

Migrating Toward Meaningful Use: The State of Health Information Exchange

A Report Based on the Results of the eHealth Initiative's 2009
Sixth Annual Survey of Health Information Exchange



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About the eHealth Initiative

Based in Washington, D.C., the eHealth Initiative and its Foundation (eHI) are independent, non-profit, affiliated organizations whose missions are the same: to drive improvements in the quality, safety and efficiency of healthcare through information and information technology.

The eHealth Initiative is a multi-stakeholder organization that represents every sector of healthcare. Since 2001, eHI has engaged a diverse and broad set of stakeholders, including clinicians, consumer and patient groups, employers and healthcare purchasers, health information technology (IT) suppliers, health plans, hospitals and other providers, laboratories, pharmaceutical and medical device manufacturers, pharmacies, public health agencies, quality and standards organizations, and state and community-based organizations, to reach agreement on and drive the adoption of common principles, policies, strategies and actions that improve the quality, safety and efficiency of health care through information technology that are responsible, practical, sustainable, responsible to stakeholder needs—particularly those of patients--and build and maintain the public's trust.

eHI's diverse membership includes more than 160 organizations from every sector of healthcare. Additionally, eHI has built a coalition of more than 260 state, regional and community based collaboratives focused on improving quality through health information exchange, many of which are respondents to the *Annual Survey of Health Information Exchange*.

For more information about the eHealth Initiative, visit www.ehealthinitiative.org.



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Overview of Key Findings

Since 2004, the eHealth Initiative (eHI) has tracked the efforts, successes and failures of organizations across the country working on health information exchange. This report summarizes the results of eHI's 2009 edition of the *Sixth Annual Survey of Health Information Exchange*.

In 2009, 150 initiatives across the country responded to and qualified for inclusion in the *eHealth Initiative's Sixth Annual Survey of Health Information Exchange*. eHI identified 43 additional initiatives that are functioning, which did not complete the 2009 survey.¹ Overall, eHI has identified and collected information on 193 active health information exchange initiatives in the country.

When respondents completed this year's survey the promise of the American Recovery and Reinvestment Act (ARRA) loomed large. The February 2009 enactment of ARRA provides much needed support to an industry that has struggled in a financially challenging landscape. The federal government is projected to spend at least \$300 million in support of health information exchange activities in 2009 and 2010. While it is impossible to predict the impact of future funding, ARRA has helped energize the field in recent months.

Additionally, the new phrase that will redefine how health information technology is used—"meaningful use"—puts a strong emphasis on the ability of providers to exchange information in order to receive incentives from the federal government through Medicare and Medicaid payments. As this year's report shows, health information exchange initiatives are developing capabilities that will be supportive of helping the nation's clinicians and hospitals become meaningful users of electronic health records (EHR).

When eHI began tracking these initiatives six years ago, the field was immature, and only a handful of organizations were making progress. This year's survey is a snapshot of a field learning from its mistakes, and a critical mass of organizations struggling to make health information exchange successful and sustainable. The field of health information exchange continues to face familiar challenges, but as the results of this year's survey show, steady progress is being made across the country to improve care and reduce costs. Highlights from the report are listed below:

- **The number of initiatives involved in health information exchange is growing.**
 - o Sixty-seven health information exchange initiatives responded to the eHI survey for the first time.
 - o There are at least 193 active initiatives involved in health information exchange.
 - 150 initiatives responded to the survey.
 - eHI identified 43 additional initiatives from the 2008 survey which are still functioning, but did not complete this year's survey.

¹ eHI staff reached out to respondents from the 2008 survey that did not complete the 2009 survey. Staff was able to confirm that 43 initiatives are still functioning.

- **The number of organizations that reported being operational has sharply increased.**
 - Fifty-seven health information exchange initiatives reported being operational in 2009 up from 42 initiatives in 2008, a nearly 40 percent increase from 2008.
- **For the first time in six years, initiatives identified “addressing privacy and confidentiality issues” as the most pressing challenge they face, surpassing “developing a sustainable business model”.**
 - The most significant challenges impacting health information exchange initiatives today are:
 - Addressing privacy and confidentiality issues – HIPAA and other (93 initiatives identified this as a pressing challenge).
 - Defining the value that accrues to the users of the health information exchange (92).
 - Developing a sustainable business model (90).
- **Health information exchange has had a positive impact on physician practices allowing them to become more efficient without disrupting care.**
 - Operational initiatives report the following impacts for practices that utilize the exchange:
 - Improved access to test results and resultant efficiencies on practice (28 operational initiatives).
 - Improved quality of practice life (i.e., less hassles looking for information, getting home sooner at the end of the day, etc) (24).
 - Reduced staff time spent on handling lab and radiology results (23).
 - Reduced staff time spent on clerical administration and filing (22).
- **Health information exchange can help reduce costs for a number of different stakeholders, but hospitals and physician practices could see the greatest return on investment (ROI).**
 - In 2009, operational initiatives most often reported ROI from hospitals (21) and physician practices (19).
- **Cost savings resulting from health information exchange were reported by 40 operational initiatives.**
 - Cost savings have been identified in a variety of areas, including:
 - Reduced staff time spent on handling lab and radiology results (26 operational initiatives).
 - Reduced staff time spent on clerical administration and filing (24).
 - Decreased dollars spent on redundant tests (17).
 - Decreased cost of care for chronic care patients (11).
 - Reduced medication errors (10).

- **The services most offered are results delivery, connectivity with electronic health records, clinical documentation, and alerts for providers.**
 - o Results delivery (e.g. laboratory or diagnostic study results) (44 initiatives).
 - o Connectivity to electronic health records (38).
 - o Clinical documentation (34).
 - o Alerts to providers (31).
 - o Electronic prescribing (26).
- **More health information initiatives are exchanging data, with increases in the type of data exchanged nearly across the board.**
 - o The number of initiatives currently exchanging data:
 - Laboratory data increased to 49 initiatives, up from 26 in 2008.
 - Medication data (including outpatient prescriptions) 48 initiatives are currently exchanging.
 - Outpatient laboratory increased to 45, up from 25 in 2008.
 - Outpatient episodes increased to 43, up from 23 in 2008.
 - Radiology results increased to 39, up from 23 in 2008.
 - Emergency Department episodes increased to 36, up from 27 in 2008.
- **Health information exchange initiatives are less dependent upon federal funding.**
 - o Seventy-one initiatives reported they are not dependent on federal funding, up from 64 initiatives in 2008. The number of organizations which state they are dependent on federal funding checked in at 30 initiatives, only one more than in 2008.
 - o Ninety respondents hope or expect to receive funds through the American Recovery and Reinvestment Act.

State of the Field

How many initiatives are there?

The number of initiatives involved in health information exchange is continuing to grow. eHI has identified a total of 193 health information exchange initiatives that are currently pursuing exchange efforts. 150 organizations completed the survey in 2009, up from 130 in 2008. Outside the survey, eHI identified an additional 43 initiatives that are also in existence.

Out of the 150 respondents, 67 had not participated in a previous eHI survey. The participation of 67 new organizations demonstrates increased interest and momentum for the use of health information exchange to improve the quality, safety, and efficiency of health care in the U.S.

Where are the initiatives?

Health information exchange initiatives have coverage areas that span all 50 states, the District of Columbia, and the U.S. territories of the Virgin Islands, Puerto Rico, and American Samoa.

Results of this year's survey and staff research into still-functioning respondents from eHI's 2008 survey indicates that initiatives are headquartered in all 50 states, as well as in Puerto Rico and the District of Columbia. New York (19), California (14), Michigan (10), Florida (10), and Arizona (10) count the highest concentration of initiatives. *Figure 1* on the next page shows the locations of health information exchange initiatives.

Initiatives most commonly reported a multi-county coverage area. Forty-seven initiatives reported covering a multi-county area, and 39 initiatives reported covering an entire state. Other coverage areas reported by initiatives include: at the county level (17), multi-state level (12), "other" coverage area (10), metro level (7), national level (6), and city level (3). In addition, two initiatives reported a coverage area that was not geographic in nature.

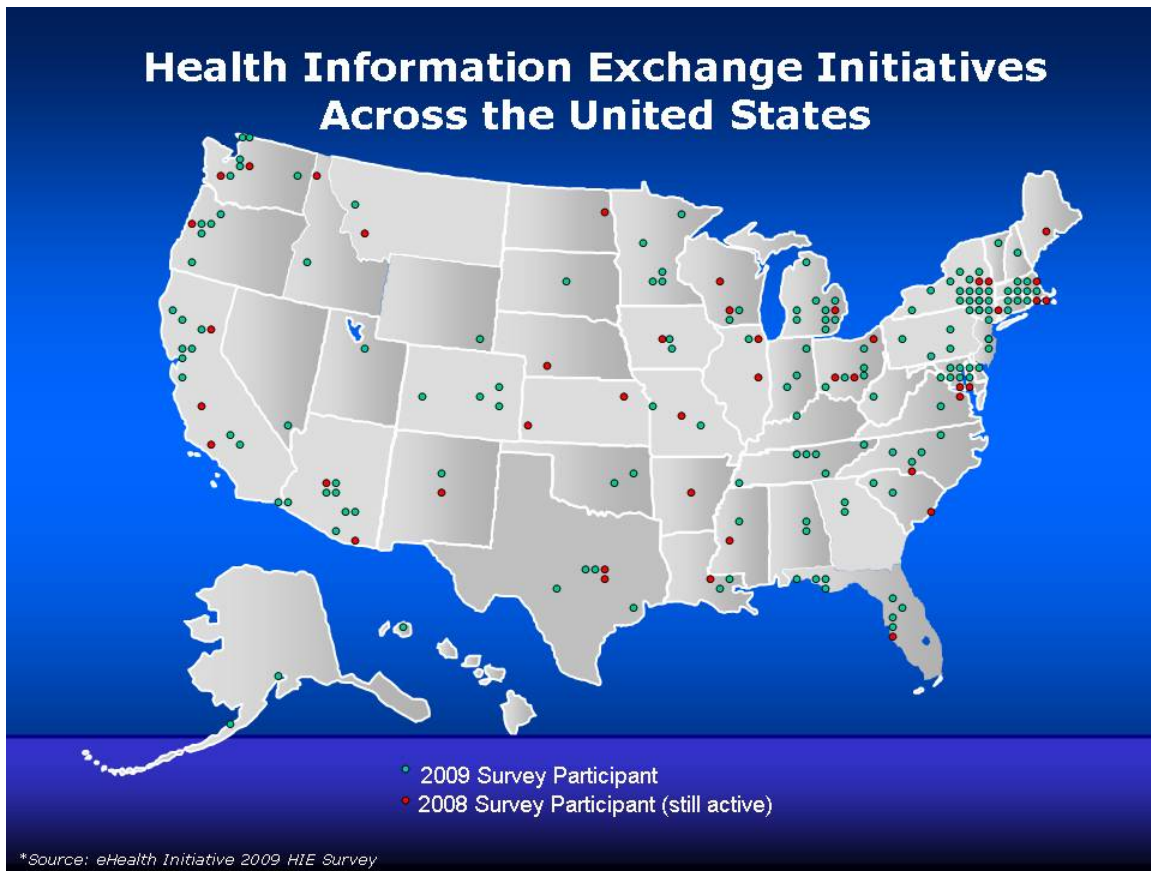


Figure 1: Health Information Exchange Initiatives Across the United States

How advanced are the initiatives?

In 2005, eHI developed a framework for assessing and tracking health information exchange development. As a result of working with hundreds of leaders involved in the development and implementation of health information exchange-related activities, eHI identified seven stages of development (see *Figure 2* below). Most initiatives focused on health information exchange will move through predictable stages of development, but at a varying pace. These stages help set a consistent standard by which initiatives can judge themselves, allowing for continuity when analyzing results from year-to-year.

Stage 1	Recognition of the need for health information exchange among multiple stakeholders in your state, region or community. (Public declaration by a coalition or political leader)
Stage 2	Getting organized; defining shared vision, goals, and objectives; identifying funding sources, setting up legal and governance structures. (Multiple, inclusive meetings to address needs and frameworks)
Stage 3	Transferring vision, goals and objectives to tactics and business plan; defining your needs and requirements; securing funding. (Funded organizational efforts under sponsorship)
Stage 4	Well under way with implementation –technical, financial and legal. (Pilot project or implementation with multiyear budget identified and tagged for a specific need)
Stage 5	Fully operational health information organization; transmitting data that is being used by healthcare stakeholders.
Stage 6	Fully operational health information organization; transmitting data that is being used by healthcare stakeholders and have a sustainable business model.
Stage 7	Demonstration of expansion of organization to encompass a broader coalition of stakeholders than present in the initial operational model.

OPERATIONAL HIES

Figure 2: eHI Stages of HIE Development

This year, there are a growing number of organizations which report that they are in an advanced stage or operational stage of development (Stages 5, 6, and 7). These “operational” health information exchange initiatives are closely reviewed as part of the 2009 survey report, as their experiences lend particularly helpful insight into factors for success in pursuing health information exchange.

Not only did the quantity—total respondents—increase with the addition of many newcomers, but the quality—total exchanges reporting themselves to be operational—significantly increased. In 2009, 57 health information exchange initiatives reported being operational, up from 42 in 2008. As *Figure 3* below

demonstrates, the number of reported operational organizations has increased steadily over the last six years.

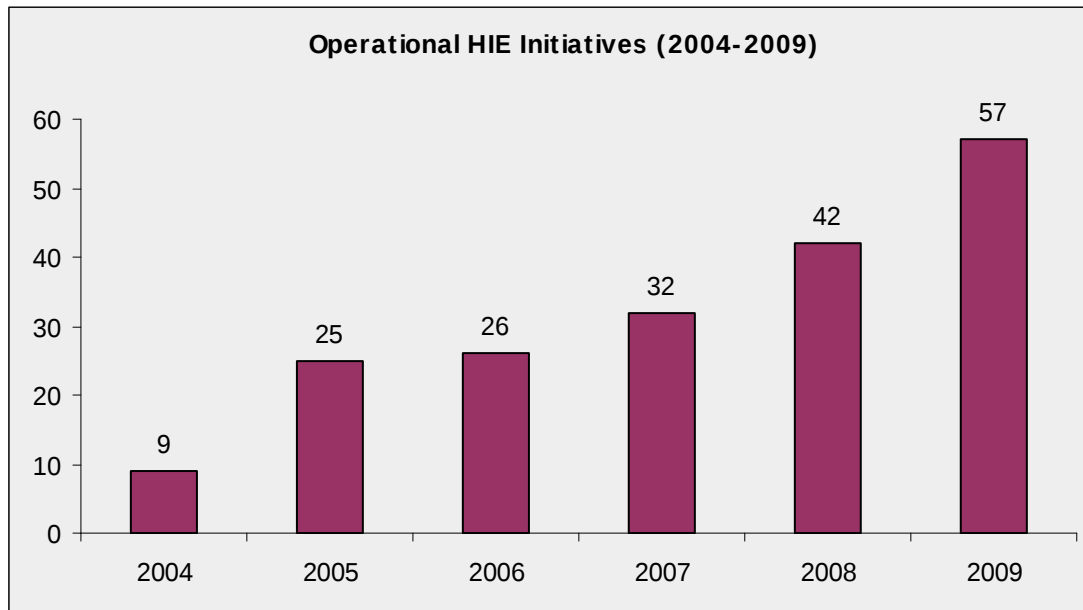


Figure 3: Operational HIE Initiatives

The majority of respondents reportedly are in the intermediate stages of development, with a focus on implementation. Of the respondents, 57 are operational, 79 are in the implementation stages, and nine are in early planning stages (see *Figure 4* below). Five respondents did not report a stage of development.

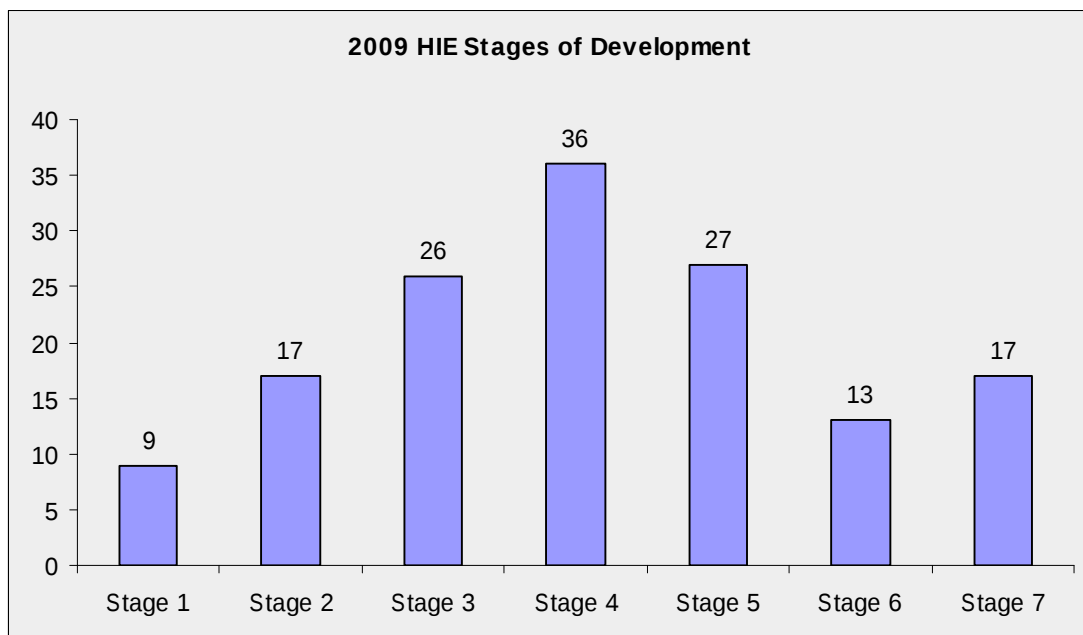


Figure 4: 2009 Reported Stages of Development

Initiatives are maturing at a steady pace. Fourteen initiatives reported that they have advanced and either become operational or moved up within the range of operational stages since 2008.

The headquarters of the more advanced organizations—the “operational” initiatives—are most highly concentrated in the eastern and western regions of the country. The Midwest is home to the least number of “operational” initiatives. *Figure 5* below illustrates the current geographic spread of operational HIE initiatives that participated in this year's survey.



Figure 5: States with Operational HIE Initiatives

How is state government involved?

Many exchanges report state government involvement in their organization. States colored in green on the following map (*Figure 6*) are those in which initiatives reported government involvement at the state level. A total of 83 initiatives reported involvement by one or more state governments, with 43 states, as well as the District of Columbia involved in efforts.

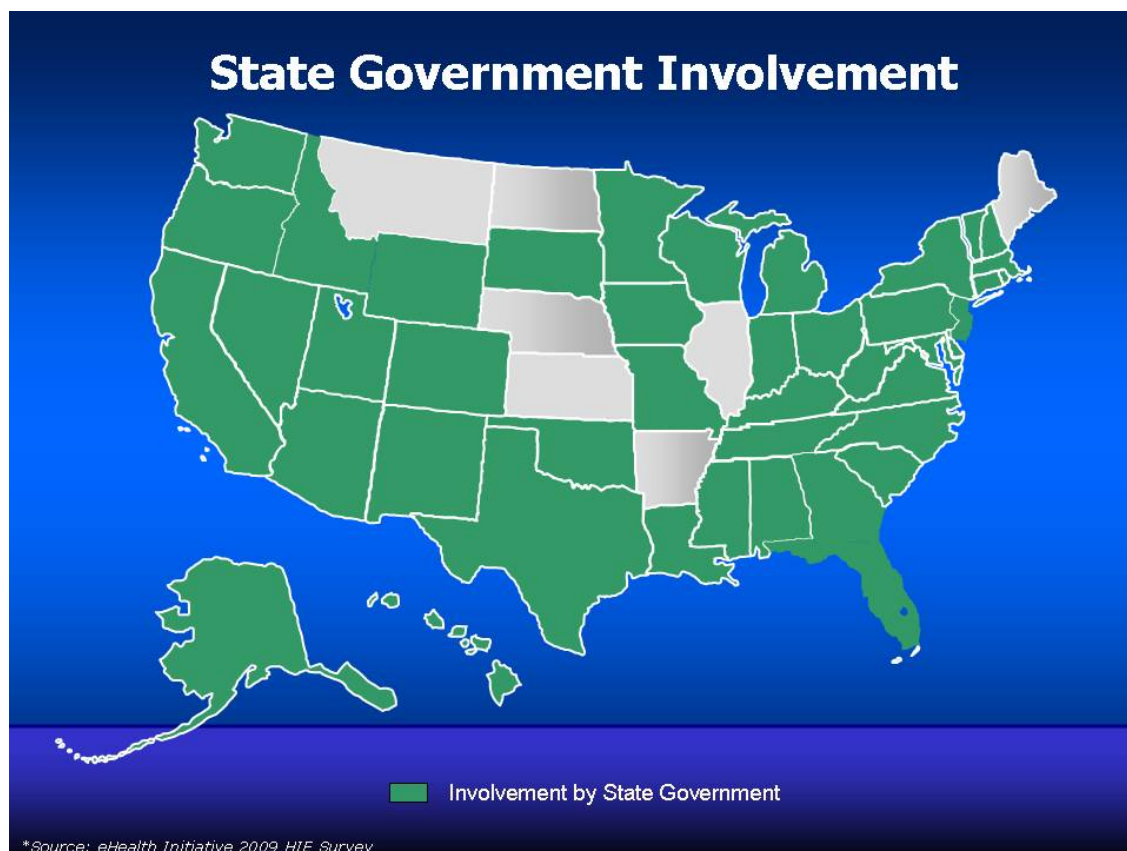


Figure 6: State Government Involvement

Of those who reported involvement by state government, the departments or offices playing the lead role within the exchange are (in descending order):

- State department of health
- Other state department or agency
- Governor's office
- State Medicaid program
- Commissioned state-wide panel, appointed by Governor
- State's department focused on information technology
- Commissioned state-wide panel, appointed by State Legislature

The roles that these departments play are varied, with participation in dialogue related to HIT or health information exchange reported most commonly by exchange initiatives. The most common roles of state government involvement are:

- Participation in state-wide or local dialogue related to HIT or health information exchange convened by others (58 initiatives)
- Convening stakeholders in state-wide or local dialogue related to HIT or health information exchange (52)
- Providing funds through a state grant or contract program (49)
- Funding a study, reports or plans related to HIT and/or HIE (34)
- Requiring use of interoperability standards in some or all of the state's activities (29)
- Serving in project management role for commissioned panel/committee (28)
- Providing financial incentives for HIT or HIE through Medicaid (24)
- Providing education programs (24)

Drivers and Challenges

What is driving health information exchange?

The primary drivers of health information exchange efforts have not changed. Similar to last year, the key drivers are improving the quality of healthcare and patient safety, as well as addressing rising costs and inefficiencies experienced by providers in patient care. The top drivers of health information exchange efforts, according to the reporting organizations, are:

- Improving quality of healthcare (112 initiatives)
- Improving patient safety (109)
- Inefficiencies experienced by providers who need information to support patient care (104)
- Increased attention on HIT and health information exchange at the national level (99)
- Rising healthcare costs (98)
- Public health surveillance needs (84)

These items were all ranked as significant or moderate drivers by initiatives. The top three drivers from 2008 remain the top drivers of health information exchange efforts in 2009.

What major challenges are the initiatives facing?

For the last few years, sustainability has been cited as the top challenge for initiatives. Despite the continued struggles, this year, sustainability took a “back seat” to privacy issues. While sustainability is still a key challenge, addressing privacy and confidentiality issues surpasses developing a sustainable business model as the most pressing challenge experienced by initiatives. The most significant challenges impacting health information exchange initiatives today are:

- Addressing privacy and confidentiality issues – HIPAA and other (93 initiatives)
- Defining the value that accrues to the users of the health information exchange (92)
- Developing a sustainable business model (90)
- Addressing technical aspects including architecture, applications and connectivity (86)
- Addressing organization and governance issues (82)
- Engaging health plans (79)

Participants indicated that the above challenges were “very difficult” or “moderately difficult.” In 2008, the development of a sustainable business model, securing up-front funding, and defining the value that accrues to users of the exchange were the highest reported challenges. Addressing privacy and confidentiality issues was ranked fourth, behind each of these in last year’s survey.

Assessing Value and Savings

To better understand the benefits and positive impacts of health information exchange on the U.S. health care system, the 57 operational initiatives were asked to assess the value and savings resulting from their efforts. The following findings are results from these operational organizations.

What is the value of health information exchange for clinicians?

The use of health information exchange is having positive impacts on practices that access data. Operational initiatives report the following impacts from practices that utilize the exchange:

- Improved access to test results and resultant efficiencies on practice (28 operational initiatives)
- Improved quality of practice life (i.e., less hassles looking for information, getting home sooner at the end of the day, etc.) (24)
- Reduced staff time spent on handling lab and radiology results (23)
- Reduced staff time spent on clerical administration and filing (22)

Other impacts documented by initiatives include (in order of response): reduction of duplicative tests (14), improved compliance with chronic care and prevention guidelines (12), reduced staff time on handling prescriptions (12), improved care outcomes to patients in practice (11), fewer prescribing errors (10), and reduced medication errors (10).

How does health information exchange help reduce health care costs?

Health information exchange can help reduce costs for a number of different stakeholders, but hospitals and physician practices could see the greatest return on investment. In 2009, more initiatives reported they could quantify a return on investment (ROI) than in previous years; operational initiatives reported ROI for hospitals (21) and physician practices (19). In 2008, 13 operational initiatives reported ROI from hospitals and 9 from physician practices.

Reduced staff time spent on handling lab and radiology results, as well as on administrative tasks are objective areas of financial success documented by HIE users. Operational initiatives are helping their participants succeed financially through:

- Reduced staff time spent on handling lab and radiology results (26 operational initiatives)
- Reduced staff time spent on clerical administration and filing (24)
- Decreased dollars spent on redundant tests (17)
- Decreased cost of care for chronic care patients (11)
- Reduced medication errors (10)

Other measures of financial success by HIE participants reported by initiatives include: reduced staff time spent on handling prescriptions, decreased un-reimbursed charges for ER visits, reduced write-offs, denials or accounts receivables for providers, improved submission rates for payers, as well as “other” benefits.

Data and Services

Who is exchanging data?

More operational health information exchange initiatives are exchanging data with more stakeholders. Hospitals continue to remain the top source with which initiatives are exchanging data. Primary care physicians and hospitals showed the largest increase since 2008.

Stakeholder Organizations Exchanging Data			
	2008	2009	Change (+ / -)
Hospitals	31	48	+17
Primary care physicians	24	42	+18
Community and/or public health clinics	20	32	+12
Specialty care physicians	21	30	+9
Independent laboratories	14	26	+12
Outpatient/Ambulatory surgery centers	11	22	+11
Pharmacies	8	20	+12
Behavioral or mental health providers	12	19	+7
Health plans	14	19	+5
Local Public Health Department	13	19	+6
Independent radiology centers	10	18	+8
Pharmacy benefit management companies	7	18	+11
Healthcare IT suppliers	9	15	+6
State Public Health Department	5	15	+10
Medicaid	5	13	+8
Consumers	3	10	+7
Employers or health care purchasers	5	9	+4

Figure 7: Stakeholder Organizations Exchanging Data

On average, operational health information exchange initiatives each report more than 2 million patient records available nationwide. Forty-eight of the 57 operational HIEs had a collective total of 111,221,657 patient records available, with a mean of 2,317,117, and median of 600,000 records available from each health information exchange initiative. It is important to note that because a number of health information exchange initiatives operate in close proximity to others, it is likely there is some overlap in the total number of patient records available.

What services are offered and what data is exchanged?

The number of services and functions offered to participants is increasing. The largest jumps since 2008 were with results delivery, as well as public health case management. See *Figure 8* below for full data from initiatives on which functionalities are currently available.

Current Functionalities for Data Exchange			
	2008	2009	Change (+/-)
Results delivery (e.g. laboratory or diagnostic study results)	31	44	+13
Connectivity to electronic health records	n/a	38	n/a
Clinical documentation	38	34	-4
Alerts to providers	26	31	+5
Electronic prescribing	n/a	26	n/a
Enrollment or eligibility checking	29	25	-4
Electronic referral processing	17	21	+4
Consultation/referral	23	20	-3
Clinical decision support	n/a	19	n/a
Disease or chronic care management	19	19	0
Quality improvement reporting for clinicians	14	19	+5
Ambulatory order entry	n/a	16	n/a
Disease registries	11	16	+5
Reminders	14	16	+2
CCR/CCD summary record exchange	n/a	15	n/a
Public health: case management	7	13	+6
Public health: surveillance	9	13	+4
Quality performance reporting for purchasers or payers	9	12	+3
Connectivity to personal health records	n/a	10	n/a

Figure 8: Current Functionalities for Data Exchange

A larger number of health information initiatives are exchanging data, with increases in the type of data exchanged nearly across the board. Laboratory data and medication data are the types of data exchanged by the greatest number of initiatives. The largest growth from 2008 is laboratory results, outpatient laboratory results, and outpatient episodes. See *Figure 9* on the following page for the types of data currently exchanged through initiatives.

Data Currently Exchanged			
	2008	2009	Change (+ / -)
Laboratory	26	49	+23
Medication data (including outpatient prescriptions)	n/a	48	n/a
Outpatient laboratory results	25	45	+20
Outpatient episodes	23	43	+20
Radiology results	23	39	+16
Emergency Department episodes	27	36	+9
Inpatient diagnoses & procedures	27	35	+8
Care summaries	n/a	34	n/a
Inpatient discharge summaries	n/a	32	n/a
Pathology	18	32	+14
Dictation / transcription	20	31	+11
Cardiology	15	27	+12
Claims: pharmacy, medical, and/or hospital	n/a	27	n/a
Enrollment / eligibility	17	25	+8
Pulmonary	13	23	+10

Figure 9: Types of Data Currently Exchanged

Physicians

How do physicians access the data?

Most operational exchanges provide access to physicians, even to those without electronic health record (EHR) systems. Fifty-one of the 57 operational initiatives reported providing access to physicians, including 41 that provide access for physicians who do not have an EHR.

A majority of operational health information exchange initiatives reported the use of certified EHRs by some or all providers. A total of 43 initiatives have indicated that some or all of their providers are using certified EHR systems.

A limited number of operational initiatives require physicians to pay for use of the health information exchange. Only 18 initiatives indicated that payment was required for physician access, with 32 allowing physicians to access free of charge. Of the 18 initiatives that require physician payment, 14 use a payment model based on a monthly or annual subscription fee.

Of those organizations requiring physician payment to access the system, nine initiatives indicated an annual charge per physician in the \$101 – \$500 range. Three initiatives reported a charge of \$100 or less per physician, while two charge between \$501 - \$1000 and only one initiative charges over \$1000 per physician on an annual basis for access.

How are physicians engaged?

Physician engagement in health information exchange is difficult for some organizations, primarily because physicians do not fully understand the benefits, or have implementation concerns. Respondents cited the reasons they believe physician engagement is difficult (in descending order):

- Lack of understanding of benefits (19 initiatives)
- Concerns regarding implementation (16)
- Takes too much time to look up data (13)
- Costs too much to participate (13)

Success of the health information exchange initiative is dependent upon its use by clinicians. A variety of methods are used to engage practices in health information exchange initiatives. The following are the methods for outreach reported highest by health information exchange initiatives:

- Outreach through hospital systems (84 initiatives)
- Visits to physician practices (82)
- Outreach through local medical societies (78)
- Peer to peer invitations or requests (66)
- Outreach through community meetings (63)

What are initiatives doing to help with implementation?

Health information exchange initiatives are increasingly adding support functions to augment data services with implementation support. Many organizations are offering direct technical assistance. Support services currently provided include:

- Technical assistance for implementation with clinicians (52 initiatives)
- Technical assistance for implementation in hospitals (43)
- Workflow modification guidance for clinicians (43)
- Liaison between public and private health IT efforts in service area (41)
- Vendor-neutral advice on purchasing decisions (34)
- Workflow modification guidance for hospitals (33)
- Providing implementation guides for health information exchange (33)
- Hosting a support hotline for providers (31)
- Dissemination of best practices and research (30)
- Coordinating financial incentives within the market (19)
- Supporting quality improvement or performance reporting for purchasers and/or payers (18)

In 2008, the top support function provided by initiatives was a phone or online “help desk” provided by 40 initiatives.

Health information exchange initiatives provide a number of non-clinical and administrative services to customers as part of their revenue model. See *Figure 10* below for the top services initiatives are currently providing to customers. A number of initiatives are not currently providing these services, but plan to in the future.

Non-Clinical or Administrative Services Provided	
	Initiatives Providing
Providing services that reduce interfaces for EMR vendors	28
Distribution services, such as distributing reports to physicians	16
Services to assist with data loads into electronic medical records	14
Electronic medical record hosting	14
Charges for providing access to provider and provider related databases	7
Routing services for personal health records	7

Figure 10: Non-Clinical or Administrative Services Provided

Financing and Sustainability

How long does it take to get up and running?

A majority (30) of operational health information exchange initiatives reported a timeline of two to three years to become operational. Ten initiatives reported a timeline of one year or less to become operational, while nine indicated that it took four or more years to become operational.

How much does it cost to start an HIE initiative?

The amount of start-up funds received by all the initiatives varies significantly, with 24 having received less than \$200,000, and 17 having received more than \$5 million in start-up funds. An additional 18 initiatives reported receiving \$2 - \$5 million in start-up funds. See *Figure 11* below for the full breakdown of start-up funds received by initiatives.

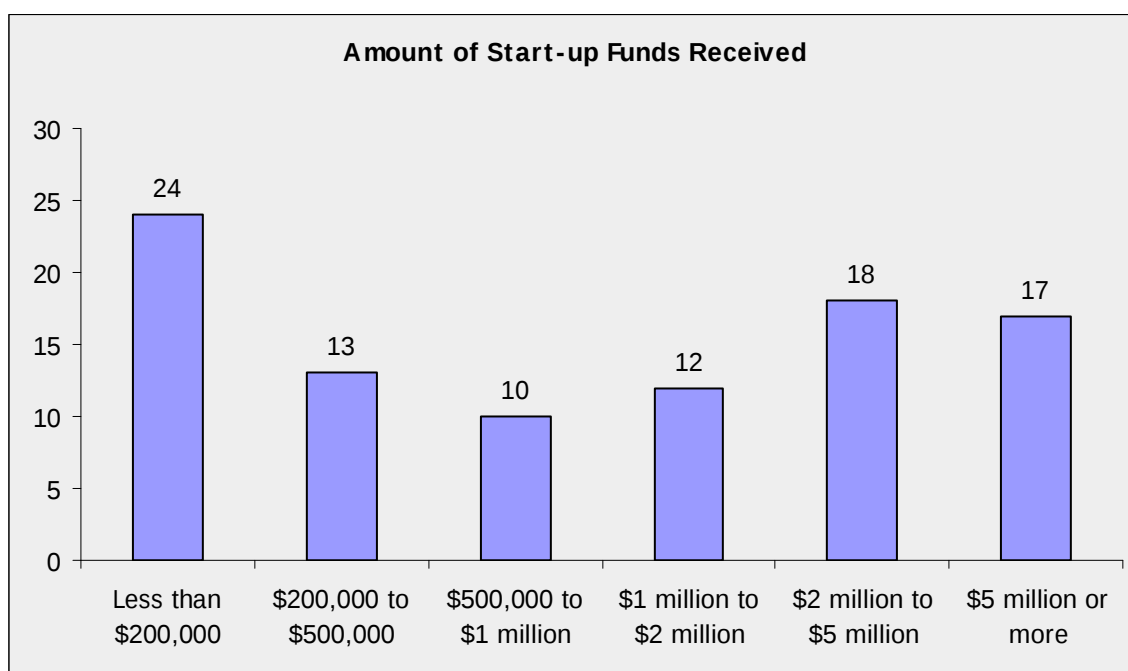


Figure 11: Amount of Start-up Funds Received

What are the sources of revenue?

Initiatives receive funding from a variety of sources. State government grants and contracts, and hospitals are cited as the primary sources of start-up funds reported by all initiatives. The federal government and private payers are also supporting these efforts. This represents a slight shift in which sources initiatives are receiving start-up funds from, as federal government grants and contracts were the top source

of start-up funding in 2008. *Figure 12* below depicts the top sources of start-up funds reported by all initiatives in 2009.

Sources of Start-up Funds	
	2009
State government grants and contracts	43
Hospitals	42
Federal government grants and contracts	39
Payers – private	26
Philanthropic sources	19
Local government grants and contracts	17
Physician practices	15
Payers - public (Medicare/Medicaid)	12
Medical societies	11
Purchasers and employers	10

Figure 12: Sources of Start-up Funds

Sources of ongoing revenue for the operational health information exchange initiatives remain relatively similar to those reported in 2008, with the top two sources unchanged: hospitals, and physician practices. The most significant change from 2008 is a reduction in the number of initiatives that receive ongoing funding through public sources, such as federal government grants and contracts as well as through Medicare & Medicaid. The top sources of ongoing revenue reported by operational initiatives are in *Figure 13* below.

Ongoing Revenue Sources			
	2008	2009	Change
Hospitals	26	26	0
Physician practices	16	16	0
Payers – private	12	14	2
Laboratories	9	11	2
State government grants and contracts	n/a	10	n/a
Federal government grants and contracts	15	9	-6
Public health	8	7	-1
Local government grants and contracts	n/a	6	n/a
Payers - public (Medicare/Medicaid)	10	5	-5

Figure 13: Ongoing Revenue Sources

Are initiatives depending on the federal government to sustain them?

The majority of health information exchange initiatives did not depend upon federal funding during the most recent fiscal year. More initiatives reported that they are not reliant on federal funding than in 2008. Seventy-one initiatives reported they are not dependent on federal funding, up from 64 initiatives in 2008. Thirty organizations stated they are dependent on federal funding, up only one from 2008. See *Figure 14* below for a comparison of 2008 and 2009 data regarding reliance on federal funding in the most recent fiscal year.

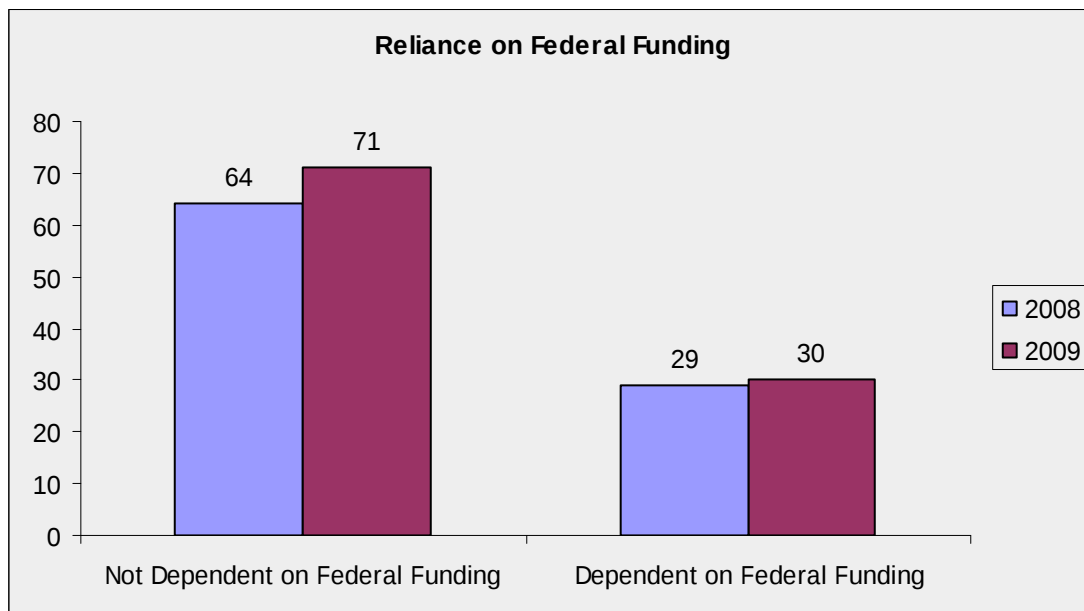


Figure 14: Reliance on Federal Funding

How does the American Recovery and Reinvestment Act impact sustainability?

While most initiatives do not depend upon the federal government for sustainability, many still hope to benefit from the government's interest in the area. The American Recovery and Reinvestment Act (ARRA) has raised expectations among health information exchange initiatives that they might directly benefit from ARRA funds. Seventy-two initiatives are hoping to receive ARRA funds, and 18 are sure that they will "definitely" receive funding through ARRA.

Provisions in the American Recovery and Reinvestment Act have influenced a number of initiatives to consider becoming regional extension centers. Thirty-two initiatives (*Figure 15*, appearing on the map in red) have considered becoming a regional extension center, and are currently prepared to do so if selected. Twenty-seven initiatives (*Figure 15*, appearing on the map in green) have considered becoming a regional extension center, though would need additional preparation or support if selected.

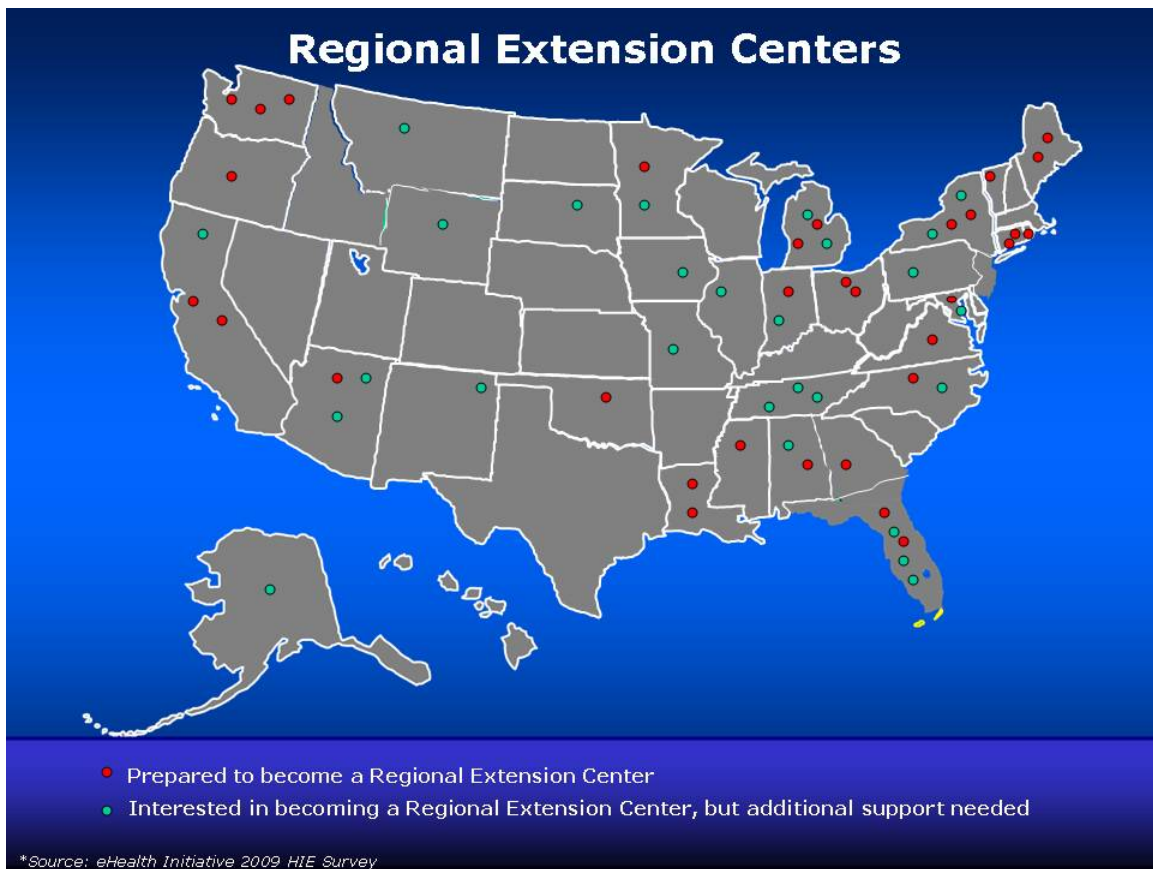


Figure 15: Initiatives Considering Role As Regional Extension Center

Patients and Privacy

Can patients access their information?

Patients usually access their health information through physicians, hospitals, health plans, retail pharmacies, and/or personal health record vendors, not through health information exchange initiatives directly. Some HIE initiatives are beginning to provide patients direct access to medical information through the health information exchange organization itself. Fourteen initiatives have technology available allowing patients to access their medical information. Of those 14, eight have a portal available for patient access, and three are in planning stages to develop a patient portal for access.

The type of access made available to patients varies, though some initiatives (7) report allowing patients to add clinical information to their record. Four initiatives allow patients only to comment regarding their medical information, and three allow only “read only” access for patients. In addition, 7 initiatives also allow patients to determine which providers have access to their information.

What types of policies do initiatives use to protect patient privacy?

As mentioned previously, privacy issues are cited as the greatest challenge facing health information exchange initiatives. Protecting patient privacy and security is critical to the success of any initiative. The findings this year illustrate that initiatives are using a number of policies to address concerns.

Despite the fact that many organizations exchanging health information were not required by HIPAA to sign business associate contracts prior to the enactment of the American Recovery and Reinvestment Act, most organizations reported having privacy policies that go beyond HIPAA requirements. Only 22 initiatives reported that they do not currently have policies in place which exceed the standard HIPAA requirements. Note that not all respondents answered this question. Of those that do have policies in place to protect patient privacy beyond HIPAA, the most common include:

- Patient consent required to share clinical information with another provider for treatment purposes (32 initiatives)
- Patient consent required to share clinical data deemed sensitive, (i.e., mental health, STD, AIDS) with another provider for treatment purposes (28)
- Agreeing to and honoring certain patient requests to restrict uses or disclosures to carry out treatment, payment, or health care operations (20)
- More stringent restrictions for use and disclosure for research (19)
- Patient consent required to share information for payment purposes (15)
- Patient consent required to share aggregated or de-identified information for purposes other than treatment, payment, or healthcare operations (13)

While many privacy policies address only the use of protected health information (PHI), it is interesting to note that 13 initiatives reported either using or developing a

policy to obtain patient consent for the use of data that is de-identified or aggregated.

How do initiatives seek patient consent?

Patient consent is seen by many privacy advocates as being critical to protecting privacy and confidentiality. There are a number of methods used to obtain consent. Patient consent for the exchange of protected health information through a health information exchange initiative is largely sought by the points-of-care, normally hospitals or physician offices. Most initiatives reported that hospitals or physician offices are the exchange participants responsible for seeking consent from patients. Only eight initiatives reported that they seek patient consent directly.

Despite the electronic nature of health information exchange, many initiatives are not using electronic means to track patient consent. Forty-five initiatives reported that they do not use electronic means to track the consent that has usually been sought by the points-of-care that use the exchange initiative.

What types of information-sharing agreements are used?

All health information exchange initiatives use contracts and information-sharing agreements amongst participants. The top issues covered in these contractual agreements include:

- Authorization of users for data access (74 initiatives)
- Permitted purposes for information access (72)
- Authentication of users (63)
- Enforcement procedures for enforcing compliances with agreements (61)
- Indemnification (58)
- Security breach reporting requirements (58)
- Conflict resolution among HIE participants (49)

Looking Forward

Just a few years ago, there were only a handful of operational health information exchanges. This year's report demonstrates that there has been a great deal of progress since 2004. Currently, there are dozens of advanced, operational initiatives striving to improve the quality of health care, improve patient safety, and reduce costs.

With the increased focus and funding directed at health information technology, it is very likely this trend will continue and even accelerate. By the time of eHI's 2010 survey, the roll-out of the health information exchange-related provisions of the American Recovery and Reinvestment Act may greatly impact the state of health information exchange in the U.S. The improvements in patient care delivery, savings and efficiencies which result from health information exchange initiatives could play a major role in health care reform in both the short- and long-term.

Recommendations

The quantifiable data in this report provides one perspective on the progress of health information exchange. To help better understand the numbers, interviews were conducted following the survey analysis.

Through the survey analysis and interview process, a number of areas were identified where improvement could occur. It is clear that further research is needed to fully document the value of health information exchange and outline a roadmap to achieve success.

Given the new resources available, the following recommendations for health information exchange initiatives may help further advance the field.

- **Help define a clear role for health information exchange in “meaningful use”.** Many initiatives are closely watching the debate on meaningful use. Given the landscape, initiatives should actively participate in this discussion and clarify the role of health information exchange, particularly how to ensure that providers will be able to access health information exchange initiatives anywhere in the country by 2015.
- **Measure and document improvements in patient care, savings and value.** With an increased emphasis on health information exchange, there is a need for better tracking and documentation of the value and benefits of health information exchange. Cost savings, improved efficiencies and quality of care need to be better documented.
- **Expand secure services to patients.** An expansion of services affecting and targeting patients, particularly in the areas of access to and privacy of their health information is needed. This will be driven in part by the new privacy and security provisions of the Recovery Act, as well as the increasing need to provide a secure method for individuals to access their protected health information.

- **Increase implementation assistance and related services to clinicians.** Initiatives should continue to provide services to help support adoption and implementation among clinicians. Despite current efforts, this area continues to be a challenge, and is likely to increase as more and more clinicians move into health information technology. In addition, many initiatives are well-placed to be a key contributor to or coordinator of efforts to create the new regional extension centers that will support physicians and hospitals in becoming meaningful users.
- **Advocate for support from both the public and private sector.** Increased funding and resources could aid all of the areas outlined above. Particularly, efforts which document improvements in patient care and value should be supported. In addition, support is needed to outline the strategies that lead to sustainability and return on investment.
- **Support the national health information infrastructure.** Support is needed to bolster the national health information infrastructure. The national infrastructure, which is still relatively young, will face major challenges in the coming years. The infrastructure will need to support a large influx of users who will be expected to exchange information as a matter of receiving incentive payments.
- **Pay close attention to disbursement of funds and projects.** Along with funding comes scrutiny. With the eyes of the industry and nation on health care, it is more important than ever to make sure all funding is tracked and spent wisely. Funding for health information exchange activities should focus on the creation and clear documentation of replicable strategies that could be adopted by many.
- **Ensure best practices, lessons learned and successful strategies are documented and shared broadly.** While it is expected that some initiatives will fail, lessons learned should be carefully documented. Health care stakeholders can learn from failures as well as success stories. Too often successful strategies are not shared broadly, and initiatives re-invent the wheel over and over. Organizations like the eHealth Initiative can serve as a resource for groups interested in health information exchange.

Real Life Examples

The quantifiable data in this report provides one perspective on the progress of health information exchange. To help better understand and put a “face” on the survey numbers, interviews were conducted with respondents following the close of the survey. A number of case studies were developed to accompany this report, is an attempt to share real life examples in the field.

Four of those case studies are provided in this report. All of the case studies are available online at www.ehealthinitiative.org. The case studies listed below appear in this report.

- HealthBridge – Cincinnati, Ohio
- Louisiana Rural Health Information Exchange (LARHIX) – Prairie, Louisiana
- MedVirginia – Richmond, Virginia
- Michiana Health Information Network – South Bend, Indiana

HealthBridge

A Self-Funded Exchange Helps Physicians Transition to Electronic Medical Records through Low-Cost Technology Solutions – Stage 7

Through the combination of low-cost, straightforward implementation, and efficient technical support, HealthBridge has become one of the nation's largest and most successful health information exchanges.

HealthBridge is a not-for-profit corporation founded in 1997 with the goal of developing a common technology infrastructure in order to share health information electronically in the Greater Cincinnati tri-state area. Now, 12 years later, HealthBridge delivers more than three million clinical results per month to thousands of health care professionals. As a result of HealthBridge's infrastructure, the Greater Cincinnati area is one of the most advanced communities for the use of electronic health information.

Ranging from serving the technologically-limited single practitioner to the highly-advanced medical clinic, HealthBridge has remarkably delivered efficient and effective technology to a diverse collection of participating health professionals.

Trudi Matthews, Director of Policy and Public Relations at HealthBridge, commented, "It is often an innovative physician or clinic staff that serves as the main motivator, frequently prompting doctors to integrate health information technology within their offices. Often, after the integration of the most basic health information tools, the staff begins to fall in love with the system and convince the office to expand health information technology resources."

Integral to this transition is an application called the EMR Lite. The EMR Lite is a basic web-based electronic medical record offered by HealthBridge that gives providers information from across the community. Needing only a high-speed internet connection and a computer, physicians are able to access and send data like lab results, radiology reports, pathology reports, transcribed reports, admission notices, and discharge summaries. Matthews stated, "The EMR Lite allows the physician or clinic to step lightly into an electronic record system. It is a low-cost and flexible model that has allowed both the constant and efficient adoption of technology across our community." HealthBridge offers some physicians "premium services" but the EMR Lite subscriptions are offered at no cost to physician practices. The majority of revenue is recouped from the diagnostic centers, labs and hospitals that are charged a monthly fee.

This model has become the backbone to HealthBridge's success. Currently, the exchange is completely self-funded and over the past five years, revenue has exceeded expenses by five to eight percent. HealthBridge connects to more than 40 different inpatient information systems and 26 ambulatory electronic health records and has expanded its operations into other areas in Ohio, Kentucky and Indiana. In their core market area of Cincinnati, of the roughly 5,000 physicians in the area, an estimated 30% utilize a stand-alone electronic health record and more than 50% use a version of EMR Lite. When factoring in print and fax users, more than 90% of physicians utilize HealthBridge and 97% of all clinical results go through the

exchange. In 2009, HealthBridge estimates it will reduce health care costs by \$20 million dollars by cutting costs associated with postage, staff time, and paper.

HealthBridge has future plans to further expand services in its core market as well as expanding services to new areas. Specifically, the exchange is working with Allscripts to implement e-prescribing and Mirth to implement a mechanism for electronic performance measurement reporting. HealthBridge also continues to work with Axolotl to expand exchange services and the EMR Lite in new markets.

Louisiana Rural Health Information Exchange (LARHIX)

Increasing Access and Improving Care for Underserved Patients in Rural Communities- Stage 6

"The technology is just the icing on the cake. The cake is the fact that we are able to deliver services to people that did not have it before. That is what we are all about."

– Jamie Welch, CIO of Louisiana Rural Health Information Exchange

Success stories of health information exchange in urban regions are common. Initiatives that are based in rural areas are cited less often. The Louisiana Rural Health Information Exchange has demonstrated how technology can improve the quality and accessibility of necessary medical procedures for rural communities.

The Louisiana Rural Health Information Exchange (LARHIX) services under- and uninsured patients in rural Louisiana. Founded in 2007, LARHIX currently supports care for over 700,000 patients and access to 30,000 records by connecting 44 hospitals to rural health care communities. The hospitals are a mixture of public and private entities and Louisiana State University's Rural Hospital Coalition serves as an active participant in the project.

LARHIX recognizes that many communities cannot justify the cost of health information technology in rural areas. As Jamie Welch, the CIO of LARHIX commented, "The view is really that health technology does not work in rural areas. Many people consider it too expensive. The Louisiana Exchange is an example of the cost effectiveness of the system. We are not just an electronic record exchange. Patients that use our system no longer have to travel 200 miles for specialty care. That's just one of the justifiable costs."

LARHIX is completely dependent on state funding and currently receives \$35 million in state general funds to cover operational costs. The exchange provides services to a host of participants. At this time, 14 of the state's major hospitals participate in the Louisiana Rural Health Information Exchange. LARHIX anticipates expanding coverage through a seven-year phased approach. The ultimate goal for the exchange is to integrate every rural Louisiana hospital and clinic and expand to coverage beyond hospital-affiliated health services.

The Louisiana Rural Health Information Exchange provides access to critical services that were previously too expensive and inaccessible for both the patient and the physician. LARHIX currently offers a variety of services including radiology image reporting, lab results, microbiological and pathology reports, outtake and intake data, and allergy reports among other services.

Patients in rural communities are able to have procedures performed in their local facilities through the use of a telemonitoring system, and data is sent to larger hospitals for analysis. This process cuts the overall wait time for both results and procedures. Data from a patient survey provided by LARHIX shows the average wait time for appointments has been reduced from 200 to 84 days through the use of health information technology. In addition to appointment time, an estimated 119 minutes have been saved in waiting room time, reducing the average wait to 3-5 minutes. An estimated 93% of patients have experienced no duplicate testing

through the use of this system. The system has become so efficient that members of neighboring urban communities are now traveling to rural areas for more efficient care.

Many rural Louisianans do not possess formal health care coverage. As a result, these individuals seek care from clinics or emergency rooms only when it becomes a necessity, with little to no focus on preventable care. LARHIX has implemented programs in order to increase preventative care services. One of the most successful preventative care programs is LARHIX's breast cancer detection services. Louisiana has one of the highest incidences of breast cancer in the nation; however, the majority of rural areas do not possess the equipment to perform necessary screening tests. To combat this, LARHIX implemented a mobile mammogram service. Through the use of this technology, results can be read and reported to patients in as little time as it takes for them to get dressed after procedures. Through the implementation of the program, Louisiana has already relinquished the dubious honor of having the nation's highest breast cancer rate.

LARHIX is currently run by a group of five individuals, including IT support. Through the efforts of the exchange, a rural community with a hospital housing 60 or fewer patient beds and six outpatient clinics is able to implement health information technology for \$1.3 million. LARHIX looks forward to benefiting from any additional money provided by the American Reinvestment and Recovery Act to increase services. All of their services are currently delivered by wireless connections and LARHIX hopes to streamline the service in the future in order to produce faster, more reliable technology services.

"At the end of it," noted Welch, "what we have done is created a medical home. We have given the local hospital and clinic access to the big urban hospital for major and specialty care. Outside of the needed trip, they almost never have to leave home."

MedVirginia

Success through Strong Relationships – Stage 7

Strong relationships and a steadfast commitment by local hospitals are some of the reasons MedVirginia has developed into one of the country's most electronically integrated communities for healthcare providers.

MedVirginia launched their health information exchange (HIE), MedVirginia Solution, in 2005. Since implementation, MedVirginia Solution provides access to over 600,000 patient records for 1,200 users in the Richmond, VA metro area.

Michael Matthews, MedVirginia's CEO, attributes prior relationships with local health care providers, the continual support of Richmond-area hospitals, overall structure of the organization, and the strong leadership of MedVirginia's governing board as key ingredients for the exchange's success. Matthews commented, "There was an underlying trust and credibility with MedVirginia that we were able to leverage towards the implementation of HIE in Richmond area hospitals. Prior to MedVirginia Solution, local data suppliers were familiar with our organization and had collaborated with us on different projects. This made the difference."

Bon Secours Richmond Health System, with four acute care hospitals and a network of outpatient centers, became the initial base support of the MedVirginia Solution by serving both as a partner and financial backer. With their support, the health information exchange was able to be implemented effectively through a strong sense of teamwork and partnership.

Differing from similar health information exchanges, MedVirginia is a limited liability company (LLC), not a non-profit. Under this model, the organization takes a business approach and operates in line with their stakeholders' needs. The strong and flexible board of directors has also been an integral component to the group's success. Throughout the different stages in development, the organization has retained the same members on their governing board.

In addition, MedVirginia's Advisory Board encompasses a vast range of stakeholders – with representatives from such organizations as the Virginia Department of Health, the Virginia Hospital and Healthcare Association, Surescripts, Virginia Academy of Family Physicians, and the Virginia Health Quality Center. This diversity has been an essential element in allowing the organization to keep up with the needs of the community and act quickly in light of new developments.

MedVirginia considers the general adoption of health information technology (HIT) by health professionals to be a return on investment (ROI). "How the health information exchange is used differs from one person to the next," stated Matthews. "We must offer a broad range of options to be of value to a broad range of users. Some may only use it to make results retrieval more efficient. Others may use it for clinical documentation on their patients. Others use it to help coordinate the care for their patients. Each use leads to some return on investment."

MedVirginia offers basic services—systems that only require a computer and an internet connection—to more advanced integration practice management systems and electronic medical records. Four Richmond-area free clinics use MedVirginia for a

vast range of activities including: secure clinical messaging; demographic data and registration; appointment scheduling; e-prescribing, and clinical documentation.

While MedVirginia has not conducted rigorous ROI analyses, a recent collaborative initiative with the Social Security Administration (SSA) helped quantify their success. MedVirginia and the SSA began exchanging health information to increase the speed of Social Security disability benefit determinations. Early results show success by reducing claimant time from 84 to 32 days. Through collaborative efforts with MedVirginia, SSA is able to make disability determinations faster, resulting in a significant positive impact for patients and their families. Due to the early success of the program, SSA is now looking to expand this endeavor to include 10-20 more HIE initiatives across the country.

Michiana Health Information Network

A Model for Sustainability – Stage 7

Michiana Health Information Network (MHIN) is a community-based health information exchange dedicated to providing a secure, single source access to patient clinical information. The network connects healthcare providers with a clinical data repository, results delivery system, clinical messaging, interfaces and a fully integrated electronic health record.

Founded in 1998, MHIN is a self-sustainable, fully operational health information exchange that functions on a multi-county level in both Indiana and Michigan. Beginning with less than \$200,000 in start-up revenue, MHIN has received no federal or state grants or contracts. MHIN describes their sustainability as a function of market demand, and grosses two to five million dollars annually. MHIN currently serves 765 physicians and provides access to 500,000 patient records. The organizations supports itself through membership fees of health care providers, physician offices and medical institutions. The network charges a monthly fee, without regard to the frequency of use. Physicians are charged a flat fee per month for access to the network. Fees range from \$50 to \$80, depending on the type of service.

MHIN reports a return on investment (ROI) for hospitals, physician practices, independent labs and radiology clinics. Providers have noted savings through the utilization of digital health care records and in emergency room care. While MHIN reports ROI by users, quantifying specific amounts is a challenge for MHIN and there is no current data assessing staff or office savings for providers.

MHIN is incorporated in Indiana but serves customers across state lines. The greatest challenge for MHIN is keeping up with regulations on both a state and national level and the development of quality technology in the field.

Health Information Exchange Initiatives

The list below represents participants in the 2009 eHealth Initiative *Sixth Annual Survey of Health Information Exchange*, as well as organizations from the 2008 Survey who did not report this year but have been identified by as still functioning health information exchange efforts. Organizations who did not report in 2009 are italicized. More information about these initiatives, including full descriptions, websites, and stage of development are available on the eHI website at www.ehealthinitiative.org.

Note: This is not a complete list. Some organizations requested that their information not be released.

Alaska

- Alaska eHealth Network
- Alaska Native Tribal Health Consortium, Anchorage

Alabama

- Montgomery Area Wellness Coalition (formerly Mid-Alabama Information Network (MAIN)), Montgomery

Arizona

- Arizona Community Partners Health Information Exchanges, Marana
- Arizona Government Information Technology Agency (GITA), Phoenix
- *Arizona Health-e Connection, Phoenix*
- Arizona Medical Information Exchange (AMIE), Phoenix
- Arizona Rural Community Health Information Exchange (ARCHIE), Bisbee
- *Arizona Rural Hospital Flexibility Program, Tucson*
- Marana Health Center, Marana
- Yuma Regional Medical Center, Yuma

Arkansas

- *Arkansas Foundation for Medical Care, Little Rock*

California

- California Regional Health Information Organization (CalRHIO), San Francisco
- East Kern County Integrated Technology Association (EKCITA), Valencia
- *Fresno Healthy Communities Access Partners, Fresno*
- *Health-e-LA, City of Industry*
- L.A. Care Health Plan, Los Angeles
- Los Angeles County Disease Surveillance, Los Angeles
- *Northern Sierra Rural Health Network, Nevada City*
- Redwood MedNet, Ukiah
- Santa Cruz County Health Information Exchange, Santa Cruz

Colorado

- *Colorado Regional Health Information Organization (CORHIO), Denver*
- Peak Vista Community Health Centers, Colorado Springs
- Quality Health Network, Grand Junction
- SynapticHealth, Greenwood Village

Connecticut

- eHealth Connecticut, Inc., Hartford

Delaware

- Delaware Health Information Network (DHIN), Lewes

District of Columbia

- Children's IQ Network
- DC Primary Care Association

Florida

- Agency for Health Care Administration, Tallahassee
- Big Bend RHIO, Tallahassee
- Central Florida Regional Health Information Organization, Inc. (CFRHIO), Orlando
- Greater Ocala Health Information Trust, Ocala
- Hillsborough Health Care Coalition, Tampa
- Northwest Florida Regional Health Information Organization (NWFL-RHIO), Pensacola
- Tampa Bay RHIO, Tampa

Georgia

- Ear, Nose and Throat of Georgia, Atlanta
- Georgia Department of Community Health Office of Health Information Technology and Transparency, Atlanta

Hawaii

- Quality Healthcare Alliance, Honolulu

Idaho

- Idaho Health Data Exchange, Boise
- *North Idaho Rural Health Consortium, Couer d'Alene*

Illinois

- *Association of Community Mental Health Authorities of Illinois Local Funds Initiative, Urbana*

Indiana

- HealthLINC (formerly Bloomington eHealth Collaborative), Bloomington
- Indiana Health Information Exchange, Indianapolis
- Michiana Health Information Network, South Bend

Iowa

- Iowa HIT Advisory Council Member Representing Consumers, Ankeny
- Iowa e-Health Project, Des Moines

Kansas

- *Kansas Health Policy Authority (KHPA), Topeka*

Louisiana

- *Blue Cross Blue Shield Louisiana, Baton Rouge*
- Louisiana Health Information Exchange, Baton Rouge
- Louisiana Rural Health Information Exchange (LARHIX), Pride

Maine

- *HealthInfoNet, Manchester*

Maryland

- Chesapeake Regional Information System for out Patients (CRISP), Columbia
- LifeBridge Health and St. Agnes Hospital, Baltimore
- *Metro DC Health Information eXchange (MeDHIX), Silver Spring*
- Universata, Inc., Germantown

Massachusetts

- MA-SHARE, LLC, Waltham
- Massachusetts eHealth Collaborative, Waltham
- Massachusetts Health Data Consortium, Waltham
- Masspro, Waltham
- New England Healthcare EDI Network (NEHEN), Waltham
- SAFEHealth, Worcester

Michigan

- Ann Arbor Area Health Information Exchange, LLC, Ypsilanti
- Capital Area Regional Health Information Organization, Okemos
- *Greater Flint Health Coalition Regional Health Information Exchange Planning Project, Flint*
- HealthCurrent, Ann Arbor
- Michigan Health Information Network (Michigan Department of Community Health and Michigan Department of Information Technology), Lansing
- Newberry Hospital, Newberry
- Southeast Michigan Initiative, Detroit

Minnesota

- Courage Center, Minneapolis
- HIEBridge, Duluth
- Minnesota e-Health Initiative, St. Paul
- Minnesota Health Information Exchange (formerly MN eHealth Collaborative) St. Paul

Mississippi

- Mississippi Coastal Health Information Exchange, Ridgeland
- *Pegasus Health Information Exchange, Jackson*

Missouri

- CareEntrust, Kansas City
- *KC CareLink, Kansas City*
- *Missouri Department of Health and Senior Services, Jefferson City*
- St. Louis Integrated Health Network (IHN), St. Louis

Montana

- *HealthShare, Helena*
- Montana Frontier Healthcare Network & Northwest EHR Collaborative, Inc., Anaconda

Nebraska

- *Western Nebraska Health Information Exchange, Lincoln*

Nevada

- WorldDoc Charitable Education and Research Foundation, Inc., Las Vegas

New Hampshire

- New Hampshire Citizens Health Initiative, Bow

New Jersey

- SAFE–BioPharma Association, Fort Lee

New Mexico

- LovelaceClinic Foundation/New Mexico Health Information Collaborative (LCF/NMHIC), Albuquerque
- *New Mexico Medical Review Foundation, Albuquerque*

New York

- Bronx Regional Health Information Organization (Bronx RHIO), Bronx
- Brooklyn Health Information Exchange (BHIX), Brooklyn
- *e-Health Network of Long Island, East Setauket*
- Greater Rochester RHIO, Rochester
- GRIPA Connect Clinical Integration, Rochester
- Health Advancement Collaborative of Central New York, Syracuse
- Healthcare Information XChange of NY, Clifton Park
- HEALTHeLINK - The Clinical Information Exchange for Western New York, Buffalo
- Interboro Regional Health Information Organization, Elmhurst
- New York Clinical Information Exchange (NYCLIX), New York City
- *New York eHealth Collaborative, New York*
- Salud Medical P.C., New York City
- United Care Group, New York City
- United Health Services, Johnson City

North Carolina

- NCHICA (North Carolina Healthcare Information and Communications Alliance, Inc.), Research Triangle Park
- *Southern Piedmont Health Information Exchange North Carolina Health Information Exchange, Kannapolis*
- WNC Data Link, Asheville

North Dakota

- *North Dakota HIT Steering Committee, Grand Forks*

Ohio

- *Alcohol & Drug Addiction Services Board of Cuyahoga County, Cleveland*
- HealthBridge Cincinnati
- *HealthLink RHIO Wright State University Center for Healthy Communities, Dayton*
- *Health Policy Institute of Ohio, Columbus*
- Northeast Ohio Regional Health Information Organization (NEO RHIO), Munroe Falls
- Patient Information Network—Independent Hospital Network RHIO, Canton
- Secure Medical Records, Tahlequah

Oklahoma

- Citizen Potawatomi Nation Health Services, Shawnee

Oregon

- Mid Rogue Foundation, Grants Pass
- OCHIN, Inc., Portland
- *Oregon & SW Washington Healthcare, Privacy & Security Forum, Portland*
- Salem Area Community Health Information Exchange, Salem

Pennsylvania

- Excelsa Health Physician Practices, Saltsburg
- Keystone Health Information Exchange, Dansville
- Pennsylvania eHealth Initiative, Harrisburg

Puerto Rico

- Puerto Rico Health Information Network (PRHIN), San Juan

Rhode Island

- *Blue Cross Blue Shield Rhode Island, Providence*
- Rhode Island Quality Institute, Providence

South Carolina

- *Electronic Health Network, LLC, Charleston*
- Foothills Health Information Network Seneca
- Lakelands Rural Health Network, Greenwood

South Dakota

- South Dakota Department of Health eHealth Collaborative, Pierre

Tennessee

- CareSpark, Kingsport
- Middle Tennessee eHealth Connect, Nashville
- MidSouth eHealth Alliance, Nashville
- Shared Health, Inc., Chattanooga
- State of Tennessee, Office of eHealth Initiatives, Nashville

Texas

- CriticalConnection, Inc., Austin
- Harris County Healthcare Alliance, Houston
- Healthcare Access, San Antonio
- Integrated Care Collaboration, Austin
- *Texas Department of State Health Services, Austin*

Utah

- Utah Health Information Network, Murray

Vermont

- Vermont Information Technology Leaders, Montpelier

Virginia

- MedVirginia, Richmond
- *Northern Virginia Regional Health Information Organization (NVRHIO), McLean*

Washington

- Community Choice Health Record Bank, Cashmere
- Franciscan Health, Tacoma
- Inland Northwest Health Services, Spokane
- South Sound Health Communication Network, Tacoma
- *Washington State Health Care Authority (Health Record Banks project), Olympia*
- Whatcom Health Information Network, LLC, Bellingham

West Virginia

- West Virginia Health Information Network, Charleston

Wisconsin

- *Marshfield Clinic TeleHealth, Marshfield*
- *Wisconsin eHealth Initiative, Madison*
- Wisconsin Health Information Exchange, Mequon
- Wisconsin Primary Health Care Association, Madison

Wyoming

- Wyoming Health Information Organization, Cheyenne

Methodology

The 2009 *Sixth Annual Survey of Health Information Exchange* was launched on May 18th, 2009. Announcement of the survey was communicated through newsletters, mailing lists, and meetings to a wide range of audiences in order to elicit responses from national, state, regional, and community-based initiatives working on health information exchange.

Three-hundred forty-four individuals initially responded to the survey. Each response was reviewed carefully, and significantly incomplete responses, duplicates, or responses from organizations not directly involved with health information exchange were excluded. Responses to the survey were self-reported by participants. While responses were reviewed by eHI staff for reasonableness, in most cases they were not verified. After review, a total of 150 initiatives were included in results.

Repeated attempts were made to contact all of the organizations who participated in the 2007 and 2008 *Annual Surveys of Health Information Exchange*. Personal emails were sent to individuals listed as organizational contacts, and follow-up phone calls were made to organizations that did not respond prior to the survey completion deadline. Fifty-four organizations who participated in 2008 did not complete this year's survey. Of those, eHI staff was able to verify that at least 43 continue to pursue health information exchange efforts, and an additional four are in existence though their current efforts were not clear. Of the five operational initiatives that responded in 2008 but not in 2009, eHI has been able to ascertain that all five are still pursuing health information exchange efforts. eHI was unable to ascertain the current status of six organizations that reported in 2008.

Participants were offered a \$10 Starbucks Card as an incentive to take the time to participate in and complete the Survey in its entirety.

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