Establishing a Business Case for Health Information Exchange (HIE)
Findings from the State and Regional Demonstrations in Health Information Technology Regional Meeting
November 8 – 9, 2005

Supported by the Agency for Healthcare Research and Quality National Resource Center for Health Information Technology

This meeting is a part of a series of direct technical assistance activities provided by the AHRQ National Resource Center for Health Information Technology (NRC) to AHRQ projects involved in the developing, testing, and use of health information technology (IT) applications. Led by the National Opinion Research Center (NORC) at the University of Chicago, the NRC includes the Regenstrief Institute at Indiana University, the Vanderbilt Center for Better Health; the Center for Information Technology Leadership at Partners Health Care System, Inc.; the eHealth Initiative; the Computer Sciences Corporation; and Burness Communications. To learn more about the latest tools, best practices, and lessons learned in health IT, please visit the AHRQ National Resource Center for Health Information Technology website at http://healthit.ahrq.gov .

Background

To encourage innovation in health care delivery, the Agency for Healthcare Research and Quality (AHRQ) in 2004 distributed more than $166 million in grants and contracts to 41 states to promote the use of health information technology (IT) nationwide. Recipients included regions, states, and community organizations working to improve patient safety and health care quality through the development of health IT networks. As part of this initiative, AHRQ launched a $30 million program awarding State and Regional Demonstration contracts to six States: Colorado, Indiana, Rhode Island, Tennessee, Utah, and, most recently, Delaware. Each project is designed to accelerate data-sharing and interoperability activities statewide. In early November 2005, Project Directors from the these six States, along with representatives from AHRQ and the National Resource Center for Health Information Technology (NRC), convened in Murray, Utah, for a two-day meeting to discuss approaches for creating a sustainable business model for health information exchange (HIE) *(See Appendix 1: Participants List).*

HIE is defined as the mobilization of health care information electronically across organizations within a region or community.[1] By facilitating access to and retrieval of clinical data, HIE can promote more efficient, effective, and equitable patient-centered care. [2] We know from existing HIE efforts that finding a sustainable business model for HIE is challenging. To encourage dialogue around these issues, participants at the November meeting addressed a range of issues related to developing a business case for HIE, including:

- Gaining trust and commitment from stakeholders
- Quantifying the costs and benefits of participation in a health IT network
- Creating value around HIE.

At the meeting's conclusion, attendees identified a series of questions to help HIE implementers design a business model for data exchange in their States *(See Appendix 2: A Checklist of Questions to Guide a*

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[1] Accepted definition according to the eHealth Initiative.
[2] eHealth Initiative, Second Annual Survey of State, Regional and Community-based Health Information Exchange Initiatives and Organizations, August, 2005; http://www.ehealthinitiative.org/pressrelease825A.mspx

Process for Creating a Business Case). This report summarizes the key findings and outcomes from this meeting.

Introduction

In a recent survey conducted by the eHealth Initiative, 84 percent of respondents described "developing a sustainable business model" for HIE as a very difficult or moderately difficult challenge.[3] Of the more than 100 HIEs in the U.S., most are currently or initially were funded by federal grants or contracts for both upfront costs and ongoing operations.[4] These grants are critical in the short run, but more is needed in the long run: HIE networks must find alternate funding sources to maintain long-term operations. Although there is no "one-size –its-all" sustainable model, current HIE efforts are moving toward user fees and subscriptions. Below are a few examples of sustainability models from AHRQ awardees.

Taconic Health Information Network and Community (THINC), New York

The Taconic Health Information Network and Community (THINC) is an HIE network of physician services that supports efficient communication among an expanded number of practices, hospitals, labs, and payers. This includes development of standardized electronic health records (EHRs); e-mail access to physicians, staff, and patients; e-prescribing capability; and related technical support services.[5] Data source entities (hospitals and reference labs) pay a monthly fee for data transfer into the system. In addition, the physicians using the various applications (baseline portal with e-results delivery, e-prescribing, and full electronic health record) pay a monthly subscription fee. Subscription fees vary with the application used. Doctors within the Taconic IPA receive e-prescribing free as a benefit from the organization. Non-IPA physicians or any doctor using the EHR will pay for their subscription. Health plans and self-insured employers will pay incentives to physicians using the system, helping them underwrite the monthly subscription costs. AHRQ awarded a $1.5 million grant to the Taconic Independent Practice Association (IPA) to help with implementation costs.

Indiana Health Information Exchange (IHIE)
www.ihie.org

The Indiana Health Information Exchange (IHIE) aims to "wire" health care – first in central Indiana and eventually across the entire state – by creating a common, secure, electronic infrastructure that expands communication and information-sharing among participating providers, hospitals, public health organizations, and other health care entities. IHIE plans to: 1) deploy its first service, clinical messaging, to central Indiana providers; 2) expand the sources of data to provide richer central Indiana data and baseline statewide data; and 3) create new services based on these data flows. The initiative's first service is a community-wide clinical messaging service that provides physicians with a single source for clinical results, including laboratory/pathology, radiology, and electrocardiogram reports; transcriptions; and emergency department and hospital encounter information from hospitals and other health care providers.

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[3] eHealth Initiative, Second Annual Survey of State, Regional and Community-based Health Information Exchange Initiatives and Organizations, August, 2005; http://www.ehealthinitiative.org/pressrelease825A.mspx

[4] Cristopher, Michael. "The Integrated Path: Incorporating Contributed Revenue in the HIE Finance Mix: Not Whether, but How." Healthcare IT Transition Group. White Paper. 2005

[5] "Real-World RHIO: A Regional Health Information Organization Blazes a Trail in Upstate New York." AHIMA library. www.rsleads.com/602ht-205

Following completion of the first phase in 2005, almost every provider in central Indiana has a single IHIE electronic mailbox through which they can access clinical results for their patients, regardless of where those results originate: hospital, radiology center, physician practice, or lab.

In addition to funding through its AHRQ State and Regional Demonstration contract, IHIE receives other grants and prepaid fees from some of the hospitals that provided start-up funds. To support IHIE's clinical messaging service, data sources such as laboratories and radiology centers pay fees for IHIE to deliver results to providers.

Volunteer eHealth Initiative - State of Tennessee
www.volunteer-ehealth.org

The Volunteer eHealth Initiative is an AHRQ-funded State and Regional Demonstration project that focuses on complete data exchange among hospital, pharmacy, and lab systems across a large region of southwest Tennessee with critical health care needs, initially targeting Memphis and surrounding counties. This project provides a framework for hospitals, physician groups, clinics, health plans, and other health care stakeholders to work together to establish regional data-sharing agreements and to implement clinical data exchange. Although the project was sparked by long-term efforts to reform TennCare, it has the potential to benefit the entire community. Planning and design will involve experts and facilities throughout the State to promote and accelerate regional and statewide implementations that follow evolving national guidelines and policies for HIE. A newly formed non-profit corporation, the MidSouth eHealth Alliance, provides local management of this initiative.

Total five-year funding exceeds $13 million, primarily from the State of Tennessee, AHRQ, and Vanderbilt University. The program must be sustainable by 2008. Success will depend on the extent to which the community uses the legal, technological, and organizational infrastructure as a basis for broader planning and health care delivery challenges, including pay-for-performance, chronic disease management, quality reporting, secure messaging, and other services. The goal is a low-cost solution so that the revenues required for sustainability are reasonable.

Key Discussion Points from the Meeting

Collaboration and Trust
Building community collaboration and trust is one of the first steps to developing a sustainable business case for HIE. Broad-based community consensus and trust are critical to building a sustainable initiative and can be achieved only through an inclusive process that involves:

- People who perform the day-to-day operating functions of HIE and make decisions
- CEOs who have an overarching vision of what HIE should look like
- Competitors, so that they can learn from each other and share in both the burdens and benefits of HIE
- Potential opponents to HIE who are concerned about disruption to existing business models and work processes

By involving as many stakeholders as possible from the outset, HIE leaders can help ensure a business model that everyone will support.

Example concerns:

- Clinicians: Are they expected to pay all the up-front costs of EHRs and interfaces with other organizations that may benefit directly from the HIE? Will the reimbursement system reflect the use of health IT?
- Laboratory and diagnostic study centers: Are they in danger of losing revenue as a result of fewer duplicative tests from HIE?
- Hospitals: Who bears the costs in a competitive reimbursement model?
- Employers: What are the short-term costs of HIE start-up and the impact on already tight health care budgets?[6]

Value Proposition
Understanding and articulating the value of electronic data flow to stakeholders is critical.
Developing a sustainable business case for HIE requires fully understanding the value that information networks can bring to the community as well as to the individual health care partners. HIE stakeholders should be able to articulate unique value drivers that benefit individual stakeholders, answering questions such as "What's in it for my organization?" and "Why should I share data with you?" Choose functions that provide the greatest value to the community with the least disruption to the providers. The following table highlights some of the value-add benefits articulated by the State and Regional Demonstration projects that were present at the Utah meeting (*See Appendix 2 for a participant list*).

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[6] http://toolkit.ehealthinitiative.org/value_creation_and_financing/roadmap.mspx

Table 1: Value-Add Propositions for State and Regional Demonstration Programs

State	Types of Data Exchanges	Value-Add Drivers
Colorado	Web exchange of clinical data	Enables clinicians to access patient information from other clinical data repositories at the point of care.
Delaware	Clinical results delivery of lab, radiology, reports, and discharge summaries, as well as patient record inquiry at point of care to include medication history	Delivers results in a more efficient manner to health care practitioners. Improves patient care and cost management by reducing duplicative tests and therapies.
Indiana	Delivery of clinical results - pathology, laboratory, radiology, and electrocardiogram - from hospitals and to physicians in nine counties	Replaces paper-based reports that were delivered to physicians by fax, postal mail, or courier. Hospitals no longer have to pay to deliver reports and physicians receive reports sooner.
Tennessee	Web exchange of clinical data for emergency department use	Enables emergency department clinicians to access clinical information from other sites at the point of care.
Rhode Island	Lab data	Develop a Master Patient Index to facilitate interoperability and sharing of patient data between public and private sectors.
Utah	Administrative health data – claims, remittance, and eligibility	Speeds payment, reduces number of rejected claims, and uses less staff time.

Communication

Communicate the financial costs and benefits of participation to partners. Business cases are generally designed to answer one big question: What are the likely financial and other business consequences if we take this action?[7] Other, basic questions require answers, too.   What's the total cost of implementing HIE? Who will help finance the new exchange, both up-front and long-term? How will individual stakeholders benefit from HIE adoption needs?

For example, up-front investment will be needed to launch a network, but that investment will be followed by some short-term savings and eventually long-term savings as the network matures. Short-term savings

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[7] Schmidt, Marty J. "What's a Business Case? And Other Frequently Asked Questions." 1997-1999. Solution Matrix Ltd. www.solutionmatrix.com

will come from operational efficiencies in transferring and exchanging data. Long-term savings will more or less be realized in improvements in quality of care over time. The business case comes into play between the time that the initial investment is made and time that short-term savings begin to accrue. The next question is how to demonstrate these savings and benefits to health care entities and stakeholders.

Incremental Movement
An initiative cannot move faster than its community will allow; nor is a sustainable model static.
It takes time to foster trust and build community consensus. Initially, it's important to focus on moving specific messages and simple deliverables that bring value to the community. By taking small, incremental steps and building upon earlier successes, the HIE has a better chance of building credibility over the long term. The business model needs to be "flexible" enough to evolve to support changes from the health care industry (e.g., pay for performance), and/or changes in the local community (e.g., local business leadership changes as the initiative gains momentum). It is impossible on Day One or even in Year One to say what the sustainable model will be – HIE leaders can only form a theory, plan, and then test

Market Readiness and Awareness
How ready are clinicians to implement and use health IT, and how willing are payers and purchasers to incentivize providers to invest in health IT with the goal of building an HIE? As the local market ultimately must be supportive of health IT adoption, conducting a market analysis is critical to developing a successful business model for HIE. Because each market is unique, it's important to consider the environment of each region or state. Factors worth noting are the relative economic strength of local providers, the balance of power between integrated systems and independent physicians, and the level of competition among health plans, hospitals, and providers. Financially stressed markets appear to be the best candidates for community networks because competing entities have more incentive to cooperate with one another. It is also important to consider the technology— what exists today and how that will impact what is envisioned in the exchange. This may present both barriers and opportunities.

Conclusion
Findings from this AHRQ NRC-sponsored meeting demonstrate the growing need for further assistance in developing sustainable business models for HIE. At the same time, forums such as these are a testimony to the creativity and innovative approaches that community collaborations and organizations have implemented in their struggle to create an integrated system for sharing data across providers, communities, and states. Key outcomes from this meeting include a set of approaches that HIE implementers can adopt for overcoming some of the obstacles associated with developing a business case. These include:

- Foster community collaboration and consensus among key stakeholders. Bring competitors to the table to clarify expectations and concerns to keep the process moving forward.
- Effectively communicate the value that HIE networks can bring not only to the community as a whole, but also to the individual stakeholders investing in the exchange. This means communicating openly to partners the costs of participation as well as the benefits.
- Understand that it may be necessary to move incrementally. Be patient and build on small successes to enhance credibility over the long term.
- Finally, know the market. Understand the economic climate in the state where the network is being built and consider its potential impact on the initiative.

Creating successful a HIE is challenging but by no means impossible. By continuing to foster collaborative forums and sharing experiences and expertise, we can fulfill long-term goals of improving health care safety, efficiency, and quality.

Appendix 1: Participant List

AHRQ	Carol Cain, Project Officer Jon White, Project Officer Scott Young, Project Officer
NRC	Meryl Bloomrosen, Project Manager Joy Keeler, Director Alana Ketchel, Research Analyst Jan Walker, Evaluation Specialist
COLORADO	Art Davidson, Project Director Matt Madison, Project Manager Steve Nash
DELAWARE	Gina Perez, Project Director
INDIANA	Tom Penno
RHODE ISLAND	Amy Zimmerman-Levitan, SRD Project Director
TENNESSEE	Mark Frisse, SRD Project Director Dawn Mays, Project Manager Thomas Salas
UTAH	Sue Barnes Brenda Bryant Tish Buroker, LabCorp David Craner Doreen Espinoza Brian Jackson, ARUP Labs Mike Jolley Jim Hall, Quest Labs Bart Killian Jan Root Michael Stapley Scott Williams, HealthInsight Shaunna Wozab

Appendix 2: Checklist of Questions to Guide a Process for Creating a Business Case for Health Information Exchange

1. What value will the HIE bring to its members?
2. What value will the HIE bring to its community?
3. What is the cost to members for participating in the HIE?
4. What are the savings to members for participating in the HIE?
5. Do you know your local market and have you conducted a market analysis?
    a. Where does the economic locus of control for your health market lie?
    b. Are the principal providers (hospitals/physicians) economically strong or struggling?
    c. What are the differences in the IT capacity of potential partners?
6. What value can HIE members expect to see in the short term from this initiative?
7. What value can HIE members expect to see in the long term from this initiative?
8. Do you know what your operating costs are?
9. Who will pay for the HIE's operation and how much will they pay?
10. What products does your HIE currently offer and what do you have planned in the future?
11. How can you leverage vendors (instead of them leveraging you)?

Source: AHRQ National Resource Center for Information Technology. Utah Health Information Network Regional Site Visit, November 8-9, 2005