Health information exchange policy and evaluation

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Abstract

Concerns about the quality, safety, and cost of healthcare have driven the nation to increase its focus on this issue. A number of states are moving forward—in parallel with federal efforts—to develop and adopt policies for improving health and healthcare through health information technology and electronic health information exchange. Based on the eHealth Initiative’s experience providing technical assistance to more than 20 states, and its work related to its coalition of more than 250 state, regional and community-based health information exchange initiatives and organizations, the most difficult challenges facing these initiatives and organizations today is that related to assessing the value of services that emerge from the health information exchange to various stakeholders groups such as providers, payers, and employers, and converting those value assessments to business plans that promote and assure sustainability for these initiatives. The combination of increased federal and state focus and funding and the pace at which regional and community-based health information networks are developing, along with the identification of value and sustainability as some of the most difficult challenges experienced by these efforts, all point to the significant need for evaluation. The most critical evaluation questions focus on the impact of health information technology and health information exchange on quality, safety, efficiency, the value of such efforts for various stakeholders, and assessment of how grant programs can be designed to support positive impact, value, and a sustainable business model, so that efforts continue when the grant funds are fully expended.

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1. Drivers for policy change at the national levels

Concerns about quality and safety of healthcare, along with continued concerns about rising healthcare costs have driven the federal government and the nation’s largest employers and payers to increase considerably their focus on healthcare.

According to a study published in the New England Journal of Medicine, U.S. adults receive about half of recommended health care services [1]. Despite documented benefits of timely preventive care, a Commonwealth Fund-sponsored U.S. Scorecard on Health System Performance indicates that barely half of adults (49%) receive preventive and screening tests according to guidelines for their age and sex [2]. And poor quality translates into higher costs. According to the same Commonwealth Fund report, the current gap between national average rates of diabetes and blood pressure control and rates achieved by the top 10% of health plans translates into an estimated 20,000–40,000 preventable deaths and $1–2 billion in avoidable medical costs [3].

In a country where healthcare spending is 16% of the gross domestic product, and much higher than other industrialized countries, the United States—according to many leading employers—is losing its competitiveness and ability to compete globally. According to the Organisation for Economic Cooperation and Development, healthcare spending per capita in Switzerland—the next most costly...
OECD country—is only 68% of that in the U.S.; in Canada, it is only 57%; and in the median OECD country it is less than 44% of the U.S. level [4].

Concerns about cost and quality are driving policy makers at multiple levels of the system—federal, state and local—to take actions to improve health and healthcare for Americans. Most of these actions fall into three primary areas: driving transparency in quality and efficiency; aligning incentives with higher quality, more efficient healthcare; and using interoperable, standards-based health information technology (IT).

2. Federal policy action on health IT and health information exchange

As noted above, federal policy makers have been taking several actions designed to address healthcare challenges through the use of health IT and health information exchange. These actions have been spurred by reports from the Institute of Medicine, the National Committee on Vital and Health Statistics, and several other public and private sector initiatives and committees to drive the use of health IT and health information exchange to improve the quality, safety and efficiency of healthcare.

For example, following the creation of a sub-cabinet level position for healthcare IT coordination within the federal government in 2004, in 2005 the Department of Health and Human Services (DHHS) Secretary, Michael Leavitt launched the American Health Information Community—a multi-stakeholder, public–private sector body charged with advising the DHHS Secretary on health IT policy, that would spur the development of standards and the use of health IT.

Also in 2005, the DHHS Office of the National Coordinator for Health Information Technology contracted for several services designed to support standards in health IT including those related to standards harmonization, standards certification, nationwide health information network prototype development and testing, and review of state-level policies for information sharing.

On August 22, 2006, President George W. Bush issued an Executive Order calling for healthcare programs that are administered or sponsored by the federal government to make available cost and quality information to their beneficiaries, as well as utilize health IT systems and products that meet recognized interoperability standards. Since August 2006, DHHS Secretary Leavitt took several actions to implement the Executive Order, under a set of “Four Cornerstones” which are detailed in DHHS’ Prescription for a Value-Driven Health System [5]:

- Connecting the system: Every medical provider has some system for health records. Increasingly, those systems are electronic. Standards need to be set so all health information systems can quickly and securely communicate and exchange data.
- Measure and publish quality: Every case, and every procedure has an outcome. Some are better than others. To measure quality, we must work with doctors and hospitals to define benchmarks for what constitutes quality care.
- Measure and publish price: Price information is useless unless cost is calculated for identical services. Agreement is needed on what procedures and services are covered in each “episode of care”.
- Create positive incentives: All parties—providers, patients, insurance plans, and payers—should participate in arrangements that reward both those who offer and those who purchase high-quality, competitively priced health care [5].

Congress has also been active in promoting the use of health IT and health information exchange with the introduction of numerous bills during the period 2004 to date. While no comprehensive legislation on health IT has been passed thus far, progress has been made. Following the November 2005 U.S. Senate passage of the Wired for Healthcare Quality Act (S. 1418), the House of Representatives passed a similar bill in July 2006, including several provisions for the use of standards-based health IT. Despite extensive efforts, the bills were never conferenced before the end of the session.

During the period between 2004 and 2007, the conversation within the federal government migrated from one which focused on “health IT adoption” to one that focused on “health IT interoperability”. As more research was performed related to the impact of health IT on quality and safety, and the value of health IT to various stakeholders, including providers, healthcare purchasers, and consumers, it became clear that in order to realize much of the value of health IT, it needed to be interoperable and data needed to flow across the institutions, organizations and practices that both deliver and pay for healthcare.

As a result, policies began to shift slightly. There began to be more emphasis on standards for interoperability as opposed to incentives for health IT adoption, with policy makers recognizing that before large investments could be made, the federal government—and large private sector purchasers—needed to be assured that systems could “talk with one another” to derive the full benefits of health IT and that critical information would flow not only to providers’ and practicing clinicians’ offices to support care delivery but also to healthcare purchasers and payers to support improvements in health and healthcare at the population level.

During a very short period of time between 2005 and today, efforts supported by the federal government around standards harmonization and standards certification accelerated, and in fact a small set of standards—which were “accepted” by the DHHS Secretary in January 2007—are likely to be embedded in federal contracting mechanisms beginning in December 2007.

In addition, another major shift began to occur in late 2005 and 2006. Based on the experiences of various pilots
and initiatives focusing on health information exchange both at the national level and the local level which were funded by the federal government and other private sector bodies, it began to be clear that a large “national health information network” was likely not “the answer”. Given differences in market-level characteristics, the need for “social capital” to enable the sharing of information among diverse, and in some cases—competing organizations, concerns about the privacy and security of a nationwide network, and sheer technical feasibility, policy makers at multiple levels of the system began to recognize that a set of state, regional and local health information exchanges—a “network of networks” was likely the best route forward for digitizing the U.S. healthcare system. As a result, new federal agency grant and contract programs announced in the last six months—including those from the Centers for Disease Control and Prevention, the Office of the National Coordinator for Health Information Technology, and the Agency for Healthcare Research and Quality, have emphasized the need for state and local collaboration and in fact, are directing funds to organizations at the state and local levels to facilitate health information exchange.

This follows similar funding initiatives from private sector organizations including those sponsored by the eHealth Initiative Foundation, the Markle Foundation and the Robert Wood Johnson Foundation, each of which has provided funding to state and regional initiatives to support the implementation and evaluation of health information exchange at the state and local levels.

With the continued movement in national level policy toward the support of the development of health information exchange networks at the state and regional levels, it is important to evaluate and learn from early experiences to inform such policy as it continues to evolve.

3. State-level policy action on health IT and health information exchange

A number of states are also moving forward—in parallel with federal efforts—to develop and adopt policies for improving health and healthcare through health IT and electronic health information exchange. State legislators are increasingly recognizing the role of health IT in addressing healthcare challenges, with 246 bills introduced in 44 states since 2005—125 of which were introduced in 2007 alone [6]. Forty-three of such bills in 25 states were passed in the legislature and signed into law—five in 2007 alone [6]. State legislative activity has primarily focused on the following:

- The authorization of a grant or loan program designed to support health IT [7].
- Gathering information about ongoing local, regional or statewide efforts.
- Determining the extent to which health IT is currently utilized within the state.
- Determining how health IT can be effectively deployed in the future within the state.
- Obtaining expert advice and information regarding the establishment of health information networks to facilitate the communication of clinical information.
- Assuring privacy and confidentiality of patient information through development and implementation of policies for information sharing.
- Investigating ways to coordinate health information exchange activities within the state [7].

Duties and responsibilities of bodies created by state legislation also include exploring the costs associated with implementation of health IT; assessing the value associated with health IT and health information exchange; and evaluating methods to leverage health IT and health information exchange for quality improvement activities [7].

Increasingly, health information exchange efforts are being supported by grants and contracts issued by states. Twenty-seven bills were introduced in sixteen states in 2005 and 2006 which either authorize or appropriate funding for health IT or health information exchange activities and in 2007, 21 bills were introduced authorizing funding for health IT or health information exchange [7]. States which have released requests for proposal for funding of health IT and health information exchange efforts include Arizona, Delaware, Florida, Michigan, and New York. States’ increase in focus on and funding for health information exchange efforts at the state and local levels, further
emphasizes the need for evaluation. As more and more health information exchange networks develop, it is critical that they learn from the experiences of others.

4. New York State as an example

In order to effectively reform and reconfigure New York State’s healthcare delivery system and encourage improvements and efficiency in operations, the New York State Department of Health (DOH) and the Dormitory Authority of the State of New York (DASNY) announced in 2005, the availability of funds under the Health Care Efficiency and Affordability Law for New Yorkers Capital Grant Program (HEAL NY Program), as established pursuant to Section 2818 of the Public Health Law. The HEAL NY Program is anticipated to be a multi-year, multi-phased program with two primary objectives:

• To identify and support development and investment in health IT initiatives on a regional level; and
• To identify and support the funding of restructuring plans undertaken in regional healthcare service delivery areas that result in improved stability, efficiency, and quality of the healthcare services in the region [9].

The Request for Grant Applications for HEAL NY Phase I indicated that successful grant applications would be able to demonstrate that their projects would:

• Assist in building an infrastructure in New York State to share clinical information among patients, providers, payers, and public health entities.
• Support statewide adoption of systems compatible with the Strategic Health Information Technology Plan that is being developed at the federal level; and
• Be able to be a part of the planned national network for sharing patient data [9].

The Phase I HEAL NY Request for Grant Applications further indicated that it was expected that applicants, among other things, would:

• Reduce costs and/or utilization over time associated with duplicate services by promoting the sharing of clinical data.
• Meet the specific priorities and goals of the HEAL NY Program.
• Promote health IT interoperability among all components of the healthcare delivery system, which will improve satisfaction among patients and physicians; and
• Demonstrate the financial viability and the sustainability of the business model for the project itself [9].

A total of 26 grants were awarded under Phase I of HEAL NY, 21 of which were health information exchange-related projects, which are listed below [10].

Western region
• WNYHealthNet, LLC / Western NY Clinical Information Exchange.
• Niagara Falls Memorial Medical Center.

Central region
• United Health Services Hospitals/Southern Tier HealthLink.
• Rochester Health Commission/ The Rochester Regional RHIO.
• Greater Rochester Independent Practice Association (GRIPA)/ GRIPA Connected Community.

Northern region
• Adirondack Medical Center.
• Adirondack Health Information Exchange (ARCHIE).
• Health Information Xchange of New York (HIXNY).

Hudson valley region
• Taconic Health Information Network an Community (THINC)/The Future of American Health.
• Greater Hudson Valley Regional Health Information Organization, Inc.

Long Island region
• North Shore-Long Island Jewish Health Care, Inc./ Long Island Patient Information Exchange (LIPIX).
• Stony Brook University/Healing NY with Health e-Technology.
• Winthrop University Hospital/Winthrop Clinical Computer Systems (WinCCS).

New York City region
• The Bronx Regional Health Information Organization, Inc (Bx RHIO).
• New York Clinical Information Exchange (NYCLIX).
• NYC Department of Health and Mental Hygiene/Community Health Exchange Project (CHEX).
• Maimonides Medical Center/Brooklyn Health Information Exchange (BHIE).
• Visiting Nurse Service of NY/NY Community Home Health Interoperability Project (NYCHHIP).
• Health and Hospitals, Corporation, Elmhurst Hospital Center/Queens Consortium For Healthcare Information Exchange (QCHIE).
• New York-Presbyterian Hospital/ NYCareConnect.
• The Brooklyn Hospital Center/ Community Health Electronic Record to Unite Brooklyn (CHERUB).

Because each project has limited funds for evaluation, and based on the notion that collaborative evaluation
would likely result in a more effective analysis of the results of the projects funded by the State of New York, the Health Information Technology Evaluation Consortium (HITEC) was created to support the evaluation of projects funded by HEAL NY Program that voluntary chose to be part of the Consortium.

5. Taking a look at health information exchange efforts across the US

During the last 3 years, the number of collaborative health information exchange initiatives at the state, regional and community levels has grown. In September 2006, the eHealth Initiative (eHI) released the results of its Third Annual Survey of Health Information Exchange at the State, Regional and Community Levels, analyzing results from 165 responses from initiatives in 49 states, the District of Columbia and Puerto Rico.

According to eHI’s survey results, 47% of the 165 respondents identified themselves as being in the advanced stage of development, with 26 of such initiatives identifying themselves as “fully operational”. Survey results indicate an increasing level of maturity in the functionality of these health information exchange efforts, with at least one-fifth of all initiatives now electronically transmitting claims, dictation, emergency department episodes, enrollment/eligibility, inpatient and outpatient episodes, laboratory results, and radiology results [11].

Survey results also indicate that the most common functionalities of such efforts are those related to care delivery, with more than one-fifth of respondents claiming that they are offering the following services: clinical documentation (26%), results delivery (25%), consultation/referral (24%), electronic referral processing (23%), and alerts to providers (20%) [11]. In addition, such efforts are continuing to expand services provided to support improvements in the quality and effectiveness of healthcare. Twenty percent of all respondents are currently providing disease or chronic care management services. Eleven percent of respondents are providing quality performance reporting for purchasers or payers, while an additional 7% expect to provide this service within six months. Ten percent are providing quality performance reporting for clinicians, with an additional 14% intending to add this service within six months [11].

The most significant challenges for health information exchange initiatives, based on the survey results, are those related to securing initial capital and sustaining their operations. Fifty seven percent of respondents to the survey cited “securing upfront funding” as a very difficult challenge, while 44% cited “developing a sustainable business model” as a very difficult challenge. Initial funding for health information exchange, based on 2006 survey results, primarily comes from federal government grants and contracts, with 42% of respondents citing this as a current source, followed by 29%, who cite state and local grants and contracts as a current source of upfront funding, and 23% who cite philanthropic sources as a current source of upfront funding [11].

Increasingly, health information exchange initiatives are looking to a broader set of sources for funding ongoing operations. Survey data from 2006, indicates that respondents are receiving payments from the following stakeholders at the following levels: hospitals (25%), public and private payers (21%), physician practices (16%), laboratories (13%) and philanthropic sources (9%) to support ongoing operational costs.

Based on eHealth Initiative’s current assessment of the field of health information exchange, which is based in part by the 2006 survey, but also its experience working with its coalition of more than 250 state, regional and community-based health information exchange initiatives and organizations, and the current work it is performing for numerous state-level initiatives across the country, the most difficult challenge facing these initiatives and organizations today, is that related to assessing the value of services that emerge from the health information exchange to various stakeholders groups (or customers) such as providers, payers, and employers, and converting those value assessments to business plans that promote and assure sustainability for these initiatives. It is interesting to note that a majority of 2006 survey respondents are no longer experiencing great difficulty with many of the other challenges identified by previous surveys, including those related to developing an effective organization and governance structure, assuring privacy and confidentiality, and developing a technical infrastructure.

Given the relative immaturity of the field, and therefore limited amount of experience, as well as the lack of published research in this area, it is extremely important that data are collected from existing and rapidly emerging initiatives to provide insights to those who run, and fund health information exchange initiatives and organizations, in the U.S. today.

6. The need for evaluation

The combination of increased federal focus and funding; the considerable increase in state policymaker focus and funding; and the pace at which regional and community-based health information networks are developing; along with the identification of value assessment and the development of a sustainable business model, as the most difficult challenges experienced by these efforts, points to the significant need for evaluation. The most critical evaluation questions that need answers include the following:

1. Does effective implementation of health IT and/or health information exchange improve the quality of healthcare? Under what circumstances?
2. Does effective implementation of health IT and/or health information exchange improve the safety of healthcare? Under what circumstances?
3. Does effective implementation of health IT and/or health information exchange improve the efficiency of healthcare? Under what circumstances?

4. What value does health IT and/or health information exchange provide for various stakeholders in the system, such as practicing clinicians, employers and other healthcare purchasers, health plans, hospitals, and patients?

5. How can such value be converted into a sustainable business model for health information exchange at the state, regional and local levels?

6. If the goal of seed funding through grants and contracts is to create sustainable health information exchange efforts, how can funding and selection criteria be developed to assure such sustainability is achieved?

7. What key barriers (in addition to value assessment and the development of sustainable models) exist for health information exchange initiatives? Can any of these barriers be addressed through policy change?

The development and implementation of an evaluation methodology and approach is enormously important to the current attempts at the national level, the state level and within hundreds of communities around the country to drive forward healthcare reform initiatives, which rely considerably on the use of health IT and health information exchange.

References


