



# Overview of Health Information Exchange (HIE)

*Prepared by the  
HIMSS Health Information Exchange Steering Committee  
August 2009*

# Agenda

- **What Is HIE?**
- **Other Terms You May Hear**
- **The HIE Environment**
- **Why Build HIEs?**
- **Making the Decision to Participate in HIE**
- **HIE Leading Practices**
- **What the ARRA Means for HIE**
- **Summary**
- **Resources**

# What Is HIE?

“The National Alliance for Health Information Technology Report to the Office of the National Coordinator for Health Information Technology on Defining Key Health Information Technology Terms,”

April 28, 2008

[http://www.hhs.gov/healthit/documents/m20080603/10\\_2\\_hit\\_terms.pdf](http://www.hhs.gov/healthit/documents/m20080603/10_2_hit_terms.pdf)

## Health Information Exchange

The electronic movement of health-related information among organizations according to nationally recognized standards.

## Regional Health Information Organization

A health information organization that brings together health care stakeholders within a defined geographic area and governs health information exchange among them for the purpose of improving health and care in that community.

Health Information Exchange (HIE) is a term used to describe both the sharing of health information electronically among two or more entities and also an organization which provides services that enable the sharing electronically of health information.

# Other Terms You May Hear

HIO – Health Information Organization

RHIO – Regional Health Information Organization

HIN – Health Information Network

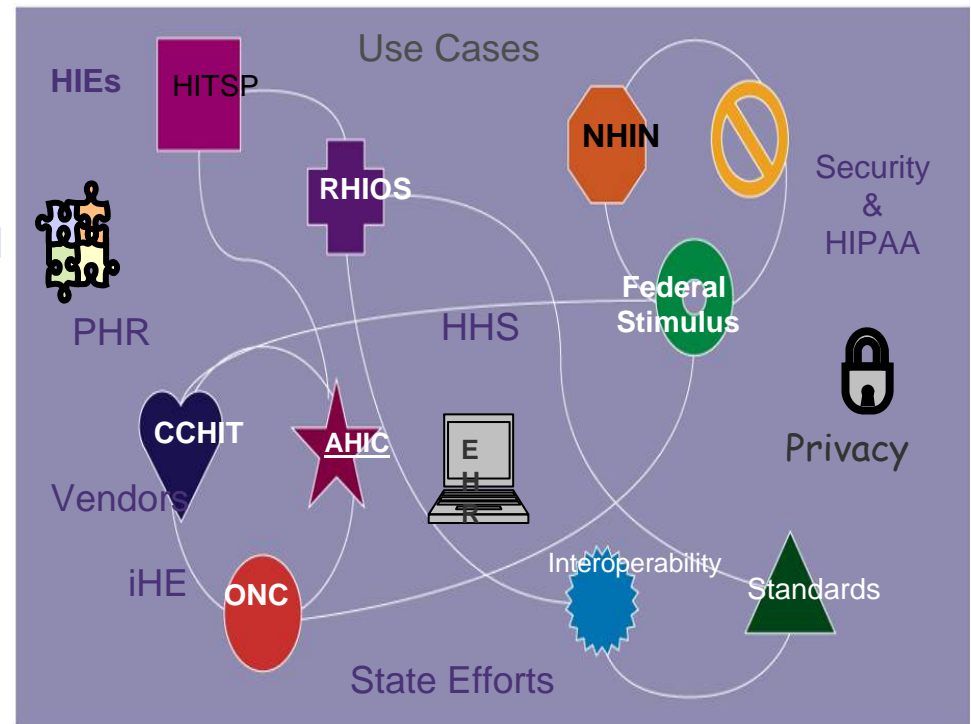
RHIN – Regional Health Information Network

NHIN – Nationwide Health Information Network

# The HIE Environment

Many find the HIE environment challenging and confusing. Prominent and inevitable issues involved in establishing and advancing HIE locally and nationally include:

- Privacy expectations & regulations
- Economic sustainability
- Government funding from the federal stimulus
- Adoption and implementation of IT standards
- Building community trust
- Intra- and inter-HIE governance
- State government's role
- EMR to HIE interconnection

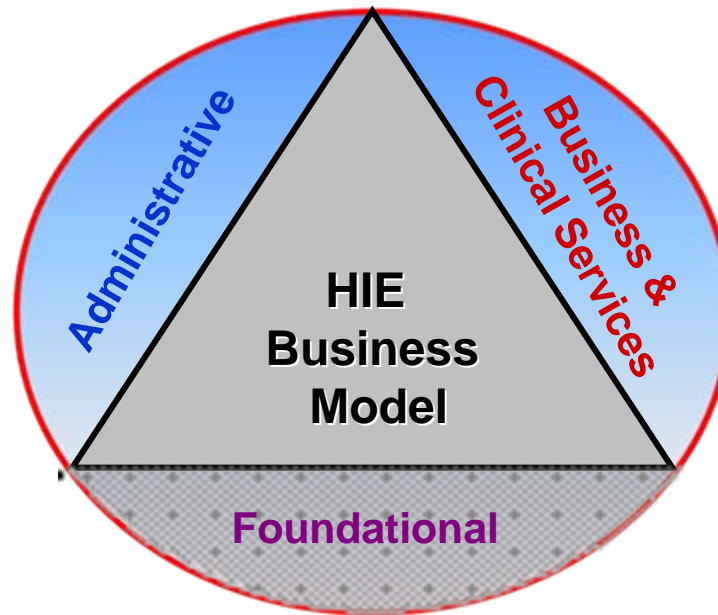


*There is a high level of ongoing discussion and activity aimed at advancing each of these issues*

# The Individual HIE Entity

## Administrative

- Organizational Entity
- Governance
- Domain Coordination
- Funding/Membership
- Policy Creation
- Practices
- Education
- Standards Adoption
- Certification



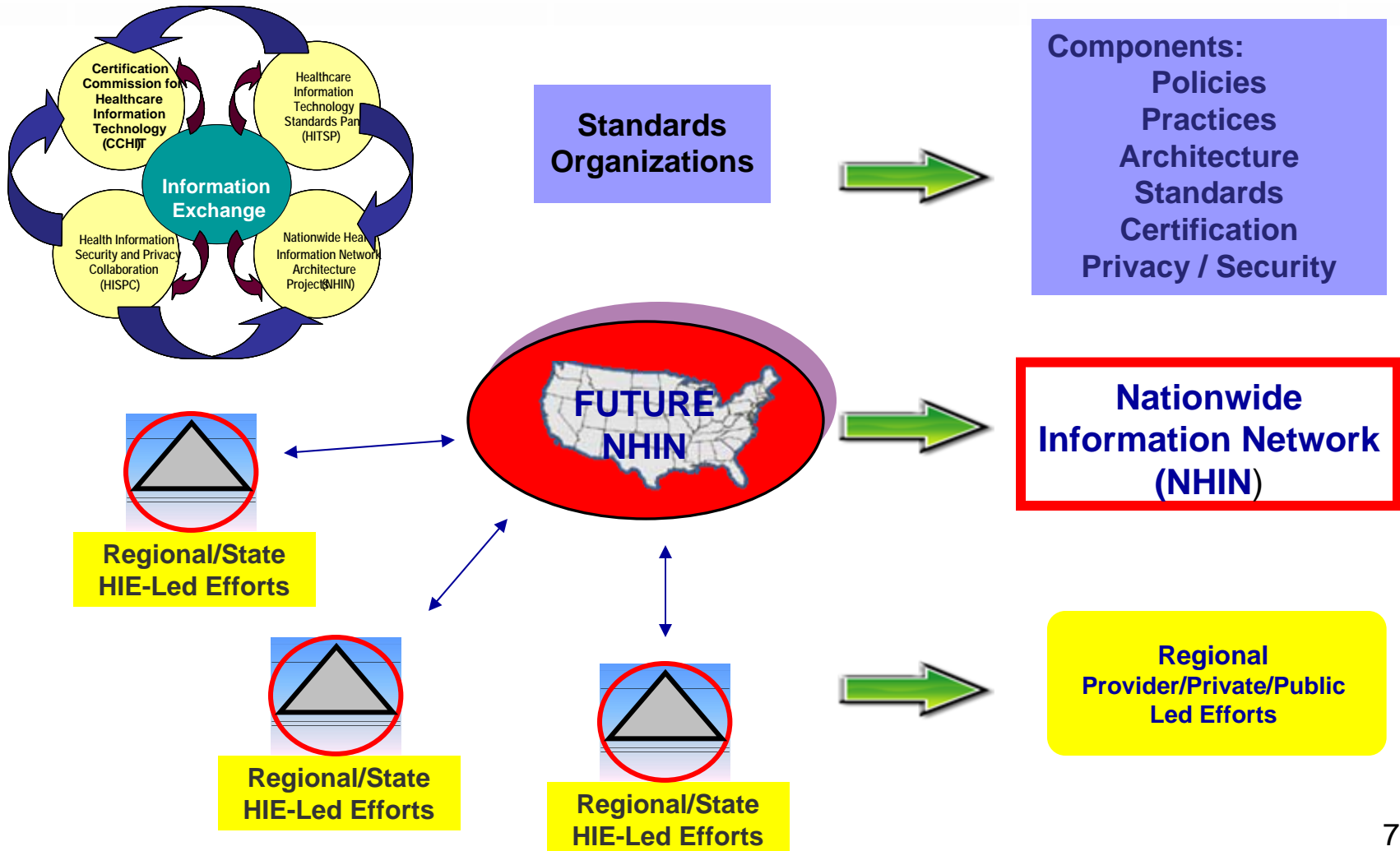
## Business & Clinical Services

- Adoption
- Transformation
- Clinical Process
- Quality
- Exchange Services

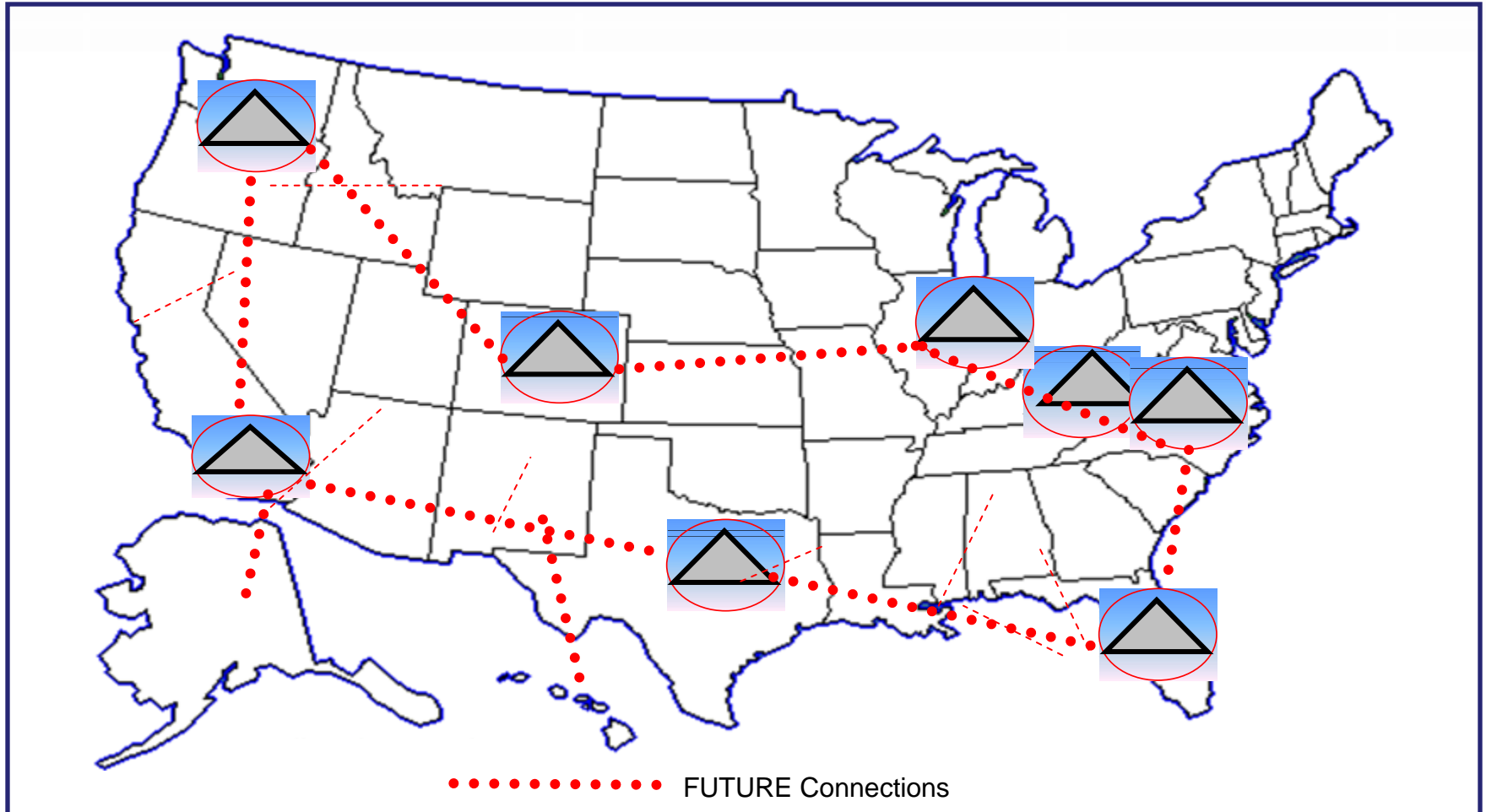
## Foundational

- Data Exchange Functions/Utility
- Interoperability
- Privacy / Consent
- Security
- Connectivity

# The National HIE View



# NHIN



The NHIN will be made up of many interconnected state, regional and local HIEs.

# Why Build HIEs?

The ability to exchange health information electronically is a basic and critical capability that is the foundation of efforts to improve healthcare in the US.

The increased availability of relevant health information through HIE:

- Provides a key building block for improved patient care, quality and safety
- Makes relevant healthcare information available where and when it is needed
- Provides the connecting point for an organized, standardized process for data exchange across local, regional and state-wide HIT initiatives
- Provides the means to reduce duplication of services with a resultant reduction of healthcare costs
- Facilitates reduced operational costs by enabling automation of many (currently manual) administrative tasks
- Provides governance and management over the data exchange process

# Types of Organizations That Drive HIE

- **Providers**
  - Dominant provider(s) in a given geographic or medical trading area determines the need for HIE
- **Employers**
  - Large employer(s) with targeted business objectives (e.g., reducing costs, PHR offering to employees) coalesce around area providers
- **Payers**
  - Dominant payer(s) may drive the process by sponsoring initial meetings, facilitating initial development activities, providing initial seed money or offering claims based data or software
- **Private/Public Communities or Coalitions**
  - Local/regional stakeholders coalesce around unique business and/or geographic interests
- **State-Sponsored/State-Directed Collaboration**
  - State acting as convener, may organize state-wide HIE and/or encourage local/regional HIEs and may provide funding for these regional initiatives through grants for planning and implementation

**American Recovery and Reinvestment Act of 2009:** This legislation, also known as “the stimulus bill,” provides funding for health information technology including health information exchange. This funding and the policies that accompany it are already driving additional HIE activity across the country.

# Benefits of an HIE

## Convergence of Healthcare Delivery and Technology to Speed the Evolution of the Healthcare System

### An HIE:

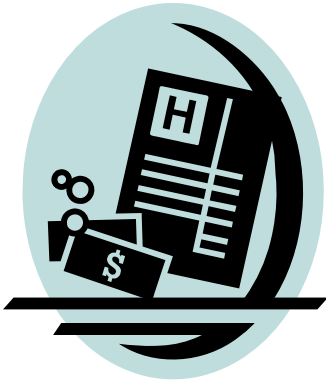
- Provides a vehicle to support improved patient care quality and safety
- Provides a mechanism to reduce duplication of services and reduce healthcare costs
- Facilitates operational and administrative efficiencies resulting in reduced operational costs
- Enables the integration of sick (illness)-care with well-care
- Links first-responder teams with trauma care teams
- Stimulates consumer education and involvement in their healthcare process
- Promotes transparency of service and cost

## Benefits of an HIE *(continued)*

### An HIE also:

- Creates a potential for feedback loop between research and actual practice
- Enables public health to meet its commitment to the community
- Facilitates the efficient deployment of emerging technology and healthcare services, such as e-prescribing
- Provides the backbone technical infrastructure for leverage by the NHIN and state level HIT initiatives
- Provides a basic level of interoperability between physician-maintained EHRs and patient-maintained PHRs

# Key Stakeholders



# Making the Decision to Participate in HIE

Prior to committing to participation in an HIE, there are several factors that should be evaluated and understood. These include:

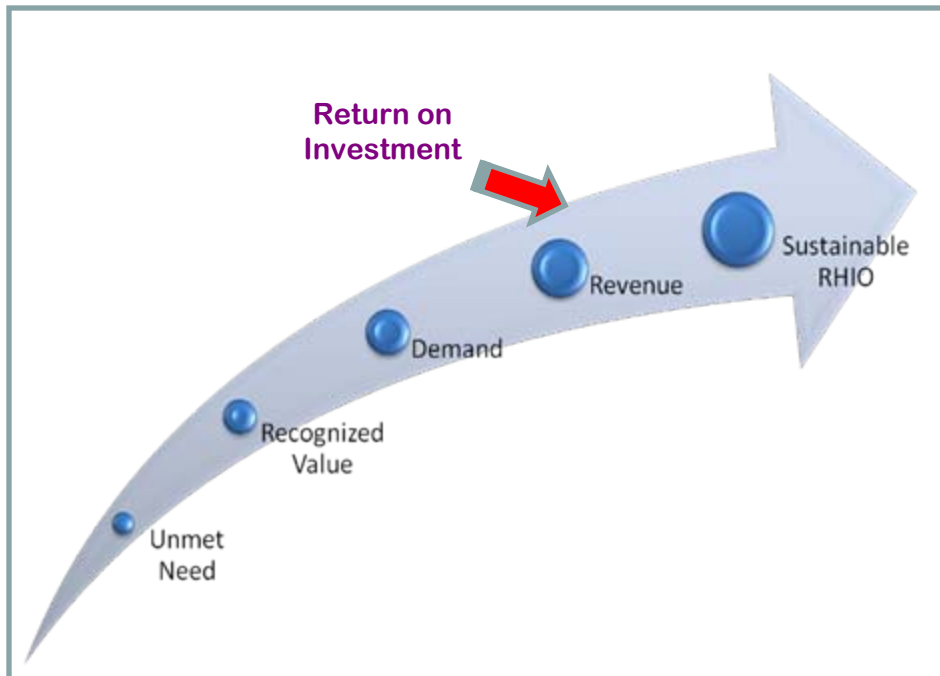
- The goals and philosophy of the HIE
- The services the HIE offers
- Participant technology requirements
- The economics and sustainability of the HIE (financial costs and benefits)
- The anticipated non-economic benefits such as improvements in quality or safety
- How applicable state and federal regulations, such as HIPAA, are addressed
- Any risks such as liability, project failure or security breach
- The leadership, governance and contracts such as data use agreements
- The HIE's current level of developmental maturity vis-à-vis other HIEs
- The legal structure of the HIE

# HIE Leading Practices

- **Engage key stakeholders early**  
Keep them engaged through regular communication  
Engage opinion leaders to build stakeholder support
- **Develop trust and support**
- **Set realistic expectations**  
Build a realistic plan for creating and implementing services and communicate it often
- **Start early to develop a financial plan**  
Work with key stakeholders to create a business model based on revenue. Too much grant funding can be a “moral hazard” and a temptation to postpone defining a sustainable financial model
- **ROI is achieved over time**  
Engage opinion leaders to build stakeholder support
- **Listen to your community**  
Your community will drive the services that the HIE should provide

*There are some excellent examples of successful HIEs. However, HIEs are and will continue to be an emerging market.*

# HIE Success & Sustainability



Return on investment (ROI) comes only if the HIE can generate revenue based on providing valued services.

To have a sustainable HIE, you need to identify and provide services that your community values and will pay for.

Build your HIE to meet the needs of your targeted community.

**Local and regional healthcare consumers and the community will ultimately provide the definition of a successful HIE.**

# American Reinvestment and Recovery Act (ARRA)

# What the ARRA Means for HIE

## What We Know

- There is specific funding for HIE development
- There is additional funding to accelerate physician and hospital adoption of EHRs and EMRs
- HIE allocated funding most likely will be spent first
- EMR funding will be allocated through incentives beginning in 2011

## What We Don't Yet Know

- What is the definition of “meaningful use”
- The application process for funding
- The allocation process for distribution of the funds
- How these efforts will improve the quality of care

# Summary

- HIT will improve the delivery of healthcare.
- HIEs are strategic in redefining the delivery process by enabling data exchange across all stakeholders.
- HIEs will ultimately provide a single health record view for each patient.
- Efficiency through HIT will help the care provider reduce costs, increase quality and provide a more satisfying patient care experience.
- Re-inventing the delivery of healthcare requires an upfront investment and long-term commitment. HIEs are part of the solution.

***Funding HIT is an investment in the future success of healthcare in the United States.***

# Resources

## **HIMSS HIE Resources:**

[http://www.himss.org/ASP/topics\\_FocusDynamic.asp?faid=1411](http://www.himss.org/ASP/topics_FocusDynamic.asp?faid=1411)

## **HIMSS HIE Common Practices Survey White Paper:**

[http://www.himss.org/content/files/RHIO/HIE\\_CommonPracticesWhitePaper20090330.pdf](http://www.himss.org/content/files/RHIO/HIE_CommonPracticesWhitePaper20090330.pdf)

**State Level HIE Consensus Project:** <http://www.slhie.org/>

## **National Governor's Association-Center for Best Practices:**

<http://www.nga.org/portal/site/nga/menuitem.50aeae5ff70b817ae8ebb856a11010a0/>

**National Conference of State Legislatures:** [www.ncsl.org](http://www.ncsl.org)

# Resources

**United States Official ARRA Website:** [www.recovery.gov](http://www.recovery.gov)

**ARRA Information:** <http://www.himss.org/EconomicStimulus/>

- ARRA Summary and Analysis
- ARRA Frequently Asked Questions
- Timelines

# Appendix

## Examples of Established HIEs

## Examples of Established HIEs

### • HealthBridge

- *Market(s): Greater Cincinnati area including Batesville, IN, Northern Kentucky; Services to 2 other HIEs*
- *Primary Services:*
  - *Electronic delivery of lab, radiology, transcription, hospital reports, and secure clinical messaging*
  - *Electronic lab ordering*
  - *Quality services*
- *Scale: 28 hospitals, 700 physician practices; 5,000 physicians, 2.7 million secure clinical results per month, 2.5 million patients*
- *<http://www.healthbridge.org/>*

### • Indiana Health Information Exchange

- *Market(s): Central, west, southwest, and northwest Indiana (population ~3.0 million)*
- *Primary Services:*
  - *Electronic delivery of lab, radiology, transcription results*
  - *Community health record repository*
  - *Clinical quality services*
- *Scale: 55 data sources, 3600 physician practices, 10,600 physicians, 3 million secure clinical results per month.*
- *<http://www.ihie.org/>*

### • CareSpark

- *Market(s): 17 central Appalachian counties of northeast TN (8 counties) and southwest Va (9 counties)*
- *Primary Services:*
  - *Health Information Exchange*
    - *Medication, diagnostic, clinical information*
    - *Clinical Decision Support*
    - *Link TN and VA Immunization Registries*
- *Scale: serving 750,000 residents and 1400 physicians, 250,000 patients in the system, and 200 clinician users.*
- *[www.carespark.com](http://www.carespark.com)*

### • MedVirginia

- *Market(s): Central Virginia, including Richmond Metropolitan Area*
- *Primary Services:*
  - *Electronic delivery of lab results, radiology results, hospital reports, Secure clinical messaging*
  - *Community health record repository*
  - *Integrated e-prescribing and practice management*
  - *SSA disability determination data support*
- *Scale: 1,200 users, 600,000 unique patient charts, 6 hospitals and 2 reference labs*
- *<http://www.medvirginia.net/>*

# Acknowledgments

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