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States' Role in Health Information Exchanges

*A Collaborative Approach
Across Multiple Stakeholders*

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Improving Health Care With Information Technology

By Tommy G. Thompson,
Independent Chairman, Deloitte Center for Health Solutions



It is time for the U.S. health care industry to embrace 21st century technology to streamline operations, improve patient care and build a safer health system. For far too long, vital health information has been held primarily in electronic “silos” that do not communicate with each other. Fortunately, interest and momentum have been building at a national level for the adoption of institution-centric Electronic Health Records (EHRs) and the development of a National Health Information Network (NHIN) that promotes interconnectivity among users of various forms of health information technologies. Using such technology offers the potential to make the right health information available at the right time, which in turn can improve patient outcomes and quality of care, and – in some cases – save lives.

At present, there is little consensus on how the various components of a nationwide health information technology system will interoperate, or how such a system will be funded, which is stalling development. This makes the emergence of state-level Health Information Exchanges (HIEs) – the building blocks of a national network – so important to the future of U.S. health care information technology. As one of the country’s largest health care payors (through Medicare), states have a vested interest in implementing and advocating technology advancements, such as HIEs, that can improve health care quality and lower costs. In addition, states’ extensive reach across the public and private sectors makes them ideal candidates to champion HIE adoption among the many stakeholders that are needed to fund, develop, operate and sustain these networks.

The Deloitte Center for Health Solutions (the “Center”), a part of Deloitte & Touche USA LLP, has developed the following point-of-view document, which explores the various roles that states can play in HIE development, adoption and maintenance. The paper shows how states can be at the epicenter of HIE evolution and the ways in which they can coordinate multiple stakeholder interactions and influence HIE adoption. This paper also identifies some of the key factors that are critical to the success of a state-based HIE initiative, as well as the resulting benefits.

The U.S. health care industry needs to take serious and significant steps to move health information technology funding, implementation and adoption forward. In this way, we can be sure that important technology advancements such as EHRs, HIEs and the NHIN will have their intended effect – improving health and saving lives.

A handwritten signature in black ink that reads "Tommy G. Thompson". The signature is written in a cursive, flowing style.

Tommy G. Thompson
Independent Chairman
Deloitte Center for Health Solutions

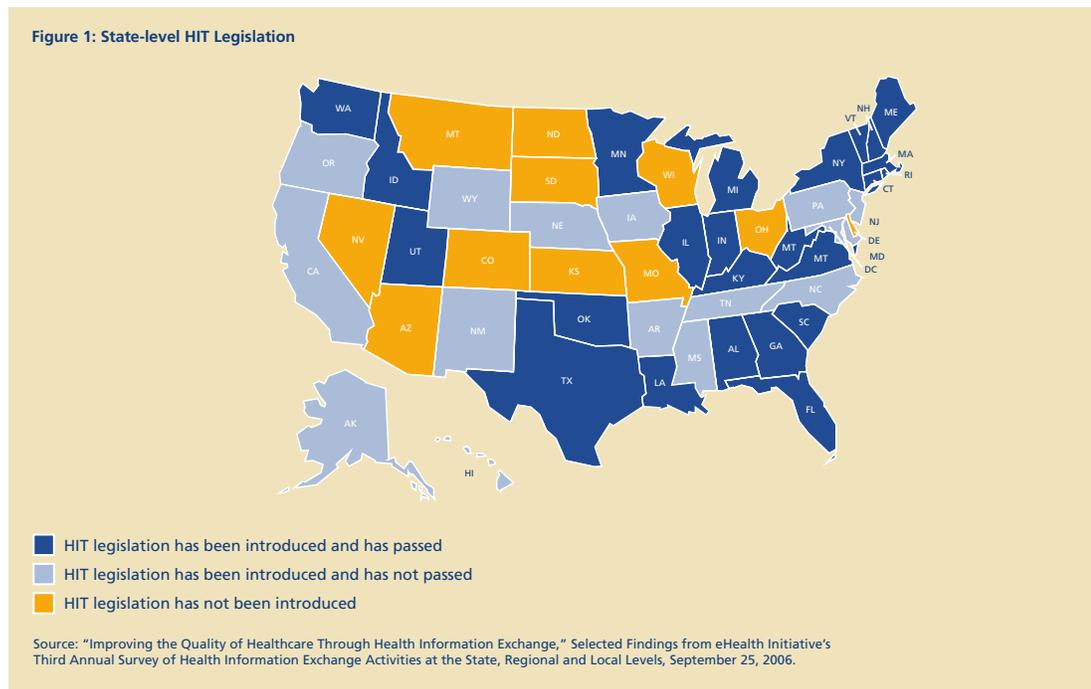
States Take the Helm of the Health Information Exchange Phenomenon

The role of state governments in determining the future of Health Information Exchanges (HIEs) within the U.S. health care system is becoming significant. As one of the country's largest health care payors, state governments – along with employers, providers, regulators, and federal government agencies – can exert considerable influence over the multiple stakeholders required to fund, develop, implement, and sustain HIE networks.

A Health Information Exchange is a multi-stakeholder organization that enables or oversees the business and legal issues involved in the exchange and use of health information, in a secure manner, for the purpose of promoting the improvement of health quality, safety and efficiency.¹ A recent survey by the non-profit eHealth Initiative concluded that health information technology (HIT) planning in states is on the rise, with 28 states initiating or in the process of planning an HIE and an additional seven states with plans completed and implementation under way² (Figure 1). About half of the states in the U.S. have either an executive order or a legislative mandate to stimulate the use of HIT to improve health and health care.³

The Bush administration's goal of building a national network of interoperable electronic records by 2014 is probably over-optimistic, given the health care industry's traditional reluctance to adopt large-scale process changes – especially those that involve IT.⁴ However, both the government and the health care industry are taking important first steps to build connectivity among doctors, hospitals, labs, health plans, pharmacies and others to give providers a complete view of a patient's medical information. The goal is to improve overall care quality, avert medical errors, and save billions of dollars by eliminating health care system inefficiencies.⁵

Public health experts, particularly those in state governments, recognize the potential economic and clinical benefits of HIEs and similar eHealth initiatives and are looking for ways to spur their growth. This paper from the Deloitte Center for Health Solutions (the "Center"), a part of Deloitte & Touche USA LLP, explores why states are in an excellent position to lead other health care stakeholders in developing an HIE network model that will allow disparate, public and private health care clinical and business systems to connect with each other.



1 http://www.himss.org/asp/topics_FocusDynamic.asp?faid=143.

2 "Improving the Quality of Healthcare Through Health Information Exchange," Selected Findings from eHealth Initiative's Third Annual Survey of Health Information Exchange Activities at the State, Regional and Local Levels, September 25, 2006.

3 "States Getting Connected: Quality and Safety Driving Health IT Planning in a Majority of States in the United States," *eHlissuebrief*, a publication of the eHealth Initiative, July 2006.

4 For more HIE historical information, refer to the Deloitte Center for Health Solutions' *HIE Business Models* white paper.

5 "Regional Health Information Organizations' Modest Start: What's Been Built, What's Driving Progress, And When Will They Flourish?" by Eric G. Brown with Bradford J. Holmes and Will McEnroe, *Forrester Market Overview*, February 13, 2006.

Strong Case for an HIE Network

All stakeholder groups share the challenges and benefits of an HIE network model.

Challenges

- Meeting demand for affordable, high-quality health care
- Streamlining citizen-centric processes
- Synchronizing interests of all affected parties
- Developing, implementing and integrating technology
- Understanding the public/private sector impacts of a digital revolution
- Prioritizing health care as compared to other public needs (education, transportation, etc.)
- Establishing a sustainable funding stream

Benefits

- Enables a more effective response with diverse stakeholders working as a coordinated body
- Enables better visibility into all aspects of the patient care life cycle, from diagnosis to outcome
- Networks providers to extend presence throughout coverage area
- Enhances adoption of latest technology to improve patient safety, quality of care, and patient outcomes
- Provides capabilities of multiple agencies for network component reuse
- Leverages private and public assets, which are critical to funding

States Can Coordinate HIE Stakeholders' Interactions

To date, state-level HIE activities have not received the same attention as federally and industry-sponsored initiatives. Most HIEs in existence today (165 HIE initiatives in 49 different states, the District of Columbia and Puerto Rico that responded to eHI's annual survey⁶) are regional and localized in their geographic areas. Additionally, there are the numerous Regional Health Information Organizations (RHIOs) within each state that function within the scope of their individual geographic boundaries. State involvement in health data exchange projects is growing as stakeholders seek an HIE-based response to improving health care quality, efficiency, and cost savings that goes beyond the finite boundaries defined by each RHIO. States can bring together these disparate RHIOs under one roof and enhance their value by connecting them with existing public health data repositories and networks to provide a comprehensive view of a consumer's Electronic Health Record (EHR). Additionally, many regulations for programs such as Medicaid and Temporary Assistance for Needy Families (TANF) are determined at a state level, making unique, but networked, state-by-state HIE models necessary.

Several Medicaid agencies are being used as drivers to spur HIE growth within their respective states. Arizona's Medicaid agency, for example, has led development of a web-based health information exchange (including demographics, medical history, and medication history) among its physical and behavioral health providers to improve quality of care for its Medicaid population. The success and value proposition of this project could be used to secure additional funding and drive HIE adoption in other areas of the state. Louisiana is another example of a Medicaid-initiated HIE that has been successful across the state. In New York, Medicaid recipients already have an automated, 90-day rolling medication history available through a "swipe card" that is connected real-time to all pharmacies. The e-Health Consortium in Connecticut is collaborating with the state Medicaid agency to coordinate data exchange among payors, providers, and their Medicaid Management Information System (MMIS) program. The focus there is on medication history and disease management for the Medicaid population.

State Medicaid programs continue to look for new ways of cost containment and quality improvement. The CMS Transformation Grant provides Medicaid-specific grant funding that could be used for statewide HIE programs that satisfy the grant requirements. States should consider Medicaid programs in their initial strategy to build statewide HIE exchanges by beginning with small initiatives that target a specific population and deliver significant value.

6 "Improving the Quality of Healthcare Through Health Information Exchange," Selected Findings from eHealth Initiative's Third Annual Survey of Health Information Exchange Activities at the State, Regional and Local Levels, September 25, 2006.

States Can Be at the Epicenter of the HIE Movement

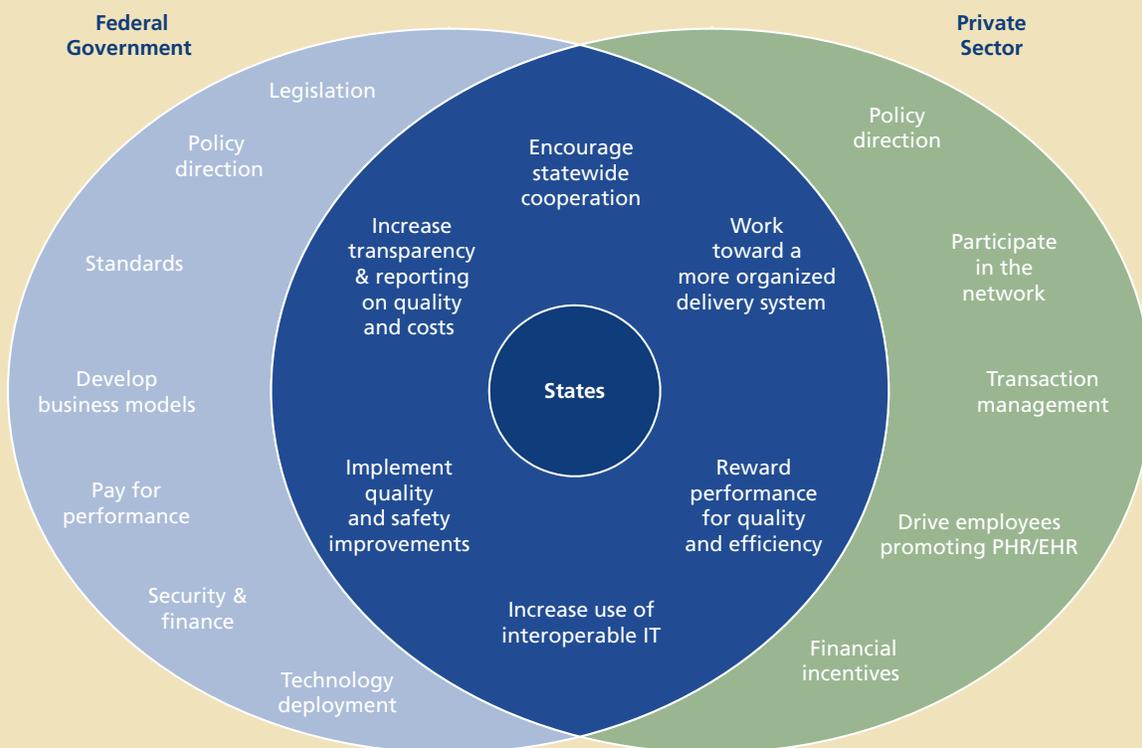
Figure 2, below, shows how state governments can occupy a central position as initiator, funding source, data resource and partner, project facilitator, and neutral convener⁷ in the quest to promote, create and maintain an effective HIE network model.

While a nationwide HIE strategy is still in the early stages of development, there are numerous opportunities to jump-start a state-level HIE network model. States can help lead the HIE movement by:

- Applying/lobbying for grant funding for their eHealth initiatives

- Coordinating with other payors on implementing Personal Health Records (PHRs) – an important contributor to HIE data sets
- Leveraging administrative information from their Medicaid program to streamline and reduce costs
- Providing clinical settings with high-impact data sets on previous history
- Integrating data from disease surveillance/management, child immunization, mental health, and prison population programs and leveraging/building upon the existing infrastructural domain systems (e.g., home and community-based waiver services information systems) and enterprise-specific systems (e.g., master client index) to help move toward a single health data view of the client.

Figure 2: HIE Movement



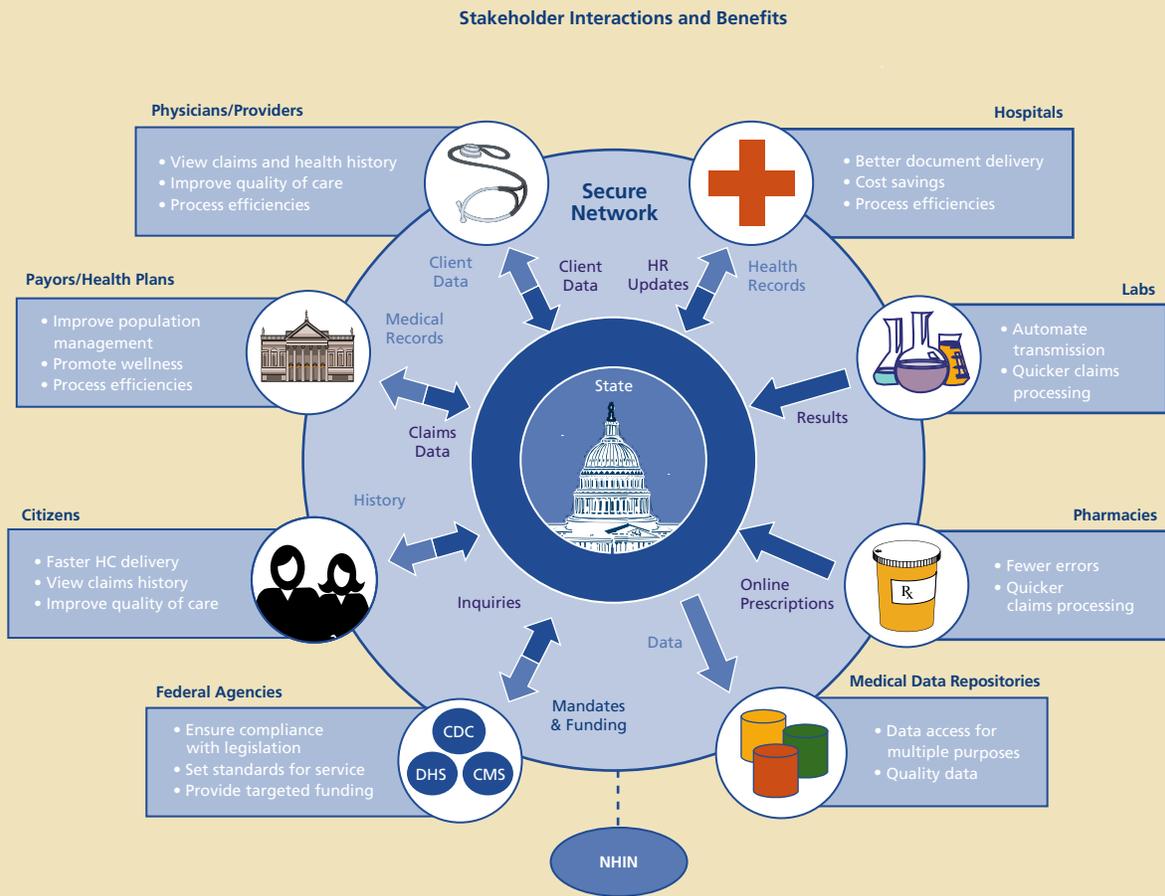
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⁷ "Evolution of State Health Information Exchange/A Study of Vision, Strategy, and Progress," The Agency for Healthcare Research and Quality (AHRQ), January 2006.

A state-centric approach provides for a fully connected, health care IT environment that improves the flow of clinical, financial and administrative data within the health care system. Figure 3, depicted below, provides a conceptual view of a state HIE network model.

This model illustrates the multiple stakeholders served by a state government HIE. Information technology connects the spokes of this network and facilitates the secure exchange of health data.

Figure 3: State HIE Network Model



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The following matrix details the state network model's stakeholders and their roles.

State Network Model Stakeholders				
Stakeholder	Major Value	Attitudes About HIE	Major Interests	Constraints
Citizens	High-quality, affordable health care	Very eager for change	Availability of accurate data in a timely manner	Privacy, confidentiality, and security concerns
Federal Government	Control costs, Improve quality	Eager for change	Reduce expenditure on health care spend; move toward NHIN	Financial, organizational
State/Local Governments	Control costs, Improve quality	Eager for change	Reduce costs; improve quality of care, patient safety, administrative efficiency, and general health of the community	Financial, organizational
Hospitals/Physicians/ Providers	Accurate patient information at point of care	Eager for change but constrained by lack of near-term ROI	Reduce costs with faster delivery and improve efficiency	Financial, organizational, competitive
Labs	Deliver results faster and cheaper	Eager for change	Minimize costs for results delivery	Financial, organizational, competitive
Payors/Health Plans	Accurate patient and treatment information	Very eager for change but concerned about ROI and investment expectations	Automation and handling of a larger number of members and having more member information	No immediate ROI and high upfront costs
Pharmacies	Enhance efficiency and accuracy of drug delivery	Eager for change	Drive down costs with faster claims processing and fewer dispensing errors	Financial, organizational
Medical Data Repositories	Accurate patient medical data	Very eager for change	Availability of accurate data	Other stakeholder cooperation

As major payors and policy makers, states can drive collaboration among HIE stakeholders, as well as shape the direction and pace of eHealth adoption. States should expect their focus and influence to be dynamic and change as an initiative progresses. The diagram below depicts these potential roles.

States Can Play Many Roles in an HIE Network

Educator	Focus on increasing awareness and education by collecting, analyzing, and disseminating health care information.
Administrator	As a major health care purchaser, states already have an IT foundation for administrative transactions. They can allow other stakeholders to share the data and information resources to lower operational costs.
Policy Maker	Provide incentives to HIE adoption through legislative action. In addition, many states are forming working groups or advisory panels to develop their response.
Initiator/ Catalyst	Help jump-start state's electronic health data exchange by numerous methods, including leading eHealth consortium efforts, bringing stakeholders together, leveraging existing infrastructure, and providing seed money.
Coordinator	With the development of public-private partnerships among major stakeholders, states can coordinate efforts to drive eHealth implementation.
Payor	Track the accrued benefit and reward providers accordingly. Increase reimbursement costs for citizens using health care services as part of Medicaid and State Children's Health Insurance Programs (SCHIPs).
Provider	Driving a national shift toward outcomes and quality of service will require public sector health care providers to show measurable improvement.
Purchaser	Use their purchasing power to exert active influence. Control increasing premium costs for providing health insurance to the more than five million full- and part-time state employees nationwide.

Source for Payor, Provider and Purchaser Information: "The (IT) Doctor Is In – The Role of the State CIO in Health IT," *NASCIO Issue Brief*, February 2006.

States Can Benefit by Leading HIE Efforts

As states lead HIE efforts, they may realize numerous benefits. Among the short-term benefits for states in implementing a state network model are:

- Reducing health care costs and driving down premiums
- Simplifying administrative tasks and increasing overall efficiency
- Being able to improve general health of state population
- Being able to support real-time, evidence-based clinical decisions
- Being able to bring more health care services to inner cities and rural areas

- Being perceived by constituents and industry stakeholders as an advocate for high-quality, affordable health care that provides better outcomes
- Achieving positive national exposure as a model for implementing advanced health information technology.

Long-term benefits can include:

- Gaining measurable quality improvements in health care services
- Empowering consumer choice through quality reporting and access to personal health data
- Realizing cost savings
- Positively influencing state expenditures on employee health, Medicaid and State Children's Health Insurance Programs (SCHIPs)
- Tracking the accrued benefit and reward accordingly as a payor.

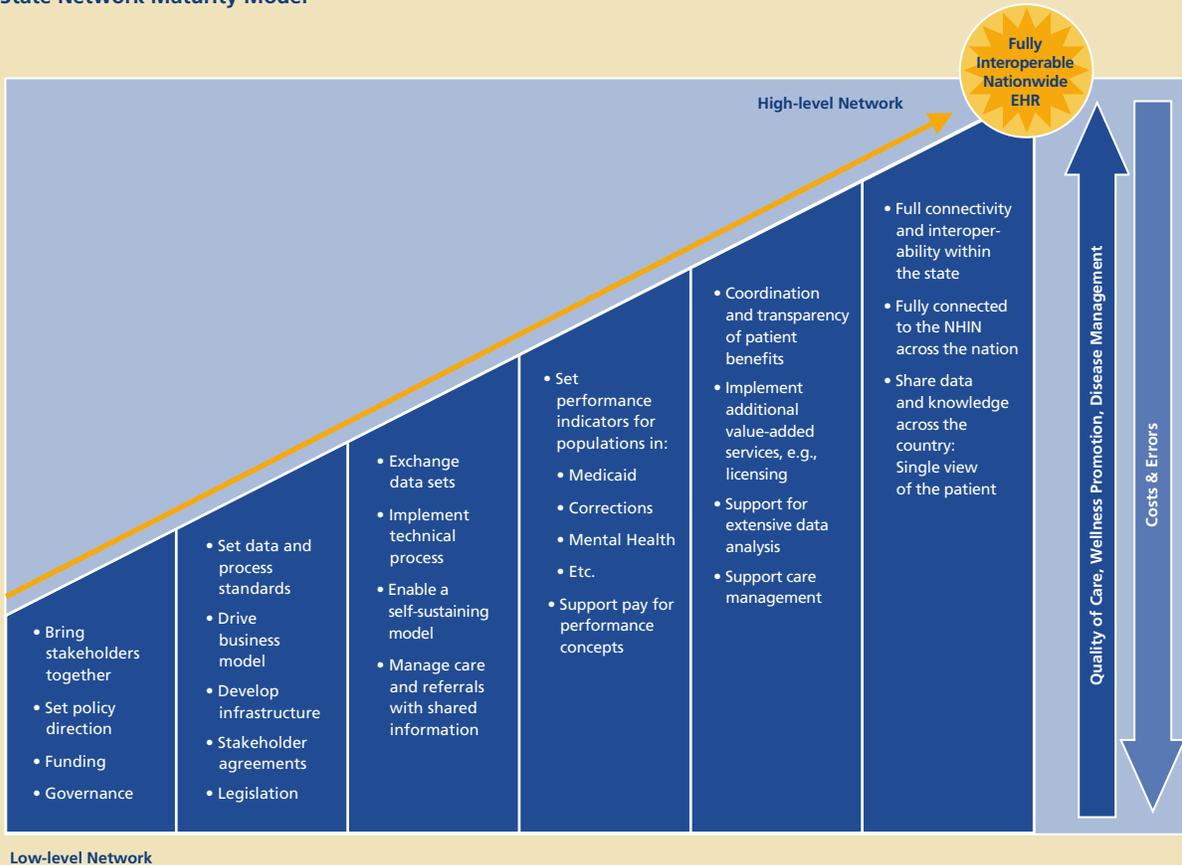
State HIE Evolution: Gaining Connectivity Across the Network

Implementing a multi-stakeholder, state-centric HIE network model may take years. However, by following a staged approach, individual states can progress to operating well-defined networks. At the 2006 3rd-Annual HIT Summit in Washington D.C., when discussing which core functionality state HIEs should be building first, the majority of states said that developing a standardized Master Patient Index, using HIT to manage Medicaid populations, and coordinating a patient's medication history information were their top-three priorities.

Figure 4, below, depicts HIE network maturity levels and how they progress from a non-existent or low-level model to a high-level network in which the entire U.S. health care system is fully connected. As a state moves through the maturity levels, it will see increases in quality of care, wellness promotion, and disease management, and decreases in medical errors and costs.

As states differ in their populations, IT infrastructures and governance structures, their progression through the state network maturity model may vary. The tasks listed within each maturity level may be different, as well as the progression timeframe. States should find the approach and the speed of progression that best fits their needs and capabilities. As they progress, states should continually look upward and define a path that will get them to the final level of the maturity model.

Figure 4: State Network Maturity Model



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Case Study: State of Utah's HIE

The state of Utah established its HIE, called the Utah Health Information Network (UHIN), in 1993 and began operations a year later. UHIN is a broad-based coalition of health care insurers, providers, and other interested parties, including the state government. UHIN is a state not-for-profit organization, so it only charges enough fees to cover the costs of running the network. Its main features are:

- Self-supporting business model with membership fees for providers and per-claim transaction fees for payors
- Originated by focusing on existing claims data information exchange and slowly enhanced that network
- Successfully obtained seed money and has continued funding at a significant level, enabling the HIE to flourish
- Strong leadership coupled with phased planning and implementation that emphasizes leveraging existing health information assets
- Stakeholder support and buy-in from the project's earliest phases.

Utah Health Information Network (UHIN)

Dates of Note	<ul style="list-style-type: none"> • 1993: UHIN established • 1993: UHIN Board decision to expand the statewide network (UHIN gateway) to support the exchange of other health care transactions (e.g., clinical information) • 2004: AHRQ State and Regional Demonstration contract award • 2004: Utah Department of Health LHII contract award
Overall Program Objective	<ul style="list-style-type: none"> • Expand and enhance the current statewide network (UHIN gateway) for the secure electronic exchange of health care data using standardized transaction through a single portal.
Engaged Stakeholders	<ul style="list-style-type: none"> • State Government • Payors (includes Medicare and Medicaid) • Physicians • Hospitals • Laboratories • Pharmacies • Consumer Groups
Target Population	<ul style="list-style-type: none"> • Utah and bordering states
Technology/Infrastructure	<ul style="list-style-type: none"> • Central hub (UHIN gateway) using secure web services infrastructure • Considering use of a MPI
Funding	<ul style="list-style-type: none"> • UHIN • Federal—\$5 million over 5 years • State—\$660,000 over 2 years
Timing	<ul style="list-style-type: none"> • Web service infrastructure in production 2006 • Several pilots which exchange additional health care transactions, including “direct messages” (e.g., laboratory results, medication history, eRx) in 2006
Unique Program and State Features	<ul style="list-style-type: none"> • Longstanding HIE • Successful history in exchanging claims-based health care data • Recognized as a trusted, neutral third party; established stakeholder buy-in and value proposition; existing governance infrastructure • Recognized SDO • AHRQ State and Regional Demonstration Grant recipient

Source: “Evolution of State Health Information Information Exchange/A Study of Vision, Strategy, and Progress,” The Agency for Healthcare Research and Quality (AHRQ), January 2006.



Conclusion

Successful HIE models can help facilitate coordination and collaboration among multiple levels of civic offices, not-for-profit organizations, for-profit companies, and citizens. Therefore, knowing how to effectively integrate stakeholders must become a core competency of state governments. States should begin by performing an assessment of their readiness for HIE capability; analyzing their inventory of existing health information repositories that already contain unique population health data (e.g., mental health, Medicaid, etc); beginning to build or leverage existing system infrastructure; and then formulating a realistic roadmap with measurable milestones that builds upon the foundation of these existing networks. This will help the state develop a value proposition for additional funding and guide its HIE toward a sustainable funding model.

Some of the key factors that are critical to the success of a state-based HIE initiative are:

- Providing strong leadership through the Department of Health, the Medicaid agency, the Governor's office, or other state agencies to help set the HIE agenda and direction and to secure the necessary political support
- Obtaining consensus at the project's start among all major stakeholder parties, especially provider organizations
- Maintaining a neutral position and becoming acknowledged as an unbiased convener and coordinator among all stakeholders ("honest broker")
- Assisting in establishing national standards and driving interoperability requirements without discouraging ongoing RHIO efforts and innovative stakeholder processes
- Encouraging new ideas and knowledge sharing with other HIE projects; applying lessons learned
- Being able to manage and facilitate necessary state-level policy changes that are critical to HIE success
- Obtaining seed money and working toward a realistic, sustainable financial model; developing innovative plans for funding (e.g., bond issues)
- Being able to demonstrate small but notable successes early on to enhance the value proposition of the HIE.

States also need to develop much stronger competencies in sharing knowledge.⁸ Often, the difference between HIE success and failure rests on how well the parts of the network communicate and share knowledge at multiple points in various ways.

Health care network integration cannot be accomplished through technology alone; it requires addressing people issues, examining processes, aligning values and building trust. Because of their multifaceted role as health care authority, provider, payor, employer, and regulator – and their extensive reach across the public and private sectors – state governments are ideal candidates to serve as HIE champions.

Deloitte Consulting LLP and HIEs

Deloitte Consulting LLP has significant experience and capabilities in health information technology in the U.S. public and private sectors. In the public sector, Deloitte Consulting has assisted clients to plan and develop leading technology solutions to support Medicaid and public health programs, public health surveillance and tracking, and HIV/AIDS tracking. Furthermore, as a leading professional services firm in the health care industry, Deloitte Consulting is able to bring leading commercial best practices to our clients in the public sector. Deloitte Consulting has capabilities in strategy development, technology development and implementation, enterprise resource solutions, human capital, and enterprise risk management (through our Enterprise Risk Services practice), all of which can support organizations focused on enhancing their public health information technology capabilities.

⁸ "Governing by Network: The New Shape of the Public Sector," Stephen Goldsmith and William D. Eggers, November 2004.

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