Interoperability Case Study: MiHIN (Michigan Health Information Network); July 2018

From a "Poke in the Arm" to Health System Transformation: The Michigan Experience

The following individuals from MiHIN were interviewed for this case study:

- Teresa Bailey, Onboarding Coordinator
- David Livesay, Director of Marketing and Communications
- Drew Murray, Pre-Onboarding Engagement Manager
- Lindsay Weeks, Production Manager
- Marty Woodruff, Associate Executive Director

Please also refer to the State of Michigan MiHIN Shared Services Strategic Plan for additional information.

Introduction

The Michigan Health Information Network Shared Services (MiHIN) is Michigan's state-designated entity to improve healthcare quality, efficiency and patient safety by sharing electronic health information statewide, helping reduce costs for patients, providers and payers. MiHIN is a nonprofit, public-private collaboration that includes stakeholders from the State of Michigan, health information exchanges serving Michigan, health systems and providers, health plans/payers, pharmacies and the Governor's Health Information Technology Commission.

MiHIN, founded in December 2010, administers the technical and business operations of Michigan's health information exchange activities under the direction of the Office of

the National Coordinator (ONC) for Health Information Technology's State Health Information Exchange Cooperative Agreement program. This program tasked MiHIN with ensuring effective technology and data models are in place for the electronic exchange of health information as well as with the creation of a shared governance model that provides the legal framework and policy infrastructure to safeguard and standardize the transfer of health information.

Background

The implementation of the Admission, Discharge, Transfer (ADT) Notification service gave MiHIN a boost early in its growth by opening the door to collaborative opportunities with the provider community. The provision of real-time ADT notifications enabled MiHIN to deliver value early and gain visibility. It also opened the door for MiHIN to engage stakeholder groups for an ever-expanding array of interoperability services.

This case study traces MiHIN's journey toward greater interoperability, from ADT notifications, which serve as a "poke in the arm" to let providers know something has happened with a patient, to the genesis of the Coordinating the Care Coordinators (CCC) project in Michigan.

The Coordinating the Care Coordinators project emerged from the recognition that care coordinators needed the same access to the benefits of ADT notifications as the provider community. A set of services working together drives the ADT notification process to support the patient-provider relationship. This process serves as a foundation for CCC.

Technical/Interoperability Approaches

Michigan's statewide health information network is "transport agnostic." In other words, MiHIN supports multiple different connectivity options and works with individual organizations to ensure they can send and receive messages in formats that meet their needs. MiHIN supports HL7 FHIR STU3 standards, RESTful APIs, Direct Secure Messaging, SOAP APIs, IHE, HL7 2.x and 3 standards and others.

According to David Livesay, Director of Marketing and Communications:

> Our interoperability approach is much more about convening the right stakeholders and working together towards common goals, establishing processes and standards that can support statewide information exchange and working towards a high level of message conformance to standards amongst participating organizations.

In an additional effort to remove burdens and accommodate the needs of ADT senders and receivers, MiHIN built a common gateway service that translates different messaging formats into others that meet the specifications of receiving systems.

MiHIN stays current with all the latest standards developments. They pilot an HL7 FHIR®-based, shared services interoperability test bed (the FHIR®-PIT) that participating organizations can use to test interoperability and explore FHIR®'s capabilities. MiHIN also continues to fully support all legacy integration technologies.

From the beginning, MiHIN has focused on partnerships with stakeholders and is addressing their needs. Although delivering value early in these relationships has been an important ingredient, the key to MiHIN's success is a dedicated commitment to a consensus-building approach, which is embedded both in the data-sharing use case development process and throughout the organizational culture.

The Michigan Primary Care Consortium, with support from MiHIN, convened a series of CCC workshops in 2017 and 2018 to document care coordination needs across Michigan. During these meetings, stakeholder groups shared their concerns and identified those areas that required the most stakeholder collaboration.

The workshops attracted more than 150 individuals from across the care continuum and from community-based organizations throughout the state. Workshops featured local care coordination solutions and sought to identify common ground across communities that an interoperable, statewide care coordination set of tools could address.

Movement toward solutions was gradual. Common problems required systematic sharing and iterative feedback loops. Conflicts between organizations and professional groups were resolved by focusing on everyone's insistence that the status quo is not working and that the needs of individuals seeking services are a priority.

The interoperability capabilities of each electronic health record (EHR) vendor vary widely. MiHIN has received consistent participation from many of the larger EHR vendors.

Outcomes/Approaches

The number of organizations that expressed interest in joining the MiHIN statewide-shared services infrastructure has been a useful gauge of initial acceptance.

Provider stories anecdotally express early indications of success, describing how individual patients have benefited by having their medical and social health needs met by the availability of accurate health information in real-time. The data generated from these early provider experiences also served as learning opportunities for how processes could lead to significant reductions in readmission rates and costs for these same patients.

MiHIN's goal with each project is to report once via a single, standard connection using a centralized, standard point of collection. For the ADT Notifications process that serves as the core support for the CCC project, MiHIN adopted an incremental approach to outcomes reporting as part of a more formal assessment strategy:

- In year one, it was important to establish and demonstrate the availability of patient data to participating organizations.
- In year two, assessment activities shifted to the development of a robust population-level reporting structure that solicited feedback from healthcare professionals. Hospitals use this feedback to better understand and inform decision-makers on how to incorporate ADT notifications into clinical workflows effectively.

Payers who onboard with MiHIN also receive conformance reports on a quarterly basis that use detailed metrics of data completeness, accuracy and adherence to coding standards. These reports, developed and generated by MiHIN, continue to play an integral role in ensuring that standards agreed upon by all participating organizations statewide are adhered to, and ultimately, lead to system improvements.

Quality Measure Reporting:

To assist with quality measure reporting, MiHIN has created an "All-Patient All-Payer file" and a "Gaps in Care Report."

- The "All-Patient All-Payer file" is a standardized set of quality data that participating organizations send to MiHIN. MiHIN then distributes the data to the appropriate health plans.
- Health plans analyze this data and produce "Gaps in Care Reports," detailing identified "gaps in care" (both open and closed). They send this report to MiHIN, which then distributes the report to participating organizations based on provider attribution. Providers can use this information to close gaps in care and improve quality scores.

Both files allow for one format and one location for physicians to send quality data, for payers to identify gaps in care and for physicians to close gaps in care.

Treatment/Clinical

Incorporation of interoperability into the clinical workflow was a key discussion point with stakeholders when building the ADT Notification service. The first step toward workflow integration was to achieve a broad level of consensus on the information that providers want to view in their ADT notifications.

Next, MiHIN was able to identify the necessary tools to offer consistent, actionable information for consumption by native EHR systems. Because workflows vary considerably across care settings, it became evident that some ADT information did not require EHR integration. In these cases, MiHIN worked to make the information available via a portal or embedded as a URL within the EHR user interface.

MiHIN worked both with the payers and hospitals to ensure that ADTs were incorporated into existing workflow processes. Once payers started aligning incentives to this care coordination process, all members of the care team had a reason to get involved early

in a patient's transitions of care. This was a turning point which triggered a change in workflow from reactive action with significant lag from a health event to a proactive approach conducted in near real-time. Care coordinators and care managers are able to help plan post-discharge care while a patient is still in the hospital or care facility.

Cost/Budget

MiHIN currently self-funds the CCC Project. The increasing number of organizations signing up for the project and associated services, and the volume of messages from participating organizations provides a measure of return on investment (ROI).

Challenges

The most significant barrier encountered during the CCC workshops was shifting the conversation from debating past events to focusing on a positive vision for the future of Michigan. MiHIN continues to work with partners to reorient thinking to what is possible.

Change Management

MiHIN manages change in the CCC Project by listening to stakeholder experiences and their views on the status quo. Only when MiHIN believes that individuals understand why a statewide solution is needed do they offer interoperable solutions. The change management philosophy at MiHIN is to listen to what brings value, then move one step at a time to build consensus. MiHIN is now testing how well their solution to common needs reflects what stakeholders have indicated they need to address their concerns.

For the foundational ADT Notification service, a team of onboarding coordinators at MiHIN works with ADT senders and receivers to resolve errors identified in conformance reports. For example, if a payer identifies a questionable data element that originated within a hospital, the system contacts MiHIN and generates a Help Desk ticket. A member of the MiHIN team then contacts the transmitting hospital and helps the facility work through the change process by providing the support necessary to change or add fields in the ADT notification. MiHIN provides timely customer feedback until the problem is resolved.

Lessons Learned

MiHIN takes pride in its iterative development process of soliciting business requirements from stakeholders, moving forward with technical design and implementing the functionality of the interoperability solution. The development process itself is the object of continuous improvement.

MiHIN advises health information exchanges (HIEs) undertaking similar efforts to learn the capabilities of different EHRs to support interoperability. Doing so at the requirements analysis stage reduces the stress associated with implementation down the road. HIEs

have a critical role to play by fostering conversations between organizations that will lead to the identification of potential implementation hurdles early in the process.

In closing, Drew Murray, Pre-Onboarding Engagement Manager had this to say:

> "The environment in Michigan consists of a lot of wonderfully collaborative people. It is a big giant group effort. We serve in that neutral ground where people can safely get together and have conversations. We love facilitating those conversations and obviously we have the agenda of trying to get the information flowing. There are a lot of different groups that have worked and committed themselves and made some sacrifices to get this working in Michigan. It's absolutely not all about MiHIN. It's a really wonderful, collaborative environment in the state."

Acknowledgements

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