

HIE Quality Check

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By Kate Berry

Health information exchange (HIE) has great potential to improve healthcare quality while containing costs, something the US health system is under increasing pressure from providers and the federal government to achieve. Benefits of HIE include better care coordination, assurance that patients and providers have the right information available when and where needed, improved efficiency, fewer errors, fewer duplicate tests or procedures, improved population health through electronic surveillance, more accurate and timely clinical research, and more effective consumer and patient engagement. However, challenges remain for achieving widespread implementation of HIE; notably, funding and sustainability, provider adoption, technical interoperability, and privacy and security concerns.

Hoping to address these tough HIE challenges, the public-private partnership National eHealth Collaborative (NeHC) created the NeHC HIE Learning Network in spring 2012-billed as an ideal venue for facilitating the education and collaboration that is needed to fast-forward progress toward integrated, efficient, and effective HIE.

The HIE Learning Network is a collaborative forum designed to accelerate the advancement of HIE by developing and disseminating best practices, transferring knowledge and experience, creating opportunities for networking and mentorship, and working to quantify and promote the concept and value of HIE. Approximately 450 people have been participating in the HIE Learning Network since its launch.

Drivers of Health Information Exchange

Momentum has been building for the adoption and use of health information technology and HIE since 2009, when the US Congress passed the Health Information Technology for Economic and Clinical Health (HITECH) Act. Driven by a broad legislative mandate in HITECH and a sizeable grant budget, the US Department of Health and Human Services' Office of the National Coordinator for Health Information Technology (ONC) has been a catalyst in propelling the nation toward the goal of interoperable electronic health record systems (EHRs) and information sharing.

Another driver of progress in HIE is the federal push for sweeping healthcare reform. The ever-rising cost of healthcare and the implications of these economic pressures on our global competitiveness have combined to create the impetus for new shared risk/shared reward healthcare reimbursement models. As the US gains an understanding of the importance of analytics and quality measures in enabling new payment models, it becomes clear that accountable care organizations (ACOs) and other similar cost-sharing healthcare organizations will require a strong health IT and HIE infrastructure. HIE will be an essential component of any transformed healthcare payment and delivery system.

Barriers to HIE

While there are strong drivers of HIE, such as the HITECH Act with its financial incentives and supportive programs, there are also inherent conflicts that have hindered progress toward widespread HIE. If HIE accomplishes its intended purpose of enabling the right information to be available in the right place at the right time, some healthcare costs such as duplicative lab or diagnostic tests and unnecessary hospital admissions will be avoided. This means lost revenue for some stakeholders until the industry transition from volume-based to value-based reimbursement occurs. This inherent conflict is further exacerbated by the fact that most HIE organizations are governed by multiple stakeholders, some of whom may be asked to contribute funding to a function that may indeed reduce their revenues in the near term. Furthermore, there is a universal lack of clear and compelling articulation to the primary stakeholders of the financial benefits of HIE.

HIE Learning Network Digs into HIE Details

NeHC is a public-private partnership focused on accelerating secure and meaningful use of health IT through education and stakeholder engagement. Within NeHC's broad mission, the organization focuses on three programmatic areas: consumer engagement in eHealth, health IT education, and HIE.

NeHC has focused on helping to accelerate widespread exchange of health information because they feel this is an important piece of improving the quality and cost effectiveness of US healthcare. This advocacy is conveyed through a variety of activities, including NeHC research papers such as the August 2011 "Secrets of HIE Success Revealed: Lessons from the Leaders" which profiled a dozen leading HIE organizations.

In late 2011 and early 2012, NeHC engaged more than 75 stakeholders to review and contribute to the development of the "Health Information Exchange Roadmap: The Landscape and a Path Forward." This paper was released in April 2012 and synthesized the federal government's efforts to encourage and enable HIE, provided examples of market-based initiatives to demonstrate the HIE progress underway, and suggested a path forward for organizations and communities seeking to advance HIE.

Participating stakeholders recommended that NeHC use the roadmap as a jumping off point for further collaborative work on key HIE challenges. As a result, NeHC created the HIE Learning Network. The NeHC HIE Learning Network initiated several work groups on topics that were prioritized by participating stakeholders. The initial work groups focused on:

- Prioritizing and phasing HIE implementation services
- Business models for sustainability
- Reducing variability in implementation of interoperability standards
- HIE functions to support new payment and delivery models

Overarching HIE Learning Network Themes

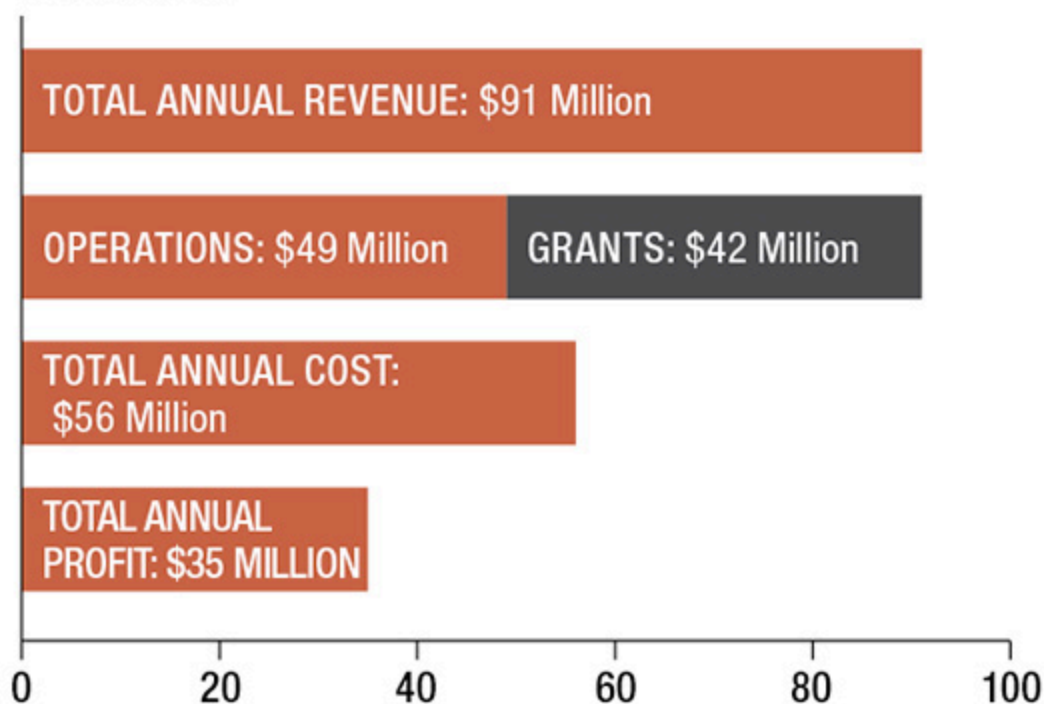
The NeHC HIE Learning Network workgroups met over a period of five months between July and November 2012. The workgroups were led by expert volunteer chairs, supported by NeHC team members, that shaped the HIE initiative's processes and work. The workgroups produced detailed white papers available to healthcare industry stakeholders with an interest in moving HIE forward.

At the completion of their work, the HIE Learning Network developed the following overarching themes:

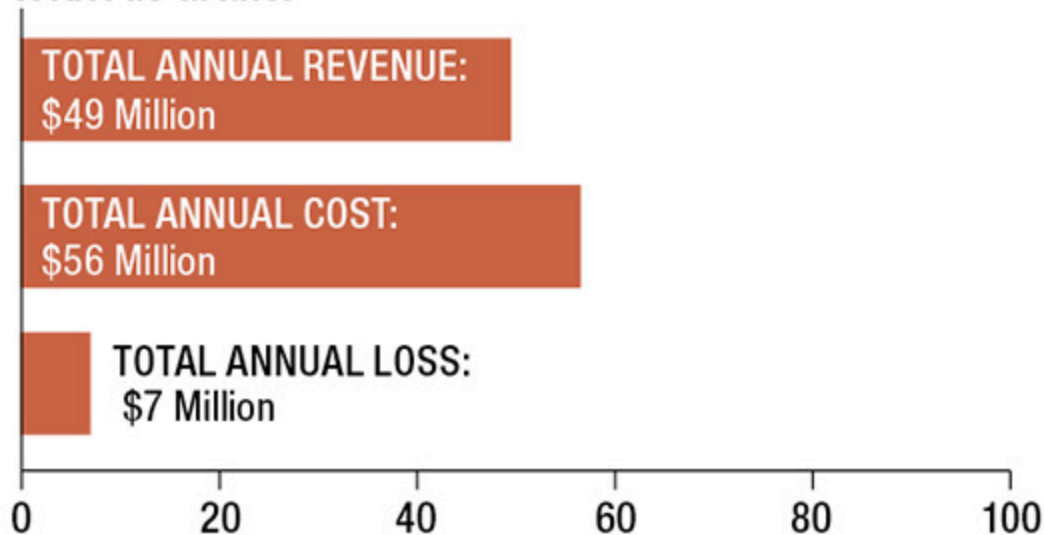
- Implementing high value bundles of HIE services will help drive adoption and position for sustainability
- Understanding and responding to customers' needs on an ongoing basis and offering products and services that solve their problems will help ensure customers are willing to pay for those products and services
- Leveraging lightweight and flexible technologies and readily available data sets will jumpstart exchange and build momentum on which HIEs can expand
- Reaching critical mass of connected providers and data sources is key to a compelling value proposition
- Achieving early value builds trust among HIE participants and will help drive growth; this requires open, transparent governance so competitors will share information
- Those HIEs that provide business intelligence and data analytics to support actionable, effective clinical decision making that improves quality and cost outcomes can play a powerful role as healthcare transitions to pay-for-value
- Consistent implementation of interoperability standards is fundamental to achieving widespread HIE adoption

HIE Financial Profile-NeHC Study

With Grants



Without Grants



Prioritizing and Phasing HIE Services

The workgroup focused on prioritizing and phasing HIE services and recommended HIEs consider implementing high-value bundles of services with the lightest technology infrastructure possible, or as an alternative, consider a niche strategy focused on a narrow set of services that fulfill a specific community need.

For the scenario to implement bundles of services, the workgroup suggested starting with services to support care transitions. Next, a HIE organization could offer services to support patient care management and quality improvement. Eventually the HIE could evolve to support population health management.

The workgroup recommended a niche strategy as an alternative to the more comprehensive approach to HIE. One example of a niche strategy would be to focus on providing HIE services to support the “meaningful use” EHR Incentive Program, which in part offers providers incentive payments for facilitating HIE.

Case studies were developed by the work group to illustrate real-life examples of how HIE organizations have phased their implementation of services and supportive technologies in a deliberate manner to balance what will encourage provider adoption, manage workflow and culture change, build trust among stakeholders, and ensure a focus on improving patient care.

Case studies on HIE prioritizing and phasing include examinations of the Coastal Connect HIE, Wisconsin HIE, Chesapeake Regional Information Systems for our Patients (CRISP), and HEALTHeLINK.

HIE Business Models Heavily Dependent on Grants

The workgroup focusing on financially sustainable HIE business models conducted an in-depth study of the financial performance of HIE initiatives. This was important given how frequently the challenge of creating a sustainable HIE business model is discussed in the healthcare industry. This workgroup defined HIE sustainability as existing when revenue from ongoing operations regularly exceeds all expenses from ongoing operations, including day-to-day operating expenses, a level of investment in sales and marketing, product development, and sufficient capital to survive unforeseen circumstances.

The workgroup produced an average HIE financial profile by gathering detailed financial information from 16 HIE initiatives serving 38 million people. In aggregate, the total annual revenue of the respondents was \$91 million, with \$49 million in revenue from operations (non-grant revenue) and \$42 million in revenue from grants. The respondent data reflects \$56 million in total annual costs related to revenue from operations, generating \$7 million in losses, after excluding revenue and expenses related to grants.

The Average HIE Income Statement produced using the survey data represents the current financial position of the HIE community as a whole. The average HIE receives \$3.1 million of its revenue from grants and \$2.8 million of its revenue from operations-resulting in a small loss. The grants typically support product development or connecting new customers. Without grant revenue, the average HIE produces a large loss.

The workgroup allocated the respondent HIE data into “profitable” and “unprofitable” groups and compared their financial performance. The findings from this analysis were shocking to workgroup participants, who concluded that HIEs can be sustainable and generally have a revenue problem rather than a cost problem. The key to sustainability lies in increasing revenue from operations such as by growing market penetration and growing revenue per customer type.

The conclusions and recommendations of the sustainability workgroup are supported by case studies of the business models of the Delaware Health Information Network and Michigan Health Connect.

Addressing Variations in Interoperability Standards

A common challenge for organizations engaged in HIE is the difficulty of achieving interoperability between interrelated software systems in a way that does not require steep technical interface costs.

Difficulties include different interpretations of exchanged information by stakeholders, limited ability of systems to electronically process information they receive, optionality of implementation, availability and specificity of implementation guidance, and time and cost to implement interfaces.

Substantial industry efforts are in place and underway to work on different parts of this problem. This includes the government-sponsored Standards & Interoperability Framework, the membership-based standards development organization Health Level Seven, and many other coalitions that have emerged to address specific HIE subsets, use cases, and functional areas. This lack of clarity and direction creates challenges in coordinating these efforts and confusion in the marketplace.

Despite concerted efforts to develop standards and supporting tools, there have been limited results that show whether or not the standards and tools developed thus far are actually meeting interoperability objectives. With the stage 2 meaningful use program’s focus on HIE and more to come in stage 3, and a need to “do more with less,” the HIE Learning Network’s

interoperability workgroup recommended the industry finally develop consensus on how to define and measure interoperability as a way to more effectively coordinate efforts and measure progress in reaching the ideal state.

The workgroup developed a list of measures for interoperability success, including interoperability outcome measures and contributing standards and process measures. The workgroup recommends identifying and supporting an organizational home for measuring interoperability progress, developing and promoting objectives and quantitative consensus measures of interoperability, conducting an interoperability landscape survey, and widely disseminating interoperability findings.

Several case study examples were provided by the workgroup to show how some HIE organizations are overcoming the many challenges associated with the varied implementation of interoperability standards. Case studies include examples from the Iowa Health System, Inland Northwest Health Services, and Surescripts.

HIE Functions Should Support New Payment and Delivery Models

Economic pressures, federal health reform initiatives, and a healthcare system that is transitioning from “pay-for-volume” to “pay-for-value” are driving the establishment of new payment and delivery models. NeHC and other industry experts feel HIE will be a critical foundation for the success of these new models. In this environment, new partnerships and business arrangements between payers and providers are required. HIE organizations can provide these groups with much-needed insight and experience in building effective collaboration.

The success of these new payment and delivery models depends on their capability to gather and analyze clinical and claims data, report on quality measures, and provide actionable information in support of improving care and outcomes for individuals and populations. A strong health IT and HIE infrastructure will help providers successfully use these new models, NeHC reports.

The HIE Learning Network’s new models workgroup recommends that in addition to providing basic, but critical, care coordination services, HIEs should be prepared to provide analytic tools, including business intelligence and comparative analytics, and to develop the infrastructure necessary to perform quality reporting and referral processing.

There are additional ways that an HIE can demonstrate value to new payment and delivery models. For example, an HIE could serve as a clinical data source to populate the analytic tools developed by an ACO. The HIE can demonstrate value by bringing community and stakeholder relationships to the table, saving the ACO time and money to forge new relationships.

The workgroup has several recommendations for how HIEs can be successful in supporting new payment and delivery models, which are detailed in the white paper produced by the work group. Case study examples show how some HIEs are moving in this direction, including HealthInfoNet and the Northern New England Accountable Care Collaborative in Maine, and the Quality Health Network in Colorado.

HIE Call to Action

The work of the HIE Learning Network provides a basis for where the industry goes from here with HIE, and how it achieves HIE’s full potential for reducing costs, improving quality, and progressing toward a healthier population. There are challenges and inherent conflicts, but the majority of healthcare stakeholders will face them with the understanding that HIE is “the right thing to do.” NeHC and its board members, membership, and participating stakeholders believe there are multiple routes healthcare needs to follow to make progress toward success. These routes forward include, but are not limited to:

- Opening an ongoing dialogue between very engaged HIE leaders who could grapple with strategy and day-to-day issues
- Broad-based education and engagement by HIEs on a range of HIE issues given the wide disparity in capabilities, expertise, and knowledge that is necessary to build and run a sustainable business
- Strategic development of a collaborative resource center whereby HIE organizations can access necessary expertise in a manner that is cheaper and more efficient than they could on their own, including:
 - The articulation of economic value propositions for key HIE stakeholder groups
 - Strengthening sales and marketing, product development, financial and business acumen, and other capabilities

- Assisting change management
- Instilling a culture for consumer engagement
- Development of specific recommendations and models for how to leverage HIE to reduce costs associated with high cost, high volume healthcare services while maintaining or improving quality

Through its recent work, NeHC learned that widespread HIE is not going to happen just because it should happen. The healthcare industry needs a compelling value proposition for key stakeholders, and needs to address the other challenges discussed in the HIE Learning Network's white paper.

The good news is that significant progress is being made in the industry. Technology barriers are being overcome, and while business model and change management issues exist, research shows they are not insurmountable. The industry needs to press ahead together on HIE-for both themselves and their loved ones.

View the HIE Learning Network's Work

Complete white papers from NeHC's HIE Learning Network can be downloaded at <http://www.nationalehealth.org/catalog/1282>

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