

# HEALTH INFORMATION TECHNOLOGY COMMISSION REPORT

(FY2009 Appropriation Bill - Public Act 246 of 2008)

July 1, 2009

**Section 1796:** The department shall direct the health information technology commission to examine strategies that promote that ability to share medical records. The department shall report the commission's findings by July 1, 2009.

*Michigan Department  
of Community Health*



**Jennifer M. Granholm, Governor  
Janet Olszewski, Director**

**Report Submitted to the Michigan Legislature  
By the Michigan Department of Community Health  
July 1, 2009**

Fulfilling Public Act 246 of 2008, section 1796, requiring the Michigan Department of Community Health (MDCH) to “*direct the health information technology commission to examine strategies that promote the ability to share medical records. The department shall report the commission's findings by July 1, 2009.*”

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## Executive Summary

The Michigan Health Information Network (MiHIN) is the State of Michigan's initiative to improve health care quality, cost, efficiency, and patient safety through electronic exchange of health information. The MiHIN is a joint effort between the Michigan Department of Community Health (MDCH) and the Michigan Department of Information Technology (MDIT).

The MiHIN is essential to ensuring that Michigan's health care providers can utilize Electronic Health Records or EHRs in a meaningful way that allows for a patient's health information to be available when they need it most – the point of care. The MiHIN is essentially the infrastructure that allows healthcare providers to connect to one another regardless of their individual technology choices.

The MiHIN approach consists of centralizing certain elements of Health Information Exchange (HIE) technology and administration at the statewide level while still having certain support and services regionalized in order to attain the optimal economy of scale and achieve the most efficient use of available resources, including:

- Technologies that will uniquely identify individuals and locate their disparate pieces of health information for integration with health records
- Technologies that transports the requests for and responses from provider health information systems regarding location of the health information
- A security system will provide authentication, authorization, auditing and logging on all connections
- Regional support and service entities that are local provide education, training, marketing and problem resolution.

The MiHIN approach is directly aligned with funding that was allocated to the Office of the National Coordinator for HIT (ONC) to provide grants to states for "HIE Infrastructure" through the American Recovery and Reinvestment Act of 2009. MDCH and MDIT are pursuing this funding to support implementation of the MiHIN.

MDCH and MDIT have developed a three-pronged approach to develop detailed technical and business plans that will be successful in garnering federal support for the MiHIN:

- Formalize a MiHIN Program office to focus on organizing, coordinating and streamlining state resources to take advantage of the American Recovery and Reinvestment Act (ARRA) opportunities,
- Engage in a competitive bid process for national HIE and HIT experts to ready Michigan for the ARRA opportunities and remain a part of Michigan's team to implement ARRA grant funding solutions, and
- Develop formal mechanisms to ensure the Michigan's stakeholders are fully engaged in every step of the process so that the MiHIN will meet their needs and add value to already successful private efforts.

## **Introduction**

This report is issued in response to Public Act 246 of 2008, section 1796, requiring the Michigan Department of Community Health (MDCH) to “direct the health information technology commission to examine strategies that promote the ability to share medical records. The department shall report the commission's findings by July 1, 2009.”

The Michigan Health Information Technology (HIT) Commission was created in May 2006 as an advisory commission within the Michigan Department of Community Health (MDCH) when the Michigan Legislature passed and the Governor signed Public Act 137-2006. The purpose of the HIT Commission is to facilitate and promote the design, implementation, operation, and maintenance of an interoperable health care information infrastructure as well as advance the adoption of health information technologies throughout the state’s health care system.

The HIT Commission is made up of 13 members that are appointed by the Governor to represent stakeholders as specified in the legislation that created the Commission. The HIT Commission holds regularly scheduled public meetings on a monthly basis.

With the guidance of the HIT Commission, Michigan has gained national recognition for the advancement of HIT and Health Information Exchange (HIE) through the Michigan Health Information Network program or MiHIN. The MiHIN is a joint effort between MDCH and the Michigan Department of Information Technology.

## Michigan Health Information Network Background

In December of 2006 the HIT Commission voted to recommend to MDCH that the Michigan Health Information Network (MiHIN) Roadmap called the *Conduit to Care* should be MDCH's strategic plan for statewide Health Information Exchange (HIE). The MiHIN Roadmap *Conduit to Care* was developed with the direct input of over 200 Michigan healthcare stakeholders. From this multi-stakeholder collaboration, major themes emerged and are the cornerstones of the MiHIN Roadmap *Conduit to Care*, including:

- Michigan should focus on Health Information Exchange (HIE) as a means to add value to existing Health Information Technology (HIT) investments throughout the state and to further drive adoption of HIT solutions which include Electronic Medical Records, Computerized Physician Order Entry, and e Prescribing. The focus on HIE is essential for the State of Michigan's role because HIE requires community-wide implementation and support, while most HIT is typically implemented to support the specific needs of individual organizations.
- Michigan should promote HIE through a regional approach because health care is delivered locally and working, trusted relationships are the key to successful networks and collaboration. A regional approach would therefore gain acceptance and financial sustainability more readily than a statewide effort.

Health Information Exchange (HIE) is defined in the *Conduit to Care* as "a technological infrastructure and a set of agreed upon business processes to enable movement of health care information electronically among and between organizations for patient care"

The *Conduit to Care* also outlined guiding principles and articulated sets of recommendations for several different stakeholders. Specific to State of Michigan government, the *Conduit to Care* called for the State to act as a collaborator and convener for statewide HIE. To that end, it was recommended that the State of Michigan perform the following:

- Facilitate consensus on legal interpretation of privacy laws and other statutes related to HIE and HIT.
- Set standards in concert with the federal government and to provide technical support.
- Coordinate HIE efforts statewide by creating a "Resource Center", continue to provide a forum for stakeholder input, set the boundaries for "regions" within the state, and encourage HIE formation with funding.
- Encourage additional collaboration and communication among stakeholders.

The Michigan Department of Community Health began implementing the recommendations from the MiHIN *Conduit to Care* report in 2007. Using funding appropriated by the Legislature for fiscal year 2007, MDCH was able to award grants in June 2007 to two regional groups for HIE implementation projects and to five groups for HIE planning projects. Further, MDCH awarded a grant to the Michigan State University Institute for Health Care Studies for the establishment of a MiHIN Resource Center. In 2008, MDCH awarded two additional HIE planning grants. Every county in the State of Michigan was included in a regional HIE planning or implementation grant.

The HIT Commission was key in advising MDCH in setting grant criteria, awarding grants, and measuring progress of these grants. The regional grantees regularly provided status reports to MDCH and provided presentations to the HIT Commission.

In January 2009, the HIT Commission convened a planning session to evaluate the progress of MiHIN. In general, the HIT Commission agreed that the MiHIN effort – with nine regional efforts – had made considerable progress in the past two years. Specifically, the HIT Commission noted that awareness of HIE has been raised in many communities and several national organizations have recognized and praised Michigan's HIE efforts.

The HIT Commission discussed the regional approach that was pioneered by Michigan and found the work done by the MiHIN regional organizations to have produced invaluable outcomes. The MiHIN regional organizations that received grants from MDCH have facilitated meaningful discussion of HIE at the community level, were instrumental in insuring both rural and urban areas of the state were appropriately included, and have been essential in building stakeholder consensus. The HIT Commission determined that MiHIN regional organizations must continue to play a vital role in the future of the MiHIN program.

During the evaluation of the MiHIN program, the HIT Commission identified specific external variables that have become barriers to the success of MiHIN. Particularly, the state's economy has changed and stakeholders are hesitant or unable to make HIT and HIE investments. Statewide stakeholders, like major employers and insurers, want to invest only once in the most efficient and effective solution and through the MiHIN regions they were being asked to do so multiple times in multiple regions. Further, the impending passage of the American Recovery and Reinvestment Act (ARRA) was reported to contain a great opportunity for HIT and HIE. As such, the State of Michigan would need to ensure clear alignment with the goals of the ARRA.

In February 2009, the HIT Commission held a public input session to provide a forum for direct stakeholder reaction to the findings from the January planning session. The HIT Commission asked stakeholders to provide input on how Michigan should proceed given the progress of MiHIN and the convening factors like the economy, improved technology and the opportunity to align with a new federal vision. The HIT Commission received 14 individual/organization's verbal input and 16 written

statements. The input was not unanimous around specific guidelines, architectures or project designs, but it did fall into a few general themes:

- Pursue Economies of Scale: nine regions around the state were purchasing very similar pieces of technology. Can we pursue economies of scale by purchasing and administering some of this technology centrally?
- Minimize Risk in Centralization: there must be adequate redundancy and emergency back-up plans for any centralized technology.
- Maintain a Balance Between Statewide Stakeholders and Regional Players: though it is true that patient care is delivered locally, many providers (hospitals, health systems, physician organizations) have locations across the state and cannot be expected to participate in nine different efforts that all have the same goal.
- Focus on Quality and Patient Safety: no matter how the MiHIN is organized we cannot lose the focus on improved healthcare quality and patient safety as our foremost goals.
- Fully Leverage Public/Private Partnerships: no single entity/stakeholder group can be expected to fully support HIE. Funding must come from public and private partnerships.

After evaluating the input, the Michigan HIT Commission voted to reaffirm the objectives of the MiHIN project but modify the approach at the March 2009 meeting. The HIT Commission recommended to MDCH that the overall goals of MiHIN should remain: 1.) Utilizing technology to improve healthcare outcomes and clinical workflow. This includes improving quality and safety, increasing fiscal responsibility, and increasing clinical and administrative efficiency; and 2.) Empower citizens with access to information about their own health.

The HIT Commission recommended to MDCH that a new MiHIN approach should centralize certain elements of HIE technology and administration at the statewide level in order to attain the optimal economy of scale and achieve the most efficient use of available resources. This puts Michigan in alignment with the intent and purpose of the ARRA, which allows the state to build upon and take advantage of HIT and HIE work that statewide health systems and regionally-based provider groups have achieved. This also facilitates early success and paves the way for those systems and providers to connect by providing standardized, cost-effective communication platforms available on a statewide basis.

The centralized components of a statewide Health Information Exchange system were preliminarily approved by the HIT Commission to include a master patient index (MPI) and record locator system (RLS) that will uniquely identify individuals within the MiHIN and locate their disparate pieces of health information. It will also include a

messaging gateway that transports the requests for and responses regarding location of the health information. A security system will provide authentication, authorization, auditing and logging on all connection and disconnections to the MiHIN.

Regionalized service and support organizations will provide resources within communities to train users, perform outreach, education and marketing, resolve and troubleshoot issues with identity management, RLS, gateways, and other MiHIN issues.

This centralized and regionalized model for the MiHIN was based on a tested and successful model for the Michigan Care Improvement Registry or MCIR. The MCIR model includes technology solutions based centrally and regionalized support and service centers that perform outreach, training and marketing of the MCIR. The HIT Commissioners found this model appealing for several reasons, but primarily because it is working well today.

Further the centralized and regionalized hybrid model was attractive to the HIT Commission because it is consistent with the guidelines of the National Health Information Network (NHIN). Aligning with NHIN guidelines is in harmony with the HIT Commission's principle of utilizing national standards and protocols whenever they become applicable. Most importantly, aligning with NHIN would allow providers to share important health information with other healthcare providers when appropriate.

## **A New MiHIN Approach**

Acting on the recommendations of the HIT Commission, MDCH and MDIT began working to support the new MiHIN approach as envisioned by the HIT Commission. At this same time, more details were being analyzed in the American Recovery and Reinvestment Act of 2009 (ARRA). It became clear that the new MiHIN approach is directly aligned with funding that was allocated to the Office of the National Coordinator for HIT (ONC) to provide grants to states for “HIE Infrastructure”.

Looking at the opportunities outlined in the ARRA and the MiHIN developments, the two departments developed a three pronged approach: 1) Formalize a MiHIN Program office to focus on organizing, coordinating and streamlining state resources to take advantage of the federal opportunities to act on the new MiHIN approach, 2) Engage in a competitive bid process for national HIE and HIT experts to ready Michigan for the ARRA opportunities and then remain a part of Michigan’s team to implement ARRA grant funding solutions, and 3) Develop formal mechanisms to ensure the Michigan’s stakeholders are fully engaged in every step of the process so that the MiHIN will meet their needs and add value to already successful private efforts.

### MiHIN Program Office

The MiHIN is a joint effort between the Michigan Departments of Community Health and Information Technology and has operated the activities of the MiHIN in a close partnership since the concept first evolved in 2004. Since the activity of supporting MiHIN has greatly increased over the years and with the ARRA opportunities on the horizon, a natural step is to formalize a program office between MDCH and MDIT.

Creating a MiHIN Program Office within state government provides the most efficient and streamlined use of state resources and allows for a clear delineation of roles and responsibilities. It is anticipated that Michigan will need to demonstrate this type of formalized infrastructure in order to be successful in federal grant opportunities.

The MiHIN program office is split into two focus areas; business needs and technical solutions. The two focus areas work together to inform and present decision points to a Steering Committee made up of department officials. The MiHIN program office will provide direction for state government interaction in all aspects of MiHIN, which includes, setting the vision for state government programs, maintaining a statewide HIE roadmap, analyzing and responding to grant opportunities, look for opportunities to leverage existing assets and technologies, and provide support to the HIT Commission in making recommendation to MDCH.

### Planning & Implementation Expertise

The MiHIN Program Office, like many counterparts in other states, found that preparing Michigan for the ARRA competitive grants would require national expertise and the leadership of knowledgeable facilitators and project managers. In March 2009,

the MiHIN program office began the state's procurement process to find the resources that could accomplish Michigan's goals and completely prepare us for the ARRA opportunities.

These experts are tasked with completing deliverables that fall into roughly two phases: 1) Get Michigan ready for the ARRA opportunities and 2) Implement ARRA funded plans. The tasks are outlined below.

- Phase 1: Get MI Ready for ARRA
  - Analyze Michigan's successful HIT and HIE systems in both the private and public sector
  - Develop plans for an operational governance model
  - Develop a technical architecture blueprint
  - Develop a mechanism for selecting a technology solution
  - Advise on technology solution selection process
  - Provide input to ARRA grant response(s)
  
- Phase 2: Implement ARRA Funded Plans
  - Provide HIE technology solution project oversight
  - Help finalize operational and financial Models

The expertise that Michigan is seeking will work in tandem with the MiHIN program office to achieve the overall goals of the MiHIN. An August 2009 start date is anticipated and will begin with a focus on operational governance models and an analysis of Michigan's successful HIE and HIT systems.

### Stakeholder Engagement

In the HIT Commission's recommendation for a new approach to the MiHIN, they upheld the principle that the MiHIN should be built with input from Michigan's healthcare stakeholders and consumers. As such, the MiHIN program office has developed mechanisms for direct stakeholder input.

#### *Regional Advisory Board*

At the March 2009 meeting of the HIT Commission, the commission recommended that MDCH form an Advisory Board made up of a single representative from each of the current nine MiHIN regions to serve as council to the HIT Commission. The HIT Commission recommended that each representative be able to invite other experts to attend to help advise the process, but each region will only have one vote. At least two Commissioners will attend these meetings and will report back to the whole commission.

The purpose of the Regional Advisory Board is to provide feedback and input that is representative of all regional stakeholders to the HIT Commission. The mission of the

Regional Advisory Board is to ensure the HIT Commission has a well-rounded and inclusive perspective for decision-making. The goal of the Regional Advisory Board is to inform an inclusive, collaborative process of building successful and viable HIE throughout the entire state of Michigan.

The Regional Advisory Board has continued to meet and provide input on a range of topics that have been instrumental in the HIT Commission's deliberations and recommendations. The Regional Advisory Board has also helped the MiHIN program office to identify stakeholders throughout the state that are engaging in advanced use of HIT and/or HIE so that a survey of Michigan's progress can be performed in advance of designing a technical solution that adds value to Michigan's HIT and HIE systems. This analysis is being called the Early Adopter Analysis.

### *Early Adopter Analysis*

The HIT Commission's recommendation made clear that the MiHIN technical design should seek to leverage existing assets within the private sector and also ensure that duplication of efforts and technologies solutions are minimized. The MiHIN Program Office enlisted the help of the Regional Advisory board to identify Michigan's "early adopters" so that a full understanding of Michigan's established HIT and HIE systems is available to inform the MiHIN technical design. To gain a full understanding of how existing use of HIT and HIE in Michigan can be leveraged and how the MiHIN could add value, existing investments and systems must be identified and studied.

The MiHIN program office defined an early adopter as a health care provider or organization that is exchanging health information using the nationally recognized HIT/HIE standards and protocols. The early adopters could consist of but not be limited to a Regional Health Information Organization (RHIO), a local public health department, a community health information exchange, a health system with inpatient and ambulatory health information exchange, a laboratory, an ambulatory care provider, a health plan and chronic disease registry system.

The Regional Advisory Board provided information to the MiHIN program office on organizations and/or providers in their region that qualify as early adopters. The MiHIN program office will first solicit information from these stakeholders by asking them to complete a survey. The next phase of engagement with early adopters will include asking for their participation in MiHIN workgroups that will begin to inform the technical architecture, business plan and governance of the MiHIN.

## ARRA Opportunities & the Impact on MiHIN

The American Recovery and Reinvestment Act (ARRA) will have a profound impact on Michigan's strategy to promote health information technology and the sharing of medical records. With over \$33 billion in allocated funding for HIT, it provides \$300 million in direct funding to states and sub-national regions for health information exchange projects such as MiHIN. The ARRA grants funding for federally qualified health centers, the Indian Health Services, health and medical education programs and other specialized health care organizations to promote information technology use and training. ARRA funds the continuing development of health standards and makes permanent the Office of the National Coordinator for Health Information Technology (ONC) within the Department of Health and Human Services, allowing it to expand its role in guiding federal efforts.<sup>1</sup>

### Medicare and Medicaid EHR Incentives

By far the biggest impact of ARRA on the potential sharing of medical records are the incentive payments offered through the Medicare and Medicaid programs for hospitals, doctors, and other providers who adopt certified electronic health records (EHRs). The Congressional Budget Office estimates that federal payments through these two programs will exceed \$33 billion. Medicare incentives will likely start for hospitals in October 2010 and for physicians in January 2011. To be eligible for incentive payments physicians must be "meaningful EHR users". If hospitals or clinicians fail to become "meaningful users" of EHRs by 2015, their Medicare reimbursements will be reduced by increasing amounts over the following years.

The criterion for "meaningful EHR user" has not yet been solidified. The Secretary of the U.S. Department of Health and Human Services (HHS) will, by statute, define "meaningful use" no later than December 31, 2009. The ARRA does specify that some aspects of "meaningful use" will include: 1) Demonstrating to HHS that they are using EHR in a meaningful manner, 2) Participating in E-prescribing, 3) The technology provides electronic exchange of health information to improve quality of health care, and 4) Submitting information to HHS for quality measures.

EHR is defined as an electronic record of patient health information generated by one or more encounters in any care delivery setting. EHRs include patient demographics, progress notes, problems, medications, vital signs, past medical history, immunizations, laboratory data and radiology reports. The EHR automates and streamlines the clinician's workflow. The EHR has the ability to generate a complete record of a clinical patient encounter - as well as supporting other care-related activities including evidence-based decision support, quality management, and outcomes reporting.

Medicare incentives for physicians start in calendar year 2011 and physicians can receive up to \$44,000 over five years. For hospitals Medicare incentives start in FY 2011 and payments start at \$2 million. The table below illustrates how physician incentives through Medicare would be distributed by the year at which the physician becomes a "meaningful EHR user".

## Medicare Incentives for Physicians<sup>1,5</sup>

	2011	2012	2013	2014	2015	2016	2017	Total
Adopt 2011	\$18,000	\$12,000	\$8,000	\$4,000	\$2,000	\$0	\$0	\$44,000
Adopt 2012	-----	\$18,000	\$12,000	\$8,000	\$4,000	\$2,000	\$0	\$44,000
Adopt 2013	-----	-----	\$15,000	\$12,000	\$8,000	\$4,000	\$0	\$39,000
Adopt 2014	-----	-----	-----	\$12,000	\$8,000	\$4,000	\$0	\$24,000
Adopt 2015	-----	-----	-----	-----	\$0	\$0	\$0	\$0

Incentives under the Medicaid program are also available for physicians, hospitals, federally qualified health centers, rural health clinics, and other providers. However, physicians cannot take advantage of the incentive payment programs under both the Medicare and Medicaid programs. Eligible pediatricians (non-hospital based), with at least 20 percent Medicaid patient volume, could receive up to \$42,500, and other physicians (non-hospital based), with at least 30 percent Medicaid patient volume, could receive up to \$63,750, over a six-year period. Eligible professionals may receive up to 85 percent of the net average allowable costs for certified EHR technology, including support and training.

The Medicaid EHR incentive program will be administered through states within federal guidelines that have yet to be released. Some activities that the state will have to administer are already clear from the ARRA legislation. For example, Michigan's Medicaid program will need to develop a method for assessing if health care providers meet the eligibility requirements outlined in the ARRA. Also, Michigan Medicaid will need to promote the EHR incentive program through an education and outreach campaign. It is anticipated that Michigan Medicaid will also need to develop policy and procedures, finance and accounting and project management plans relative to administering the EHR Incentive program.

Providing Michigan's hospitals and physicians with either Medicare or Medicaid incentives will greatly impact the MiHIN. A barrier to the electronic exchange of health information is having the information processed and stored in electronic form. As physicians and hospitals adopt EHR technologies, electronic health information will become more prevalent. Also, it is presumed that HIE will be a component of "meaningful EHR use" and therefore will greatly drive the need for the MiHIN.

### HIE Infrastructure Grants

The Office of the National Coordinator for Health Information Technology (ONC) was allocated \$2 billion in the ARRA to implement several programs. One type of program is titled "State Grants to Promote HIT" and has a minimum spending level of \$300 million spelled out in the ARRA. The purpose of this program is to provide competitive grant opportunities to states or qualified state entities for two separate types of activities: 1) planning and 2) implementation for the support of the physical and organizational infrastructure for health information exchange statewide. This is this grant program that Michigan intends to use to support the MiHIN.

Though no official guidance has been issued from the ONC about this specific program, ARRA analysis concludes that the following activities could be addressed in both planning and implementation grants: enhancing participation in statewide and nationwide exchange of information, providing technical assistance for the development of exchanges, addressing the needs of safety net providers, promoting the use of EHRs for quality and public health purposes, and educating consumers. In addition, states applying for implementation grants likely will need to demonstrate that they have created a governance structure, chosen the technical parameters and requirements for the exchange, and have developed a sustainable business model for operating the exchange.

### EHR Loan Program Grants

The ARRA provides another grant program for states to begin an EHR loan program that would support loans to any eligible health care provider to cover the costs of purchasing an EHR.

EHR Loan funds can be used by health care providers to purchase certified EHR technology, improve EHR utility, train personnel, and improve secure exchange of health information. The state must have in place requirements and accountability mechanisms to ensure that fund dollars are only used for the purchase of certified products. Providers must agree to submit reports on quality measures determined by the federal government in order to be eligible for loan funds. The Fund can accept contributions from the private sector to be used in the same fashion as federal funds. Interest accrued on these private dollars should also be rededicated into the Fund.

The potential amount for these grants is not specified in the ARRA. However, funding for this program must be shared with the other state grant programs using the \$2 billion allocated to ONC. This program will state no sooner than January 1, 2010. Michigan will likely be interested in applying for this grant when more details are released.

### Regional Health Information Technology Extension Centers

The objective of the regional health centers is: “to enhance and promote the adoption of health information technology through: assistance with the implementation, effective use, upgrading, and ongoing maintenance of health information technology, including electronic health records, to healthcare providers nationwide. This should come from broad participation of individuals from industry, universities, and state governments. Another purpose is providing active dissemination of best practices and research on the implementation, effective use, upgrading, and ongoing maintenance of health information technology, including electronic health records, to health care providers in order to improve the quality of healthcare and protect the privacy and security of health information. Engaging participation, to the extent practicable, in health information exchanges is also a focus. Lastly, utilization, when appropriate, of the

expertise and capability that exists in Federal agencies other than the Department; and integration of health information technology, including electronic health records, into the initial and ongoing training of health professionals and others in the healthcare industry that would be instrumental to improving the quality of healthcare through the smooth and accurate electronic use and exchange of health information.”<sup>4</sup>

The Office of the National Coordinator for HIT published a notice in the *Federal Register* on May 18, 2009 indicating that funding opportunities for RHITEC grants may be available by the end of fiscal year 2009. The Federal Government has yet to release details about RHITECs, but is a great opportunity for stakeholders to lead health information technology in the state of Michigan.<sup>4</sup> Some of the goals for the regional center in Michigan include meeting the actual needs of practicing patient care providers, building on Michigan’s resources and assets, strengthening the MDCH/ MDIT/ HIT Commission visions for health information exchange in Michigan, linking to medical education and health professional training, representing true collaboration among participating partners, sustaining effort even after the ARRA grant is completed, and creating a feedback relationship with the National Health Information Technology Research Center and the Health Care Information Enterprise Integration Research Centers (HCIEIRC), university-based HIT research & development centers.<sup>4</sup>

#### Health Care Information Enterprise Integration Research Center

The ARRA also provides funding for universities and university consortia to establish Health Care Information Enterprise Integration Research Centers (HCIEIRCs). The purpose is: “to generate innovative approaches to health care information enterprise integration by conducting cutting edge, multidisciplinary research on the systems challenges to health care delivery; and for the development and use of health information technologies and other complementary fields.” By providing assistance to universities to establish multidisciplinary centers allows for multidisciplinary research on health delivery. The research provided by institutions of higher education will develop new technologies and processes which will in turn develop new solutions.<sup>4</sup>

Research areas for HCIEIRCs may include: “interfaces between human information and communications technology systems; voice-recognition systems; software that improves interoperability and connectivity among health information systems; software dependability in systems critical to health care delivery; measurement of the impact of information technologies on the quality and productivity of health care; health information enterprise management; health information technology security and integrity; and relevant health information technology to reduce medical errors.” Creating a feedback relationship between a RHITEC and a HCIEIRC allows for joint collaboration, research and discovery.<sup>4</sup>

## **Conclusion**

Michigan has made considerable strides in promoting HIT and HIE adoption since it released one of the first and most comprehensive strategic plans in the nation in 2006. Michigan has also been active in ensuring that the strategic plan, or roadmap, is continually evaluated and updated. As such, Michigan is well positioned to take advantage of the ARRA opportunities that are aimed at nationwide HIE and greatly increased HIT adoption and use.

At the present, Michigan is preparing for opportunities to expand the MiHIN program by ensuring that the formal infrastructure is in place to efficiently support programs, bringing technical experts on board to advise and council Michigan's technical and organizational plans, and by keeping the input of Michigan's stakeholders in the forefront of all planning.

Through leadership from the HIT Commission, the MiHIN program office and Michigan's stakeholders, Michigan is engaging in all of the necessary activities to promote the adoption of EHRs among healthcare providers and enable the sharing of important health information at the point of care. With the funding from the ARRA, Michigan can make these programs a reality that will greatly impact the effectiveness and efficiency of Michigan's healthcare system.

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