Annual Report

2022

MiHIN
MICHIGAN HEALTH INFORMATION NETWORK SHARED SERVICES

Michigan Health Information Network
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A Message from the Executive Director

Dr. Tim Pletcher

Welcome to 2023,

As a follower of the late Dr. Avedis Donabedian, creator of the Donabedian Model, I am huge believer in **structure** influencing **process** which in turn leads to an **outcome**. Consequently, I view our work in health information exchange over the last decade as largely focused on creating a digital pillar that undergirds the structure supporting health care.

As the pandemic dwells and we look back, its clear how essential this type of digital infrastructure has become and why health information exchanges must naturally evolve into full Health Data Utilities. Becoming a Health Data Utility will ensure we can service the growing range of needs to more broadly support better health across multiple sectors of society.

What is personally exciting to me as we begin 2023, is that **we have finally entered the next phase of our journey to transition from processing transactions to enabling transformation of health care processes.**

This means helping organizations not just gain access to the data, but striving to ensure the information can merge into the workflow process in a manner that is more actionable and enables better decision-making at the individual, provider, organizational, and population levels. This means bringing greater context to raw clinical data in ways that **highlight the human beneath their medical record** and seeking opportunities to reduce the friction and complexity associated with providing care and social services.

In order to achieve this next phase, we must continue to ride the interoperability roller coaster. We will be supporting a new generation of standards and adopting a new set of emerging technologies that coincide with recent regulatory requirements to enable process transformation and empower consumer access and use of data. This means that application programming interfaces (API's) that utilize HL7 FHIR®, advanced cloud native computing platforms, novel technology like Clinical Decision Systems Hooks (CDS Hooks) and the Clinical Quality Language (CQL), and the ready integration of Smart on FHIR applications are all **required components of our new integrated technology environment** being installed and configured for use this calendar year as we phase out our legacy applications.

Because deep understanding and skillsets to support HL7 FHIR are relatively nascent, we plan to double down on our partnerships with participants, key partners, and stakeholders to learn how best as a community to adopt and harness these new capabilities. This includes pursuit of demonstration projects to establish value and expanding our efforts to train a new high-caliber, innovative, and diverse HIT workforce though our internship and apprenticeship programs.

Our commitment to HIT workforce development remains high because despite great strides to digitize the structure, and efforts to transform the processes around health care, it's going to be this new generation of people who believe in our mission, believe in the power of our work, and come to work every day committed to making valuable change who will ensure we usher in the real transformation of achieving better, more equitable health outcomes! -Tim Pletcher, DHA

About MiHIN

OUR PURPOSE

- Connect health care systems, private HIEs and independent care providers
- Fill gaps in patient health information for more comprehensive and longitudinal patient records
- Provide real-time access to patient information for better clinical coordination and decisions
- Serve as an unbiased community data trustee for health information
- Support improvement in quality, safety, efficiency, and reliability of care
- Connect the entire continuum of care going well beyond simply integrating electronic health records (EHRs) and pharmacy systems to inclusively account for all types of care organizations, community organizations, corrections facilities, first responders, nursing homes, social programs and public health at the state, county, and city levels
- Act as a lead entity for the Michigan HIT Commission 5 year IT Roadmap
- Gateway MIHIN participants to national networks
- Monitor the latest emerging interoperability standards so sharing data can become even easier and more meaningful

OUR MISSION

The Michigan Health Information Network (MiHIN) Shared Services 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.

"It is possible to conceive of quality as the product of two factors. One is the science and technology of health care, and the second is the application of that science and technology in actual practice.

The quality of care achieved in practice is the product of these two."
- Dr. Avedis Donabedian

The Use Case Factory®

The Use Case Factory® is MiHIN's formal methodology to modularize, prioritize, define, and advance data sharing on a large scale. The phased process is designed to foster and motivate statewide stakeholder alignment to operationalize a portfolio of valuable and required "Use Cases" that employ national interoperability standards. This approach focuses on the legal purposes for which data will be exchanged, the policies, and incentives on a case-by-case basis.

Phase 1
CONCEPTUAL
An Idea with a Sponsor

Activities
- Workshops
- White Paper
- Personas
- Pilot Identification

Current Use Cases & Scenerios

Alert & Query
Personalized Medicine
Intelligent Query Broker
Exchanging Lab Orders
Piloting with State Bureau of Labs or
Consumer Choices
ACRS Aware

Phase 2
PLANNING & DEVELOPMENT
Developing the Project

Activities
- Design Session & Working Group
- Demonstration & Evaluation
- Implementation Guide
- Use Case Exhibit

Current Use Cases & Scenerios

Imaging
Advanced Care Documents
Statewide Telehealth
Interoperable Referrals
Death Notifications (for hospitals)
Electronic Consent Management Solution
Health Claims
Out of State ADTs

Phase 3
IMPLEMENTATION
Building for Mass Adoption

Activities
- Incentives & Policy Levers
- Onboarding Package
- Conformance Reporting
- Value Assessment

Current Use Cases & Scenerios

Referrals
Social Determinates of Health (Social Care Screening)
Electronic Case Reporting (eCR)

Phase 4
ADOPTION
Utilization, Demand and Sustainability

Activities
- Cost Recovery Mechanisms
- Utilization Reports
- Trend Analysis
- Ongoing Evaluation

Current Use Cases & Scenerios

Admission, Discharge, Transfer Notifications
Exchange Consolidated Clinical Document Architecture
Longitudinal Record
Health Information for State
Immunization History Forecast
Syndromic Surveillance
Lab Orders-Results (Cancer Notifications, Cancer Pathology, Newborn Screenings, Reportable Labs, Blood Lead, Disease Surveillance)
Radiology Studies
Transcribed Document Delivery
Physician Payer Quality Collaborative (QMI)
Common Key Service
Active Care Relationship Service
Health Directory

For more information, please visit the Use Case Factory page on our website.

The Use Case Factory® 2022 Highlights

Death Notifications

Moving from concept to pilot, with stakeholder Michigan Medicine volunteering to help, this use case timely and accurately reports fact of death from Michigan Department of Health & Human Services' Electronic Death Registration System to those providers that have an active care relationship with the deceased.

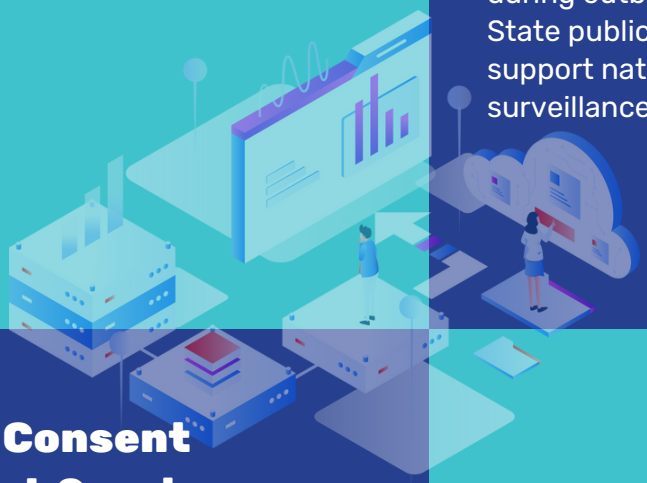
Electronic death notifications help improve awareness of the event, avoiding unnecessary and wasteful spending, precluding falsified insurance claims, and ceasing the dispensation of prescribed medications.

Electronic Case Reporting

Electronic case reporting (eCR) is the interoperable, automated, real- time exchange of case reports regarding a patient's infectious disease status.

Supporting this capability between healthcare providers and public health reporting agencies allows for increased accuracy, effectiveness, and speed of reporting cases of infectious diseases.

Electronic case reporting also lays the foundation for two-way data exchange, allowing clinicians to better collaborate with public health officials during outbreaks, while staying more informed. State public health reporting data is also used to support national and international disease surveillance efforts.



Electronic Consent Management Service

To tackle deaths due to drug overdose in Michigan, MDHHS and MiHIN have partnered to develop and implement the statewide Electronic Consent Management System (eCMS) which promotes better patient medical record transparency and care coordination amongst treatment providers and prescribers. Without this timely information healthcare providers are potentially prescribing opioids to an unknown opioid abuser.

The eCMS captures and notifies treatment providers of patient consent allowing for the sharing of any history of substance use disorder treatment across care teams.

The eCMS is currently being piloted by three prepaid inpatient health plans and their substance use disorder clinics with hopes that it will be available for all providers and clinics by the end of 2023.

Health Claims

This use case enables data traditionally found in institutional (facility), professional, dental, or retail pharmacy pre-adjudicated claims to be used to establish an integrated clinical and administrative record.

Supplementing clinical data with claims data can augment the understanding of various touch points of patients in the healthcare ecosystem and support equitable care, quality improvement and population health initiatives. The extraction of patient conditions, place of service, service provided, as well as other common data elements will enable the rapid population of registries, permit notification of the extended care team, and trigger the additional data collection of richer clinical information that can support quality improvement efforts.

The initial focus of the work is on automating the population of chronic disease registries to support quality improvement.

A Partner in Public Service: MiHIN's Role in Michigan's Health IT Roadmap

MICHIGAN HEALTH INFORMATION TECHNOLOGY COMMISSION RELEASES A NEW ROADMAP, NAMING MIHIN A LEAD PARTNER IN:

- Promoting and improving core HIN infrastructure (ADTs, identity management, web-based longitudinal records, etc.)
- Enhancing interoperable clinical documentation
- Promoting privacy and security (legal infrastructure, cybersecurity)
- Implementing data standards that align with best practice
- Implementing electronic consent management
- Prioritizing use cases that protect patient safety (timely medication information, ID management)
- Connecting all dots in care ecosystem (behavioral health, children, justice involved)
- Promoting and simplifying consumer applications
- Leveraging existing work to address the digital divide
- Prioritizing immunizations, death notifications, ECRs for Public Health
- Prioritizing registries and analytics for Public Health
- Improving data quality for Public Health
- Advancing social and health care data transfer
- Supporting interoperability and integration
- Leveraging aggregate data opportunities for analytics

"BRIDGE TO BETTER HEALTH" MICHIGAN HEALTH IT ROADMAP JUNE 2022

PURPOSE

While Michigan has risen as a national leader in its use of interoperable and broadly adopted health IT solutions, further work is needed to ensure that all Michiganders have access to equitable, affordable, and high-quality care. This report offers recommendations we can collectively pursue to reach new innovative horizons.

INITIATIVES

- Identify Champions & Empower Leaders
- Enhance Health Data Utility
- Address the Digital Divide
- Modernize Public Health
- Improve & Onboard Technical Assistance
- Social Care Data (Cross Sector Data Sharing)

HISTORY& BACKGROUND

In 2006, the Michigan Department of Community Health (MDCH) and the Michigan Department of Information Technology (MDIT) convened over 200+ stakeholders to develop a health IT strategic plan, called the Conduit to Care report. That same year, the Michigan Health Information Technology ("Health IT") Commission was created by Public Act 137.

The Commission's mission is to facilitate and promote the design, implementation, operation, and maintenance of an interoperable health care information infrastructure in Michigan.

MCDH, MDIT and the Health IT Commission oversaw the launch of the Michigan Health Information Network (MiHIN) in 2010.

In 2019, the HIT Commission adopted a resolution to the update the State health IT strategic plan.

SMART (ON FHIR®) MIGRATION: A NEW INTEGRATED TECH ENVIRONMENT

After a thorough and exhaustive investigation spanning several months, our organization made the decision in 2022 to consolidate, integrate and migrate our network infrastructure. This migration will take place over the next 18-24 months and will result in a new Integrated Tech Environment. This new platform will be based on AWS, with QVERA providing cloud-native integration and SmileCDR responsible for handling FHIR-friendly clinical data.

WHAT ARE THE BENEFITS & OPPORTUNITIES?

- Standardizes data utilization
- Modernizes infrastructure and eliminates duplicative legacy systems by ensuring consolidation of Great Lakes Health Connect and MiHIN technologies
- Increases reliability and responsiveness of scaling services
- Creates the path for required FHIR transformations
- Bridges existing payer and future provider FHIR environments
- Provides a cloud native environment that's durable, faster, higher performing, and has the highest levels of modern security

WHY NOW?

- Pressing need for greater technical capacity and capabilities to meet growing broader data and interoperability needs and support our stakeholders' compliance with regulatory requirements (e.g., 21st Century Cures Act).
- To increase agility, reliability, scale and create new efficiencies and cost savings by reducing the time needed for maintenance and operational support.

When it comes to technology, change is the only constant. Our future-proofed infrastructure and population based routing are designed to support data exchange for patient centered decision making, care coordination, price transparency, quality & value and compliance.

Upgrading and consolidating network infrastructure is a requisite for health data utility.

2022 Programmatic Highlights

Cross Sector Data Sharing for Social Care Program (formerly Social Determinates of Health SDOH)

In response to the critical and complex interactions between medical, behavioral, social and economic factors in maintaining and improving health, and the recognition by our stakeholders that people move between organizations as they receive care, MiHIN began planning to support enhanced collection of social care (SDoH) data and improved cross-sector data exchange in 2016.

MiHIN's work is focused on data movement and not about social need resolution; the SDOH Program was aptly retitled Cross Sector Data Sharing and refocused on developing an overall approach to cross-sector data exchange that supports several directed use cases to reduce health disparities: health and social care (clinical-community linkages), educational support (child school-based services), correctional system and re-entry, integrated behavioral health care services, as well as statewide support programs for major social problem domains (notably housing, food, and transportation).

As we mature the **Interoperable Referrals Use Case,** our work is to develop a legal and technical infrastructure necessary to exchange data related to social need referrals according to national data and technical standards.

In an unprecedented commitment to achieve an open and connected ecosystem of care for communities, eight social care platform vendors signed an Interoperable Referrals Pledge and in doing so, have taken responsibility to act, together, in the public interest to enable a more interoperable social care environment through mutual collaboration.

Building off the momentum created by the pledge the vendors formed a Community of Practice (CoP) hosted by MiHIN, dedicated to the statewide sharing of data that documents social need identification, referrals, interventions, and outcomes amongst care teams that span health and social care.

Current Cross Sector Data Work

In January, the team hosted a series of statewide SDoH workshops to better understand the current state of SDoH data capture and exchange within and across sectors and to prepare to address the full complexity of the work necessary to equitably manage cross sector data sharing.

The Social Needs Screening (SDOH use case) has standardized the intake and outflow of social needs screening data for health care generated data for 3 years, with updates yearly to be consistent with national standards and best practices.

200%

Increased data flow in SDOH Use Case in 2022

A limited working group of boots-on-the-ground healthcare providers was convened to make recommendations on our SDOH and Interoperable Referrals Use Cases and associated services.

The working group met several times to:
- Help to refine minimum data needs that would allow an interoperable referral to occur
- React to a draft of information that a clinician would find valuable to know about social care (social care snapshot)
- Provide feedback about social care reporting needs from a healthcare provider perspective

2022 Programmatic Highlights, Cont.

Equitable and Culturally Appropriate HIE for Tribal Nations

Because each of the 12 federally recognized tribes in Michigan is a sovereign nation, the tribal health care system faces piecemeal, disconnected and inconsistent data. These data siloes lead to poor care, delays, and disjointed coordination between health care providers, clinics and even within families.

Medical providers serving tribal members in Michigan face a host of challenges — including the fact that many members live off traditional reservations, and that reservations are often in rural areas.

In 2022, MiHIN, lead by senior technical analyst Krystal Schramm, also known as Miskwa Mishiki Que or "Red Turtle Woman," has legally connected to 9 of the 12 tribes and the Urban Indian Health Center to advance the sharing of data on patients through admission, discharge, transfer notifications and other health data exchange use cases and services.

By enabling the flow of data through the MiHIN network, health information for the tribal communities can be shared quickly and seamlessly between tribal and non-tribal providers, therefore establishing order and structure in the digital health ecosystem. Equally as important is the data sharing infrastructure to support a more equitable health care experience for the tribal communities.

Krystal is a relentless advocate for the Native American community and has been instrumental in fostering relationships, building trust and effectively communicating why interoperability is a necessary next step for tribal health systems.

This work directly supports MiHIN's commitment to health equity, diversity and inclusion and its overarching mission to improve coordination of care and health outcomes for all Michigan residents.

The Health Equity Project

The Health Equity Project aims to help 5 Michigan counties reduce health disparities associated with pressing social needs by utilizing data that is enhanced with performance measurements and delivered through population health reports.

Building off the work done in 2021 to capture all patient pre-adjudicated claims data from Blue Cross Blue Shield of Michigan, including Medicaid, the MiHIN team developed an automated process to extract clinical data from the pre-adjudicated claims shared via the Health Claims Use Case to enable the identification of individuals for chronic disease registries.

Collaborative Quality Initiatives (CQI) consist of hospitals and physicians across the state, collecting, sharing and analyzing data on patient risk factors, processes of care and outcomes of care, to then design and implement changes to improve patient care.

MiHIN worked with the Diabetes CQI to understand the medical data abstraction needs and criteria desired for a patient to become a potential candidate for their type 2 diabetes registry. We then mapped this criteria and medical data abstraction needs for the diabetes CQI to the claims and CCDA clinical data to identify potential candidates for the diabetes registry. The INHALE CQI provided their initial criteria specification which defines both their Asthma and COPD populations and mapping the criteria to those data sources has begun and will continue into FY23.

The top priority in FY22 was to make sure that the clinical data sharing infrastructure was established, before moving forward with the data sharing coordination with community based organizations.

MIHIN BY THE NUMBERS & AT SCALE

MiHIN is a non-profit charged to **achieve financial sustainability.**

Through a diversified funding model, our statewide infrastructure is supported by the federal and state government, hospitals, health systems, health plans, and pharmacies which subscribe to use cases and purchase services and tools, so as to keep costs down for individual providers, including physicians, nurse practitioners, physician assistants, nurses, respiratory therapists, dentists, pharmacists, occupational therapists, physical and behavior therapists, as well as allied health professionals such as phlebotomists, medical laboratory scientists, dieticians, and social workers.

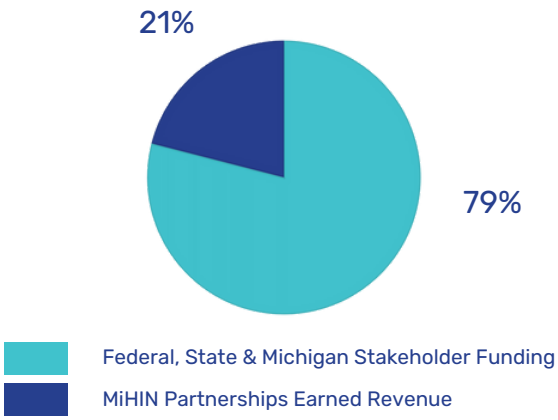
Health information exchange is a high fixed cost business. The shared digital infrastructure maintaining clinical and reporting structures necessitates an architecture that is secured and hardened and yet flexible for innovation (see page 7 re: Migrating our Technical Environment.)

Our greatest asset at MiHIN is our people and their unwavering commitment to the ultimate public benefit of a collaboratively governed, non-profit, statewide, health data utility.

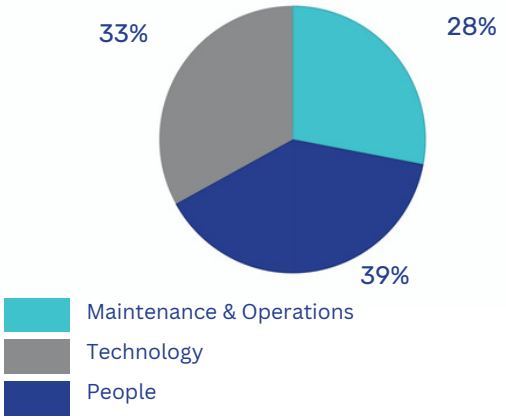
OPERATING REVENUE
FY 2022*

$44,440,926

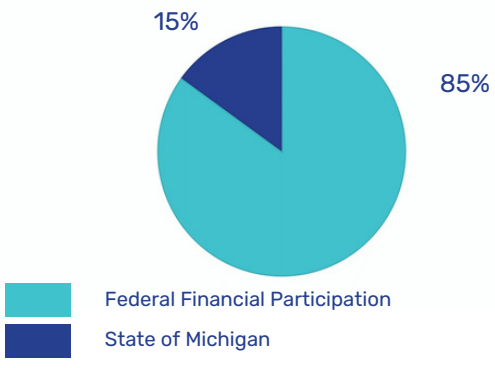
SOURCES OF REVENUE
FY 2022*



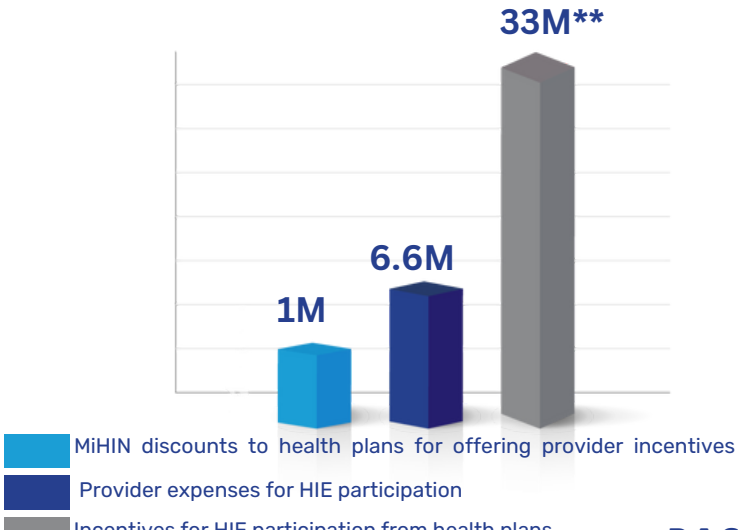
OPERATING EXPENSES
FY 2022*



SOURCES OF GOV'T REVENUE
FY 2022*



PROVIDER INCENTIVES FOR HIE PARTICIPATION
FY 2022*



* FY22 is made up of Unaudited numbers

** Estimate based on past years totals

MIHIN BY THE NUMBERS & AT SCALE

MiHIN's statewide network is built on a cloud-based infrastructure so as to support rapid, exponential growth in the legal, private and secure sharing of critical information.

The volume at which we exchange data represents real, critical healthcare information that supports over 40 thousand providers across our state in forming a more complete picture of the millions of patients they care for.

7.6B

Health Information Messages Exchanged; Cumulative

5.8M

Patient Medication Reconciliation reports sent out for care coordination in 2022

570M+

Patient Admission, Discharge, Transfer Notices sent out to their providers in 2022

44,582

Michigan care providers with Active Care Relationships® through MiHIN, working within

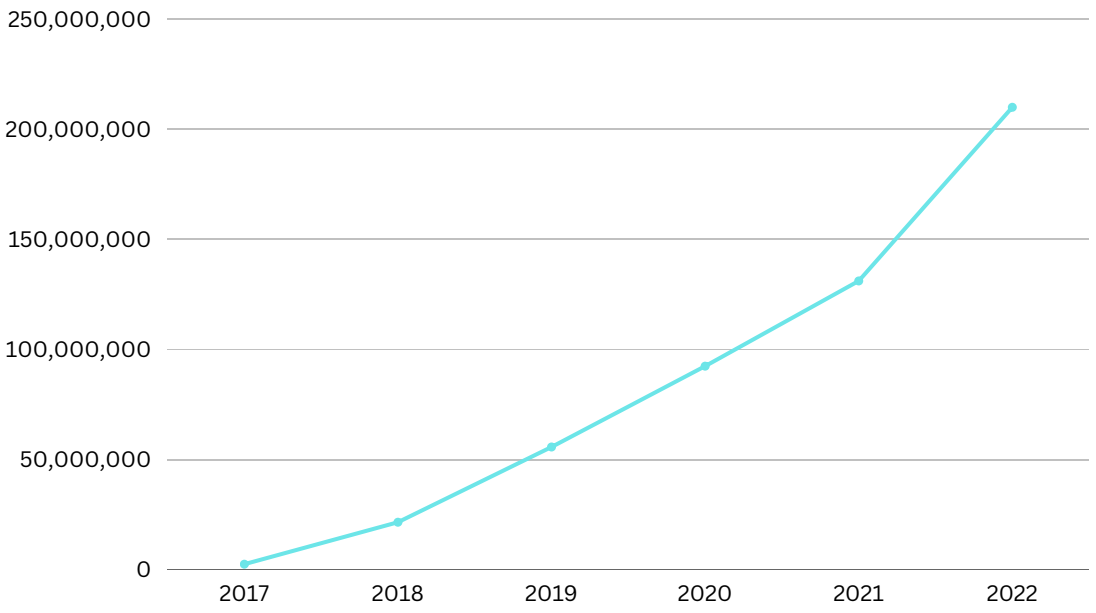
5,637

Michigan care entities

34M+

Active Care Relationships between patients and providers in Michigan in 2022

13,136,868
Unique Patient Records



Amount of electronic queries sent through MiHIN to retrieve data containing a patient's immunization records

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Michigan Department of Health & Human Services

Acknowledgements

A network is nothing without its participants.

The reason for the data exchange our infrastructure supports is to get critical information to our participants' providers in enough time to help them make their best decisions about how to care for their clients and patients.

We are thankful for the efforts of so many sitting on our board and committees, partnering and piloting and workshopping with us, and working tirelessly within the caring organizations who connect through us.

We are committed to working to better engage current, new and different stakeholders and to elevating the needs of end-users from clinical, social and community care settings. We are actively creating training plans to support users to increase their knowledge and confidence in our shared network and developing implementation strategies to seek user feedback.

As an ecosystem, we will monitor performance to achieve maximum benefits as HIE expands to novel settings.

Working together we all can achieve more.

We are grateful for the work you do every day and for your continued support and partnership.

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