

# Health information exchange

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In 1990 Hartford Foundation funds, “ CommunityHealthManagement Information Systems. ” They gave grants to seven states and cities to develop those early prototype HIE’s. HIE focuses on quality assessments and cost reduction by streamlining patient eligibility information for billing. The problems of HIE are immature technology including slow internet connections and data integration. By the mid 1990’s Community Health Information Networks focused on cost savings associated with moving data between providers, decentralized architecture to address privacy concerns.

Most CHIN’s failed at this. Between 1990-2001 the Institute of Medicine reports on patient safety and quality. In 2005 HIE Networks’ principals Dr. Dan Kaelin and Allen Byington establish the Big Bend Regional Healthcare Information Organization and form a board of directors comprised of industry leaders in the North Florida healthcare field. BBRHIO is awarded \$810, 375 in grant funding from the Agency for Health Care Administration FHIN Grants Program, plus stakeholders donate over \$1 million of in-kind products and services to develop a community health information exchange in 2006.

Also in 2006 the BBRHIO board completes an extensive RFP process to find a local-provider-driven HIE solution. The subsequent national vendor search produced no viable off-the-self products and Avocare is contracted to develop customized software for the HIE infrastructure. The following year 2007, BBRHIO launches BigBendHealth. com, a secure website with live data feeds from physicians and hospitals to be used by credentialed health care providers to share patient records and communicate electronically. More than 200 credentialed users connect to the site.

Secure e-communication tools - including electronic referrals, secure messaging and document publishing - are integrated into BigBendHealth.com, greatly reducing community healthcare providers' reliance on phones, fax machines and mail communications. In 2009 BBRHIO hires a lobbyist and works with the Florida Hospital Association and the Florida Medical Association to represent the position of local-provider-driven exchanges. The voices of the healthcare providers are heard, preventing detrimental legislation while encouraging support for a network of connected, local-provider-driven exchanges across the state.

" Capitalizing on the success of BBRHIO, HIE stakeholders expand and build out technical infrastructure to prepare for large-scale operations and partners with Uber Operations, LLC for highly-experienced, interfacing personnel resources. "(2). Additional customers are added by a contract with the Gulf Coast Health Information Exchange, based out of Bradenton, Florida in 2010. In 2011 HIE Networks, LLC is created to manage the technical, social, legal, and security aspects of HIE under one management team to replicate the success of BBRHIO and offer provider-driven health information exchange at the local and regional levels across the nation.

Health information exchange, enabling the interoperability of automated health data, can facilitate important improvements in healthcare quality and efficiency, according to a perspective paper published in the September edition of the Journal of the American Medical Informatics Association. Gilad J. Kuperman, MD, PhD, from the department of information systems at New York-Presbyterian Hospital in New York City, sought to describe how

interoperability activities have unfolded over the last decade and how recent initiatives are likely to affect the directions and benefits of HIE.

In the 1980s and 1990s, such leading healthcare organizations as Intermountain HealthCare, Partners HealthCare, and Wishard Memorial Hospital began to demonstrate the quality and efficiency potential of EHRs. “ However, even in the midst of those successes, it became clear that there are key healthcare problems that ‘ siloed’ EHRs do not solve. Examples of problems that could only be addressed by interoperability included support for the patient across transitions of care, the ability to perform longitudinal analyses of care and public-health needs. ” (3).

Taking a tour through the ages, Kuperman focused a great deal of attention on the Direct Project. “ The constrained information flows supported by Direct and other push models of HIE leverage existing privacy frameworks,”(1). Kuperman wrote. “ The Office of the National Coordinator for Health IT Privacy and Security Tiger Team recently recommended that for Stage 1 meaningful use, directed exchange of health information for treatment should not require patient consent beyond what is required to make a disability determination law or has been customary practice.”

Federal privacy guidelines for more complicated models of HIE, for example, retrieving a patient's health data from multiple sources with a single query, have yet to be created,”(1), the author added. A push model, such as Direct, avoids problems that arise when trying to integrate a patient's data across a community. “ Most notably, it is not necessary to link a patient's identifiers across systems before data can be transferred. The cost and complexity of

developing a record locator service, as well as developing privacy policies to support the retrieval of data from multiple sources, can be avoided.

An inbound message is linked to a particular patient file by the message recipient, and the linking may be done manually,"(3). Kuperman wrote. Implementation of Direct services may present some pragmatic challenges as well. " From a policy perspective, an interesting question is: What proportion of the problems that HIE was intended to solve would the Direct Project solve? "(3). Kuperman posed. " From an informatics perspective, the Direct Project offers a model of HIE that is more constrained than models that involve record locator services. " (2).

However, Kuperman admitted that the Direct Project is recent and the vision emerged in early 2010. Thus, there is much to be learned about the technical, policy, privacy, security and business aspects of this approach to interoperability as well as the clinical problems that it will solve. " Direct has a strong chance of being an important step forward. It remains to be seen how much of the interoperability problem it will solve and what other components are needed to meet the interoperability needs of clinicians, the needs of the healthcare reform program, and the vision of interoperability that was laid out over a decade ago,"(1). they concluded.

Using the health information exchange (HIE) provides a number of benefits for healthcare providers and their patients. This is a list of some of the benefits: Immediate access to valued clinical information like prescription medication history Access to information collected from health care providers across Maine Quicker and more informed treatment decision-

making Enhanced coordination of care Fewer medical errors and improved patient safety.

More secure than sharing paper records Opportunities for cost reduction through work flow redesign Faster identification of public health threats Functionality that supports meeting stage one meaningful use criteria Lays foundation for the Medical Home and Accountable Care Organization. Provides a vehicle for improving quality and safety of patient care by reducing medication and medical errors Stimulates consumer education and patients' involvement in their own health care Increases efficiency by eliminating unnecessary paperwork.

Provides caregivers with clinical decision support tools for more effective care and treatment Eliminates redundant or unnecessary testing Improves public health reporting and monitoring Creates a potential loop for feedback between health-related research and actual practice Facilitates efficient deployment of emerging technology and health care services Provides the backbone of technical infrastructure for leverage by national and State-level initiatives Provides a basic level of interoperability among electronic health records (EHRs) maintained by individual physicians and organizations Reduces health related costs.

Electronic health information systems can help prevent errors by ensuring that everyone involved in a patient's care—whether in a primary care setting, a specialists' office or emergency department—has access to the same information. HIE also encourages efficient care by enabling automatic appointment reminders or follow-up instructions to be sent directly to patients, and prescriptions directly to pharmacies.

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HIE reduces the amount of time patients spend filling out paperwork and briefing their providers on their medical history, allowing more time for discussions about health concerns and treatments. And by saving time for patients and providers along the entire continuum of health care delivery, HIE has the potential to both reduce costs and improve health outcomes. Ensuring privacy and security of health information, including information in electronic health records, is a key component to building the trust required to realize the potential benefits of electronic health information exchange.

If individuals and other participants in a network lack trust in electronic exchange of information due to perceived or actual risks to electronic health information or the accuracy and completeness of such information, it may affect their willingness to disclose necessary health information and could have life-threatening consequences. While current law sets rules for how health care entities may collect, use, and share health information, the policy brief identifies gaps in the law that should be addressed.

Among other things, the brief notes that accountability for compliance with federal and state health privacy and security protections should be strengthened; laws that protect electronic health data should be reassessed to ensure they address new security challenges and incorporate technological innovations such as encryption; and penalties should be established for unauthorized re-identification of de-identified health data.

“ Building enhanced privacy and security into electronic health systems will bolster public trust and foster increased use and appropriate sharing of patient data. ”(1) The federal government recently launched an ambitious program to build a nationwide electronic health information exchange

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system. Numerous studies have demonstrated that electronic health information exchange can improve the quality, safety, and efficiency of health care, as well as decision making and care coordination among patients, doctors, and other caregivers.