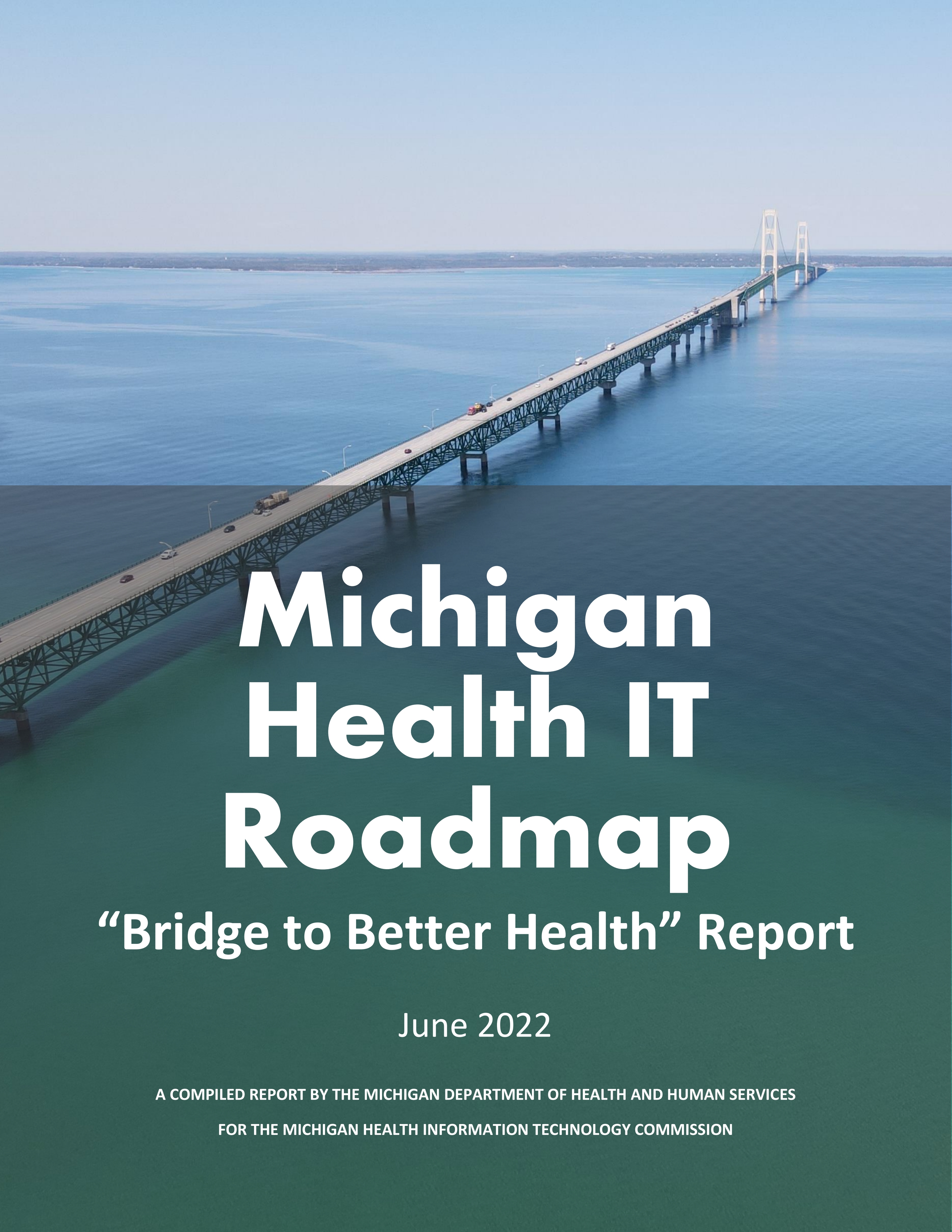

Michigan Health IT Roadmap

“Bridge to Better Health” Report

June 2022

A COMPILED REPORT BY THE MICHIGAN DEPARTMENT OF HEALTH AND HUMAN SERVICES

FOR THE MICHIGAN HEALTH INFORMATION TECHNOLOGY COMMISSION

The Bridge to Better Health report is the result of a collaborative effort between the Michigan Health Endowment Fund[1], the United States Department of Health and Human Services, the Michigan Department of Health and Human Services, Michigan Health Information Technology (IT) Commission, and the CedarBridge Group – with extensive participation and contributions by members of Michigan's health care, community services community, and individual Michiganders. Appendix 1 includes a full list of participating organizations and individuals.

The Bridge to Better Health report serves as a summary of the engagement and long-term planning efforts that, from 2019 to 2021, have built new momentum and synergies in how our care systems can leverage health IT in the State of Michigan to improve the health and wellness of all Michiganders.

The Michigan Department of Health and Human Services is pleased to offer this summary report, and we sincerely thank everyone who has dedicated their time, resources, and ideas to this effort.

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Thank you to all who participated!

MICHIGAN HEALTH
ENDOWMENT FUND

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[1] 1 The Michigan Health Endowment Fund works to improve the health and wellness of Michigan residents and reduce the cost of healthcare, with a special focus on children and older adults. The foundation has five annual grant programs. For more information about the Health Endowment Fund and its grantmaking, visit www.mihealthfund.org.

STATE OF MICHIGAN
DEPARTMENT OF HEALTH AND HUMAN SERVICES
LANSING

GRETCHEN WHITMER
GOVERNOR

ELIZABETH HERTEL
DIRECTOR

Fellow Michiganders:

The Michigan Department of Health and Human Services is committed to programs that improve the health, safety, and prosperity of State of Michigan residents. We achieve this mission by promoting strategies that extend better health and opportunity to all Michiganders, particularly by addressing health inequities. In partnership with the Michigan Health Information Technology (IT) Commission, we are happy to share the "Bridge to Better Health" report with you to articulate how health IT will continue to be leveraged as a critical tool in meeting residents' health, wellness, and safety needs. Through extensive input from Michiganders and stakeholders from communities across the state, we believe this strategy provides guidance and planning based on the needs expressed by residents, clinicians, social service organizations, and advocates.

We acknowledge that this strategy was developed amid one of the most challenging public health emergencies in more than a century. Despite service delivery in health care and social services being stretched to its limits, our frontline heroes have responded with grit, perseverance, and innovation. This report is meant to reflect this vigor by proposing strategies and recommendations that are bold, transformative, and innovative.

Despite rapid technological advancements and ambitious policy changes, there are still pervasive gaps in how care is coordinated and managed. The Coronavirus pandemic has illuminated the destructive effects of continuing racial health inequities. While Michigan has risen as a national leader in its use of interoperable and broadly adopted health IT solutions to address these challenges, 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.

Thank you to all who participated in developing this report. We acknowledge and appreciate your dedication to serving residents and improving outcomes in Michigan.

Sincerely,

Elizabeth Hertel

EH:tr

333 SOUTH GRAND AVENUE • PO BOX 30195 • LANSING, MICHIGAN 48909
www.michigan.gov/mdhhs • 517-241-3740

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Executive Summary

In 2006, the Conduit to Care report, Michigan's last published strategy for health information technology (IT), invited medical providers to "use technology to vastly improve the [health care] system." At that time, coordination of care and connections between clinicians suffered from ineffective processes and workflow barriers. Often described as existing in "silos," paper-based patient health information was often held disparately between hospitals, laboratories, physician offices, ambulatory treatment centers, and pharmacy providers. Nearly two decades later, the principles of the Conduit to Care report have ushered in a health IT environment in Michigan that has improved health care delivery and care coordination for residents. Additionally, state health IT strategies have implemented more effective statewide governance over electronic health information and information exchange. In terms of its capabilities and opportunities, Michigan stands as a national leader in health IT adoption, interoperable solutions, and innovation with a robust health information exchange, adoption of shared services, and standard setting.

In 2019, the Michigan Health IT Commission adopted a resolution to reconvene stakeholders to update the Conduit to Care report into a modern health IT strategic plan. The Health IT Commission engaged with over 300 organizations virtually from across the state to update Michigan's health IT strategy between 2020 and 2021. Despite the strain and challenges of the pandemic, stakeholders committed their time and attention to the planning process for the updated strategy, and their anecdotes provided valuable insights into how systems can and should be better prepared for similar emergencies in the future. In addition to insights about the pandemic, the Health IT Commission also paid particular attention to how social determinants of health affect health care delivery and outcomes. Conditions like housing instability, food insecurity, and lack of transportation greatly affect the health and wellness of residents, particularly for those who experience racial disparities or other social vulnerabilities. Early in the stakeholder engagement process, the Health IT Commission acknowledged that an updated health IT strategy must also address how to coordinate care beyond clinical spaces and integrate health-related social care data. This innovative approach, of leveraging health IT to address both clinical outcomes and social determinants of health, allowed the Health IT Commission to elevate the principles of the Conduit to Care report into a new era. The Bridge to Better Health report recommends the following initiatives:

- Initiative #1: Identify champions and empower leaders
- Initiative #2: Enhance health data utility
- Initiative #3: Work to address Michigan's digital divide
- Initiative #4: Improve onboarding and technical assistance programs
- Initiative #5: Protect public health
- Initiative #6: Adopt standards for social care data fields

Where We Are Now

Michigan's health and human service providers have widely variable experiences with use and adoption of technology depending on size, functionality of existing technology solutions, health IT workforce availability, as well as training and support of system users. Access to mobile devices, high-speed broadband service, and dependable internet connections also has a significant impact, especially for rural organizations, creating disproportionate negative economic, social, and health impacts on low-income residents.

In terms of health IT adoption, 100% of Michigan hospitals and 83% of Michigan's eligible professionals have taken advantage of the EHR incentive programs through the Centers for Medicare and Medicaid Services.[2] However, behavioral health and long-term care providers are not deemed eligible for incentive payments by federal programs and hence lag in adoption. For those organizations, a certified EHR system can be cost-prohibitive; regional economic circumstances and broadband availability also factor into adoption variations between provider types, resulting in disproportionate impacts on rural populations and contributing to health disparities seen in some rural regions of Michigan.

Governance

One of the significant outcomes of the 2006 Conduit to Care report was the establishment of a collaborative public-private governance model for health IT. The Michigan Legislature established Public Act 137 in 2006 to create the Michigan Health IT Commission.[3] The Commission's purpose, membership and operations are governed by section 2503 of Public Act 137-2006. Members of the Commission are appointed by the governor without the advice of the Michigan Senate.

Members of the Health IT Commission represent a diverse range of sectors and expertise in health care across the State of Michigan. The Commission has 13 members. Commission representation is comprised of individuals representing both the public and private sectors, with expertise in at least one of the following areas:

- Health information technology
- Administration of health systems
- Research of health information
- Health finance, reimbursement and economics
- Health plans and integrated delivery systems
- Privacy of health care information
- Medical records
- Patient care
- Data systems management
- Mental health

At the time of this report's creation, all 13 commission appointments were filled. Each member of the Health IT Commission, as listed below, have provided invaluable thought leadership, cross-sector coordination, and visioning in this strategic planning effort:

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[2] According to the 2020 Michigan State Medicaid Health IT Plan (SMHP)

[3] Access to PA 137-2006: http://www.legislature.mi.gov/documents/2005-2006/publicact/pdf/2006-PA-0137.pdf

(a) The director of the department (the Michigan Department of Health and Human Services [DHHS]) or his or her designee	Elizabeth Nagel - MDHHS Senior Deputy Director for Policy, Planning, and Operational Support
(b) The director of the department of information technology (the Michigan Department of Technology, Management and Budget [DTMB]) or his or her designee	Jack Harris - DTMB Chief Technology Officer
(c) One individual representing a nonprofit health care corporation operating pursuant to the nonprofit health care corporation reform act, 1980 PA 350, MCL 550.1101 to 550.1703	Marissa Ebersole-Wood, Ph.D. - Blue Cross Blue Shield of Michigan Vice President of Regulatory Implementation and Data Governance
(d) One individual representing hospitals	Heather M. Wilson - Michigan Medicine Senior Director of Revenue Cycle Mid-Service
(e) One individual representing doctors of medicine	Michael Zaroukian, M.D., Ph.D., M.A.C.P., F.H.I.M.S.S. - Sparrow Health System Chief Medical Information Officer & Chief Transformation Officer
(f) One individual representing doctors of osteopathic medicine and surgery	Paul LaCasse, D.O., M.P.H.
(g) One individual representing purchasers or employers	Camille Walker Banks - NPower Michigan Executive Director
(h) One individual representing the pharmaceutical industry	Allison Brenner, Pharm.D. - Pfizer Director of Medical Outcomes Specialists
(i) One individual representing schools of medicine in Michigan	Norman Beauchamp, M.D. - Michigan State University Executive Vice President for Health Sciences
(j) One individual representing the health information technology field	Jim VanderMey - Open Systems Technology Chief Innovation Officer
(k) One individual representing pharmacists	Heather Somand, Pharm.D.
(l) One individual representing health plans or other third-party payers	Nicholas D'Isa, Esq. - Physician Health Plan Chief Compliance Officer
(m) One individual representing consumers	Renée Smiddy, M.S.B.A. - Michigan Health and Hospital Association Policy Director

This strategic planning effort has also involved members of the Health IT Commission who no longer serve. In providing their time, expertise, and review during processes of this report’s creation, these previously appointed members of the Commission include:

- Sarah Esty
- Rozelle Hegeman-Dingle, PharmD
- Jack Kufahl
- Pat Rinvelt
- Thomas Simmer, MD

Capabilities: Environmental Scan Findings by Stakeholder Domains

Hospitals and Health Systems

Adoption of enterprise-wide instances of electronic health record systems (EHRs) are ubiquitous among large hospital and health systems in Michigan with Epic, Cerner, Healthland, and MEDITECH being the most common EHR vendors. It is increasingly common for hospitals and integrated delivery systems to have all inpatient, outpatient, emergency department, and local ambulatory primary care and specialty clinics, as well as diagnostic imaging and labs, using the same enterprise EHR system.

The critical access and community hospitals in rural Michigan have also all adopted EHRs but are less likely to be using their EHR system to share information externally.

With the consolidation trend in health care and many larger systems acquiring community hospitals, skilled nursing facilities, and private practices, several different EHRs may be in use until an enterprise EHR solution can be adopted. All Michigan hospitals and health systems that participated in the environmental scan indicated their engagement in at least one data sharing use case (e.g., sending admit, discharge, transfer messages). Several hospital systems reported using national networks (eHealth Exchange, Carequality, and CommonWell) for electronic health information exchange. Stakeholders with organizations using the Epic EHR platform reported leveraging Care Everywhere to exchange information with other Epic provider organizations.

Ambulatory (i.e., Internal, Family, and Primary Care) Providers

A large majority of ambulatory provider groups reported having certified EHR technology, and most have some level of information exchange and interoperability with other providers.

Large practices are less likely to be on enterprise-wide system than large hospital systems. Some practice groups reported three or more different EHR systems in use. There are wide gaps in the ability to effectively use health IT tools, between large group practices, provider organizations (POs), and those in Medicare Accountable Care Organizations (ACOs), versus smaller private practices.

Direct messaging is available for use directly from some EHR systems, but the service is under-utilized because there is not a reliable source for the direct addresses of provider practices.

Stakeholder input also indicates many smaller private practices do not have technology-savvy employees who could train and support staff, or the legal resources to negotiate multiple data-sharing agreements for the point-to-point data exchange relationships.

Approximately three-quarters of stakeholders from this sector reported some level of participation with health information exchange (HIE), but only one third of responding stakeholders indicated that data received from an HIE can be integrated into the practice EHR as structured data. The most common barriers to participation were the cost of participation and the cost of modifications to the EHR that would be needed to effectively interface with the HIE. Large numbers of ambulatory providers are still sending clinical information to other providers via phone, fax, and secure email when referring a patient. Even when information is sent electronically between health care organizations' EHR systems, many providers report difficulties trying to sift through volumes of information because the sending EHR system does not organize the information effectively.

Behavioral Health Providers

The behavioral health survey data indicates most behavioral health practices have adopted an EHR system, although few if any are certified according to the ONC's 2015 interoperability standards. Over 70% of responding organizations reported using an EHR system. Nevertheless, none of the 41 organizations responded affirmatively to the survey question about whether their EHR system is certified by the ONC and many comments to survey questions were focused on the need for an electronic consent solution.

Sustained technical assistance and training in the use of technology systems is also dire need for behavioral health providers. Behavioral health stakeholders reported workforce shortages, lack of technical resources or funding, constraints to data sharing due to privacy concerns, and like many other groups in Michigan, limitations due to a lack of reliable internet service in rural areas.

It is clear there is a shift underway to include behavioral health providers in value-based health care payment arrangements with primary care, which is creating more demand for data and more interest in interoperable systems that share health data bidirectionally with other providers and social service organizations, though direct messaging and other HIE services.

Social Service Organizations

Over the past two decades since the Conduit to Care report was published, the greatest shifts in health IT capabilities have arguably occurred in terms of how health care and social service agencies are increasingly beginning to integrate. With many communities wanting to address whole-person outcomes and social determinants of health (SDoH), innovative approaches have been piloted across Michigan to foster better care coordination between clinical and community service organizations.

During the State Innovation Model (SIM) in Michigan, holistic approaches were piloted to integrate how clinical, community, and other support services coordinate to address a range of resident needs. In addition to changes in how communities collaborate their services, many communities also launched technology solutions to streamline how resident needs are triaged and managed. Following these SIM pilot programs, the coordination of resident SDoH has continued to push many community-based organizations (CBOs) and social service agencies into more advanced technology capabilities. However, despite the growing interest, many of these organizations have reported experiencing the greatest challenges of any domain in effectively being able to exchange information electronically with other members of an individual’s care team. While some CBOs are sharing data through referral resource platforms such as MiBridges, operated by MDHHS, many other vendors are meeting the growing technological needs of social service organizations through a variety of care coordination solutions. In addition to technology solutions, social service organizations are also interested in more comprehensive data services, such as exchanging data with other organizations across education and early childhood data systems, justice systems, housing, transportation, job training and financial assistance programs, child welfare, and foster child data systems.

Emergency Medical Service Providers

Michigan has over 100 Emergency Medical Service (EMS) provider agencies. Each of these agencies have statutory reporting requirements to enter information into the Michigan Emergency Medical Information System MI-EMSIS, a state-managed repository developed to assess the need for and quality of emergency medical services across the state. The 18 EMS software vendors in use by Michigan EMS agencies are configured to support data submission to MI-EMSIS to meet reporting requirements. Unfortunately, conformance to the MI-EMSIS data standards is inconsistent on the part of vendors. The MDHHS Bureau of EMS, Trauma, and Preparedness spends an inordinate amount of time trying to normalize the data and encouraging vendors to improve their products.

In addition to MI-EMSIS, MDHHS also supports the Hospital Hub system, which provides hospitalists with a PDF summary of EMS encounters; however, these summaries do not integrate with EHR systems. In practice, other than verbal reports from EMS personnel at intake, emergency department clinicians lack integrated and real-time information following emergency transport. EMS responders report having little to no visibility into other systems for clinical information about a patient when responding to a call. Some agencies provide access to records of prior EMS calls. Unfortunately, the quality of the information in these settings is often not deemed useful. With few exceptions, EMS providers have little access to treatment wishes for life-saving care, such as access to a registry of Advance Directives, Health Care Power of Attorney forms, and Michigan Physician Orders for Treatment (MI-POST) forms.

Finally, the COVID-19 pandemic has had a devastating impact on the local Michigan EMS workforce and on the state agency staff trying to support the services with inadequate resources and outdated technology.

Public Health Organizations

While many public health agencies use health information exchange, many more still primarily rely on phone, fax, and secure email to share patient information with other organizations. Barriers and challenges to sharing information is an outcome of legacy workflows, system integration needs, and not having actionable data for clinical decisions. Less than 10% of respondents in public health engagement surveys expressed that incoming data integrated with their EHR; however, that number increased to 20% of respondents if static documents that need to be scanned into an EHR are included. Most notably, engagement results pointed to a need in public health agencies to receive more complete reports from other providers, with their top priorities for technology investments being analytic tools and aggregated population-level data to measure the costs and value of programs.

Survey responses also indicated enthusiasm for the sharing of social services information to better manage whole person care coordination. Public health agency staff expressed an interest in connections that would allow access to information in external organizations across the state, including MDHHS-operated systems, without having to go to several portals to identify desired information. Among most public health engagement respondents, there was strong consensus that expanded telehealth services will continue to be widely used after the pandemic wanes. They urged policymakers to make permanent adjustments to telehealth regulations that would help to address ongoing health care access issues.

Long-Term Care and Post-Acute Care Providers

Nearly all long-term care providers engaged for this report described having EHR systems implemented; however, many organizations may not be using certified systems. Approximately half of the organizations report participating in an HIE; cost of participation and concerns about the expected value for the investment were cited as the primary reasons for those not yet connected to an HIE.

Priorities of the long-term care stakeholders include better alignment and standardized use of Advance Directive registries, access to Veterans Administration (VA) health records, improved reporting for quality measures, improved access to the state's Prescription Monitoring Program, and a statewide system with psychiatric bed availability for placements in addition to clinical data of all types.

The pandemic hit this stakeholder domain hard, as expressed in survey results. When asked how organizations have adapted, responses included making modifications to patient interactions, the addition of video visits, providing devices to patients including touchless thermometers and wireless nurse call pendants. As workforce demands continue to change in this sector, stakeholders serving aging and long-term care populations also expressed an interest in receiving training on data exchange options, including participation in HIEs.

Health Insurance Plans

Across many Michigan commercial and Medicaid health plans, care coordinators and case managers are users of HIE platforms and receive health information to create and monitor progress on care plans. Health plans rely heavily on HIE-shared services for care coordination and report discrepancies related to the diagnoses in the ADT message, specifically the primary reason for the encounter. At least one health plan is working to address the errors and has developed a value-based payment initiative to incentivize providers for accurately completing the diagnosis field when coding in their EHR to improve data accuracy.

Like other stakeholders, health plan executives in Michigan are concerned about the gaps in reliable high-speed internet across parts of the state, seeing the digital divide as a barrier to accessing quality care in some communities.

Health plans have also relied on the state immunization system and are especially reliant on the system now to meet state COVID vaccination metrics. Many health plans leverage the HIE services to send and receive immunization data. Into the future, health plan stakeholders request an expansion of HIE-use cases to add bulk query functionality of immunizations and other electronic health data. Moreover, health plans are also interested in collecting and analyzing SDoH data on members.

Residents

Today, many consumers only see the portion of information in their record that is captured in the patient portal provided by health systems, clinics, and health plans. As expressed in forums and surveys, many consumers would like to see their information integrated into one common platform. Consumers also expressed interest in seeing consent management capabilities be more accessible and easier to modify. Consumers are generally unaware what the law provides them in terms of rights to access and protections of privacy. Consumer advocates called for more transparency regarding how individual data is used and shared, and for clear information to be made available to consumers about how to opt-in and opt-out of electronic health information exchange, and how to revoke or change a prior choice made about data sharing preferences.

The consumer and advocacy stakeholder engagements revealed an increase in remote patient monitoring and the use of wearables since the beginning of the COVID-19 pandemic. In addition, there has been a rapid expansion in the availability of virtual visits and telehealth services, with many states, including Michigan, relaxing some of the regulations for telemedicine licensing during the pandemic. Many stakeholders would like to see those rule changes become permanent to expand health care access and lower the burden for rural residents to travel distances for medical appointments.

For those individuals caring for an individual with special needs, virtual visits were viewed positively, but their ability to access vital information such as lab results, prescribed medications, and notes from a previous visit is inconsistent. Consumers and providers highlighted this disparity being most prominent for elderly patients or those with dementia.

Strategic Recommendations

This report contains priority initiatives for the next five years, based on stakeholder feedback during the environmental scan. They include the need for:

- Relevant and easy-to-access clinical information at the point of care for providers across all stakeholder domains.
- Accurate and timely information in public health systems to protect population health and to prepare for future public health emergencies.
- A statewide directory for social service organizations and coordination across organizational networks and state programs.
- Addressing Michigan's digital divide to help address disparities in health care and social services in rural parts of the state.
- Key statewide shared services including:
  - Statewide health data utility services to connect health and social care data.
  - A statewide consent management service to support cross-organizational information exchange.
  - A statewide Advance Care Plan Registry to make end-of-life treatment choices known in emergency settings.
- Funding and technical assistance to organizations and communities advancing whole person coordinated care models to support the technology, workflow, and workforce changes required for integrated health care and social services.
- Engagement of Michigan's top executives in government and business to ensure successful implementation of this report

To successfully help Michigan bridge the gap between today's capabilities and tomorrow's health IT innovations, leaders should continue to convene stakeholders in inclusive processes to set priorities and policies for shared technology investments. Moreover, this engagement should support a framework for Michigan health care and social service organizations, state and local government programs, communities, families, and individuals to benefit from the value created using IT solutions and HIE services.

Initiative #1: Identify champions and empower leaders

Description	This initiative will provide the representation, cross-functional collaboration, and executive-level advocacy needed to support the implementation of this strategy document. Many sectors, such as behavioral health, school-based providers, and social services, also need to connect to and share data with the rest of the delivery system. All voices on a resident's care team must be considered for representation on the Health IT Commission to realize a more complete vision for health IT and health information exchange in Michigan. During validation and prioritization, this initiative was determined to be foundational to the success of the other initiatives.
Purpose	The purpose of this initiative is to empower state leadership, including the Health IT Commission and MDHHS, to support all future initiatives with broader and more inclusive representation. This initiative also compels state leaders to take ownership and an active advocacy role in implementing the strategies outlined in this report.
Initiative #1, Objective A: **Drive implementation of the roadmap and future initiatives and promote a shared vision**	Activity 1A-1: Track, monitor, and evaluate metrics demonstrating roadmap implementation progress over time. • The commission will develop implementation dashboards and accountability mechanisms to transparently share progress on implementation. • The commission will publish quarterly reports, outlining progress made towards strategic initiatives and goals.
Objective #1, Objective B: **Refresh State health IT governance**	Activity 1B-1: Expand the Health IT Commission to better reflect all sectors and levels involved in the whole-person care of residents, such as representation by: • Community services. • Behavioral health. • CHCP Medicaid health plans. • Local health departments. • Skilled nursing (e.g., RNs, NPs). Activity 1B-2: Develop engagement, education, and communication capacities on the Health IT Commission to inform.

	the public on relevant health IT, security, consent, and consumer access topics.
Timing	Begin as soon as possible. Q1 2022
Potential Funding Source	N/A

Initiative #2: Enhance health data utility

Description	Health data utility, or the shared data services that support vital information exchange functions in the state, is a valued public infrastructure needing continual maintenance and enhancements to meet the needs of residents. In the coming years, state health IT leaders, health care payers, and care providers will work more collaboratively to develop and enhance the shared services offered across our state. Where practical, the state will leverage existing investments and will maximize federal funding through the American Recovery Plan Act (ARPA) and other funding sources. Michigan stakeholders strongly supported the concept of health information exchange core services as a public data utility. The value in this initiative is improving public health response, coordination of care and services for vulnerable individuals, referrals, alternative payment models, and other use cases.
Purpose	The purpose of this initiative is to ensure that core shared services, such as those providing attribution, identity management, web services, and data interoperability, continue to be supported and enhanced. This initiative prioritizes the development of core capabilities, and it requires public-private collaboration to ensure the stability of care delivery, coordination, and quality into the future for all Michiganders.
Initiative #2, Objective A: **Build on the success of health information exchange in Michigan**	Activity 2A-1: Implement information exchange that leverages existing public investments wherever possible, such as MDHHS enterprise data services or through the health information network. • Support the implementation of priority MDHHS IT system developments, such as for:[4] ○ Michigan Crisis and Access Line (MiCAL). ○ MDHHS Public Health system modernization. ○ The new Michigan Comprehensive Child Welfare. Information System (CCWIS). ○ Closed loop referral systems. ○ Person-data integrations with the MDHHS Master. Person Index (MPI).

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[4] According to the 2020 MDHHS IT Strategic Plan

	• Stakeholders and funders will be encouraged to utilize public services and utility in health IT and health data utility to promote:[5] o Modularity. o Interoperability. o Leveraging investments. o Alignment with industry standards, patterns, and practices. • The commission will advocate for and promote widely adopted health IT and health information exchange services as core state solutions. Activity 2A-2: Advance and promote the capabilities of core health information network infrastructure in the state, such as admit, discharge and transfer (ADT) messaging, attribution, identity management and web-based longitudinal record services. • Stakeholders and funders will commit to leveraging existing core capabilities wherever possible, to not duplicate investments, and to leverage common shared services. • In continuing to leverage common shared services, the commission will convene organizations to develop plans on improving data accuracy and quality. Activity 2A-3: Enhance interoperable clinical documentation, such as through standardized document language (e.g., Consolidated Clinical Document Architecture). • The commission will provide advisory and advocacy for the promotion of interoperable document architecture, such as CCDA, to promote patient safety and quality care. Activity 2A-4: Creating an innovation ecosystem for health IT leveraging HIE
Initiative #2, Objective B: **Promote standards and secure infrastructure**	Activity 2B-1: Promote secure health information practices that protect individual privacy. • The commission will convene workshops and committees to discuss and bring visibility to high priority opportunities and challenges in health IT system privacy and security, such as: o Consumer-mediated exchange. o Consent and consumer preferences. o Cybersecurity. o Health information exchange legal infrastructure.

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[5] Derived from MDHHS Integration Guide design principles

	• The commission will adopt a set of guiding privacy and security principles to inform stakeholders of the minimum standards for protecting patient identities and information. • Develop education and improved resources for opting out of applicable data sharing. Activity 2B-2: Empower the Health IT Commission to implement standards development, such as alignment with the United States Core Data for Interoperability (USCDI). • The commission will convene workshops and committees to provide guidance and advisory on data standards for Michigan stakeholders, such as for: o Implementation of required clinical core standards (e.g., USCDI). o Developing core standards for social care data (e.g., such as those being established by the Gravity Project). o Working collaboratively with stakeholders to make recommendations to MDHHS. • The commission will regularly provide updates in its annual report on findings and recommendations it makes on standards development.
Initiative #2, Objective C: **Build data exchange that is consumer-centric and mediated by each resident**	Activity 2C-1: Implement a comprehensive statewide electronic consent management system, which empowers patients to control the sharing of their data. • The commission and MDHHS will provide advocacy for and priority to the development of consent management systems that are interoperable, scalable, and offer optimized security protocols. • Stakeholders will continue to work collaboratively on updating and expanding electronic consent management systems to ensure that: o Consent preferences can be captured for a variety of protected data types. o Methods for providing consent preferences remain modern, accessible, and easy to modify by each patient. Activity 2C-2: Protect patient safety by supporting critical life-saving data services. • Certain priority use cases were identified by stakeholders as having significant benefit to patient safety and quality of care, including: o Up-to-date medication information. o Advanced Directives. o Statewide identity management.

	• The commission, MDHHS, and stakeholders will advocate and pursue funding for these priority use cases to meet the safety needs of patients. Activity 2C-3: Connect all points in the care ecosystem. • In addition to developing core capabilities for health data utility, health IT capabilities must be able to connect all providers on a resident’s care team. Solutions to connect payers, providers, and care coordinators must be inclusive, accessible, and comprehensive. To support these connections, the commission must continue advocating for health IT capabilities that securely and easily integrate data and messaging across platforms into interoperable solutions. • Certain data integrations, especially for vulnerable populations, were identified as priority by stakeholders engaged for this report. These populations include: o Children. o Justice-involved individuals. o Behavioral health patients. Activity 2C-4: Simplify resident access to electronic health information, using single sign-on portals or interoperable data exchange to consumer applications. • Stakeholders will continue to pursue and fund shared services that promote easy and streamlined patients access to their health information, their consent preferences, and care team. • The commission and MDHHS will promote and advocate for data services and integrations that enable patient-mediated exchange and single sign-on capabilities.
Timing	Fiscal Year 2022 through Fiscal Year 2027
Potential Funding Source	Collaborative funding models will be necessary to ensure that development costs, equitable opportunities for broad adoption, and maintenance funding are possible in this initiative. Possible funding sources to implement this initiative include, but are not limited to: • Federal funding programs (e.g., Centers for Medicare and Medicaid Services Advanced Planning Documents). • Congressional funding (e.g., ARPA funds referenced in Section 2401[5], where funding is available to “enhance information technology, data modernization, and reporting, including improvements necessary to support sharing of data related to public health capabilities”).

- State contracts (e.g., paying Medicaid Managed Care Organizations to provide “whole person, coordinated care”).
- Commercial health payers.
- Private philanthropy.

Initiative #3: Work to address Michigan's digital divide

Description	Currently, the digital divide in Michigan leaves many without high-speed internet connections and unreliable wireless service. These gaps impact broad areas of rural Michigan, acutely affecting the Upper Peninsula region. Many areas across Michigan will be eligible for enhanced funding to bridge the digital divide, especially those defined as: • An "unserved location" lacks access to reliable broadband service offered with speed of not less than 25 Mpbs/3 Mbps. • An "underserved location" lacks access to reliable broadband service offered with speed of not less than 100 Mbps/25 Mbps. • A community institution (e.g., hospitals, schools, libraries public housing organizations, community support organizations), lacking access to 1 Gbps service. The program will be administered by the U.S. Department of Commerce's National Telecommunications and Information Administration (NTIA). Michigan's digital divide demonstrates the stark contrast between the "haves" and the "have nots," as evidenced by the mapping project NTIA commissioned to demonstrate evidence of broadband need across the United States and its territories, although a new mapping exercise is taking place at the Federal Communications Commission with more detailed and precise information on the availability of fixed and mobile broadband services. It is expected to be completed in 2022. The COVID pandemic heightened the impacts on regions with slow or non-existent internet service.
Purpose	This initiative will work collaboratively with stakeholders and advocates across the state to close service gaps and create more equitable access to internet for both providers and residents. The coordination and delivery of health care for Michiganders, especially for remote or emergency medical service providers, relies upon reliable and accessible internet access; this initiative will work to close that gap and ensure safer and more quality services are provided equitably to all residents.
Initiative #3, Objective A:	Activity 3A-1: Build on and leverage work already occurring. • The commission will remain engaged and coordinated with State efforts to leverage and develop greater broadband infrastructure capabilities in Michigan.

Support digital connectivity efforts	• The State health IT community will work to advise and advocate for equitable access to internet services for providers and residents. At the time of this report, the Michigan High-Speed Internet (MiHI) Office leads the statewide facilitation and coordination efforts of broadband access for the state.
Initiative #3, Objective B: **Pursue strategic partnerships that enable greater federal, state, and private investments in connectivity**	Activity 3B-1: Support and advocate for funding opportunities that bring high-speed broadband, public Wi-Fi, and cellular service to all census tracts, statewide: • The commission will remain engaged and advocate for health care providers and stakeholders who are either unserved or underserved by adequate broadband services. • The commission will produce recommendations and guidance on how its stakeholders' needs can be met through available broadband expansion funding.
Timing	As soon as possible. Q1 2022
Potential Funding Source	Nationally, there are historic opportunities for broadband investments, and the health IT community must take steps to ensure that all needs are met in Michigan. When President Biden signed the Infrastructure Investment and Jobs Act into law on November 15, 2021, he approved $65 billion in funding to ensure that every American has access to reliable high-speed internet service – the largest U.S. investment in broadband in history. An unprecedented amount of funding – $42.5 billion of that budget – will be allocated to states through the Broadband Equity, Access, and Deployment (BEAD) Program, with a minimum of $100 million to each state. The remaining $37.356 billion will be distributed to states using a formula concerning a state's percentage of nationally unserved locations. Initial planning funds are available from NTIA to support the five-year action plan, which is a requirement for implementation funding. Reflecting the federal government's strong emphasis on equity, additional funding will be available through two grant programs under the "Digital Equity Act of 2021." The State Digital Equity Capacity Grant Program authorizes $60 million for planning grants to be made available to States for the development of State Digital Equity Plans, and $650 million over five years for grants to States to support the implementation of State Digital Equity Plans and digital inclusion activities. The Digital Equity Competitive Grant Program makes available $650 million over five years for grants to a wide variety of public-sector and not-for-profit entities. Funds may be used for a range of digital inclusion and broadband adoption activities.

Initiative #4: Improve onboarding and technical assistance programs

Description	Although widespread adoption of certified health IT systems (e.g., electronic health record [EHR] systems, case management systems, health information technology, etc.) has been accomplished since the Conduit to Care report was published, many small or independent clinical practices, behavioral health providers, long term care facilities, emergency medical service providers, local public health agencies, and social service entities are not yet able to leverage a comprehensive or certified EHR or HIE. Moreover, not all EHR users have access to comprehensive HIE or other integrated services. To ensure optimized care delivery, safety, and coordination for patients, all providers must have equitable access to health IT systems and shared services.
Purpose	Several categories of health care providers and all types of social service organizations were not eligible for the Medicare and Medicaid incentive payments for adopting and using EHR systems. This initiative would help the providers left behind (i.e., ambulatory, behavioral health, long-term care, emergency medical services, local public health, social services, and others), with financial incentives for connecting with a data exchange organization and with technical assistance and training for using technology to provide better, more coordinated care.
Initiative #4, Objective A: **Sponsor onboarding at higher levels of statewide leadership**	Activity 4A-1: Support statewide technical assistance programs that optimize use of health IT by physical and behavioral health clinicians, support staff, and public health professionals. • MDHHS will pursue funding opportunities and a technical assistance program framework to enable this initiative and its goals. • Into the future, the commission and MDHHS will: ○ Establish a statewide EHR User Workgroup, to ensure that all providers have access to technical and systems planning resources. ○ Explore collaborative regional efforts to pursue better technical assistance, such as through regional extension centers or physician organizations. ○ Continue to engage providers on their needs and barriers in accessing and leveraging optimized

	health IT capabilities, such as for local health departments
Initiative #4, Objective B: **Support the continued implementation of telemedicine**	Activity 4B-1: Provide policy and advocacy support to statewide efforts to expand, integrate and better utilize telemedicine resources. • MDHHS and the commission will continue to partner with existing efforts, such as the MI Healthy Communities Plan and the Coronavirus Racial Disparities Taskforce, to provide visibility, recommendations, and planning for telemedicine across Michigan. • Annually, the commission will report on its progress and recommendations on how providers can better optimize their use of and expand access to telemedicine.
Timing	Starting Fiscal Year 2023
Potential Funding Source	Collaborative funding models will be necessary to ensure that development costs, equitable opportunities for broad adoption, and maintenance funding are possible in this initiative. Possible funding sources to implement this initiative include, but are not limited to: • Federal funding programs (e.g., Centers for Medicare and Medicaid Services Advanced Planning Documents). • Congressional funding (e.g., ARPA funds referenced in Section 2401[5], where funding is available to "enhance information technology, data modernization, and reporting, including improvements necessary to support sharing of data related to public health capabilities"). • State contracts (e.g., paying Medicaid Managed Care Organizations to provide "whole person, coordinated care"). • Commercial health payers. • Private philanthropy.

Initiative #5: Protect public health

Description	Greater access by public health entities to electronic health information and case reporting data will enable end users with high quality, bidirectional population health information. The capabilities enabled by this data sharing would ensure centralized data access and streamlined reporting in public health crises and ease the administrative burden experienced by local public health departments and providers due to manual data entry, redundant reporting, and difficulty querying public health data systems.
Purpose	This initiative will unite intentions around the development and maintenance of priority public health IT services and capabilities. The innovations enabled by this initiative will lead to greater public health emergency preparedness, population health and disease management capabilities.
Initiative #5, Objective A: **Accurate and timely information in public health systems**	Activity 5A-1: Enable bi-directional data flow of accurate and timely information, such as for immunizations, death notifications, and electronic case reporting. • The commission and MDHHS will prioritize the development and maintenance of use cases that support bidirectional data flow of accurate and timely information to and from local health departments. Activity 5A-2: Support statewide registries and analytics that develop complete data. • The commission and MDHHS will prioritize the development and maintenance of public health registries that elevate the work of MDHHS public health programs and their monitoring needs.
Initiative #5, Objective B: **Support quality improvement of resident care**	Activity 5B-1: Enhance data services that build capacity for more complete insight into utilization, quality improvement, and evidence-based intervention design. • The commission and MDHHS will continue to engage stakeholders to assess the business needs and feasibility of population health evaluation systems that would meet the goals in this activity. • The commission and MDHHS will pursue funding and advocate for statewide resources that allow greater business insights and analysis into resident whole-person wellness and population health outcomes.

	Activity 5B-2: Focus on improving data quality shared in the health information exchange. • The commission will establish workgroups or committees to discuss and address any identified data quality challenges in shared data leveraged across the state. • The commission will provide updates on its efforts to improve data quality.
Initiative #5, Objective C: **Bolster public health preparedness systems**	Activity 5C-1: Provide extensive training and education for local public health agencies and other key stakeholders. • In alignment with Initiative #4, the commission and MDHHS will pursue funding opportunities and a technical assistance program framework to enable this activity and its goals. Activity 5C-2: Modernize state public health systems and improve functionality for syndromic surveillance, vital records, disease registries, and electronic lab reporting systems. • MDHHS will pursue and maximize the impact of funding that modernizes and integrates its public health data systems. • The commission and MDHHS will prioritize HIE use cases and health IT capabilities that optimize public health system interoperability.
Suggested Initiative Owner(s)	• Health IT Commission • Michigan Department of Health and Human Services
Timing	Fiscal Year 2022 through Fiscal Year 2027
Potential Funding Source	In the past, public health agencies have struggled to keep their technical infrastructures up-to-date, and most systems have been very siloed because they were typically established through legislative or regulatory mandates as standalone programs tied to specific funding. Public health agencies across the country, including in Michigan, are planning modernization efforts that will upgrade their capabilities and support integration and sharing of the data. In fact, the federal Centers for Disease Control and Prevention (CDC) requires states to demonstrate interoperability and connectivity between public health systems that are being upgraded or replaced though Cares Act funds and through other CDC funding allocations. Funding Initiative #5 to establish bidirectional data flow between public health registries and the rest of the ecosystem can be provided by the CDC sources or could be funded through ARPA.

Increasingly, public health programs that show benefit to state Medicaid programs may also be eligible for federal funding programs through the Centers for Medicare and Medicaid Services. This funding, as defined in Advanced Planning Documents, could be leveraged for project development and maintenance costs.

Initiative #6: Adopt standards for social care data fields

Description	Many opportunities exist to improve health outcomes and improve the lives of vulnerable individuals and families in Michigan when information can be securely shared between agencies and programs that are serving different needs of the same people. Social needs assessments collected by community-based organizations are varied and the information collected through assessments is not easily integrated into electronic health record systems. Significant work is being done at the federal, state, and organizational level on standardizing and even incentivizing health-related social care data.
Purpose	This initiative will bring momentum to efforts occurring that Michigan that seek to address whole-person outcomes. By leveraging clinical, social care, and other data, the outcomes of this initiative will lead to greater care coordination, need identification, and resource allocation for vulnerable communities across the state. Moreover, given the extensive work already underway in many Michigan organizations, this initiative will seek to do an environmental scan and assess alignment across current SDoH efforts being pursued by organizations across the state.
Initiative #6, Objective A: **Develop policies to accompany new standards that promote easy sharing of social care information**	Activity 6A-1: Charter a commission workgroup to assess the extensibility of current national and state work being done to develop standards for social care data. • The commission and MDHHS will engage stakeholders through workgroups or committees to ensure that an aligned approach is taken across the state to develop standards for social care data and compliance. The goal of this workgroup would be to align SDoH data program efforts across sectors. • The commission will provide updates in its annual report on the strategies and alignment that it is able to identify related to using health IT to address SDoH.
Initiative #6, Objective B: **Support systems that promote better care**	Activity 6B-1: Advance individual and population-level transfer of health and social care data that supports whole-person care management. • The commission and MDHHS will work collaboratively with stakeholders to determine the business needs, privacy implications, and end uses of analytic resources that would provide insight into the whole-person care of residents.

coordination and integration of services	• Once solutions have been identified, the commission and MDHHS will pursue funding and advocate for solutions that meet the goals of this activity. Activity 6B-2: Align stakeholders and SDoH strategies to enable data solutions that support interoperability and integration. • The commission will facilitate workshops and committees to make recommendations to MDHHS on the sharing and use of social care data, such as advising MDHHS on its implementation of the State SDoH strategy. • Stakeholders will commit to aligning around statewide findings, recommendations, and strategies to collectively address SDoH as one Michigan health IT community. Activity 6B-3: Take advantage of aggregate data opportunities and analytics. • Once agreeable and scalable data sharing solutions have been implemented, the commission and MDHHS will work collaboratively with stakeholders to identify business needs and opportunities with leveraging analytic resources to optimize the evaluation and management of resident care outcomes and evidence-based intervention design. • Explore opportunities to leverage aggregated HIE data for innovation and business development.
Timing	As soon as possible. Q1 2022
Potential Funding Source	Collaborative funding models will be necessary to ensure that development costs, equitable opportunities for broad adoption, and maintenance funding are possible in this initiative. Possible funding sources to implement this initiative include, but are not limited to: • Federal funding programs (e.g., Centers for Medicare and Medicaid Services Advanced Planning Documents). • Congressional funding (e.g., ARPA funds referenced in Section 2401[5], where funding is available to “enhance information technology, data modernization, and reporting, including improvements necessary to support sharing of data related to public health capabilities”). • State contracts (e.g., paying Medicaid Managed Care Organizations to provide “whole person, coordinated care”). • Commercial health payers. • Private philanthropy.

Where We Are Going

Michigan has the benefit of a high-functioning statewide health information exchange model that has demonstrated value to various state programs and initiatives for nearly two decades. Michigan also has highly qualified leadership and staff working in the state Department of Health and Human Services who develop innovative solutions to health care problems. Stakeholder relationships are strong and stakeholder participation is high, with strong interest running through the state for expanding activities started during the State Innovation Model and developing additional transformational models of whole-person coordinated care across communities. Identifying and empowering champions in state government and considering changes to the Health IT Commission's role and activity will provide statewide leadership that is needed for strategic initiatives over the next five years and ongoing.

The commission has remained intensely engaged in strategy development since the effort was first proposed in 2019. In 2020, having considered a strategic direction for planning activities, the commission identified the following principles to convey key objectives to stakeholders ahead of engagement:

- Build capacity for data availability and sharing
- Identify new and innovative digital tools to assist providers
- Shape the future of technical assistance for patients and providers
- Secure future public and private funding for IT and data sharing projects
- Overcome collective action dilemmas to better share data for care coordination and patient support
- Bridge digital divides to serve the whole person
- Ease paperwork and reporting burdens on providers
- Allow patients better access to their own information to manage their health

As this strategic plan is implemented, these guiding principles will remain a foundational element. These principles will also provide continuity, even though legislative priorities, executive goals, and administration objectives may change as this report is implemented. While this report is intended to provide a set of actionable activities and goals to attain over the next five years, the spirit of collective action, collaboration, and continued system improvement will continue long after the activities of this report are completed. The commission seeks to avoid letting another decade pass without updating Michigan’s health IT strategies and thus is taking steps to ensure new strategies are embraced and integrated into a living statewide planning document.

To provide oversight and accountability, the commission will work to update the metrics and tracking it uses to gauge success of this report’s implementation. In 2022, the commission will begin pursuing actionable criteria and make progress toward objectives transparent to stakeholders and the public. Given that this report’s success will require cooperation from both public and private entities, implementation metrics will provide clear goals for collective action.

MDHHS looks forward to partnering with the commission, public and private stakeholders, and Michigan residents to ensure that we continue to improve health and wellness outcomes for all, leveraging the capabilities of health IT and interoperable data exchange.

MDHHS Nondiscrimination Policy: The Michigan Department of Health and Human Services will not exclude from participation in, deny benefits of, or discriminate against any individual or group because of race, sex, religion, age, national origin, color, height, weight, marital status, partisan considerations, or a disability or genetic information that is unrelated to the person’s eligibility.

Appendix A: Participating Organizations

- AARP
- Adaptive Counseling and Case Management
- Aetna Better Health Plan of Michigan
- Alcona Health Center
- Allegan County Community Mental Health
- Alliance Health
- Altarum
- Alternatives for Girls
- American Cancer Society of Michigan
- American Lung Association
- AmeriHealth
- Answer Health
- ANTS Health
- Arab Community Center for Economic and Social Services (ACCESS)
- Area Agencies on Aging Association of Michigan
- Ascension Medical Group
- Aspirus
- August Optical
- AuSable Valley Community Mental Health
- Baldwin Family Health Care
- Baraga County Memorial Hospital
- Barry County Community Mental Health Agency
- Barry-Eaton Health Department
- Bay County Health Department
- Bay County Medical Care Facility
- Bay Mills Indian Community
- Bay-Arenac Behavioral Health
- Beacon Health Options
- Beacon Specialized Living
- Beaumont Health
- Beaver Island Rural Health Center
- Benton Harbor Health Center
- Berrien County Sheriff’s Office
- Berrien County Corrections
- Blue Cross Blue Shield of Michigan
- Blue Cross Complete
- Branch County Corrections
- Branch Hillsdale St. Joseph Community Health Agency
- Bronson Healthcare
- Calhoun County Sheriff’s Office
- Capital Area Literacy Coalition
- Capital Area United Way
- Carriage Town Ministries
- Cassopolis Family Clinic Network
- Catholic Charities of Southeast Michigan
- Center For Family Health Inc
- Center for Health and Research Transformation and Michigan
- Centra Wellness Network
- Chelsea Senior Center
- Cherry Health
- Child Care Network
- CHRT
- City of Detroit Health Department
- Community Mental Health Agency of Central Michigan
- Commission on Aging
- Community enCompass
- Community Housing Network
- Community Mental Health Association of Michigan
- Community Mental Health for Central Michigan
- Community Mental Health of Ottawa County
- Community Mental Health Partnership of Southeast Michigan
- Concerto Healthcare
- Cook and Hayden Vision Care Center
- Corner Health Center
- Covenant
- CSI Support & Development
- Deckerville Community Hospital/Marlette Regional Hospital
- Delta Dental of Michigan
- Detroit Medical Center
- Detroit Public Schools Community District
- Detroit Wayne Integrated Health Network
- Diameter Health
- Dickinson Memorial Health Care System
- Disability Network/Michigan
- District Court Probation & Community Corrections
- District Health Department #10
- East Jordan Family Health Center

- Easterseals Michigan
- Eaton County Sheriff’s Department
- Eaton Rapids Medical Center
- Ecenbarger Eye Care
- Elder Law of Michigan
- EPIC Primary Care
- Fairview Nursing and Rehab
- Food Bank Council of Michigan
- Food Bank of Eastern Michigan
- Garden City Hospital
- Genesee Health Plan
- Genesee Health System
- Genesee Intermediate School District
- Genesys PHO
- GMPNetwork
- Good Shepherd Coalition
- Great Lakes Bay Health Center
- Great Lakes Physician Organization
- Greater Detroit Area Health Council
- Greater Flint Health Coalition
- Hamilton Community Health Network
- HAP Empowered Plan of Michigan
- Harbor Health
- Health Care Association of Michigan
- Health Net of West MI
- Helen Newberry Joy Hospital
- Henry Ford Health System
- Henry Ford-Allegiance Health System
- Hills and Dales General Hospital
- Hillsdale Hospital
- Holland Community Hospital
- Hurley Medical Center
- Huron Valley Physician Association
- InCompass Michigan
- Ingenium/United Physicians
- Ingham County Health Center
- Ingham Health Plan
- Integrated Health Partners
- Isabella County Sheriff’s Department
- Jackson Community Medical Record
- Jackson Health Network
- Jewish Family Services of Washtenaw County
- Kalamazoo Community Mental Health & Substance Abuse Services
- Kalamazoo County Health & Community Services Department
- Kalamazoo County Sheriff’s Office
- Kalkaska Memorial Health Center
- Kent County Health Department
- Lakeshore Regional PIHP
- Lapeer County Sheriff’s Department
- Leading Age Michigan
- Legal Services of Eastern Michigan
- LifeWays Community Mental Health
- Livingston County Jail
- Livingston Physician Organization
- Macomb County Community Mental Health
- Matrix Human Services
- McKenzie Memorial Hospital
- McLaren
- MedNetOne
- Mel Trotter Ministries
- Memorial Healthcare
- Mental Health Association in Michigan
- Mercy Health
- Meridian Health Plan of Michigan
- MI Bridges Partner Network
- Michigan 211
- Michigan Academy of Family Physicians
- Michigan Association for Local Public Health
- Michigan Association of Air Medical Providers
- Michigan Association of Ambulance Services
- Michigan Association of Counties
- Michigan Association of Fire Chiefs
- Michigan Association of Health Plans
- Michigan Association of Senior Centers
- Michigan Association of Treatment Court Professionals
- Michigan Behavioral Health Advisory Council
- Michigan Center for Rural Health
- Michigan Chapter of Internal Medicine
- Michigan Coalition Against Homelessness
- Michigan College of Emergency Physicians
- Michigan Commission on Services to the Aging
- Michigan Community Action

- Michigan Community Health Worker Alliance
- Michigan Coronavirus Racial Disparities Task Force
- Michigan Council of Nurse Practitioners
- Michigan County Medical Care Facilities Council
- Michigan Data Collaborative
- Michigan Dental Association
- Michigan Department of Corrections
- Michigan Department of Education
- Michigan Department of Health and Human Services
- Michigan Department of Licensing and Regulatory Affairs
- Michigan Dept of Tech, Management, and Budget
- Michigan Directors of Services to the Aging
- Michigan Disability Rights Coalition
- Michigan Ear, Nose Throat and Allergy Specialists, P.C.
- Michigan Emergency Medical Services Coordination Committee
- Michigan Health and Hospitals Association
- Michigan Health Council
- Michigan Health Endowment Fund
- Michigan Health Improvement Alliance
- Michigan Health Information Network
- Michigan HomeCare and Hospice Association
- Michigan Indigent Defense Commission
- Michigan Medicine
- Michigan NENA
- Michigan Non-Profit Association
- Michigan Nurses Association
- Michigan Optometric Association
- Michigan Oral Health Coalition
- Michigan Osteopathic Association
- Michigan Pharmacists Association
- Michigan Primary Care Association
- Michigan Protection & Advocacy Service, Inc.
- Michigan Public Health Association
- Michigan Public Health Institute
- Michigan Rural Council
- Michigan School Nurse Association
- Michigan Sheriffs' Association
- Michigan State Medical Society
- Michigan State Police, Michigan 911
- Michigan State University
- Michigan State University Center for Rural Health
- Michigan State University College for Health Sciences
- Michigan State University THRIVE
- Mid State Health Network
- MidMichigan Health
- Molina Healthcare
- MPRO
- Munising Memorial Hospital
- Munson Health System
- Mycare Health Center
- National Alliance on Mental Health Michigan
- National Alliance on Mental Illness (NAMI) Michigan
- National Association of Social Workers - Michigan Chapter
- National Kidney Foundation - Michigan Chapter
- National Network of Depression Centers
- NextGen Healthcare
- North Ottawa Community Hospital
- NorthCare Network
- Northern Community Health Innovation Region
- Northern Michigan Regional Entity
- Northern Physician Organization
- Northwest MI Health Services
- Northwest Michigan Health Department
- Nurse-Family Partnership
- Oakland County Community Corrections
- Oakland County Health Network
- Oakland Physician Network Services
- Okemos Allergy Center
- Open Systems Technologies
- OSF St. Francis Hospital
- Packard Health
- PatientPing
- PCE Systems
- Pfizer
- Physician Health Plan

- Physician Healthcare Network
- Physician Organization of Michigan ACO
- Physicians Health Plan
- Pine Rest
- Planned Parenthood of Michigan
- Pontiac General Hospital
- Prime Health
- Priority Health
- ProMedica
- Saint Joseph Mercy Health System
- Scheurer Hospital
- Schoolcraft Memorial Hospital
- Sheridan Community Hospital
- Southeast Michigan Health Association
- Southeast Michigan Health Information Exchange
- Southwest Michigan Behavioral Health
- Sparrow Health System
- Spectrum Health
- St. Joe's Health System
- St. Vincent Catholic Charities
- State Court Administrative Office, Statistical Research
- Sterling Area Health Center
- Straith Hospital
- Sturgis Hospital
- tbdSolutions
- The Arc Michigan
- The Right Door for Health, Recovery & Wellness
- The United Way for Southeast Michigan
- The Wellness Plan
- Three Rivers Health
- Thunder Bay Community Health Services
- Total Health Care
- Traverse Health Clinic
- Trinity Health
- United Health Care
- United Physicians
- University of Michigan
- Upper Peninsula Health Care Solutions
- Upper Peninsula Health Information Exchange
- Upper Peninsula Health Plan
- Van Buren-Cass District Health Department
- Vernor Urgent Care PLLC
- Veterans Administration
- Volunteers of America Michigan
- War Memorial Hospital
- Washtenaw County Community Mental Health
- Washtenaw County Community Corrections
- Wayne County Corrections
- Wayne County Health Authority
- Wayne Metropolitan Community Action Agency
- Wayne State University Center for Behavioral Health and Justice
- Western Upper Peninsula Health Department
- Wolverine Human Services

Appendix B: How We Created This Report

Michigan's strategic plan for health information technology, The Conduit to Care Report, was developed in 2006 under the direction of the Health Information Technology (IT) Commission. The report sets Michigan on track to be a leader in health IT and health information exchange (HIE) strategies; it provided incremental processes to develop a legal, technical, and business framework of shared services for a statewide HIE infrastructure**.**

A decade after the Conduit to Care Report was last updated, Michigan Department of Health and Human Services (MDHHS) and the Health IT Commission set a priority to update and modernize the state’s strategic health IT plan. MDHHS requested funding to engage consulting resources from Michigan Health Endowment Fund (“Health Fund”). The initiative was announced at the Health IT Commission’s November 2019 meeting, and planning commenced soon after for the Five-Year Statewide Health Information Technology Roadmap, beginning with an extensive engagement effort and environmental scan of the health care and social services stakeholder ecosystems.

Roadmap Planning

The roadmap will align with several key state strategies, including Governor Gretchen Whitmer’s 5-Year Priorities for MDHHS. At the time of publishing this report, these strategies included:

- Improving maternal and infant health outcomes.
- Integrating and share data on social determinants of health to reduce health disparities and social inequities.
- Improving data sharing with local communities to respond to lead exposure risk.
- Developing robust performance management tools that support the agency's focus on evidence-based decision-making.

The health IT roadmap will establish a framework for clear communication, governance, and central planning to encourage public and private sector organizations to partner on expanding and utilizing previous and future investments made in HIE. The roadmap will help ensure HIE investments meet the needs of stakeholder organizations, and more importantly, the needs of individuals receiving health careand/or social services in Michigan. Principles of writing a health IT roadmap include:

- Inclusive and transparent decision-making processes at the state and local level for organizations providing HIE/CIE services.
- Oversight and accountability mechanisms to protect publicly funded technology investment.
- Industry-leading standards for technology and data.
- Performance measurement processes for contractors and vendors.
- Policies to guard against inappropriate use of data and/or insufficient security and privacy measures to ensure data fidelity, consumer trust, and stakeholder confidence in data services supported with taxpayer funds.

Fundamental to roadmap implementation strategies, there will be the expectation for decision-makers to leverage existing investments in health IT infrastructure and HIE tools whenever possible and practical.

The roadmap will identify opportunities for improving the health and care of individuals; creating operational efficiencies at government agencies and in private-sector organizations; providing strategies and tactics for spurring innovation through new partnerships; and developing more coordinated planning processes across entities. Longer term, the roadmap will ensure continued, sustainable progress toward Michigan's goals for improving the health and wellbeing of individuals and communities in Michigan with clearly defined processes for iterative updates, effective use of public and private funding, and continual assessment of outcomes against metrics.

Environmental Scan Activities

The primary goal of the environmental scan was to engage a broad representation of stakeholders across Michigan's health care and community service ecosystem in a comprehensive assessment to gather input in two main categories This work was implemented by the CedarBridge Group. The current state of health IT initiatives in Michigan was examined, alongside stakeholders' views of HIE business and technology services, including policies, regulations, sustainability strategies, technical assistance and user education/training needs, communications, and other inputs.

The desired future state priorities for health IT and HIE/CIE services to meet the needs of Michigan's Health IT Strategic Plan was captured in the 2006 Conduit to Care Report, identifying policies, governance, operational and technical improvements, opportunities for creating efficiencies across entities, and developing innovative partnerships.

Defining Stakeholder Domains and Modes of Discovery

To reflect the diverse and varied perspectives on health IT and HIE services in Michigan, the roadmap project teams collaborated to develop stakeholder domains representative of sectors and groups within the Michigan health care and social service delivery systems. Leaders from government, private sector, nonprofit and community-based organizations were actively engaged in planning discussions around the creation of a modernized roadmap to inform the prioritization of health IT investments, support priority use cases, recommend policies, technical assistance, funding and sustainability strategies, and oversight to monitor progress of technology implementation, provide accountability for security and privacy of protected health information (PHI) and other personal data and ensure services are readily available for Michigan health care and health-related organizations and the people they serve. Dedicated outreach to hundreds of stakeholder organizations across the 11 public and private sector domains took place, inviting participation in the process. Outreach efforts included communications on the MDHHS website, regular email communications from MDHHS and CedarBridge, phone calls to dozens of organizations, and presentations to associations and advisory groups, informing, seeking input, and soliciting partnerships.

Interactive Forums

Sixteen interactive virtual forums were organized to engage stakeholders across various domains, with two forums were hosted on each of the eight topic areas.

The first forum of each topic area was focused on statewide information gathering, and the second interactive forum for each topic focused on regional information. Facilitated discussions with audience participation took place, with instant polling technology and use of the chat function in the online conferencing tool as an additional way to encourage discussion and participation among attendees.

More than 300 participants attended the virtual interactive forums where they discussed the current state of health IT and HIE in Michigan. Discussions included what is currently working well with Michigan’s health IT and HIE service infrastructure, and what types of improvements should be included in the roadmap such as types of data shared, accessed, and used; issues related to consent, privacy, and security of health IT systems; how to improve the information available at the point of care; and how technology can be leveraged to improve health outcomes and access to care through use of data and analytics for planning, budgeting, actuarial analysis, and quality measurement.

Participants were asked about their desires for the future state of health IT and HIE as health care moves more to value-based reimbursement methodologies and population health management.

During each of the 16 forums, participants contributed thoughts on future state “wish lists” for technology investments; improvements to functionality; priorities for data types and sources; policies and standards; and other actions or supports that would improve the adoption, use, and usability of health IT systems and HIE services in Michigan. An interim report was written on the virtual forums.

Electronic Surveys

Electronic survey responses numbered more than 200 from stakeholders and organizations throughout the state. Surveys were sent by association partners to their members, contact lists of MDHHS departments, participant lists of state HIE organizations, and contacts of Health IT Commission members. The survey questions focused on how organizations are currently collecting, sharing, and using data related to the individuals and populations they serve, and the types of investments and improvements they would like to see in the next five years, including policies, guidance, technical assistance, regulations, and collaboration. Survey respondents ranked the barriers to adoption of health IT and exchange of data, including lack of interoperability between systems and the need for standards, particularly around collecting information about social determinants of health. Other questions focused on workforce and technical assistance needs, security, and privacy concerns, and managing consent for sharing sensitive or specially protected data.

Key Informant Interviews

Interviews took place with more than 100 individuals representing organizations across all identified stakeholder domains serving health care and social service needs of Michigan residents. CedarBridge leveraged the expertise of the Health IT Commission to identify key leaders for interviews. In addition to the stakeholder domains listed above in *Table 1*, interviews were held with community-based social service organizations, public safety representatives, advocacy groups, university officials, Michigan-based health IT vendors, leaders of MDHHS program areas, and HIE service organizations, including several interviews with leadership and staff of HIE organizations. Interviews were conducted one-on-one, in small groups, and in focus groups, where representatives and members of health care professional associations discussed their organizations’ current state and future needs in the way of health IT and HIE services, including members of Michigan Hospital Association, Michigan Provider Organizations (Pos), accountable care organizations (ACOs), and large integrated care organizations (ICOs).

Additional Outreach and Engagement

In addition to the engagement activities described above, the project teams presented to and collected information from several other groups during regular association meetings and events. Presentations, discussions, and facilitated focus groups held with groups across Michigan brought informed insights to the environmental scan, including from members of the Lt. Governor’s Coronavirus Racial Disparities Taskforce, members of the Community Mental Health Association of

Michigan (CMHA), attendees of MiHIN Operations Advisory Committee (MOAC) webinars, and the Michigan council of Tribes, among others.

Specially Protected Health Information

Stakeholder organizations indicated a wide variation in approaches to handling health information subject to special protection under federal and state regulations. Behavioral health and long-term care providers acknowledged that, like other provider types, their organizations are subject to federal privacy regulations related to disclosure of substance use disorder treatment, 42 CFR Part 2. However, some organizations indicated being unsure of the specific requirements for handling disclosures and redisclosures of this sensitive information.[6]

Stakeholders across all domains provided considerable input on the difficulties around collecting and managing individual consent authorizations for sharing sensitive information across health care, social service organizations, and government agencies. Organizations reported a variety of experiences; some indicated they do not believe there is an effective way to give clients and patients more choice or control to specify the providers who can access their data, specify purposes for which individuals are willing to share their data, and have a reliable process to revoke a previous consent authorization. Several organizations shared concerns regarding the potential for risk exposure around consent management; some stated that until a better solution for supporting electronic consent management, their organizations do not share any information that could be sensitive.

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[6] https://www.samhsa.gov/about-us/who-we-are/laws-regulations/confidentiality-regulations-faqs

Social Determinants of Health (SdoH)

Addressing disparities in health care access and health outcomes and ultimately achieving health care and health equity are high priorities of federal, state, and local government leaders from the White House all the way down to community-based organizations. Like race, ethnicity, language, geographic, and socioeconomic data, there is a high degree of consensus that screening tools for identifying needs related to social determinants of health are imperfect in design and inconsistently applied.

Stakeholders from every domain reported a need for standard assessment tools and measures to better understand and address SdoH and health care disparities. There is strong support across stakeholders and domains for federal or state standards and requirements for data elements, documentation and coding, screening and assessment tools, and quality measures. Most stakeholders also want to access this data when it is collected by another entity. From a health information technology perspective, stakeholders across domains expressed a preference for seeing these data types pushed to them through an HIE infrastructure.

The collection of race and ethnicity data is increasing across Michigan health care and social service organizations, but the fields or formats used are not standard across IT systems. A common theme heard from stakeholders across domains was the need for standard representation of data elements for collection of this data, as well as the need for collection of primary language.

Cybersecurity and Privacy Protection

While health care and social service sectors were slow to move to electronic recordkeeping in comparison to most other industries, it is clear the federal incentive payments funded through the HITECH Act of the American Reinvestment and Recovery Act of 2009 (ARRA) were an effective stimulus for driving EHR adoption and fueling an industry-wide transition from paper to electronic records, with massive amounts of personally identifiable, sensitive data stored in electronic data systems.

Exchanging data between systems in electronic formats and combining data in ever-larger data stores spawn concerns about the privacy and confidentiality of data and the need for organizations to appropriate resources to ensure appropriate handling of personal information and avoid unintended disclosures of protected health information (PHI) as well as intentional cyber-attacks.

In aggregate, more than a third of stakeholders who provided input on this topic indicated their organization had recently taken steps to improve privacy and security policies around the handling of electronic PHI. A few organizations reported doing this as a routine business activity, some because their organizations were seeing increased risk around data security and privacy, and a few organizations reported a recent event where PHI was unintentionally disclosed inappropriately or because there had been a breach of an electronic data system where PHI or other sensitive information was stored. The illustration below shows efforts reported by stakeholders to enhance data privacy protection and improve security of information within electronic systems used by their organization.

TECHNICAL SOLUTIONS

- Deploying new firewalls in information technology
- Implementing dual factor authorization for user identity verification
- Adding security to building entries
- Requiring staff to display identification while on company property

PROCESS SOLUTIONS

- Random surveillance of system use by staff and regular audits of system user logs
- Conducting independent risk assessments
- Developing new security plans and adopting new protocols and policies

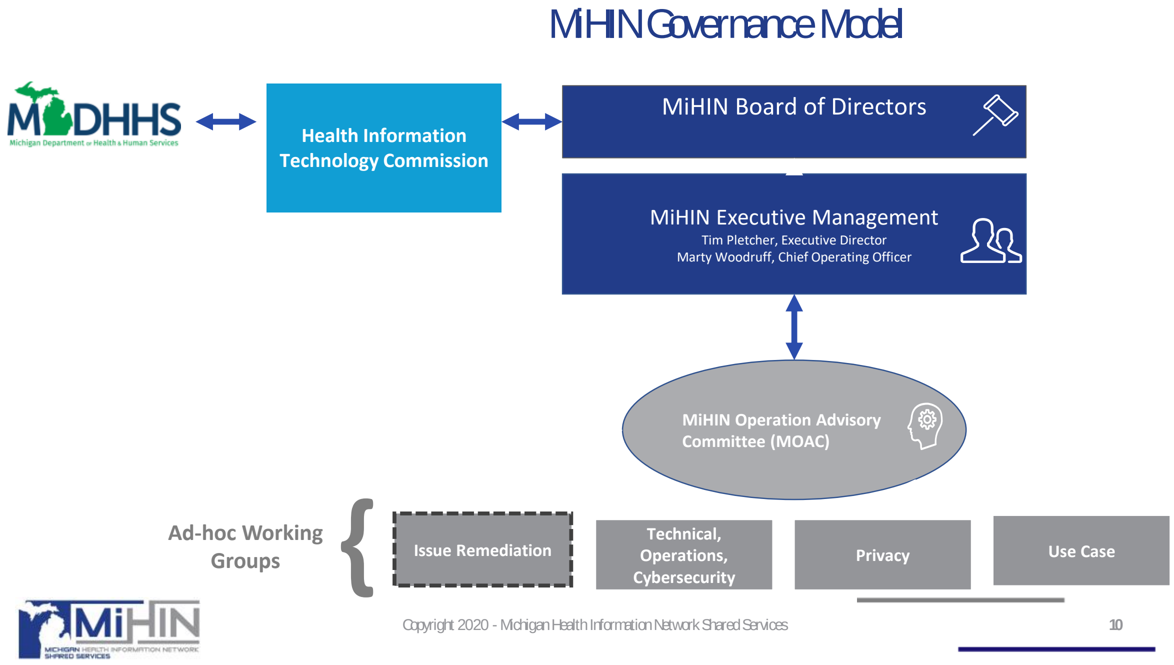
PEOPLE SOLUTIONS

- Requiring additional HIPAA training for personnel
- Rewarding employees for identifying spearpfishing attempts and for notifying appropriate personnel
- Reviewing organizational policies and protocols on a regular basis with staff

Current Policy Framework

The current policy framework for health information technology, health data collection, and health data sharing or exchange comes from multiple sources. The sources making up the current policy framework for health IT in Michigan were reviewed as part of the Discovery phase of the environmental scan, along with other background sources used in the development of this report.

Health IT in Michigan is governed by public-private partnerships, with MDHHS, the Health IT Commission, and MiHIN working collaboratively in a cohesive governance model. The evolution of this governance structure is embedded into MiHIN work and culture, as illustrated by the following model.



MiHIN Governance Model

MDHHS
Michigan Department of Health & Human Services

Health Information Technology Commission

MiHIN Board of Directors

MiHIN Executive Management
Tim Pletcher, Executive Director
Marty Woodruff, Chief Operating Officer

MiHIN Operation Advisory Committee (MOAC)

Ad-hoc Working Groups

Issue Remediation

Technical, Operations, Cybersecurity

Privacy

Use Case

MiHIN
MICHIGAN HEALTH INFORMATION NETWORK SHARED SERVICES

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Workforce Considerations

Most of the input received from stakeholders related to Michigan's health care and social service workforce falls into two issue areas. One topic area involves the need for technical staffing resources to support state agencies with complex information needs to deliver programs and services and measure results. For organizations across all domains that have not adopted EHR or care coordination technology or other health IT tools, and/or have not upgraded outdated technology, the need for tech savvy resources to provide training and support is well documented, especially for small practices.

Also impacting the pace of health IT and HIE adoption is the need for ongoing training and technical assistance support for stakeholder domains known to have high rates of staff turnover and/or employ older workers such as home health, hospice care, long-term post-acute care. Also impacting the pace of adoption is the need for entry level staff in any domain, who often have job duties that include data entry into patient/client records, and data exchange for referral management.

Along with the technical readiness of Michigan's health care workforce, many stakeholders also vocalized the need for change in the delivery of health care and social services. While a few commenters in electronic survey responses questioned whether more information technology would produce better health outcomes or do much of anything to improve health care, most Michigan stakeholders understand that information technology and health information exchange services are enablers for transformation, and when used effectively, can help improve health outcomes, lower the rate of medical inflation, and reduce the health disparities seen across Michigan's diverse populations.

Desired Future State – Stakeholder Priorities

During the Engagement and Discovery phase of the roadmap planning process, stakeholders shared ideas for standards, creating more community collaboration, and setting policies and/or taking regulatory actions, among many other topics. A common theme across multiple domains was the desire for Michigan's elected officials, MDHHS administrators, Commission members, and business leaders across the board to step up with stronger engagement and leadership on health IT and HIE initiatives.

Stakeholders expressed urgency and frustration about the need for leadership in establishing statewide standards and data exchange requirements, and in structuring more meaningful opportunities for public/private participation in setting statewide priorities and strategies for health IT and HIE investments. Many stakeholders indicated a willingness to participate in more active roles to implement strategies adopted in Michigan's roadmap, offering to serve on workgroups or committees that could be set up under the Health IT Commission. The recurring "leadership gap" theme was often brought up by stakeholders when asked whether there is a state-level shared vision for a health IT infrastructure and policy framework to support the health improvement goals of the state. In contrast with the regional initiatives undertaken during the State Innovation Model years, stakeholders are now looking for much more direct, engaged leadership and guidance from their state health officials, with more transparent and collaborative planning and policymaking, and more support from the state in offering technical assistance, training, and education to providers and consumers touting the benefits of health IT and the value of the right information at the right time for improving health outcomes.

Two seemingly opposing themes were heard repeatedly from stakeholder discussions; on one hand there is excitement and commitment for whole-person coordinated care models where data will need to be exchanged between health care and social service organizations, while simultaneously, many organizations expressed concerns about resource gaps for IT improvements needed to coordinate care and services across communities and between diverse organizations. These themes, heard from many stakeholders across Michigan, are important to highlight together. By focusing roadmap strategies on addressing resources and workforce competencies and investing in technical assistance to support practice design and workflow changes enabled by technology, the system will be more prepared and more successful in adopting whole-person coordinated care models across Michigan.

The long-standing workforce shortages of practitioners, community health workers, social workers, patient navigators, and other positions in health care and social services serving as extenders and coordinators was raised by many Michigan stakeholders as an area of concern. While seemingly unrelated to a health IT Roadmap, in truth, the workforce challenges facing the health care and social service industries can be readily improved through technology investments that enable easier exchange of critical information. A deeper workforce of mid-level and non-licensed professionals is needed to deliver interventions addressing social and emotional needs. Coordination with health care clinicians through interoperable technology will reduce the frustrations and lower the burnout rate of the current workforce.

It is true for both public and private sectors that the ongoing operating costs of an entity can be considerably reduced when capital and staffing are made to ensure technology systems are meeting the business and functional needs of organizations and training investments are made to ensure technology is used effectively. It is reasonable for investments to be combined with expectations, such as requirements for the use of health IT and for participation in bidirectional health information exchanges. All Michigan payers—government and commercial—should align such requirements to prevent a patchwork of policies for organizations to comply with. Health IT vendors, as well as health care delivery and social service organizations, should be held to standards for data conformance and data quality, with incentives to reward success. For those organizations for which cost is a barrier to using information technology and HIE services, an equitable funding source should be identified by policymakers to ensure Michigan residents can reap the value these investments promise in improving health outcomes, reducing medical inflation, and lowering the disparities experienced by marginalized populations in communities across the state.

Stakeholder responses to survey questions, quick polls posed during online forums, and the in-depth key informant interviews have been analyzed and synthesized by stakeholder domain, described in more detail.

Key Themes from Engagement

- Relevant and easy-to-access clinical information at the point of care is needed by providers across all stakeholder domains.
- Accurate and timely information in public health systems is needed to protect population health and to prepare for future public health emergencies.
- A statewide directory of social service and coordination across organizational networks and state programs.
- Addressing Michigan's digital divide will also help address disparities in health care and social services in rural parts of the state.
- Other statewide shared services are desired by many stakeholders.
    - A statewide master person index linked to a statewide health and social services directory for attributions of individuals to care teams.
    - A statewide consent management service to support cross-organizational information exchange.
    - A statewide advance care plan registry to make end-of-life treatment choices known in emergency settings.
- Funding and technical assistance must be made available to organizations and communities advancing whole person coordinated care models to support the technology, workflow, and workforce changes required for integrated health care and social services.
- Engagement of Michigan's top executives in government and business is essential to ensure successful implementation of the Statewide Five-Year Health IT Roadmap. Leaders should convene stakeholders in inclusive processes to set priorities and policies for shared technology investments and develop a supportive framework for Michigan health care and social service organizations, state and local government programs, communities, families, and individuals to benefit from the value created using information technology solutions and HIE services.

Appendix C: Stakeholder Engagement Summaries

In 2019, the Health IT Commission (HITC) was awarded a grant by the Michigan Health Endowment Fund to engage with Michigan stakeholders and develop a comprehensive Five-Year Health Information Technology Roadmap. CedarBridge Group LLC was selected to facilitate this work due to its expertise in health IT and health policy. In the fall of 2019, plans for in-person community roundtables were modified in response to the SARS-CoV-2 global pandemic to a series of eight virtual discovery forums and eight regional forums, defined in more detail in the body of the report. Virtual forum discussions, facilitated via teleconference and webinar format, were attended by more than 300 stakeholders and were focused on the following topics:

Reflections on Health IT During a Global Pandemic **Public Health**	*Resident and Advocate Perspectives on Health IT* **Consumer Focused**
Coordinating During Crisis **Emergency Services**	*Bridging the Digital Divide* **Racial Disparities and Social Determinants of Health (SDoH)**
Connecting All Points of Care **Behavioral Health**	*Coordinating Care for the Vulnerable* **Aging and Disability Services**
Using Data to Drive Outcomes **Quality Improvement**	*Giving All Kids a Health Start* **Maternal, Infant and Children’s Health**

Findings

The following issues and topics were either recurring themes communicated by multiple stakeholder groups or key insights into opportunities and risks within the health and social services delivery systems.

Both statewide and targeted local investments in public health IT infrastructure are needed to better address both the current pandemic, as well as future public health threats. These include, but are not limited to, disease surveillance systems, contact tracing systems, and electronic case reporting systems.

Addressing social determinants of health was reported to be a priority for nearly all the stakeholder groups. Improved screening protocols for identifying clients’ social risk factors was a common theme reported by health care providers. With these advancements, the delivery system must now focus on standardizing SDoH data and improving coordination through more efficient referral capabilities, preferably using a closed-loop referral platform that allows referring providers to monitor the outcome and status of referrals.

In response to the pandemic, Michigan providers rapidly expanded their use of telehealth and other virtual patient engagement technologies. Telehealth is widely recognized as an essential tool that should continue to expand and evolve.

Rural, vulnerable, and underserved populations are at risk of wider health inequities and racial disparities when they lack consistent access to internet services and cellular phones with data and text messaging. Investments in these tools for underserved communities, as well as education and assistance programs for the aging population and the technology-challenged, were identified as key needs.

Access to broadband internet and cellular services continues to be a significant challenge for many rural and underserved urban populations. Michigan has made significant investments in health IT tools, yet many providers and clients lack the ability to consistently connect when needed.

Increasing broadband access is a foundational element to expanding the adoption and use of existing tools.

Significant gaps remain in health IT and HIE adoption between larger providers (hospitals, physician groups, health systems, etc.) and smaller independent practices (rural health clinics, behavioral health clinics, long-term care facilities, aging and disability services, etc.). Additional education, training, and investments are needed to improve HIE adoption and coordinated data exchange among smaller provider groups.

Introduction - Stakeholder Forums

In 2019, the Health IT Commission (HITC) acknowledged a need to update the “Conduit to Care” strategic plan, Michigan’s original health information technology roadmap. To assist in this work, the Michigan Health Endowment Fund awarded the Commission a grant to expand its capability to engage with stakeholders and develop a comprehensive *Five-Year Health Information Technology Roadmap*.

CedarBridge Group was selected to facilitate this work due to its expertise in health IT and health policy and experience facilitating these types of initiative. As the pandemic suddenly hit our nation’s health care systems in early 2020, the HITC acknowledged updating Michigan’s health IT strategy was especially timely, in that the need for actionable data was more critical than ever. With travel and in-person gatherings out of the question for the foreseeable future, CedarBridge modified plans for engaging stakeholders through community roundtables and transitioned to a series of 16 virtual forums to gather insights on some of Michigan’s shared priorities for improving care through health IT and more accessible data on patient and population health.

Through September and early October 2020, CedarBridge conducted discovery forums for each of the eight priority topic areas shown in Table 1. Discovery forums were designed to identify major barriers, issues, opportunities, and insights within the topic area relative to health IT adoption and data availability, accuracy, and interoperability. The discovery forums utilized a myriad of tools to illicit input from the statewide audiences, including interactive polling, online chat, and Q&A functions, verbal discussions with facilitators and among other audience members, and “*stacking”* (putting “+++” in the chat box to emphasize agreement with a statement another stakeholder has made).

The follow-up regional forums took place during October and early November and utilized the same virtual meeting technology to engage Michigan stakeholders in conversation on their regional perspectives on the major themes identified during discovery forums.

Table 1 – Forum Attendee Statistics

Forum Topics	**Discovery Forum Attendees**	**Regional Forum Attendees**
Reflections on Health IT During a Global Pandemic – **Public Health**	48	21
Coordinating During Crisis – **Emergency Services**	26	12
Connecting All Points of Care – **Behavioral Health**	31	26
Using Data to Drive Outcomes – **Quality Improvement**	39	14
Resident and Advocate Perspectives on Health IT– **Consumer Focused**	21	8
Bridging the Digital Divide – **Racial Disparities and SdoH**	42	23
Coordinating Care for the Vulnerable – **Aging and Disability Services**	33	23
Giving All Kids a Health Start – **Maternal, Infant and Children’s Health**	24	9

Forum Insights and Findings

Reflections on Health IT During a Global Pandemic – Public Health Forum

The *Reflections on Health IT During a Global Pandemic* virtual forum series was designed to identify information technology needs and gaps related to public health. The major themes and consensus issues that emerged during the discussions are described below.

State Data Sharing for COVID-19 Response and Tracking

While state IT systems for tracking public health are helpful, stakeholders identified areas for improvement for the Michigan Disease Surveillance System (MDSS) and TraceForce, including the need for real-time and geographically targeted data. In addition, improved interoperability between public health agencies and the health care delivery system (i.e., clinics, hospitals, labs) was identified as an urgent issue, as was the need for better communication and coordination at the community level between providers, public health agencies and other health and human services providers.

Health IT Investments During the Pandemic

COVID-19 has had a negative impact on health care organizations' revenue and hindered the ability for local public health to investment in new health IT tools. As a result, stakeholders are more dependent than ever on existing public health IT systems such as the MDSS and other registries.

Community Partnerships and Information Sharing

Local communities would benefit from leveraging state systems to receive pandemic-related targeted regional information, along with more transparent resource coordination across the public and private sectors.

Systems for Responding to Outbreaks

Additional tools are needed to effectively manage a COVID-19 outbreak including case management, medical management and proximity tracing systems.

Stakeholder Suggestions for Five-Year Health IT Plan

- Additional statewide investments are needed that can be leveraged by local public health agencies with the goal of improving existing systems (e.g., MDSS and TraceForce). In addition, local public health agencies communicated a need for substantial general health IT investments due to historical underinvestment, including funding for health IT personnel.
- Stakeholders need integrated data reports with targeted regional information from MiHIN.
- Create regional command centers to address PPE needs, COVID testing/reporting and facilitate better resource coordination across public and private entities.
- Near real-time laboratory reporting is a critical need, further exacerbated by the COVID pandemic.
- Create statewide standards for electronic case reporting. Widespread implementation of this capability would improve reporting from providers to public health agencies.

Coordinating During Crisis – Emergency Services Forum

The *Coordinating During Crisis* virtual forum series was designed to identify information technology needs and gaps related to emergency medical services (EMS). The major themes and consensus issues that emerged during the discussions are described below.

Better Coordination Between EMS and Hospitals

Stakeholder's desire accurate and timely access to medical information at the time of an emergency. Increasingly, EMS providers are also needing better coordination with mental health and substance use disorder providers.

A Digital Divide Is Impacting Rural EMS Providers

Connectivity to external information sources during emergency response is a significant issue for residents of rural areas due to the lack of reliable internet connectivity and cellular service. Access to patient information is an issue throughout Michigan but is more pronounced in rural areas. Many urban EMS responders are dispatched by hospitals with access to the hospital EHR. Some regional EMS provider systems retain patient information to be available on a subsequent response.

Prioritize Connectivity to Leverage Existing Investments

Most rural-based respondents expressed a frustration with not being able to connect to technical solutions, whether hosted by the state, local agencies, hospitals, or health systems.

Stakeholder Suggestions for Five-Year Health IT Plan

- Funding and support for internet and broadband capabilities in rural areas so that EMS providers don't lose connectivity while in the field. Investments are needed to expand broadband and cellular network services.
- Statewide standards are needed for all dispatch centers as they relate to emergency medical dispatch.
- Need to connect/report to Michigan Emergency Medical Services Information System (Mi-EMSIS).
- Update the Michigan Physician Order for Scope of Treatment (MI-POST) rules and create protocols for emergency medical services to easily access information.
- Funding for EMS providers to utilize digital apps for basic reporting from the field to the hospital.

Connecting All Points of Care – Behavioral Health Forum

The *Connecting All Points of Care* virtual forum series was designed to identify information technology needs and gaps related to behavioral health. The major themes and consensus issues that emerged during the discussions are described below.

Homelessness Data

There are significant gaps in understanding the needs of homeless populations with behavioral health conditions. Care coordination for homeless populations with behavioral health conditions could be improved through data capture and more widespread use of the Homeless Management Information System (HMIS).

Behavioral Health Data Standardization

Work is needed to define common data fields for capturing and sharing information related to mental health and substance use disorders.

Connections to Social Services

There is a need to better incorporate information related to social determinants of health, social needs, history of trauma, and other information likely to be factors for an individual's health and well-being into the behavioral health workflow.

Telehealth

The pandemic has facilitated the use of more telehealth for behavioral health conditions. Use of telehealth has led to reduced no-show rates and improved providers' ability to coordinate care for vulnerable populations.

Table 2 – Stakeholders' Rank Order Health IT Priorities for Behavioral Health Services

Forum Attendee Poll Question

List first and second priorities for focusing data and technology efforts in the Five-Year Health IT Roadmap

Priority Ranking Options

1. Integrating homelessness data
2. Better defined data standards
3. Adding connections to social services
4. Expanding telemedicine in BH
5. Focus on improving data quality

Highest Ranked Priorities

1st Place: Expanding telemedicine in behavioral health settings – 88% of Respondents

2nd Place: Better defined data standards – 56% of Respondents

3rd Place: Focus on improving data quality – 38% of Respondents

Stakeholder Suggestions for Five-Year Health IT Plan

- Telehealth visits sometimes require patients to be treated on-site, which can be a barrier to care in some cases. Ideally, patients would be allowed to access telehealth from their homes with assistance being made available for cultural barriers or technology-related issues.
- The state could support providers by facilitating the negotiation of a statewide rate for telehealth application costs.
- Consent remains a barrier. Although the state mandates a universal, statewide consent form[1] (MDHHS 5515) that must be accepted, its adoption is not widespread, in part, because it is not mandatory for entities to use the statewide consent form. Consequently, many organizations are still using their own proprietary consent forms.
- The state could help adoption of common standards for data capture and data sharing of mental health information.

Using Data to Drive Outcomes – Quality Improvement Forum

The *Using Data to Drive Outcomes* virtual forum series was designed to identify information technology needs and gaps related to quality improvement efforts. The major themes and consensus issues that emerged during the discussions are described below.

Data Extraction

There are significant disparities between large health systems and small and independent practices for their respective abilities to extract data for quality measures. One barrier is the cost imposed by EHR vendors, which disproportionately impacts small practices.

Data Standardization

It is important to have data standardized and for providers to be adequately trained in standard practices for data capture; such work will make data among EHR systems comparable and ultimately, more useful.

Incorporating Non-Clinical Data

As a state, Michigan needs to better integrate social determinants of health data from claims, clinical, and non-clinical sources to facilitate a clearer understanding of patient needs.

Reporting Requirements

Providers reported that supporting multiple reporting requirements imposes an administrative burden.

Table 3 – Stakeholders' Rank Order Health IT Priorities for Quality Improvement Efforts

Forum Attendee Poll Question

List first and second priorities for focusing data and technology efforts to improve health outcomes in Michigan.

Priority Ranking Options

1. Affordable data extraction
2. Common data standards
3. Addressing reporting requirements
4. Adding non-clinical data sources
5. More state-led initiatives and resources
6. Focus on improving data quality

Highest Ranked Priorities

1st Place: Focus on improving data quality – 88% of Respondents

2nd Place: Affordable data extraction – 50% of Respondents

3rd Place: Common data standards – 38% of Respondents

Stakeholder Suggestions for Five-Year Health IT Plan

- Incentive funding for small, rural providers to purchase interfaces and other technology solutions that will better support their capabilities for data extraction and data sharing. This includes funding for the IT workforce.
- Statewide assistance with practice transformation to incorporate best practices and data inputs within their EMRs and workflows.
- Vendors need to follow common standards for data extraction. From a policy perspective, the state can leverage federal standards such as HL7/FHIR with vendors, and in doing so, reduce the burden on providers.
- The state and HIEs can work more closely with physicians to determine priority use cases as clinicians can drive adoption more quickly and drive change management.
- A single integrated quality reporting system would be extremely useful and is a "phenomenal idea." There are several efforts already under way, but none of them will cut across all payers. A single system would improve data quality and reduce provider burden, especially for the smaller practices.

Resident and Advocate Perspectives on Health IT and Person-Centered Care – Consumer Forum

The *Resident and Advocate Perspectives on Health IT and Person-Centered Care* virtual forum series was designed to identify information technology needs and gaps from a consumer perspective. The major themes and consensus issues that emerged during the discussions are described below.

Equitable Access to Internet Technology for Michigan Residents

Michigan residents encounter challenges to accessing personal health data and virtual health services due to gaps in high-speed internet availability, access to technology, and expanded use of technological devices.

Health Data and Information Available to Residents

Personal health information is available to Michigan payers and providers, but individuals typically must go to multiple patient portals to enter, access, and potentially export their own data. In some cases, individuals may not be granted access to certain portions of their records.

Provider Access to Electronic Health Data

Michigan residents do not have transparency about when personal information about health and well-being is shared, or how the information may be used. Often, individuals assume more information is available to their care teams than is the case.

Usability

Multiple technical platforms, patient portals, logins/passwords, and out-of-date information can hinder individual access to electronic health information. Residents/consumers can be frustrated with inaccurate information in multiple places and inefficient ways to manage personal health information and preferences.

Technology to Improve Access to Health Care Services

Virtual visits are increasing and providing safe, socially distanced methods for individuals to receive health care services.

Table 4 – Consumers Rank Order Health IT Priorities for Access to Services and Health Information

Forum Attendee Poll Question

List first and second priorities for focusing data and technology efforts for improving individuals' electronic access to health data.

Priority Ranking Options

1. Resident access to ubiquitous high-speed internet (in both rural and urban areas).
2. Email and texting communication between patients/caregivers and care teams.
3. Virtual visits for all care types and settings.
4. Single portal for consumers to access, update, and manage health information across payers, all providers, care teams, and geography (i.e., out of state).
5. Access to and assistance with tools, such as making online appointments and payments, and understanding the differences in charges and coverage in advance of scheduled procedures.
6. Patient-managed data supporting the ability to download a health record to a smartphone and share it with other providers.

Highest Ranked Priorities

1st Place (tie): Single portal for consumers to access, update, and manage health information – 75% of Respondents

1st Place (tie): Resident access to ubiquitous high-speed internet (in both rural and urban areas) – 75% of Respondents

3rd Place: Virtual visits for all care types and settings – 25% of Respondents

Stakeholder Suggestions for Five-Year Health IT Plan

- Many patients want to be able to communicate with their providers via text messaging. The roadmap should educate and clarify standards and criteria for HIPAA-compliant messaging between patients and providers.
- Generally, patients are not aware of who has access to their data. It was recommended that transparency should be improved for patients to understand who has access to their health information and be able to provide informed consent on who is able to access and share it.
- More efficient exchange of patient information with primary care providers and onboarding of independent providers onto HIE platforms. More education and training should be provided to primary care providers to support their ability to seek out patient data from other systems and providers.
- Expand the use of virtual visits, but not at the expense of patient access to in-person office visits when their condition(s) necessitate the need, or when it is preferred.

- Provide education and assistance to elderly and technology-challenged clients to support their use of telehealth technology.

Bridging the Digital Divide – Racial Disparities and Social Determinants of Health Forum

The *Bridging the Digital Divide* virtual forum series was designed to identify information technology needs and gaps related to addressing racial health disparities and social determinants of health (SDoH). The major themes and consensus issues that emerged during the discussions are described below.

Alignment Related to Racial Disparities

In the context of social needs for communities of color, there is a lack of alignment between the myriad of initiatives across the ecosystem. This leads to complexity and confusion and diminishes effectiveness in improving outcomes.

- Workflows and operations
- Data sets and technical systems
- Programs and operations
- Variation between communities

Community Approaches & Data Sharing

A cross-sector, community-wide approach with alignment across SDoH initiatives is needed, including the reuse of data and technology, and ongoing communication of strategic priorities for addressing social determinants of health and health inequities. Sharing data across organizations is already challenging. Connecting EHRs to community data systems, such as the client management systems of social service organizations, is even harder to achieve.

Privacy and Consent

Managing consent to ensure patient privacy can be a major barrier to sharing data between health care providers and social services organizations. There needs to be focused planning and action to address these concerns to foster interoperability.

Table 5 – Stakeholders' Rank Order Health IT Priorities for Addressing Health Disparities and Social Determinants of Health

Forum Attendee Poll Question

List first and second priorities for focusing data and technology efforts to reduce health inequities and address social needs.

Priority Ranking Options

1. More accurate and timely aggregate data and analytics on racial disparities to inform policymaking
2. Standardized screening and intervention tools
3. Common data standards for social determinants (e.g., common standard for housing insecurity)
4. Connecting EHRs to community organization data tools
5. Electronic referral tools

6. Resource directory for social service organizations (electronic 211)
7. Data sharing across different types of social services and health care providers

Highest Ranked Priorities

1st Place: Data sharing across different types of social services and health care providers – 75% of Respondents

2nd Place (tie): Common data standards for social determinants – 50% of Respondents

2nd Place (tie): Connecting EHRs to community organization data tools – 50% of Respondents

Stakeholder Suggestions *for Five-Year Health IT Plan*

- Oftentimes there is inaccurate race/ethnicity information entered on birth certificates by hospitals. Training on how to retrieve race information and document accurately may help.
- Allow individuals the option to select how they self-identify their race and ethnicity.
- Standardize SDoH criteria. Focus on creating community SDoH hubs and electronic health record (EHR) integration.
- The state should procure and offer a population health tool to lower the costs for providers. Allow providers to directly access population health data instead of going through the Prepaid Inpatient Health Plans (PIHPs).
- Create transparent methods for stakeholders to see how SDoH interventions by CBOs impact costs.
- Develop apps/modules to interpret data coming in. It must be meaningful to the clinical person coordinating care and providing treatment.
- Develop standard consent protocols across all providers. While there is a universal, statewide consent form, it’s use is not mandatory. A centralized, electronic consent repository would also provide significant value.
- Create efficient, timely, and accurate closed-loop referral capabilities.

Coordinating Care for the Vulnerable – Aging and Disabilities Forum

The *Coordinating Care for the Vulnerable* virtual forum series was designed to identify information technology needs and gaps related to services for the aging population and people with disabilities. The major themes and consensus issues that emerged during the discussions are described below.

Technology Adoption and Use

Many providers of aging and disability services have not adopted EHR systems and are limited in their use of information technology. Stakeholders in the forum agreed that the value proposition for updated information technology systems and data use has not been clearly and consistently articulated to this sector of the care delivery system.

Population Health Management

There are challenges in sharing information during transitions of care, in coordinating services and health care across multiple providers, and in managing populations of high-need individuals.

Incorporating Social Services Data

Incorporating social services and SDoH data into provider workflow would help to improve the provisioning of care for elderly and disabled populations.

Stakeholder Suggestions for Five-Year Health IT Plan

- A statewide learning network/collaborative is needed for health and social services professionals working in the aging and disabilities field to communicate the value propositions for health IT tools and data sharing.
- PCPs and hospitals were targeted through the Promoting Interoperability EHR Incentive Program, but there is a need to expand incentivization for technology adoption to aging and disability services and long-term care providers. These sectors need comprehensive technical assistance throughout the entirety of the process (i.e., understanding technology needs, technology/vendor selection, implementation, incentives).
- The roadmap should connect all the dots for efficient data sharing (stakeholders, IT systems and tools, populations, regions, training, funding), and make IT tools and systems readily available and user-friendly for the providers who can make the greatest impact.
- MiHIN’s Virtual Integrated Patient Record (VIPR) could provide a foundation for a statewide centralized “data lake” that could include SDoH data.
- Standardize data conformance measures to improve the quality of source data for population health analytics.

Table 6 – Stakeholders’ Rank Order of Health IT Priorities on Importance of Data Types to Improve Outcomes for Aging & Disabled

Forum Attendee Poll Question

List first and second priorities on importance of the following data types to improve health outcomes for aging and disabled.

Priority Ranking Options

1. ADT data

2. Social determinants of health data
3. Eligibility and enrollment data
4. Aggregate population health data
5. Advanced directive data
6. Clinical data not available in ADT messages
7. Behavioral health data
8. Case management data
9. Family information

Highest Ranked Priorities

1st Place: Social determinants of health data – 100% of Respondents

2nd Place: Aggregate population health data – 50% of Respondents

3rd Place: ADT data – 25% of Respondents

Table 7 – Stakeholders' Rank Order Priorities for Overall Focus of Health IT Efforts to Improve Outcomes for Aging & Disabled

Forum Attendee Poll Question

List first and second priorities for focusing data and technology efforts to improve health outcomes for aging and disabled

Priority Ranking Options

1. Funding for implementation of EHRs
2. Access to population health analytics
3. Access to social history data elements
4. Telehealth
5. Access to advanced directives
6. Closed loop tracking of referral follow-ups
7. Remote monitoring devices with a dedicated nurse call center

Highest Ranked Priorities

1st Place: Access to population health analytics – 83% of Respondents

2nd Place: Telehealth – 67% of Respondents

Giving All Kids a Healthy Start – Maternal, Infant, and Children's Health Forum

The *Giving All Kids a Healthy Start* virtual forum series was designed to identify information technology needs and gaps related to maternal and child wellness and health services. The major themes and consensus issues that emerged during the discussions are described below.

Data Capture for Screening

Caseworkers, case managers, and providers regularly conduct home visits and routinely use paper assessment forms, laptops, or tablets for data capture. Typically, home visit data, whether recorded on paper or on a computer, requires subsequent data reentry to a centralized data repository due to lack of secure internet connectivity in the client's home or in the community at large. Organizations may underestimate the availability of broadband or mobile internet connectivity during home visits.

Access to Broadband and Cell Phones

There is basic technology related obstacles to service delivery.

- Access to broadband and/or high-speed mobile internet is a barrier for providers who are traveling to a patient/client's home to provide services, especially in rural areas.
- A lack of financial resources can be a barrier for patients'/clients' having reliable access to the internet.

Referrals to Community Services

While the availability of a closed loop referral system would be ideal, referrals are commonly made through referral directories. As a result, it's common for providers to have no visibility into the disposition of their referrals. Organizations commonly use 2-1-1, Help Me Grow, the Salvation Army "Know Book,”" as well as their own internal directories, which creates a confusing list of community organizations to try to navigate.

Statewide data systems and resources such as MI Bridges, the Homeless Management Information System (HMIS), and other health information systems are all separate and “siloed,” allowing only a limited set of people can view available data (i.e., housing units in HMIS).

Telehealth

Telehealth could be improved upon to meet the needs of sub-populations by providing a “closed captioning” service and by providing more assistance to those individuals that need help with technology.

Table 8 – Stakeholders' Rank Order Health IT Priorities for Maternal, Infant, and Child Health Services

Forum Attendee Poll Question

List first and second priorities for focusing data and technology efforts in the Five-Year Health IT Roadmap

1. Investments in broadband
2. Funding to offset clients' cell phone costs
3. Special functionality for telehealth technology (e.g., closed captioning)
4. Closed loop referral system
5. Creating an electronic system for intake and screening that eliminates manual data entry

Highest Ranked Priorities

1st Place: Investments in broadband – 80% of Respondents

2nd Place (tie): Funding to offset clients’ cell phone costs – 40% of Respondents

2nd Place (tie): Closed loop referral system – 40% of Respondents

Stakeholder Suggestions for Five-Year Health IT Plan

- Laptops, tablets, and mobile phones with broadband internet access or data plans would aide maternal and infant health providers. Investments are needed to subsidize the costs of broadband access and/or mobile data plans for vulnerable community members.
- Providers have safety concerns during home visits and would benefit from a digital app for home visitor safety.
- The state’s Maternal Infant Health Program (MIHP) database needs significant improvements to reporting capabilities and general updates/upgrades to maintain useability.
- A recent home visiting needs assessment identified parents’ need for apps that provide a directory of community resources and ability to connect with community resources.
- Patients/clients must have access to referral and consult status, outcomes reporting, and ability to make the choice on what services and providers they utilize.
- Statewide resources and data systems should be broadly available to the greatest extent possible for all members of the patient/client care team to access and utilize.
- Invest in clinical and health IT infrastructure in schools as a common access point in the community for health care services, counseling, food assistance, and other social needs.

Electronic Surveys

To collect stakeholder input, multiple modes of discovery were deployed. The advantage of providing stakeholders multiple mechanisms for sharing their experiences of the current state of health information technology and their preferences and priorities for the future state are:

- Stakeholders at different levels of an organization from staff and management to senior executives may prefer one way or another to provide input because of schedules, who they need to consult with internally, or how they best organize their thoughts.
- Interactive online forums were convened with group dynamics and a more public setting as context and have the advantage of participants thoughts and input being prompted by group polling questions and discussion spurred by what stakeholders hear others saying.
- Key informant interviews are private and have the advantage of providing less filtered or prepared responses and allow for follow-up questions based on what is shared, taking the conversation down any number of unanticipated paths.
- Electronic surveys and key informant interviews both provide a private experience with one organization, and sometimes one person, providing the input in a setting that can feel safer to some people due to the interviewer being the only person who hears what is shared.
- Electronic surveys differ from both forums and interviews in that the person completing the survey can consult internally with others or perform research for confirmation of facts in drafting responses to represent their organization, whereas in an interview they are responding via thoughts that occur to them only at the time of the interview.

The electronic survey questions were drafted based on project team experience conducting environmental scans about health information technology and other types of environments in states and organizations across the nation over many years. They were modified for this environmental scan to reflect the current national health IT environment (i.e., policy framework, incentives, available technology, data types and standards, etc.) and based on information specific to Michigan obtained from MDHHS, stakeholder forums, and research conducted on Michigan's current health IT environment published and available at federal and state websites, the websites of stakeholders and vendors, and historical background documents such as the SIM Operational plan, the State Medicaid Health IT plan (SMHP), HITC annual reports to the legislature, and others.

A balance was sought somewhere between asking all stakeholders the same set of questions, making analysis and comparisons across domains more straightforward, and asking different questions specific to each domain to account for the different ways people in different roles and different organizations interact and experience the health IT environment. As a result, some questions were asked of all stakeholders (e.g., "*What kinds of data do you collect?",* and *"What is your role in your organization?")* while other questions were specific to the type of stakeholder responding (e.g., *"Do you use an Electronic Health Record",* and "*Are you subject to 42 CFR, Part 2 related to specially protected health information?").* This provided the project team a way to cover all health IT topics pertinent to a particular stakeholder while permitting comparisons within and across domains as described in the *Environmental Scan and Draft Recommendations* document.

A compromise was also sought regarding the length of electronic surveys. With awareness that the stakeholders in all domains are busy individuals, more so during the COVID-19 crisis than during business as usual, it was desirable to keep the surveys as short as reasonably possible for the best chance of a useful number of responses and still address every essential health IT topic. It was also known that many stakeholders were being surveyed by other entities as part of other projects and information gathering during the pandemic. Indeed, electronic surveys were administered to some domains where the number of responses being returned was low enough that an additional shorter survey containing only the most essential questions was administered to increase the likelihood more people and organizations would complete a survey.

The questions asked were designed to get a clear picture of:

- The tools and technology in use for collecting, storing, using, and sharing electronic health information.
- Sources of health information and the methods for accessing, submitting, and sharing data.
- Stakeholder perceptions about the shortcomings or drawbacks of the current environment both within and external to their organizations.
- Stakeholder perceptions of the current and ideal roles various entities have or should have, such as federal and state government, the legislature, providers, consumers, vendors, oversight and governance bodies and commissions, and other entities.
- Stakeholder priorities for investment in the next five years.
- Stakeholder descriptions of characteristics of the ideal future state of health IT in Michigan.

Distribution of the unique surveys for each domain surveyed was through links posted on MDHHS's website, the HITC, associations representing different stakeholder groups, and through direct email. Stakeholders were provided a link to follow to the web-based survey tool. These methods were chosen to distribute the surveys widely, even to stakeholders in various domains the project team may not have been aware of, and because these other entities had lists of contacts and contact information for persons at stakeholder organizations likely to be in possession of knowledge and information about those entity's interactions with health information and health information technology. The number of questions on surveys ranged from eight to 39 -, depending on the stakeholder domain. Approximately 200 distinct surveys were completed and submitted to the project team with each domain surveyed being represented in the results.

Note: The project team's experience has shown that interactions to get the subjective description of stakeholder experiences with health information technology and data exchange, their pain points related to what works well and what doesn't, and their reasons for, and goals, for collection and sharing of data are the best way to perform the environmental scan. For these purposes, it is preferable to use empirical data such as the number of consulting and surgical specialist physicians in Michigan who have adopted a certified EHR for meaningful use*,* already available from the Office of the National Coordinator (ONC), and other sources of data about tools and technology, numbers of transactions, records, encounters, claims, etc. The electronic surveys administered for this project, therefore, are not intended for statistical or other empirical analysis, but rather as another mode of collection of the kinds of input sought through forums, focus groups, and interviews and, like those other methods, serve as a kind of dialogue where questions are answered and responders frequently had the option of choosing all responses that applied or entering text into fields to collect perceptions not possible from a multiple choice question.

Standards Used to Collect Social Determinants of Health Data

Provider Domain	**Standards Currently in Use by Michigan Stakeholders for SDoH**
Ambulatory Providers	**Ambulatory provider** stakeholders reported collecting race and ethnicity data via a mixture of internally determined standards and U.S. Department of Health and Human Services (USHDDS) standards.
Behavioral Health	**Behavioral health** stakeholders reported collecting race and ethnicity data using a mixture of internally determined standards; the federal Office of Budget and Management (OMB) standards, USDHHS standards. Forty-five percent of stakeholders reported not knowing the standard being used.
Hospitals & Health Systems	**Hospitals and health system** stakeholders reported collecting race and ethnicity data using a mixture of internally determined standards, 0MB standards, and USDHHS standards.
Long-Term Care	**Long-term post-acute care** stakeholders reported collecting race and ethnicity data using a mixture of internally determined standards, 0MB standards, and USDHHS standards. Fifty-five percent of respondents indicated uncertainty about the standards being used.
Public Health	**Public health** stakeholder organizations reported collecting race and ethnicity data using primarily USDHHS standards, with some using 0MB standards, and a very few reported using internally determined standards. Most public health organizations reported using commonly accepted SDoH screening tools; however, it does not appear that one assessment tool is dominant.
Social Service Organizations	**Social services** stakeholder organizations reported collecting race and ethnicity data using standard categories determined by their funding fiduciary; USDHHS standards, 0MB standards, internally determined standards, and school standards were named. Seventeen percent of respondents were unsure of the standard used.

Appendix D: Policy Alignment

This report is intentionally aligned with key strategies and stakeholder input documents. The following table depicts each activity in this roadmap and the strategies which correlate to them.

"Bridge to Better Health" Activity	CMS (CMS-9115-N2) and ONC (RIN 0955-AA01) Interoperability Rules	ONC 2020-2025 Federal Health IT Strategic Plan	ONC Strategy on Reducing Regulatory and Administrative Burden Relating to the Use of Health IT and EHRs	MDHHS IT Strategy	CedarBridge Group Environmental Scan
Activity 1A-1: Track progress of roadmap					X
Activity 1B-1: Expand the Health IT Commission					X
Activity 1B-2: Health IT Commission engagement					X
Activity 2A-1: Leverages existing public investments	X			X	X
Activity 2A-2: Advance and promote the capabilities of core health information network	X	X			X
Activity 2A-3: Enhance interoperable clinical documentation	X		X		X
Activity 2B-1: Promote secure health information practices that protect individual privacy		X			X
Activity 2C-1:		X			X

Consent management system					
Activity 2C-2: Life-saving data services	X	X	X		X
Activity 2C-3: Serve children, inmates, and behavioral health patients		X	X	X	X
Activity 2C-4: Single sign-on portals		X		X	X
Activity 3A-1: Support existing digital access efforts					X
Activity 3B-1: Advocate for digital access funding					X
Activity 4A-1: Health IT technical assistance	X	X	X		X
Activity 4B-1: Telemedicine		X			X
Activity 5A-1: Bidirectional public health data flow		X			X
Activity 5A-2: Public health registries and analytics		X			X
Activity 5B-1: Quality improvement use cases	X	X			X
Activity 5B-2: Data quality	X	X	X		X
Activity 5C-1: Public health IT training		X			X
Activity 5C-2:		X		X	X

Public health modernization					
Activity 6A-1: SDoH data standards workgroup		X	X		X
Activity 6B-1: Whole-person care management		X			X
Activity 6B-2: Aligned SDoH strategies		X			X
Activity 6B-3: Utilize analytics		X		X	X