

Multiple Value Propositions of Health Information Exchange

The entire healthcare system in the United States is undergoing a major transformation. It is moving from a provider-centric system to a consumer/patient-centric system. Three demographic trends are major drivers of this transformation. First, as the baby boomer generation ages they are already demanding more control over the delivery of their healthcare. Second, every generation is becoming more technologically savvy than ever before and is able to use technology to satisfy its personal wants and needs. Finally, the advent and growth of Health Information Exchange (HIE) provides the enabling tools consumers/patients need to assume more control over their health information and planning.

The benefits from HIE encompass a wide variety of goals and people. Ultimately health information exchange will enable improvements in the quality of health care and achieve a reduction in cost.

HIE directly supports these goals through making all relevant information available to the physician and the patient at the point of care. Coupled with decision support capabilities, this change alone has been shown to reduce medical errors. Knowing that the patient has recently had laboratory or imaging tests done and having their results available can dramatically reduce the amount of redundant and time consuming additional testing.

Today, a large portion of the work in health care is devoted to chasing paper. The resources used could be better used and redirected toward patient education or chronic disease management if all patient information is available when needed. Phone calls between physician offices and pharmacies or labs could be dramatically reduced if prescriptions were easily read and lab results readily available.

Public health departments have much to gain from ready access to electronic health information. For example, disease outbreaks could be detected and contained sooner.

With improved health information availability through electronic health information exchange we could see the implementation of a health care system where:

- Healthcare providers could expand their current focus on episodic, acute care to encompass the enhanced management of chronic diseases and the life-long prediction and prevention of illness
- Payors and health plans could help consumers remain healthy, get more value from the healthcare system, and assist care delivery organizations and clinicians in delivering higher value healthcare
- Consumers could assume personal responsibility for their health and for maximizing the value they receive from a transformed healthcare system

In fact, each sector of the healthcare industry has its own, unique value proposition. A value proposition simply defines what someone perceives as their direct benefit from proactive participation in HIE and a local RHIO. Understanding the value proposition that will motivate the various stakeholders to join a RHIO is a necessary component of your design. Satisfying these different value propositions so each stakeholder sees exactly how they will directly benefit by joining your RHIO is a certain path to success.

Value Propositions

There are three value propositions that seem relevant to all stakeholders regardless of their particular position in the healthcare system:

A Shift to Consumer Driven Healthcare

In 2004, President Bush signed an order that each person in the United States will have a personal health record by 2014. Although HIE development has been in process for several years, this Executive Order can be seen as the beginning point in the transformation of healthcare delivery in the United States. HIE activity is taking place in many states. Corporate giants such as Microsoft and Google are now introducing personal health records for consumers. It is simply a matter of time before consumers, instead of payors, are directly participating in, if not controlling their own health care. At that point the entire system becomes consumer/patient-centric. As with any transformative process, the early adopters will gain the most benefits and have the greatest ability to shape the future.

Opportunity for Improving Overall Healthcare Quality

With a fully implemented HIE system across the country, the overall quality of healthcare will rise. Recent studies indicate over 98,000 patients die each year due to clerical medical errors and more than 1,000,000 serious medication errors occur annually. The United States spends nearly twice as much per capita as any other nation and ranks only 39th in the developed world in overall healthcare quality. HIE can and will address and reduce many of these problems and generally improve the delivery of healthcare. In addition, quality improvements can also be expected through:

- Patient-specific information availability at the point of care to improve the quality of treatment
- Healthcare improvements for the underserved and uninsured populations

An Ability to Enhance Healthcare System Efficiency

Recent studies have estimated that \$100 billion per year is spent on redundant treatments and mistakes. Given the rapid rise in healthcare expenditures (15% of GDP rising to 19% by 2015), HIE can deliver better accuracy for lower costs and help restrain the growth of healthcare expenditures for everyone. Some of the efficiencies gained from HIE include:

- Patients can get enhanced services through e-visits, reminders, scheduling, prescription refills, and many other services now requiring timely and costly provider visits.
- Patients and providers can receive their lab and imaging results online for real-time care and greater efficiency.
- Patients and providers have new capabilities to collaborate with shared case management tools, identification of best practices and consultation with experts worldwide.

Stakeholder benefits by sector

In addition to these three general benefits everyone receives, each separate sector in the healthcare system accrues benefits that are somewhat unique to that sector. While some of the benefits described below are shared by various sectors, they provide the greatest benefits to those sectors where they are described.

A. **Consumers**

1. Improved Quality

Consumers/patients will enjoy better healthcare as HIE become available. In addition to the general benefits described above, consumers/patients will be able to:

- Eliminate repetitive forms and explanations about health history
- Have their medical history available to them and their provider wherever they are and whenever they need it
- Have their critical health information immediately available to them in times of emergency
- Reduce unnecessary and/or duplicate drugs, tests and/or visits
- Have their health records protected in times of natural disaster

2. Lower Costs

More and more employers and third party health care insurers are requiring consumers to share a larger portion of the cost for their health care. The percentage of the insurance premium that the consumer is now required to bear is increasing every year as is the out-of-pocket deductible. As our health care costs continue to rise, so will the amount each individual is required to pay. By moving to health information exchange and significantly reducing the amount of duplication and inefficiency in our system, we can begin the process to lower the costs borne by each individual.

B. **Hospitals**

1. Competitive advantage

Given that HIE is coming to every community, hospitals can gain a distinct advantage by leading the transformation to HIE. Consumers are increasingly aware of hospitals that can provide them with their healthcare information electronically and will choose hospitals based on their ability to provide this level of service. In addition, hospitals adopting HIE are looking forward to an electronic future where they can connect with patients in a variety of new ways and offer a variety of new services.

2. Higher profitability

In a study done by the Southern Arizona Health Information Exchange (SAHIE), the participating hospitals are projected to realize a net positive cash flow in only 2.3 years. Over their ten year financial projection, their overall return on investment would be in excess of 117%.

C. **Physicians**

1. Improved Service

Physicians will see a level of improved service for their patients. On-line scheduling, the reduction of faxing and copying of records, and capturing the patient's medical history are benefits for the patient as well as for the physician. Shorter wait times, faster lab and imaging results and e-prescribing are service improvements awaiting physicians who adopt HIE quickly. These physicians will have additional time for clinical interaction with each patient, as well as time to see more patients per day.

2. Enhanced Profitability

There are numerous opportunities for the physicians to benefit from the use of HIE. Many activities that improve levels of service also lead directly to enhanced profitability. In one study, the reduction in paperwork associated with faxing and copying alone amounted to a savings of \$.71 per document. For an office copying patient records, sending and receiving faxes, and

couriering lab and image results between locations, the savings can be substantial. In addition, there are monetary and time savings in the faster processing of insurance claims.

D. **Communities**

1. Economic Competiveness

In almost every survey of "Great Places to Live/Work," the quality of medical care is one of the key factors in rating and comparing communities. The ability to attract and retain the best and the brightest providers in any community is a distinct advantage and will lead to higher ratings. Companies that are looking to relocate or expand consider this factor in choosing communities. HIE is one major tool to upgrading the quality of care in any community.

In addition, recent medical school graduates are already technology competent when they enter the workforce and have an expectation of operating in an electronic environment. Communities that are well along the HIE path have a clear advantage when recruiting the highest quality providers to their area.

2. Better Healthcare

The ability to recruit the best and the brightest leads to higher quality care. Both primary and acute care providers prefer to be in an environment where they can interact with and have access to specialists with a variety of skills and competencies. When a community has good provider talent, it will tend to attract more and better provider talent. Having more provider capabilities in a community gives that community the ability to provide better health care. Success breeds success.

E. **Payors**

1. Lower Costs

Payors are often forgotten as a key stakeholder in early RHIO formation activities. However, their support and inclusion is important as an organizational achievement. Payors benefit from the improved efficiency and the avoidance of redundant tests that result from EHR adoption and HIE. This efficiency and improved operation has a significant financial impact as well. It has been estimated that payors could save over \$20 billion annually.

The benefits are not just about money. Payors would benefit from comparative performance reports on the quality of care delivered by providers in the community. This is true particularly at the individual provider level and for measures that have significant actuarial importance and are difficult to gather without going through medical records

F. **Labs and Imaging**

1. Higher Profitability

The current process of copying and faxing results, used by so many labs and imaging entities is expensive. Most of the major labs and imaging centers already have the patients' results in an electronic format. Duplicating and distributing results to the primary care providers adds expense. Reducing duplications and transmitting results electronically yields savings to both the sender and the receiver of the information.

2. Better Customer Service

Reducing the faxing and couriering of results between the lab/imaging entity and the primary care provider will provide better service. Results can be reported more quickly and more accurately using HIE. Receiving results sooner reduces patient anxiety and is likely to increase satisfaction for both patients and healthcare providers.

G. **Employers**

1. Healthier Employees

HIE provides the tool for improved healthcare for all consumers/patients. As described in the benefits of the other sectors, improvements in the delivery of healthcare outcomes results in an overall improvement in the general health of the population. Employers directly benefit by having healthier employees who are more productive and lose less work time to illness.

2. Competitive Advantage

HIE is an advantage to employers who can provide HIE. Particularly with younger workers entering the workforce, expectations for having control over their own healthcare are high. They are capable of using HIE to promote healthier lifestyles and to gain control over their own care. Employers providing HIE for their employees will have an advantage when it comes to recruiting and retaining top level talent.

3. Lower Healthcare Costs

It is reasonable to expect employers to enjoy the benefits of lower healthcare costs based on the improvements brought about by HIE. As described in this report for many of the other sectors, HIE will reduce the overall costs of healthcare. Lower healthcare costs will eventually result in lower healthcare premium costs to employers. Employers, one of the main funders of the healthcare system, will see a direct correlation between their costs and improvements in care.

H. **Government**

1. Reduced costs

Government is one of the major payors, users, and regulators of the healthcare system. Moving to HIE can directly reduce the overall cost of government spending on healthcare. The government benefits from both reduced costs as well as from a healthy population.

2. Better Responsiveness to Medical Crisis (bioterrorism, pandemic, epidemic)

Government has a critical role to play in dealing with a variety of medical crises/events that may occur in any community. In controlling the rapid spread of a contagious disease and/or dealing with bioterrorism, immediate access to key information is critical to a quick and decisive response. HIE provides exactly the type of speed and accuracy needed to respond to a public health crisis.