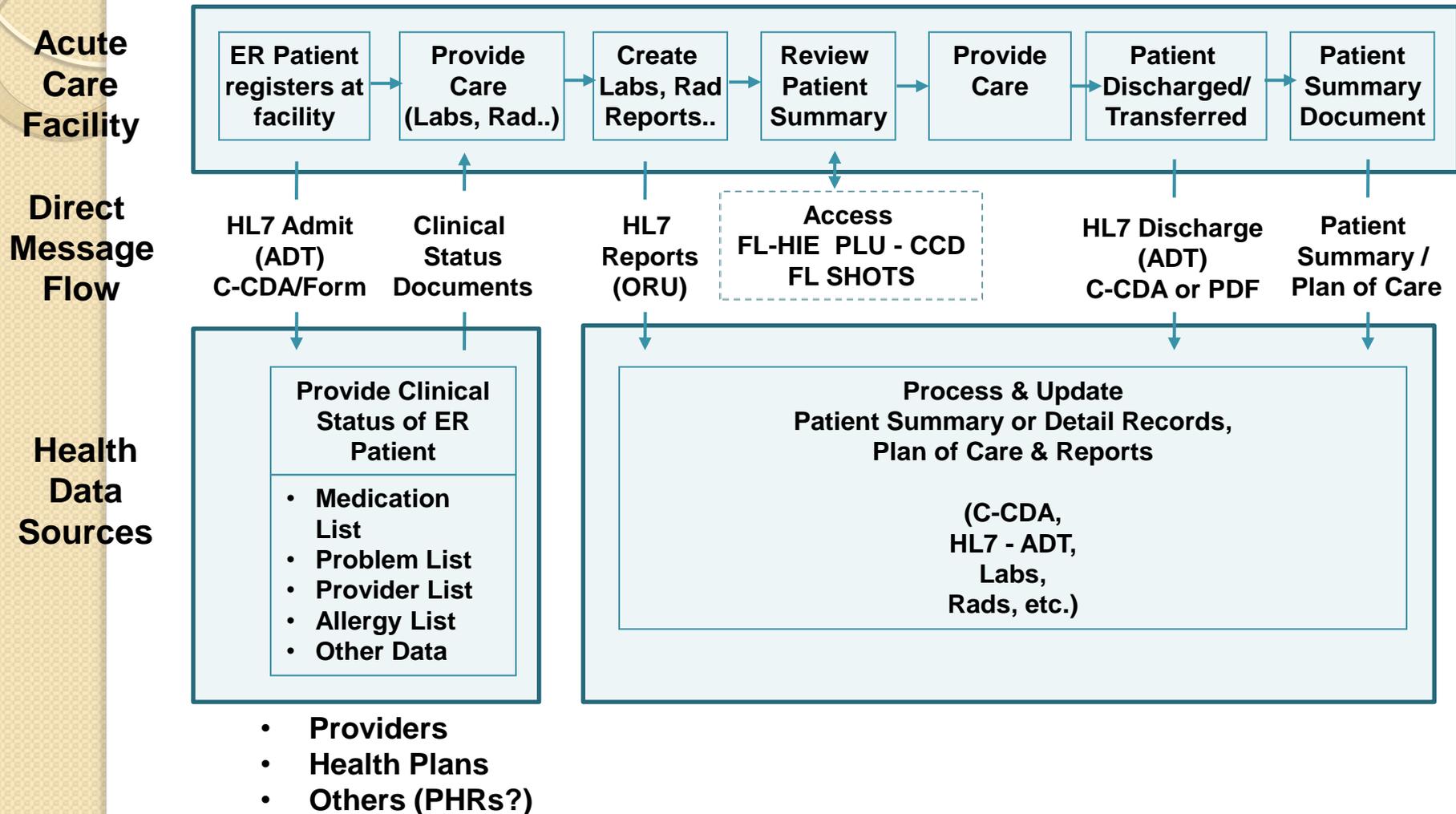
Acute Care Emergency Via DIRECT

Workflow	Data Flow
3. Patient blood pressure is mildly elevated, labs and radiology results are normal.	Information is collected and entered into the ER EHR
4. Notification of HL7 events and reports are forwarded	HL7 Reports (ORU) Direct Message Pushed to: <ul style="list-style-type: none"> A. Rendering Georgia Physician if not on ER EHR B. Patient's Florida Primary Care Physician (and others) C. Patient's Health Plan (where applicable)
5. The patient can't recall when his last tetanus shot was given.	Information is collected and entered into the ER EHR
6. The Georgia ER queries the FL-HIE via the Nationwide Health Information Exchange for the patient's summary record document to review the patient's immunization and other clinical history or licensed Florida providers could access the Florida State Immunization Registry (FL-SHOTS) online.	Acute Care Emergency Facility could use <ul style="list-style-type: none"> A. Leverage the National eHealth Exchange to connect to the Florida HIE – Patient Look-Up Service (estimated Q1 2014) B. Current capability such as licensed Florida providers accessing Florida Shots Registry online

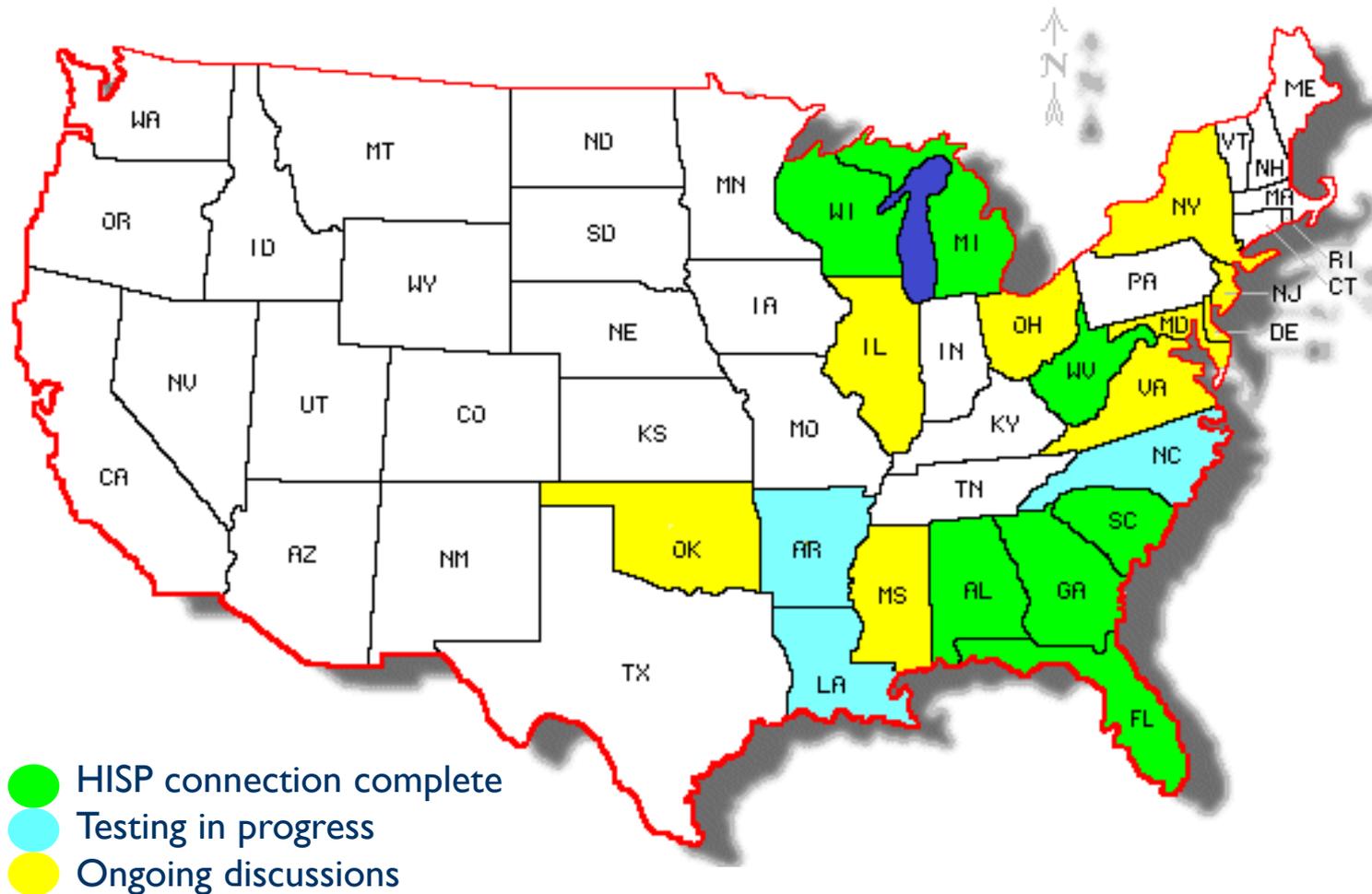
Acute Care Emergency Via DIRECT

Workflow	Data Flow
<p>7. After review of the document, it is determined there is no record the patient had a tetanus booster. Patient receives stitches and is given a tetanus booster</p>	<p>Information is collected and entered into the ER EHR</p>
<p>8. The patient is discharged and the Emergency department systems generates a HL7 ADT Message</p>	<p>HL7 Discharge (ADT) or C-CDA Direct Message Pushed to:</p> <ul style="list-style-type: none"> A. Rendering Georgia Physician if not on ER EHR B. Patient's Florida Primary Care Physician (and others) C. Patient's Health Plan (where applicable) D. Patient's PHR (where available)
<p>9. The Emergency Facility system generates an ORU summary of studies and a patient summary health record document, and a discharge summary document.</p>	<p>HL7 ORU Summary Studies and/or Patient Care Summary (CCR, CCD or C-CDA) and/or PDF Plan of Care or other Reports Direct Message Pushed to:</p> <ul style="list-style-type: none"> A. Rendering Georgia Physician if not on ER EHR B. Patient's Florida Primary Care Physician (and others) C. Patient's Health Plan (where applicable) D. Patient's PHR (where available)

Direct Use Case: Acute Care Emergency Treatment



Florida HIE - Direct Secure Messaging State-to-State Connection Map (as of 4/15/13)



Call to Action

- Find out where your State is in its HIE implementation and Direct Messaging service.
 - What other states is your state connected too?
- Establish outreach campaign to encourage obtaining a Direct Secure Messaging account in your state.
 - Providers, hospitals, health plans, first responders, ESF8 and other state disaster preparedness resources who need to securely obtain and share patient health information.
- Identify and sign-up health data sources such as providers (EHRs), hospitals, health plans, pharmacies, labs and others.
- Encourage patient PHR adoption and use.
 - Health plans and others provide these to members.

Governance Issues in HIE Planning

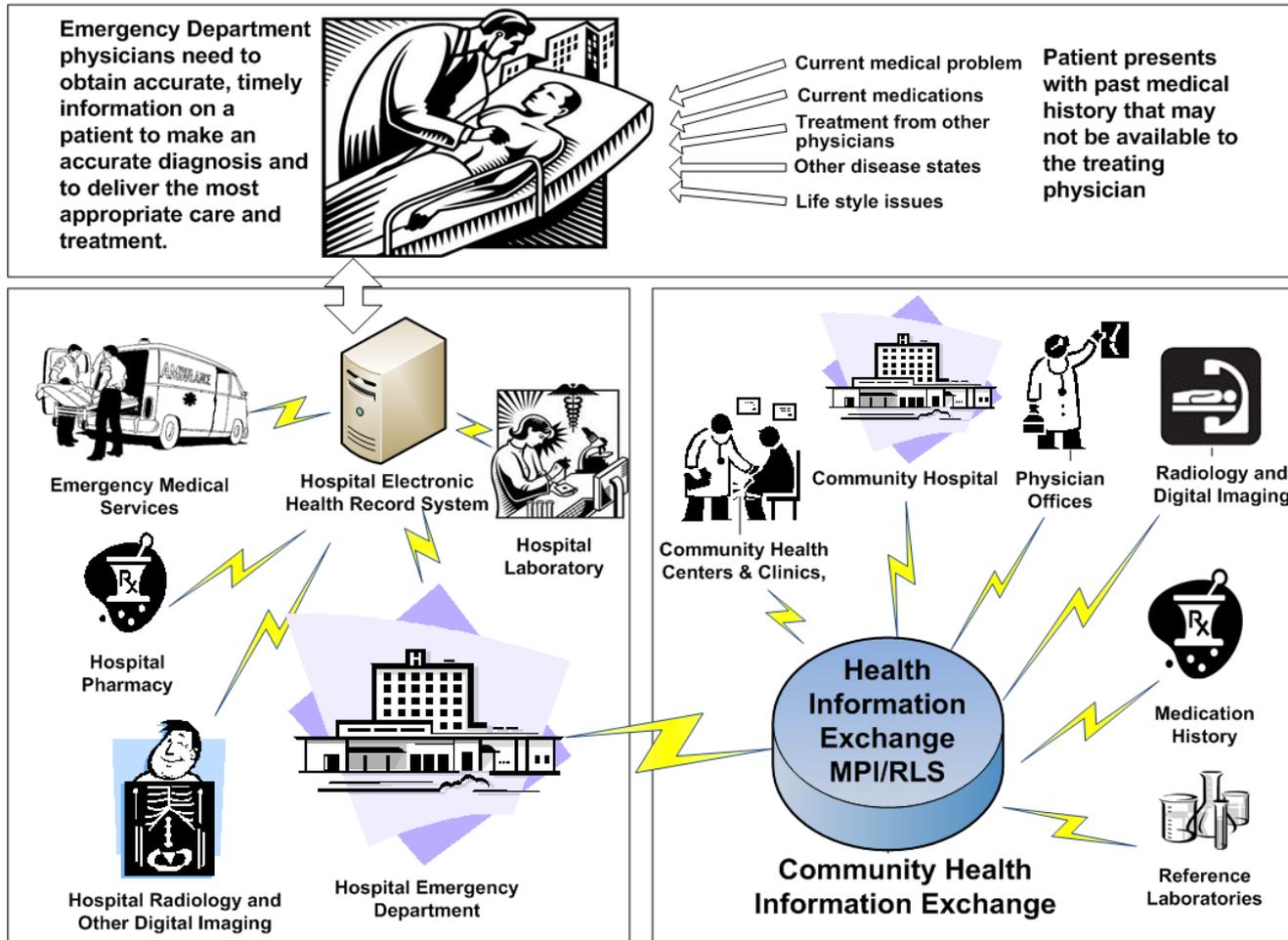
This section of the presentation will address:

- The integration of health information exchange into emergency planning, response, and recovery following a disaster.
- Organizing the relevant stakeholders needed to plan the emergency medical response before a disaster.
- Overseeing the mechanisms of data exchange that will ensure the delivery of medical records to the point of care following a disaster.

HIE for Patient Care

The perfect medical record world of HIE.

Health Information Exchange Emergency Room Use Case



The Challenge of Natural Disasters

When natural disasters strike, vital medical services can be disrupted and crippled.



St. John's Mercy Hospital in Joplin, Missouri

The Challenge at the Point of Care

After a natural disaster, people flee their homes. Their medical problems remain but their medical records don't.

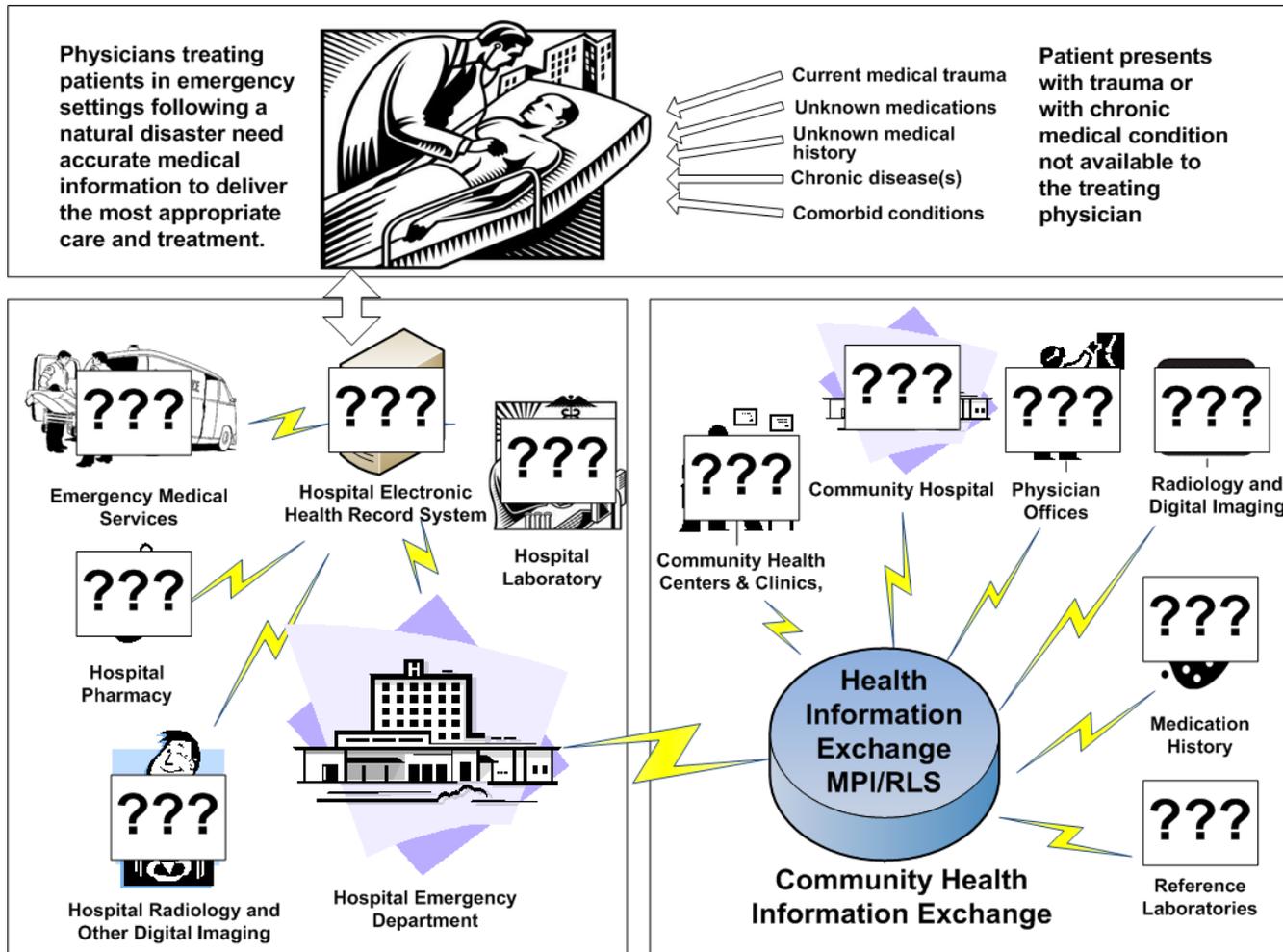


Katrina evacuees in the Houston Astrodome, Texas

HIE Following a Natural Disaster

The real medical record world after a natural disaster.

Natural Disaster Emergency Use Case



Governance for Disaster Planning

What is required to ensure access to medical records before a natural disaster strikes?

- Planning
- Outreach to public and private health care stakeholders
- Building relationships among stakeholders
- Creating partnerships with health care data sources
- Coordinating action steps among partners
- Establishing policies to guide activities
- In sum: Governance of the Health Information Exchange

Governance of Health Information Exchange

HIE requires effective governance to manage the community of health care participants who are connected within the exchange network.

The governing group should consist of a trusted body of members from the health care community who can address:

- Diverse or competing interests
- Dissimilar needs for data
- unique requirements for the practice of medicine
- Different technical capabilities
- The need to craft a consensus for the rules of exchange among participants

Roles of HIE Governance

The HIE governance organization “serves as a neutral and skilled resource for convening diverse statewide stakeholders and leading and coordinating consensus-based efforts to develop and implement a statewide road map for interoperability.” The HIE governing body must take on several important roles:

- It must be a neutral convening body with the authority to convene stakeholders
- It must take on a unique role as the mediator between state interests and the private health care sector.
- The HIE governing organization has to represent the interests of both the state government and private enterprise and becomes the vehicle by which competing public and private interests are coordinated and combined.

Governance Activities in HIE

The HIE governing body has numerous responsibilities that drive its activities:

- It must take on a range of explicit coordination activities to facilitate data sharing and HIE policies and practices among statewide participants
- It has to address and facilitate agreements on numerous issues surrounding the exchange of medical records for public health and for private providers.
- It must maintain accountability for proper data stewardship “to realize the greatest possible benefit from the effective and appropriate use of data while minimizing the risk of harm.”

Lead Organizations in HIE Governance

A major decision in deploying HIE in disaster planning is to decide which organization should take the lead at the state level for HIE governance. Two candidates:

- The Health and Medical Services Emergency Support Function 8
 - Responsible for health care disaster planning and response within the National Response Framework
- The State-Designated Entity for Health Information Exchange
 - Responsible for HIE governance responsibilities of convening stakeholders, crafting consensus and developing statewide policies for data-sharing

ESF-8 Roles in Disaster Preparedness

ESF #8 provides assistance to State, tribal, and local governments in the following core functional areas:

- Assessment of public health/medical needs
- Health surveillance
- Medical care personnel
- Medical equipment and supplies
- Patient evacuation
- Patient care
- All-hazard public health and medical consultation, technical assistance, and support
- Behavioral health care
- Public health and medical information



Role of ESF-8 Agency in HIE Governance

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

- **Planning:** Establish planning activities that include the appropriate public and private organizations.
- **Response:** HIE capability should be ready to ensure access to patient records at the point of care.
- **Recovery:** HIE is important in delivering medical records for displaced patients who have returned home.
- **Evaluation:** Assess the success or failures in the exchange of health care data.

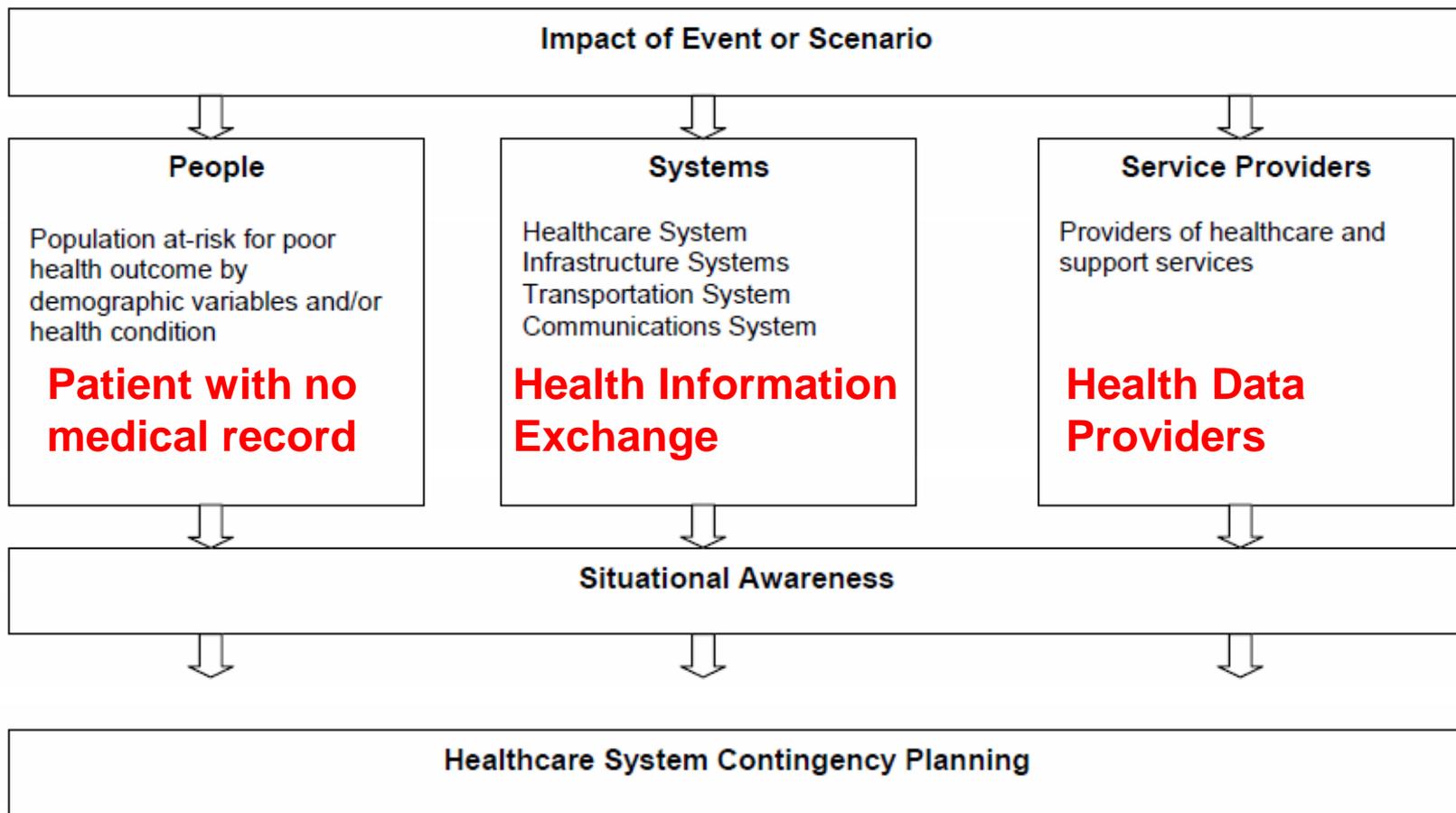
ESF-8 Roles in HIE Planning

The effective operations of the ESF8 organization depends on the shared knowledge of the current situation and potential future impacts referred to as situational awareness. Effective situational analysis provides:

- Understanding the incident
- Defining the area of operations
- Identifying actual or potential infrastructure impacts on public health and medical system
- Understanding the health care system in the area of operations.
- Identifying and forecasting impacts of local protective actions
- Forecasting and validating resource needs

Governance Issues in HIE Planning

In this model ESF-8 Situational Awareness, introducing HIE is straightforward and logical:



Governance Issues in HIE Planning

The State-Designated Entity is responsible for creating a governance model for the state-level HIE.

Governance is defined as convening health stakeholders from public and private sectors, creating trust relationships among them and achieving consensus for the best way to create the state-level HIE. These include:

- The governance approach based on stakeholder buy-in, trust and collaboration.
- Goals and objectives for the HIE are based on the consensus of health care stakeholders.
- Coordinate HIE efforts with Medicaid and public health.
- Develop a plan to ensure oversight of the HIE and to enforce accountability among participants.

Health Data Partners

Medicare.gov
 The Official U.S. Government Site for Medicare

Medicaid

CIGNA

HUMANA

BlueCross BlueShield

Health Plans: Commercial, Federal and State

Providers and Vendors: Electronic Health Records

State and Federal Government Agencies

HIE Governing Body for Disaster Planning

Telecommunication Carriers

Private Laboratories and Electronic Prescribing

Health Information Exchanges

Providers: Direct Secure Messaging
Patients: Personal Health Records

Conclusions and Recommendations

Planning for natural disasters is critical, and the technological infrastructure in health care is now capable of ensuring that disaster victims can be given appropriate care because medical personnel have the information then need at the point of care. This requires:

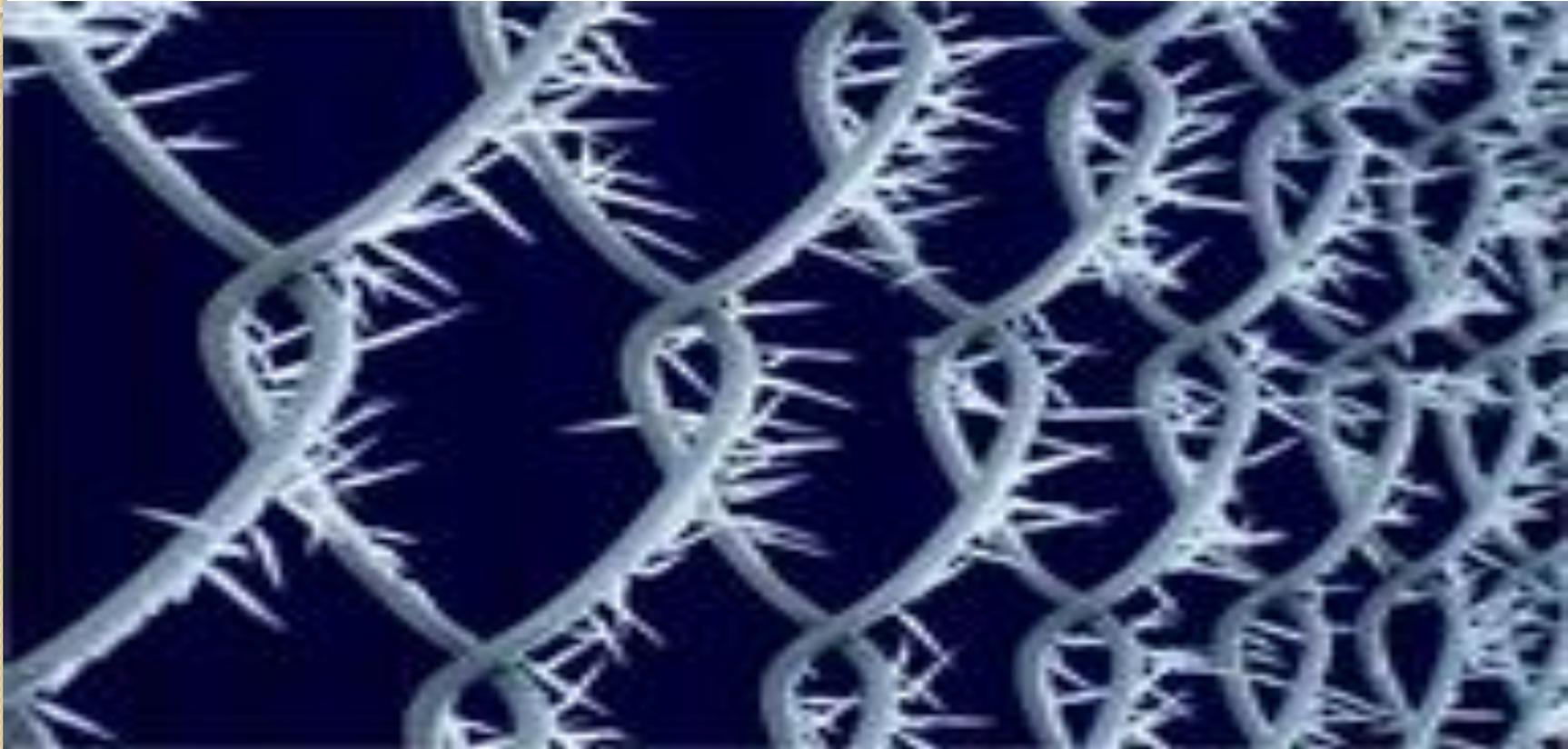
- ESF-8 Agencies and State-Designated Entities join forces to create a state-level governing board to oversee HIE for disaster-preparedness.
- The joint governing board reaches out to all health care stakeholders in the state and beyond to participate in post disaster data sharing.
- The joint governing board establishes data sharing agreements that enable technical solutions to work.

Legal Issues in HIE Planning

This section of the presentation will address:

- Types of privacy provisions incorporated into the data use agreements between health information exchange service vendors (personal health records, electronic health records, claims and other data sources) will provide the protections necessary for safe transmissions.
- How the regulatory requirements of HIPAA and business associate contractual provisions will apply to protect the transmission of ePHI.
- How to protect against data disclosures using business associate agreements (BAAs) for secure health information exchange.

Legal Issues in Deployment of Health Information Exchange



The Obligatory Cat Slide



Regulations Are A Burden

- “One concern we heard repeatedly was that the very act of beginning a regulatory process may actually slow the development of trusted exchange at a time when we cannot afford that.”
- “Our goal is to encourage the exchange activities that are gaining steam across the country and across the industry, and not to hobble them.”

Dr. Farzad Mostashari - National Coordinator for Health Information Technology

Perceived Barriers

Identifying other perceived barriers

- Sensitivity of data
- Harmonizing policies and procedures
- Interoperability of systems
- Consequences of failure:
 - Legal
 - Reputational
 - Political
 - Financial

“Trust Issues”



SERCH Broke Through Perceived Barriers

Privacy and security protections, however, do not necessarily impede the appropriate exchange of information in a declared disaster

- Recognized that even during disasters, patient privacy and control was important.
- Learned from the past and used existing structures, with enhancements and innovations.

It's An Emergency!

Prioritizing Patient Access to Their Records for Treatment

- **§164.510 Uses and disclosures requiring an opportunity for the individual to agree or to object.**

No Wheel Re-Invention!

Power in a Template and Encrypted E-Mail

- Mutual Aid Memorandum of Understanding
- Default to HIPAA
- DURSA (Data Use and Reciprocal Support Agreement)
- EMAC (Emergency Management Assistance Compact)

Katrina Guidance

“Treatment” includes:

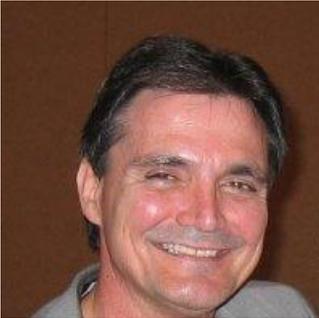
- (A) Sharing information with other providers;
- (B) Linking patients to available providers in the areas where the patients had relocated;
- (C) Coordinating with emergency relief workers and others who can help patient find appropriate health care services.

Finding A Way Forward





Questions?



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