

3 General Components

3.1 Environmental Scan

Health Information Exchange (HIE) is advancing throughout Michigan in various forms with a wide array of functionality. The State of Michigan government has advanced public health reporting systems, health systems are moving information electronically to users, provider offices in Michigan are utilizing portal technologies, Electronic Health Records (EHRs) and are utilizing the services of sub-state HIEs.

An analysis of Michigan's HIT and HIE environment was conducted in the fall of 2009 in two phases. First, with the use of a survey instrument, 32 health systems, hospitals, public health, behavioral health, physician offices and other healthcare delivery entities were assessed. Approximately 63 percent of those responding reported HIE to be one of the top five organizational priorities and 57 percent are or are planning to participate in a sub-state HIE. An overwhelming 90 percent of respondents reported that they plan to participate in the Medicare and Medicaid EHR Incentive Programs. A very high level analysis of technical capabilities showed that 57 percent of respondents were utilizing a Certification Commission for HIT (CCHIT) certified EHR. Nearly 64 percent of respondents indicated use of e-prescribing functionality.

The second phase analysis included a detailed technical assessment sent to 27 organizations. The recipients were identified through both the results of the first survey and subsequent follow – up interviews. Included were a diverse set of organization types (providers, payers, sub-state HIEs, public agencies) and geographic locations, while including organizations serving as much of the population as possible. The response pattern was consistent with the first survey's finding and determined that the majority of Michigan's health information exchange capability resides in collaboration with Michigan's hospitals and health systems.

The details of this analysis are noted in the following "readiness" sections.

3.1.1 Clinical System HIE Readiness

MDCH awarded planning grants to seven organizations in 2007 and 2008. These initiatives have been focused on convening stakeholders to develop a collaborative approach to implementing regional HIE. Each of these initiatives is at a different stage of development.

- **Greater Flint Health Coalition:** This planning HIE initiative was awarded a MiHIN planning grant in 2007 and is focused on a three-county region in the Flint, Michigan area. This initiative is facilitated by the Greater Flint Health Coalition.
- **Health Current:** This region represents five counties in the mid-south area of the state and Altarum Institute received a MiHIN planning grant from MDCH in 2008.
- **Michigan Health Information Alliance:** This MiHIN planning grant was awarded in 2007 to the Central Michigan University Research Corporation. This region comprises 11 counties in mid-Michigan.

- **Northern Michigan HIE:** Organized by the North Central Council of the Michigan Health and Hospital Association, the Northern Michigan HIE received a planning grant in 2007 to cover the 21 counties of Michigan's northern Lower Peninsula.
- **Southeast Michigan HIE:** The Southeast Michigan HIE (SEMHIE) planning grant was awarded in 2007 and is focused on five counties in the southeast Michigan area, which includes the greater Detroit area. This initiative is called SEMHIE. In February of 2010, SEMHIE received a \$3 million grant from the Social Security Administration to accelerate the disability claims process using the National Health Information Network.
- **Southwest Michigan HIE:** The Southwest Michigan HIE (SWMHIE) is facilitated by ChangeScape Inc.; it received a MiHIN planning grant in 2008. This initiative focuses on a five-county region that borders Indiana.
- **West Michigan HIE:** The MiHIN Planning grant for this 12-county region on Michigan's west side was awarded to the Alliance for Health in 2007.

Along with the seven HIE *planning* grants, MDCH awarded grants to two organizations in 2007 to *implement* HIEs. Described below, each organization was able to build a sustainable business plan, select an HIE vendor, and begin exchanging data among regional stakeholders.

- **Capital Area RHIO:** Capital Area Regional Health Information Organization (Capital Area RHIO)—a coalition of public and private community members, including physicians, health systems, businesses, health plans, and academic institutions from the Clinton, Eaton, and Ingham tri-county area of mid-Michigan—has selected Axolotl Corp. of San Jose to deploy its RHIO and has begun implementation with data being exchanged in the initial phase.
- **Upper Peninsula Health Care Network:** The Upper Peninsula Health Care Network (UPHCN) serves the 319,000 residents of Michigan's Upper Peninsula. Collaborative efforts among the network include sponsorship of the Upper Peninsula Poison Crisis Network, joint purchasing, mobile MRI services, education, publication of the physician directory, the U.P. Medical Library Consortium; the U.P. Teleradiology, Teleconferencing and Telemedicine Networks; and a reference lab network. The UPHCN continues to develop the Upper Peninsula-wide integrated information systems network to connect the U.P. hospitals, providing a cost-effective mechanism to access patient information and streamline patient care delivery.

Other community organizations have engaged in efforts to build sub-state HIEs. There are six community initiatives that are implementing key functions including e-prescribing, laboratory ordering and results delivery, prescription fill status and medication fill history, clinical care coordination, and quality reporting.

- **A3HIE :** The Ann Arbor Area HIE (A3HIE), serving the greater Ann Arbor area, comprises 220 physicians and 50 physician assistants from four primary care and specialty practices caring for more than 800,000 active patients. Currently, the practices share the following patient information: demographics, medications, allergies and current problems, and diagnoses lists. Physicians enter information into their practice's electronic medical record systems, and relevant details are "pushed" to the central data repository, where other partners can access and import them securely. There are more than 400,000 patient records in the repository.
- **Jackson Community Medical Record (JCMR):** JCMR is a joint venture of Allegiance Health and the Jackson Physicians Alliance. It was formed to improve the quality of patient care through IT and lower the total cost of ownership of an EHR system. JCMR currently connects 140 Jackson county physicians, who represent more than 80,000 patients.

- **Michiana Health Information Network (MHIN):** MHIN is a community HIE that serves more than 600 physicians and 2,500 clinical health care providers in northern Indiana and southern Michigan. MHIN provides secure, single-source access to patient clinical information, and connects health care providers with a clinical data repository, results delivery, clinical messaging, interfaces, and a fully integrated EHR.
- **MSMS Connect:** MSMS Connect is an electronic portal that was released in January 2009 by the Michigan State Medical Society (MSMS). This convenient, single-sign-on portal is a free benefit to MSMS members that securely connects physicians to patient information and each other for referrals and consultations, as well as to labs, patient registries, and other resources.
- **My1HIE:** Based in southeast Michigan, My1HIE enables physicians to share vital patient information and collaborate on patient care with other providers. My1HIE connects users to multiple clinical applications, including electronic prescribing, patient registry tools, e-labs, document managers, health plans, and more. All of these applications are interconnected and can be accessed with a unique user ID and password from any location with an Internet connection. Currently, 1,000 physicians use My1HIE.
- **Michigan Health Connect:** A nonprofit corporation founded by Spectrum Health, Trinity Health, Metro Health, Lakeland Regional Health System, and Northern Michigan Regional Health System with a purpose to advance the delivery and coordination of health care through collaboratively leveraging Medcity's information technology and clinical data exchange platform. Currently the organization has connected over 460 provider offices and 1,700 providers across 14+ Michigan counties with results delivery as well as laboratory and radiology orders. Other community hospitals and health systems have indicated they will engage with MHC to evolve a comprehensive health information exchange across Michigan.

Additionally, as noted in the survey section above, several of Michigan's health systems and hospitals have made considerable progress in the development of IT systems that form integrated delivery networks.

3.1.2 Administrative HIE Readiness

Michigan has a strong history of administrative HIE including electronic eligibility and claims transactions. The detail below describes three initiatives that are responsible for building the administrative HIE capacity in Michigan.

- **Blue Cross Blue Shield of Michigan Electronic Data Interchange (EDI) Clearinghouse:** The BCBSM clearinghouse has one of the highest rates of electronic claim submission in the nation. It processes more than 99 percent of facility claims and 92 percent of professional claims electronically. The BCBSM web portal is used by more than 95 percent of all Michigan providers, handling more than 70 million transactions in 2007. This web portal supports Michigan's Medicaid eligibility verification, as well.
- **Community Health Automated Medicaid Payment System (CHAMPS):** CHAMPS is Michigan's Medicaid Management Information System. The recently implemented system supports online provider enrollment, prior authorizations, claims submission, and beneficiary eligibility checking; it also provides an in-box for system alerts. CHAMPS processes and adjudicates all Medicaid claims. The new system is a secure Web portal that gives providers a single source for direct access to enrollment, claim information, and other Medicaid-based business functions.
- **Michigan Association of Health Plans (MAHP) Connect:** During 2009, MAHP launched an initiative to provide an Administrative Simplification Solution for MAHP members. This

solution enables the sharing of information from MAHP and MAHP members to their respective provider communities and provides. The overall objective is to capitalize on technology that will centralize common, non-competitive health plan related transactions performed by physicians and their staff. The MAHP Connect will provide: portal capability for providers to interface with multiple health plans; methods to increase the exchange of real-time administrative data between health plans and providers; and methods for integration of existing data exchange portals, practice management systems, and health plan websites to help reduce the need for 'double entry'.

3.1.3 E-Prescribing Readiness

In a 2009 study by Surescripts, Michigan ranked third in the nation for e-Prescribing with nine percent of Michigan prescriptions ordered through e-Prescribing. This percentage was more than double Michigan's 2007 rate. The following initiatives have played key roles in advancing e-Prescribing in Michigan.

- **Southeastern Michigan E-Prescribing Initiative (SEMI):** SEMI is a purchaser initiative aimed at increasing the adoption of e-prescribing in Southeast Michigan. Implemented in 2005, it is sponsored and funded by the local auto industry, BCBSM, and Medco. More than 3,800 physicians are currently enrolled in the program. Since 2005, more than one million prescriptions have been modified or cancelled due to adverse drug alerts.
- **e-Prescribing in Michigan Medicaid:** In 2008, the Michigan Legislature enacted legislation requiring MDCH to develop a three-year strategic plan for the implementation of electronic prescribing within the state's Medicaid program. The department's resulting plan focuses on two goals: (1) increase e-prescribing awareness and use in the Medicaid provider community, and (2) develop system capabilities to track and report Medicaid e-Prescribing transactions.

3.1.4 Other HIE Readiness

An analysis that solely focused on the healthcare related systems within the State of Michigan government found a robust and well-functioning set of services and systems that will both provide a benefit and receive a benefit from interoperating with a statewide HIE system like the MiHIN Shared Services. The analysis evaluated a variety of systems, including public health (systems used to record and monitor population health), health analytics (the MDCH data warehouse, a system to aggregate data from various health-related systems and enable analytics), and infrastructure (systems for security, electronic data transfer, identity management, Extract Transfer Load (ETL) tools and Service Oriented Architecture platforms).

Public health systems surveyed included the Michigan Care Improvement Registry (MCIR), an immunization history registry; the Michigan Disease Surveillance System (MDSS), a system used to monitor lab results and process submission of reportable conditions; the Michigan Syndromic Surveillance Systems (MSSS), which receives patient admission information from emergency departments across Michigan to analyze reported chief complaints to detect outbreaks; and the Bureau of Labs, the sole provider of many critical lab tests not done in the private sector.

The MDCH data warehouse meets the challenge of tracking individual clients of more than 27 separate health related services administered through MDCH and providing decision support

capability by integrating separate data sources into a single integrated environment. The integration of the separate program information has reduced health care fraud, increased the number of children tested for high blood lead levels, raised the number of children receiving immunizations, and improved the care coordination of Michigan's Medicaid population.

3.2 HIE Development and Adoption

Michigan has a strong history of utilizing stakeholder involvement to set the direction for Health Information Exchange. Over 200 Michigan healthcare stakeholders successfully developed an initial Strategic plan called the MiHIN *Conduit to Care* in 2006. Michigan then implemented this plan with an appropriation from the Michigan Legislature to provide planning and implementation grants as defined in section 3.1.1 Clinical System HIE Readiness.

In the fall of 2009, the State of Michigan sought funding from the Office of the National Coordinator for HIT to support continued planning and the implementation of state-wide health information exchange. Michigan used an open and transparent approach that leveraged the success of the MiHIN *Conduit to Care* in developing this Strategic Plan.

One of the initial activities of the strategic planning process was to review and refine the original vision, goals and strategies from the MiHIN *Conduit to Care*. This Strategic Plan for achieving statewide HIE development and adoption has been grounded in a highly participatory stakeholder-driven process based on the following updated vision, goals, strategies and approaches to continuous improvement.

3.2.1 MiHIN Vision & Goals

The MiHIN Vision, which has remained constant since its inception, is to foster development of HIE that will reduce the overall cost of care while at the same time increasing the quality of care and patient safety. This Vision is supported by the corresponding MiHIN goals, which include:

- Improve the quality and efficiency of health care delivery for Michigan citizens by accelerating the adoption and use of a collaborative model including health information technology (HIT) and health information exchange (HIE)
 - Minimize redundant data capture and storage, inappropriate care, incomplete information and administrative, billing and data collection costs
- Promote evidence-based medical care to improve patient safety and quality
- Encourage patient-centered care: Connect health care providers – clinicians and facilities – to ensure continuity of care for every patient
 - Increase patient understanding and involvement in their care
 - Enhance communication between patients, health care organizations and clinicians
- Promote national standards to guide the sharing of information and electronic data interoperability
- Safeguard privacy and security of personal health information
- Leverage existing health information systems
- Create a business model that balances cost and risk

- Implementing organizations must see sufficient value to justify their investment

3.2.2 MiHIN Strategy

The following domain-specific sections of the MiHIN Strategic Plan provide in-depth detail of the strategies that have been developed in support of ensuring that Michigan can realize the vision of the MiHIN. These strategies are summarized below:

Governance: Create a coordinated governance structure that leverages the Michigan HIT Commission to govern the statewide vision and creates a new entity to become the State Designated Entity made up of direct customers of the MiHIN Shared Services to govern the business and technical operations.

Finance: Create a self-sustaining organization by 2015 that relies on the direct customers of the MiHIN Shared Services, Sub-State HIEs and Payers, as its primary funding source.

Technical: Create a cost effective, scalable architecture, based on standards that provides for a set of statewide services that can be leveraged by all organizations that connect to the MiHIN Shared Services Bus.

Business and Technical Operations: Execute on a plan that provides value to Michigan consumers by incrementally deploying capability that satisfies the ONC clinical priorities and enables Michigan's providers to meet meaningful use while building out components of the MiHIN Shared Services.

Legal and Policy: Create a set of Privacy and Security policies that ensures the security of the information that moves around the MiHIN Shared Services Bus that meet national standards of interoperability while not causing an undue administrative burden on providers and consumers.

3.3 Medicaid Coordination

Michigan's Medicaid program has been a part of the Michigan (MDCH) since 1996. The integration of the Medicaid agency into MDCH has fostered many collaborative efforts improving the health care of Michigan citizens. One of the most effective initiatives implemented was the Medicaid supported data warehouse. The data warehouse is a component of the Medicaid Management Information System (MMIS) IT architecture.

Utilizing the data warehouse to improve the quality of care spurred Medicaid's involvement in Michigan's health information technology projects. The work group will also assist in the creation of a State Medicaid HIT Plan. The coordinated effort between the MiHIN and the Medicaid EHR Incentive Program provides an efficient means to advance EHR adoption and health information exchange. The Director of Medicaid Operations and Quality Assurance is an executive steering committee member of the MiHIN Program Office, serves as co-chair of the MiHIN Business Operations Work Group and is a voting member of the MiHIN Governance Work Group. There is Medicaid representation on the majority of the MiHIN planning work groups. The Director of Medicaid Data Management Division is a member of the MiHIN Privacy and Security Work Group and staff from the Medicaid Data Management Division is a member

of the MiHIN Technical Work Group. This collaboration with the MiHIN and the Medicaid agency allowed for the natural progression of coordination between the MiHIN project and the Medicaid EHR Incentive Program.

The Medicaid EHR Incentive Program is also led by the Director of Medicaid Operations and Quality Assurance. Several of the MiHIN Program Office staff are members of the Medicaid EHR Incentive Program planning initiative. The State's HIT Coordinator is a member of the EHR Incentive Program planning steering committee. The MiHIN Project Lead is a member of the Medicaid EHR Incentive Work Group. The Medicaid EHR Incentive Work Group was charged with developing the Michigan Department of Technology Planning – Advanced Planning Document (HIT P-APD).

Through the coordinated planning process of the MiHIN and the Medicaid EHR Incentive Program, two shared objectives were identified. Both initiatives seek to accelerate Medicaid beneficiaries' coordination of care and streamline eligible professionals' meaningful use reporting requirements through the secure electronic exchange of health information.

The strategies Michigan will take to accomplish these objectives are:

1. To continue the coordinated planning efforts of the MiHIN and the Medicaid EHR Incentive Program
2. To leverage existing State of Michigan health information technology assets
3. To develop electronic services and directories shared between the MiHIN and the Medicaid agency.

Michigan will continue to have members from both initiatives participate in the planning and implementation efforts to ensure the shared objectives are accomplished. The project management of the implementation of the Michigan Medicaid EHR Incentives and the MiHIN implementation will be coordinated. An overall project plan will be developed to synchronize the timelines of the shared tasks and deliverables.

To improve the Medicaid beneficiaries' coordination of care, MiHIN Shared Services will leverage the data warehouse integration capabilities and extract pertinent administrative and clinical information making it electronically available in a Continuity of Care Document (CCD) format to Medicaid providers through the Michigan Health Information Network. MiHIN Shared Services in partnership with the sub-state HIEs will also leverage the repository capacity and analytical capabilities of the data warehouse to support the quality reporting requirements.

Michigan's Medicaid Management Information System (MMIS), Community Health Automated Medicaid Processing System (CHAMPS) will be enhanced to aid in the administration and monitoring of the Medicaid EHR Incentive Program. CHAMPS will also be leveraged to streamline eligible professionals' meaningful use reporting requirements. Eligible professionals will be able to report directly from their EHRs, sending the data through the sub-state HIEs into the MiHIN Shared Services and then into CHAMPS.

The success of the interoperability between the data warehouse, CHAMPS and EHRs will be dependent upon the shared services and directories of the MiHIN. The Medicaid IT infrastructure will utilize the MiHIN's core components such as the provider index, the enterprise master patient index and the security services. The sharing of the MiHIN core components will increase efficiencies and reduce the cost of the Medicaid EHR incentive program.

3.4 Coordination with other Federally Funded and ARRA Programs

Coordination with all ARRA programs in Michigan will continue to be accomplished largely through the facilitation of the State HIT Coordinator. The HIT Coordinator has convened a working group with members of all Michigan ARRA programs which includes: the State HIE Cooperative Agreement, the Regional HIT Extension Center, the Medicaid EHR Incentive Program, and the broadband initiatives. This group will continue to share information and leverage efforts to shared client communities in perpetuity.

The State of Michigan has been working to coordinate projects to successfully secure funds from the two ARRA Broadband programs. First round funding so far has resulted in over \$50 million ARRA dollars to be dedicated to Michigan to expand broadband infrastructure and public computing centers. Planning for second round is underway and additional investments are expected in Michigan as a result of applications. The infrastructure that is put in place as a result of these investments will enable data to be moved and shared at higher rates of speed between health care providers where bandwidth has been limited in the past, as well as help make it possible for more citizens to monitor health care from within their homes.

The State of Michigan has worked with many partners on a \$24 million FCC Rural Health Care Pilot Project. The Project will aim to connect over 500 rural health care sites via an affordable broadband connection to help foster the movement of health data to and from their clinics. The ability to reach the most rural clinics will help to improve the health care and reduce the costs of offering specialized care in rural and remote areas of the state. The project is currently in the request for proposal stages and is planning to have a contractor begin construction on the network as early as summer of 2010.

Benefits to the general health population are being increased by early implementation of public health use cases, lowering costs, increasing efficiencies, and raising the quantity and quality of data acquired for Michigan's immunization registry, syndromic surveillance system and disease surveillance system. These public health services existing relationships with cross-state and federal organizations, including the Centers for Disease Control and Prevention (CDC), will benefit those agencies in the same fashion: lowering costs, increasing efficiencies, and raising the quantity and quality of data.

Where gaps exist in the coordination with other federal programs, it is the responsibility of Michigan's HIT Coordinator to perform outreach throughout the state. The goal of the outreach is to identify issues of common concern and coordination plans will be devised and documented, both in the areas of population and organizational benefits.

4 Domain-Specific Components

With the support and funding provided through the State HIE Cooperative Agreement Program, the MiHIN will be able to maximize the public and private investments that have been made in HIT and HIE throughout Michigan. This funding will also assist in accelerating the implementation of the MiHIN vision by acquiring, implementing, and operating the technical and business infrastructure required to enable the secure exchange of health information within Michigan, with its neighbor states, and across the nation.

Beginning in the fall of 2009 more than 100 State and industry leaders and decision makers have led and molded the activities of the five domain-based MiHIN Workgroups. The result is this MiHIN Strategic Plan for acquiring, implementing, operating and sustaining the MiHIN Shared Services.

This section will present the MiHIN Strategic Plan by the domains based on the guidance of the State HIE Cooperative Agreement. Each domain will begin with an overview of the goals and guiding principles of that workgroup and conclude with the results of the planning process.

4.1 Governance

Full stakeholder engagement and buy-in of governance is critical to success of this and any other HIE initiative. Proper governance is needed to not only oversee business and technical operations of the MiHIN, but also to foster trust through transparency and inclusion, maintain a vision for Michigan and respond to public needs and concerns. The stakeholders of Michigan vigorously debated the full spectrum of governance options through the MiHIN governance workgroup. The following section details the strategy for the governance of the MiHIN Shared Services, which includes creating a new Governance Board and leveraging the experience and strong establishment of the Michigan HIT Commission.

4.1.1 Guiding Principles

The following guiding principles are based on the experience Michigan gained through the MiHIN *Conduit to Care* process and have been updated to reflect the current statewide and national HIT and HIE landscape. These guiding principles will serve as the foundation for the Governance of the MiHIN.

Guiding Principle 1: Michigan citizens are at the center of the MiHIN goals to improve patient care and population health.

Health information exchange in Michigan will be designed to benefit Michigan residents. Consumer privacy, security and confidentiality are paramount and as such the MiHIN will adhere to all federal and state laws regarding privacy and security to build trust.