



MiHIN
Shared Services

ANNUAL REPORT

FISCAL YEAR 2016

“In 2016, MiHIN significantly expanded support for sharing health information to help bridge gaps in care from the boardroom to the waiting room.”

-TIM PLETCHER

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About MiHIN



The MiHIN team celebrates a successful Connecting Michigan for Health 2016

Since 2010, the Michigan Health Information Network Shared Services (MiHIN) has worked closely with stakeholders to promote the secure exchange of health information in Michigan. Each year MiHIN has made new strides forward, culminating in a tremendously successful fiscal 2016 that saw the release or expansion of critical statewide services for Michigan as well as new activities to support other states wishing to replicate Michigan's successful model.

Our Mission

MiHIN is dedicated to improving the healthcare experience, improving quality and decreasing cost for Michigan's people by supporting the statewide exchange of health information and making valuable data available at the point of care.

"With each health provider and organization that joins the Michigan network, patients win. Each new participating organization that signs agreements and shares data with MiHIN ultimately helps increase patient safety by improving communication between healthcare providers and other healthcare organizations."

Introduction from the **EXECUTIVE DIRECTOR**

The last year was one of accomplishment and new opportunities for MiHIN, not only in Michigan but throughout the United States. The excellent work by our staff has firmly established MiHIN as one of the national leaders for sharing health information.

In 2016 MiHIN saw healthy growth of existing use cases and the addition of many new ones, a doubling of participating organizations, new revenue-producing contracts with New Jersey and the State Innovation Models (SIM) program, and another highly successful Connecting Michigan for Health conference attended by the Assistant Secretary for HHS and National Coordinator for HIT, Dr. Karen DeSalvo.



Dr. Timothy Pletcher
Executive Director at MiHIN

The year brought internal improvements, including a seamless transition of our data center co-location to the much more efficient Amazon Web Services cloud and lean evolution of our Use Case Factory® to Use Case Factory 2.0. The use case factory upgrade streamlined our legal infrastructure allowing our team to focus on process efficiencies and on maintaining relationships with stakeholders.

The alignment of MiHIN's services with support and incentives from the State of Michigan and health plans in Michigan has produced a uniquely successful statewide network to securely share health information.

Ultimately, Michigan's strategy to closely unite care coordination and quality measurement in the same infrastructure has yielded exciting process improvement potential that can remove burdens from providers and health plans. With each new step forward, the power of the information exchange we offer through our "network of networks" grows.

Thank you to everyone who has contributed to our successful journey in 2016. Through the efforts of you - our hard-working staff, all participating organizations, our Board, the Health Information Technology Commission and the State of Michigan - physicians and other healthcare professionals in Michigan are beginning to enjoy the benefits of a truly connected statewide network.

Together we have achieved great things in 2016. I fully anticipate 2017 will continue this remarkable journey of accomplishment!



STATEWIDE CONSUMER DIRECTORY

The statewide consumer directory saw the launch of its first production use case in 2016 with the release of Advance Directives. This first use case provides an initial set of tools to help consumers better manage their own health information. The coming year will bring additional focus on the consumer directory with new use cases to give consumers more access and control over managing their care teams, their immunization information and the destinations for their health information.

For more on the consumer directory, please view the video available at: mihin.org/statewide-consumer-directory

New 2016 SERVICES

CLINICAL QUALITY MEASURE REPORTING AND REPOSITORY - CQMRR

On June 1, 2016, the Michigan Department of Health and Human Services officially went live with the capability to electronically receive clinical quality measures sent through MiHIN's CQMRR service. This critical step forward into the quality measurement space opens doors to numerous opportunities for MiHIN to relieve burdens from health-care providers and health plans who struggle daily with the work involved in meeting requirements for various quality reporting programs. The CQMRR service and its supporting use case for Quality Measure Information enable a "Report Once" capability for healthcare providers in which providers can send one quality measure file (containing any type of quality information) that MiHIN can process and route to as many appropriate quality reporting programs as needed.

COMMON KEY SERVICE

In answer to the industry's struggle to improve patient matching when accessing or exchanging health information, MiHIN and stakeholders in Michigan have agreed to utilize a universal "common key" tied to each person as an additional unique identifier to assist in ensuring patients are matched as accurately as possible. The Common Key Service has undergone a successful pilot as of the end of FY 2016 and is preparing to move into production. This system-to-system identifier is not intended to be printed out or made visible to people in any way, offering both an additional tool for patient matching and additional protection for the methods used to identify patients. Ultimately common keys may be added to any PHI messages in lieu of some other patient demographic information, further improving patient privacy and security.

Featured SERVICES

Many of MiHIN's existing services enjoyed successful expansion in 2016 as well. Our growing shared services suite is being adopted in many different ways throughout Michigan and now in another state, New Jersey:



PUBLIC HEALTH REPORTING

Public Health Reporting through MiHIN to the state of Michigan gained traction in 2016, with Immunization reporting reaching mature production, Immunization History/Forecast entering full production, and new use cases added for Cancer Pathology, Cancer Notifications and Newborn Screening.



HEALTH DIRECTORY

MiHIN's Health Directory grew significantly in 2016. New organizations began using the service to manage provider information, including the Michigan Care Improvement Registry (MCIR) and MPH I on behalf of MDHHS to help manage Meaningful Use outreach. The state of New Jersey is now also using the Health Directory.



TRANSITIONS OF CARE

Michigan's Transitions of Care service experienced significant growth, now processing more than 6 million ADTs/week, reaching 99% of all admissions statewide. The Medication Reconciliation use case enjoyed immediate positive response as well, already processing over 70% of discharges in Michigan, over 200,000/week.

Building a better USE CASE FACTORY

In 2016, MiHIN introduced Use Case Factory 2.0, a restructuring of our successful initial Use Case Factory concept to streamline and speed the process for developing and implementing use cases. Incorporating lessons learned from the initial Use Case Factory, the 2.0 version was significantly simplified to make use cases more accessible for the Michigan healthcare community. A central feature of the improved factory is a new legal agreement structure. By combining common elements from previous legal agreements into one Master Use Case Agreement (MUCA), MiHIN is now able to limit individual use case legal documents to small exhibits attached to the MUCA, meaning organizations no longer need to review lengthy agreements for every use case but instead can sign the MUCA once and then easily and efficiently review and execute more use case exhibits as needed and desired.

Each use case in Use Case Factory 2.0 is now supported by the following documentation:

The **Master Use Case Agreement:** The highlight of MiHIN's revised, more efficient use case legal process, this document contains all of the common legal language and terms for use cases, and is signed once by an organization wishing to participate in use cases.

A **Use Case Exhibit:** A concise, easily manageable amendment to the master use case agreement containing only specifics unique to one use case. Once organizations sign the master agreement, they can then quickly execute any number of exhibits to participate in only the specific use cases they select.

A **Use Case Presentation:** A visual representation of the use case showing the steps and the different participants who take part in the use case.

A **Use Case Summary:** A brief document introducing the use case in plain language, explaining how the use case can make an impact, who is supporting and sponsoring the use case and providing an overview of the business case and any known challenges.

A **Use Case Implementation Guide:** An outline of all technical information needed by participants, their IT staffs or vendors to share information for a use case, including message structure/content, connectivity, transport options, onboarding, and troubleshooting.

At the end of fiscal 2016 there were more than 50 use cases in the pipeline at MiHIN, many in pilot or production.



Special Thanks

TO THE ORGANIZATIONS
WHO HAVE SIGNED
THE NEW MASTER
USE CASE AGREEMENT
& UPDATED USE CASE
EXHIBITS IN 2016!

Featured USE CASES



Discharge Medication Reconciliation

The Discharge Medication Reconciliation use case scenario helps health-care providers share patient medication information at time of discharge with other care team members and organizations, including physicians, practices, pharmacies, hospitals, and transitional facilities such as outpatient and skilled nursing facilities. This use case can help minimize the possibility of adverse drug effects for patients when changing care settings.

Lab Orders-Results

The Lab Orders-Results use case supports provider and laboratory workflow improvements by helping to send orders to the appropriate labs, and to then route and track results from laboratories. This use case also includes scenarios for public health reporting including Reportable Labs/Disease Surveillance, Cancer Notifications/Pathology, State Bureau Lab Orders-Results, Blood Lead Results, and Newborn Screening/Bloodspot.

Information for Consumer

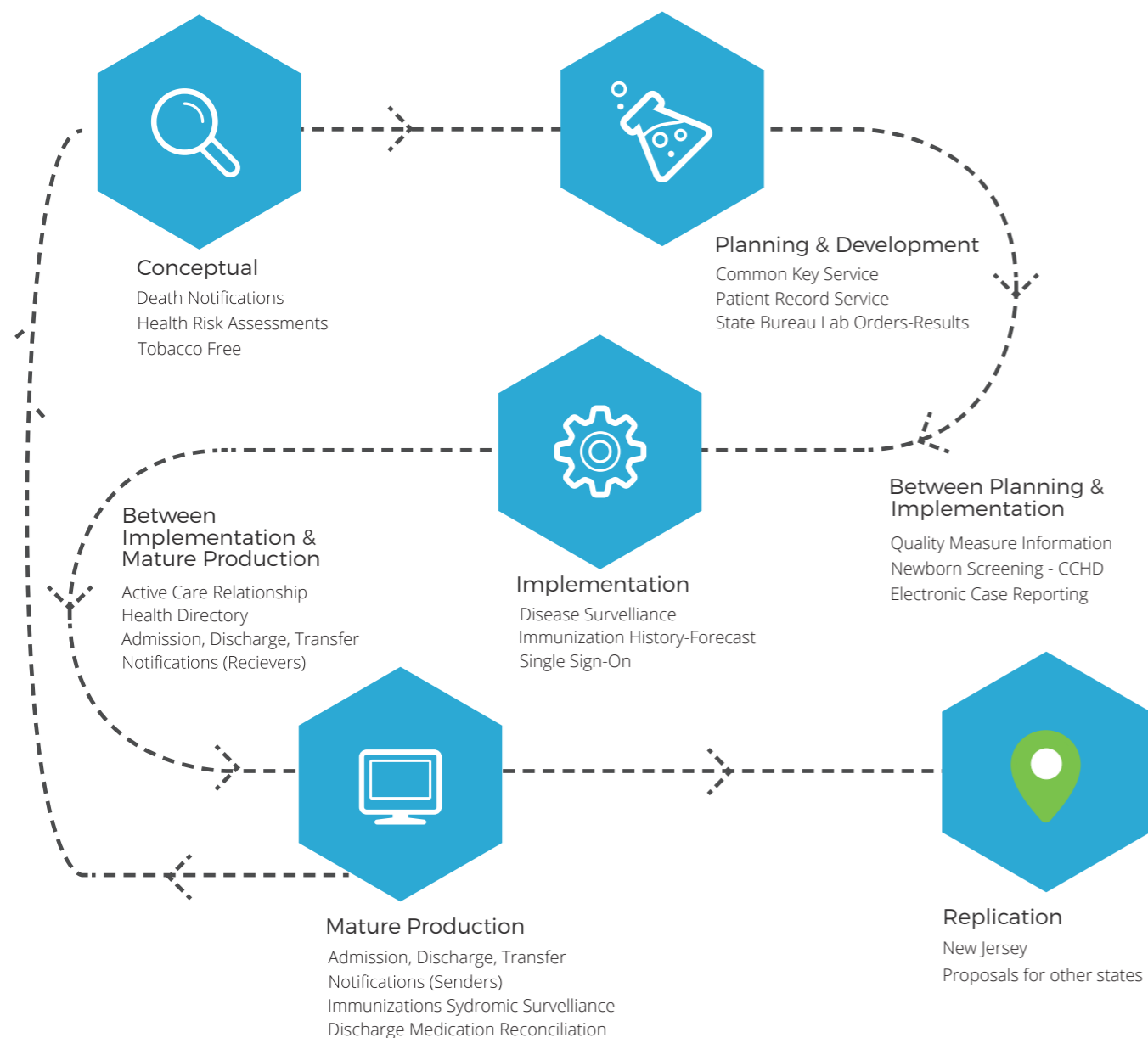
The Information for Consumer use case allows consumer-facing applications to help consumers designate their preferences for how participating organizations will send, receive, find and use electronic copies of that consumer's information and where it is stored. All sharing is based on the patient's preferences, helping reduce the risk of unintended disclosure because the information and how it is shared is now under the patient's control.



Life of a USE CASE

The main phases of use case growth in the Use Case Factory are: Conceptual, where submitted ideas are reviewed for viability; Planning and Development, where viable use cases are built and piloted to determine feasibility; Implementation, where feasible use cases are moved into production; and Adoption, where a production use case gains traction, eventually reaches critical mass and enters mature production. A new phase has recently been added: Replication, where use cases are adopted by other states.

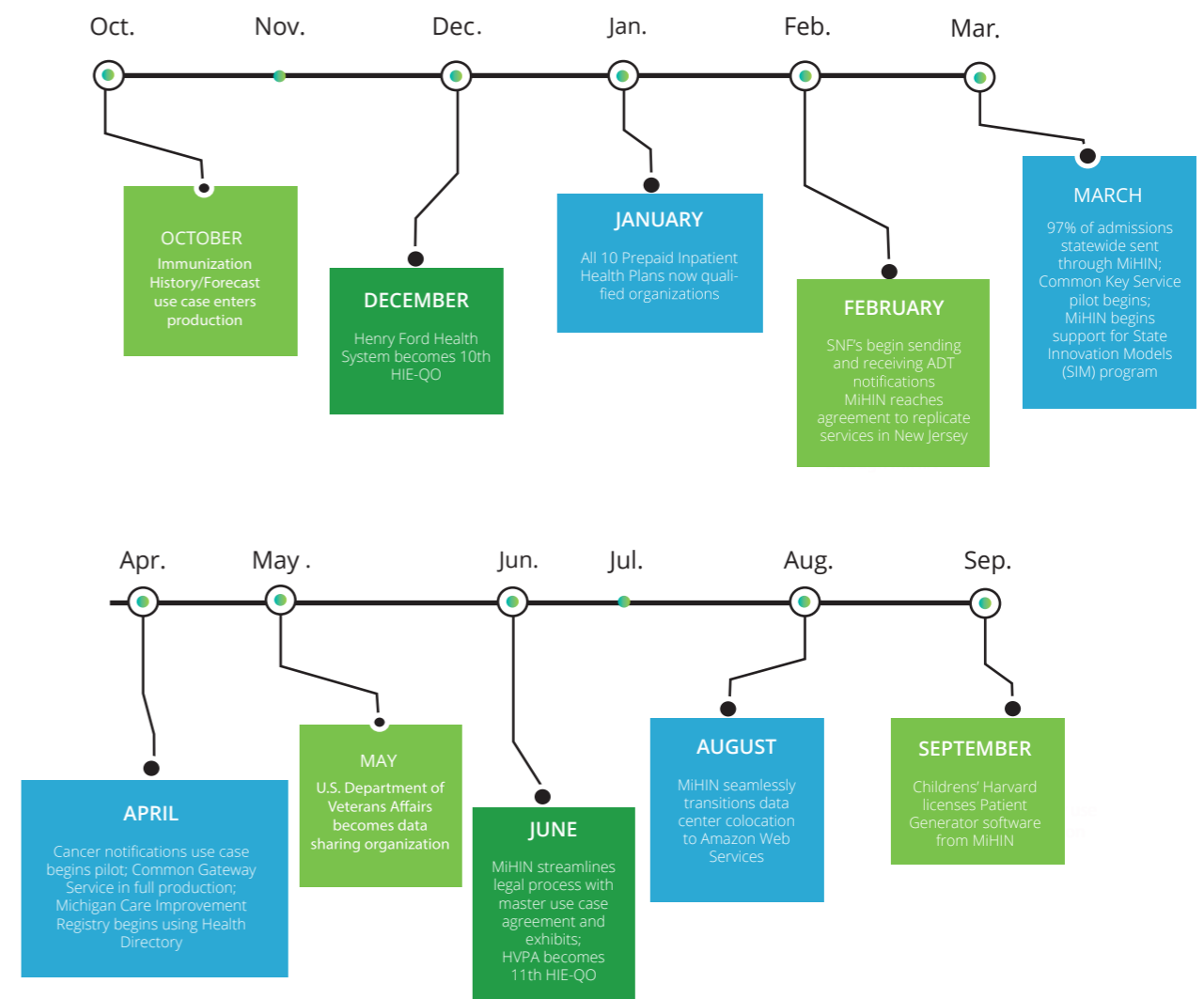
Use cases currently in each phase are shown below.



Our Milestones IN 2016

Looking back over a remarkable 2016 reveals many milestones met and surpassed by MiHIN and our staff. New use cases, a growing number of connected organizations, the success of Connecting Michigan 2016 - each contributed to the progress we have made in the last year.

In light of those events, it's important to remember that the real growth of MiHIN takes place within the company. Every team member working at MiHIN, from the newest intern to the executive director, has made a tremendous impact on the future of sharing health information not just in Michigan, but across the country. Each day MiHIN finds the new leaders and voices in health information technology, and that is our greatest achievement.



Reducing Provider Burdens & Linking to the Community

Working with Payers to Reduce Provider Burdens

“Report once” value for physician organizations:

- Only one standardized format
- One connection to create & maintain
- Reduce attribution matching burden
- Data can be supplied to new payers, resulting in new/higher incentives to member physicians
- Quality data can be forwarded to other programs such as MiPCT and SIM
- Hear best practices and lessons learned from other POs
- Unique opportunity to collaborate with assembled payers

“Report once” value for payers:

- Receive greater quantity of supplemental clinical data
- Receive data from new sources
- Improve distribution and effectiveness of Gaps in Care Reports
- Receive data files in one format from all POs, which undergo validation
- Reduce burden on providers and POs
- Hear best practices and lessons learned from other payers
- Potential NCQA eMeasure Certification “early adopter”
- Participate in unprecedented collaborative effort drawing statewide and national attention



The Physician-Payer Quality Collaborative is a multi-stakeholder initiative focused on aligning and streamlining quality measure processes. It is a physician-led activity, facilitated by the Michigan State Medical Society (MSMS) with support from MiHIN.

This collaborative effort was born when two stakeholder groups found common ground. The MSMS Executive Council of Physician Organizations surveyed its members and discovered that quality measure alignment was identified as a top priority. MiHIN holds a quarterly Payer Qualified Organization Day, during which commercial and state payers also unanimously identified quality measure processes as a significant pain point needing improvement. MSMS and MiHIN then created the collaborative to bring all groups to the table to find solutions.

There are five primary goals of this collaborative for quality measures:

- Report Once to reduce provider burden
- Two-way data query
- Real-time monitoring
- Payer incentive alignment
- Standardize HEDIS, Gaps-In-Care data flow

In 2016 the collaborative made tremendous progress, identifying the initial 27 quality measures to be aligned, agreeing on the technical specifications for quality measure reports, working through issues and concerns with aligning incentives and measure guidelines across payers, and successfully piloting the first use case to support a workable “report once” model for all participants.

The group’s efforts align perfectly with the State Innovation Models (SIM) project that MiHIN is also supporting, allowing SIM participants to report measures once and have those measures also forwarded to the SIM data aggregator.

Working with the Government to Link to the Community

The State Innovation Models (SIM) team is working with MiHIN to provide its participants with an interoperable Health Information Technology ecosystem solution that leverages existing technology to create building blocks towards a long-term vision of data interoperability, making the right data available to the right people at the right time across products and organizations. The State of Michigan believes that building towards this level of interoperability is essential for payment and care delivery reform.

The SIM team identified foundational and supporting use cases needed to ensure the appropriate data sharing is in place to support their Relationship and Attribution Management Platform and their core technology pillars. Implementation of these use cases is being facilitated by MiHIN and the trusted data sharing organizations within the MiHIN network:

SIM Relationship and Attribution Management Platform

The care delivery approaches and alternative payment models in SIM heighten the need for an effective process for linking (or attributing) each patient to a provider. This ‘attribution’ is core to supporting SIM’s technology goals. The SIM team has worked with MiHIN to expand on the ACRS service to create a streamlined relationship and attribution management platform.

The platform enables a consistent shared process for communicating and tracking patient and provider relationships. This platform also supports tracking participation in health plan/payment models and programs such as SIM, Michigan Primary Care Transformation Project (MiPCT), Meaningful Use, and MI Health Link (also known as the Duals Demonstration project).

MiHIN’s support for the SIM program are divided into two projects: Attribution and Relationships. Both projects made significant progress in the final months of 2016 following initial launch with the SIM team:

Foundational Use Cases

- Active Care Relationship Service (ACRS)
- Health Directory Service
- Common Key Service
- Clinical Quality Measures

Supportive Use Cases

- Coordinate Care Coordinators
- Statewide ADT Notifications
- Care Summary

SIM Attribution Project Accomplishments

- Defined, designed, tested, implemented and supported PCMH Application and necessary updates to Health Directory
- Defined, designed, tested, and implemented PCMH Operator Module of HPD
- Trained and supported PCMH Operators
- Drafted PCMH Operations Guide
- Published SIM population calculation documentation
- Initiated ACRS file submission gap analysis

SIM Relationship Project Accomplishments

- Drafted & delivered technical requirements to SIM
- Fully Executed Master Use Case Agreement (MUCA) and all SIM related use case exhibits
- Drafted Quality Measure Information use case implementation guide
- Designed and developed solution to validate quality measures sent by SIM participants
- Collaborated with Michigan Data Collaborative (MDC) to draft clinical data handling requirements

Connecting Michigan FOR HEALTH

Every year Connecting Michigan for Health continues to grow and 2016 was no exception. The conference has started generating significant national attention, showing not just the impact MiHIN is having on the exchange of health information but also the perception of MiHIN shared by our peers around the country.

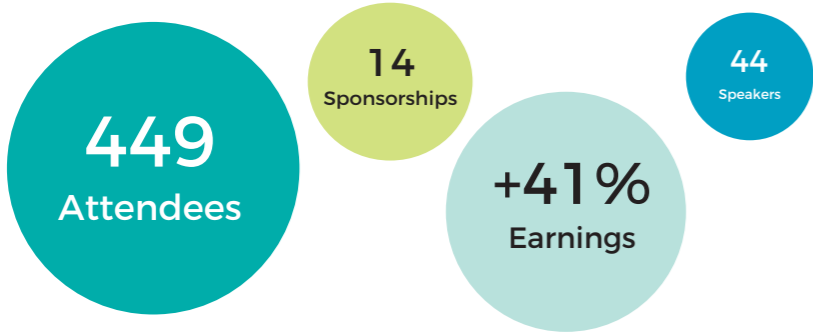
The eighth annual conference in enjoyed a record turnout with 449 attendees and sold out workshops on the third day of the conference for the first time in event history. The conference broke all previous revenue records as well, with more than \$100,000 in ticket sales and sponsorships.




Connecting Michigan featured many important voices in healthcare, most notably the appearance of Dr. Karen DeSalvo, Acting Assistant Secretary for Health and then National Coordinator for Health Information Technology. Dr. DeSalvo spoke about opportunities for health information exchange to address public health crises, and praised Michigan's work in health exchange, saying, "The work you have done in Michigan tracks well nationally... Take some time to celebrate."

Attendees at this year's conference also heard from such healthcare luminaries as Dr. John Halamka, Chief Information Officer of the Beth Israel Deaconess System; Dr. Kevin Larsen from the Center for Medicare and Medicaid Innovation; David Bennett from Orion Health and Dr. David Kendrick from the Department of Medical Information at the University of Oklahoma's School of Community Medicine.

Outreach for the conference this year was significant. From social media to a personal folder-drop to the state legislature, MiHIN's staff worked diligently to make sure the event was well-publicized and that the conference ran smoothly and efficiently.

24,833 emails were sent as part of the "CM4H16" marketing campaign. The campaign was used for outreach as well as for releasing the conference agenda, sending alerts of early bird registration specials, announcing the special event with Dr. Karen DeSalvo, followups asking attendees how we could improve, and other important communications.

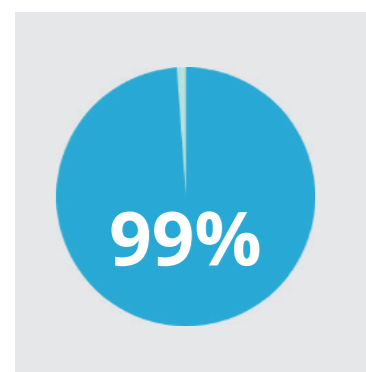


		
<p>"Today's #healthit hashtag to watch #CM4H16 from @connectingmich Hint: It's on #FHIR!" -Andrea Ribick</p>	<p>"This event is local with a National feel" - Anonymous</p>	<p>MiHIN launched a conference website for ticket holders to view details, registration, and slide and video presentations of speakers after the event.</p>

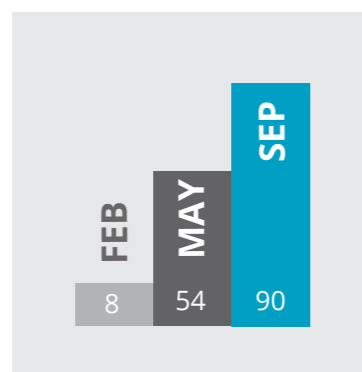


MiHIN grows in MICHIGAN

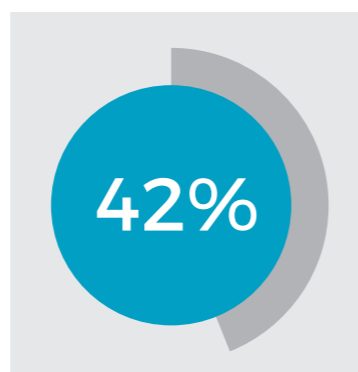
2016 was an exceptional year of growth for sharing health information in Michigan, in all areas of operations. Whether in public health reporting, transitions of care, participating organizations, number of messages processing through the system, or number of employees at MiHIN – Michigan and MiHIN have experienced significant progress across the board.



Percent of all statewide admissions – over 6 million per week



Hospitals sending medication reconciliation messages



Increase in use cases in production

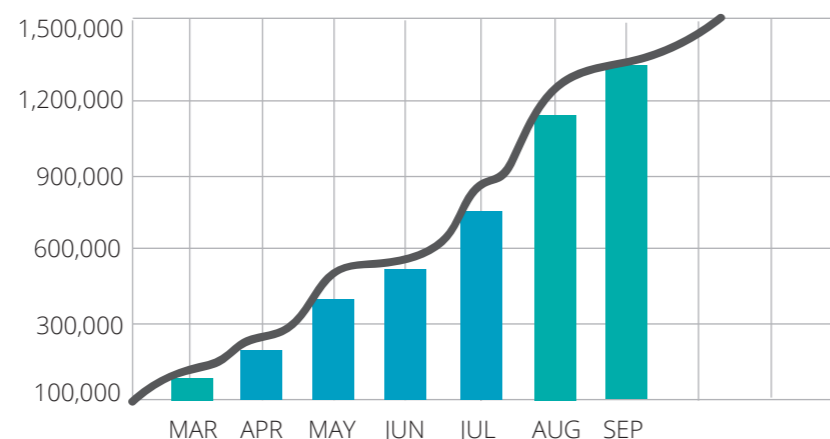
10 Million

Active Care Relationships



200,000+ Med Rec at discharge messages/week

TOTAL
immunization history-
forecast queries to
MCIR
since going live



MiHIN helps OTHER STATES



As news of Michigan's successful approach to share health information spread across the U.S. in 2016, MiHIN has been presented with numerous opportunities to replicate our services to help other states tackle the same problems we have dealt with in Michigan.

MiHIN is a nationally-recognized leader for the successes in our state. Other states are beginning to consider MiHIN and its services for their own healthcare information network needs.

We began working with the state of New Jersey to offer MiHIN's solutions in a Software-as-a-Service model in early 2016, and have been invited by multiple additional states to respond to requests for proposals for various services.

The New Jersey Innovation Institute (NJII) contracted with MiHIN to improve transitions of care and immunizations in New Jersey. Together NJII and MiHIN are deploying the statewide New Jersey Health Information Network (NJHIN) starting with New Jersey's largest health information exchange, Jersey Health Connect.

Through this project, NJHIN is leveraging existing MiHIN services to support:

- Submission/distribution of hospital admission, discharge, and transfer notifications (ADTs) and immunizations.
- Identification of provider-patient relationships through a configured instance of the Active Care Relationship Service
- Look up of Electronic Service Information (ESI) for routing messages to the active care team using an instance of MiHIN's Health Directory, and
- Accurate identification of patients wherever information is exchanged through NJHIN using the Common Key Service (CKS) and a Master Patient Index (MPI)

Numerous other states in addition to New Jersey have reached out to MiHIN for potential assistance.

To accommodate this growing wave of new opportunities, MiHIN has packaged its services to easily promote them outside of Michigan. MiHIN's cloud-based model has initially drawn considerable interest from other states including the idea of blending or layering health information technology into the fabric of healthcare and public policy so solutions are fully integrated and scalable.

Making MiHIN: **work**

MiHIN's employees are the main source of our success, so we would like to take a few pages to highlight individual departmental accomplishments during fiscal year 2016. Congratulations to all MiHIN departments for a year of progress and achievement!

MiHIN's Departments

Administrative Support
Finance
Legal
Major Accounts and Emerging Solutions
Marketing and Communications
Production and Operations
Program Management Office
• Government Projects
• MiHINtern Program
Security and Infrastructure
Software Development

Changes in 2016

Item/Activity	2015	2016
<i>Full-time Staff</i> -----	34	48
<i>Trusted Data Sharing Organizations</i> -----	50	101
<i>Organizations Sending Data</i> -----	505	759
<i>Use Cases Operational</i> -----	8	11
<i>Health Information Exchange QO's</i> -----	10	12

Departmental Accomplishments in 2016

Administrative Support

- Increased to four team members with great chemistry
- Created processes for MiHIN event planning to ensure seamless experiences
- Organized first employee appreciation day
- Increased employee morale with employee events
- Assisted all Directors in better schedule management

Finance

- Added two new team members
- Moved outsourced accounting completely in-house
- Implemented NetSuite to streamline internal accounting procedures

Government Projects

- Oversaw nine projects with state of Michigan
- Oversaw effort to replicate MiHIN in New Jersey
- Successfully delivered 38 project-defined activities to completion
- Supported State Innovation Models (SIM) program
- Developed and piloted Common Key Service

Legal

- Completely restructured all company legal agreements to streamline processes

- Added legal assistant and legal intern
- Signed all ten Prepaid Inpatient Health Plans in Michigan
- Signed all 11 Medicaid health plans in Michigan

Major Accounts and Emerging Solutions

- Led MiHIN's efforts with Physician-Payer Quality Collaborative
- Completed five proposals for other states and federal organizations
- Wrote new proposals for five health plan participants
- Signed 10 new health plans to revenue-producing statements of work
- Identified more than \$3,000,000 of leads for new business
- Managed key customer relationships with MDHHS for statewide consumer directory and CQMRR service

Marketing and Communications

- Oversaw all activities for Connecting Michigan for Health
- Added a technical writer and marketing/communications coordinator
- Oversaw restructuring and redesign of Use Case Factory to Use Case Factory 2.0
- Assisted all other departments with their deliverables and project documents
- Assisted with creation of proposals to expand MiHIN's reach to other states and federal government

Medical Informatics

- Newly created department in 2016
- Hired Dr. Tom Stevenson to lead the department
- Provided subject matter expertise to all MiHIN projects and services
- Oversaw development of electronic Case Reporting and Tobacco Free eReferral use cases
- Oversaw development and implementation of CQMRR interactive dashboards
- Oversaw process improvements in MiHIN's use of Salesforce

Production and Operations

- Onboarded 80 hospitals for medication reconciliation, a new record for speed of adoption for a use case.
- Onboarded 36% of skilled nursing facilities in Michigan
- Expanded use of Salesforce to streamline departmental processes and efficiencies
- Greatly expanded and improved on MiHIN's reporting capabilities
- Doubled number ACRS file contributors – 78 facilities now in production sending ACRS files
- Cleaned up more than 3,000,000 records in Health Directory
- Removed more than 2,300,000 duplicate records from Health Directory

Program Management Office

- Added five new team members
- Managed more than \$11,100,000 budget across six State of Michigan projects
- Integrated NetSuite time tracking with overall budget management
- Developed project schedule template including Integration of MiHIN's Use Case Factory gate checklists

Security and Infrastructure

- Moved data center colocation to Amazon Web Services, seamlessly with zero customer impact
- Added 2 new team members
- Maintained strong security oversight with zero security breaches in 2016

Software Development

- Newly created department in 2016
- Hired Jim Edwards to lead the department
- Began building internal development team
- Improved Active Care Relationship Service so more than 70 ACRS files can now load within seconds
- Continued support for FHIR community
- Fully supported release of CQMRR service into production
- Built robust APIs to allow organizations to connect directly to Statewide Consumer Directory

MiHINtern Program

MiHIN is always striving for a better future for healthcare and that is part of our inspiration in seeking the brightest young minds in Michigan.

MiHINterns do not simply make coffee and answer phones. Each intern is a crucial member of our team. Many of the use cases and services generated at MiHIN may begin with our interns. They are also a voice for MiHIN at conferences and on the web, helping spread the message of the good work being done at MiHIN.

One of the joys at MiHIN is how many of the interns stay with MiHIN after their internship ends. Ten former interns now work full-time at MiHIN, helping improve health information exchange for the state of Michigan through their continuing efforts.



Medical Informatics MiHINtern Courtney Delgoffe at Stakeholders meeting.

What's next IN 2017

Each step forward taken by MiHIN and our staff brings positive change to the status quo of healthcare in Michigan, helping to close gaps in care that impact all of us, each day.

If 2016 was a year of transition for MiHIN, 2017 will be the year when the results of our work take hold in the Michigan healthcare community. From new and expanding use cases and services to the implementation of projects we have spent the last years creating, individuals across Michigan (from patients to specialists to care coordinators), could feel the impact. For many it will mean less work and stress, for others it will be a sense of security, knowing that the right information for the right patient is in the right hands.

We must stress that MiHIN's performance in the coming year will be only as strong as the commitment and participation of our stakeholders. Michigan's success has always been a team effort, reaching outside of our office and into each of yours. When MiHIN succeeds, it's because we are all succeeding together.



THINGS TO LOOK FOR

Some of the activities we are currently excited about which you should see occur in fiscal year 2017 include the following:

Connecting Michigan for Health

Common Key Service in full production

Statewide Labs use case in full production

Enriched ADT Notifications

Broader support for
more stakeholders (pharmacists, etc.)

Broader adoption of Direct Secure
Messaging across healthcare

Enriched C-CDA processing solutions

Expanded support for care plans



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