



Overview

Background:

NMHIC launched an HIE in 2004; now, ONC approval of the state's HIE Strategic and Operational Plans is helping speed the implementation of a state-wide network.

Challenge:

The new state-wide HIE must double in size, while also supporting a connected online clinician portal and integration with the NHIN.

Solution:

Using IBM® Initiate® Patient, NMHIC is creating unified views of patients across multiple disparate systems to expand its patient-centric Health Information Exchange (HIE) and has set an example for other states.

New Mexico Health Information Collaborative Expands HIE Statewide, Sets Standard for Strategic & Operational Plans

New Mexico Health Information Collaborative

The New Mexico Health Information Collaborative (NMHIC), a regional health information exchange staffed and operated by LCF Research, was the first state-designated entity to gain approval, and \$7M in implementation funding from the Office of the National Coordinator (ONC) for its strategic and operational plan for statewide health information exchange (HIE). Since beginning work in 2004, based on a grant from the Agency for Healthcare Research and Quality, NMHIC has consistently demonstrated successful interoperability and information exchange with multiple entities throughout New Mexico, and is expected to double in size as the statewide HIE.

Challenges and Roadblocks

For any HIE to be effective, it must have multiple participants and high quality data to share. Recognizing this, the leaders at LCF Research focused their attention on aggregating data from the largest healthcare organizations in the state including; Presbyterian Healthcare Services, TriCore Reference Laboratories and rural Holy Cross Hospital in Taos. As part of their initial HIE infrastructure, LCF Research developed a publicly available master person index (MPI) based on deterministic (if-then logic) to match patient records from the contributing systems. They quickly realized the need for a more sophisticated and robust MPI, based on probabilistic technology, to support the complexity of linking patient information together from disparate systems and to support the requirements of their participation in the Nationwide Health Information Network Trial Implementation project.

To expand NMHIC's HIE from a regional to a statewide entity—reaching every provider in New Mexico—the MPI must take on almost a million new unique identities from an even greater variety of sources.

Finally, concerns around data governance and patient privacy are front and center. David Perry, Chief Information Officer for LCF points out, “Of great concern is protecting privacy and security...Providers are reluctant to relinquish ownership of the data or share information for fear of creating security vulnerabilities of the data they are responsible for protecting.”



New Mexico considers an MPI to be “the most important resource in an HIE, because it is the link for positively tracking patient, person or member activity within an organization, across organizations and across patient care settings.”

New Mexico Health Information Exchange
Strategic and Operational Plans

Solution

NMHIC’s relationship with IBM dates back to 2007, when the organization received its first ONC grant. IBM® Initiate® Patient was adopted in 2007 as the master person index (MPI) supporting the regional HIE. Because of its high reliability, accuracy and scalability, IBM Initiate Patient has been extended to support NMHIC’s statewide initiative.

IBM Initiate Patient creates a unified view of patients across multiple sources to enable effective health information exchange among the various HIE participants. NMHIC chose the IBM MPI for the following reasons:

- **Improved matching:** Prior to 2007, NMHIC used an internally developed MPI based on publicly available MPI algorithms using deterministic matching logic. IBM Initiate Patient is built on a statistics based or probabilistic algorithm that delivers improved matching and less maintenance as well as more flexibility to integrate additional demographic elements as required.
- **Real-time searching:** IBM Initiate Patient matches patient data as it is introduced to the HIE and at the point of need, when a registrar or clinician searches for information.
- **Scalability:** To support statewide health information exchange across multiple providers, NMHIC will almost double in size growing from 1.3 million to 2 million people being managed on the network. IBM Initiate Patient is scalable to support this growth while providing the same level of accuracy and real-time service for patient identification.
- **Federated Data Governance:** NMHIC has created a patient-centric HIE supported by a federated structure with distributed data governance. Data is securely shared but not stored in a central location. Participating providers retain ownership and control of their data. This structure helps NMHIC address security and privacy concerns and increase participation.

Results

As of July 2010, NMHIC is well on its way to completing the HIE expansion, creating a complete network of trusted patient information for physicians and health systems. The IBM Initiate Patient MPI is helping NMHIC achieve multiple information sharing objectives including:

- **Collaborating across the State:** Providing notifiable lab results and Emergency Department (ED) data to the New Mexico Department of Health.
- **Demonstrating standards-compliance:** Demonstrated standardized information sharing at the 2008 NHIN Trials and currently participating with the Social Security Administration to provide standardized data for processing disability applications.
- **Exchanging clinical information:** Creating and sharing summary patient records including lab results, emergency responder information & reportable conditions.

Future Opportunities

A critical step to a truly successful HIE is information sharing—allowing a patient’s health care record to follow them wherever they go, be it regional, national, the local pharmacy, or a rehabilitation facility across the state. An accurate and scalable master person index at the foundation is essential for achieving this goal.

As the state HIE infrastructure expands, so do the opportunities for information sharing including:

- **Clinician portal:** By accurately linking patient records across systems, IBM® Initiate® Patient supports creation of the summary patient record and clinical results delivery through the clinician portal.
- **Information sharing through the NHIN:** Accurately identifying the patient is required when connecting and sharing information with other organizations via the NHIN including other state HIEs and federal agencies like Social Security Administration (SSA), Centers for Medicaid Services (CMS), Veterans Administration (VA), and the Indian Health Service.
- **Information sharing with provider electronic health records (EHRs):** State Designated Entities (SDEs) are required to offer meaningful use options for every provider in the state. NMHIC intends to help providers comply with meaningful use requirements by populating results and other clinical information about a patient directly into a provider’s EHR.

To learn more about how IBM can help you solve your information management within health information exchange challenges, visit www.IBM.com/healthcare.

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