MINNESOTA STRATEGIC PLAN FOR HEALTH INFORMATION EXCHANGE

A Companion Document to the Minnesota Statewide Implementation Plan Released June 2008: A Prescription for Meeting Minnesota's 2015 Interoperable Electronic Health Record Mandate

July 2010

Minnesota e-Health Initiative Advisory Committee *and the*
Minnesota Department of Health

MINNESOTA STRATEGIC PLAN FOR HEALTH INFORMATION EXCHANGE

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ACKNOWLEDGEMENTS

The Minnesota Department of Health thanks the many members of the Minnesota e-Health Initiative for their ideas, their expertise and their time in developing this Minnesota Strategic Plan for Health Information Exchange.

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EXECUTIVE SUMMARY

BACKGROUND

Health information exchange (HIE) can provide many benefits towards improved health and health care in the community, particularly as it relates to quality of care, patient safety, and population health. Much of the benefit of improving the continuity, quality, and safety of health care depends on the ability to securely and meaningfully exchange health information in a timely manner. For the purpose of this plan, health information exchange is the electronic transmission of health-related information between organizations according to nationally recognized standards.

This ***Minnesota Strategic Plan for Health Information Exchange***, through the ***Minnesota e-Health Connect program***, builds upon the previous six-year effort of the ***Minnesota e-Health Initiative***, whose vision has been to *"accelerate the adoption and effective use of health information technology to improve health care quality, increase patient safety, reduce health care costs and enable individuals and communities to make the best possible health decisions."* Enabling the secure exchange of health information among health / health care stakeholders is essential to realizing the broad mission of the Minnesota e-Health Initiative.

The American Recovery and Reinvestment Act (ARRA), passed in February 2009, can be an opportunity to help achieve these goals. ARRA provided funding to states (e.g., the Minnesota e-Health Connect program) to assist in developing the health information exchange capacity needed to allow providers to become "meaningful users" of electronic health records and receive incentives through the Medicare and Medicaid programs. The assistance, provided through the State Health Information Exchange Cooperative Agreement Program, is intended to facilitate and expand the secure, electronic movement and use of health information among organizations according to nationally recognized standards. The cooperative agreements specifically require states to use their authority, programs and resources to:

- Ensure the development of state level directories and enable technical services for health information exchange
- Convene stakeholders to ensure trust and support for a statewide approach to health information exchange
- Ensure an effective model for health information exchange governance and accountability
- Coordinate an integrated approach with Medicaid and public health
- Develop and update privacy and security requirements for health information exchange
- Remove barriers and create enablers for health information exchange

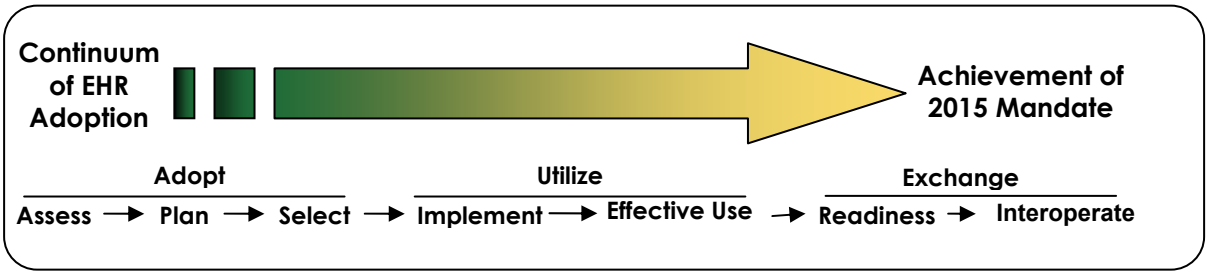
Minnesota Model for Achieving Interoperability and Health Information Exchange

Much of the work of the Minnesota e-Health Initiative through 2008 focused on adoption and effective use of electronic health records and other health information technology. This is the focus of the 2008 Plan, *Prescription for Meeting Minnesota's 2015 Interoperable Electronic Health Record Mandate – A Statewide Implementation Plan*." In that plan, a model for the Minnesota health and health care community to meet Minnesota's mandate for the adoption and use of interoperable electronic health

records by 2015 was adopted (see Figure 1 below). The Minnesota model contains seven major steps in adopting, implementing and effectively using an interoperable EHR. The seven steps can, in turn, be grouped into three major categories:

- ***Adopt***, which includes the sequential steps of assess, plan and select
- ***Utilize***, which involves implementing an EHR product and learning how to use it effectively
- ***Exchange***, which includes readiness to exchange electronically with other partners, and implementing regular, ongoing exchange between interoperable EHR systems

Figure 1. Minnesota Model for Adopting Interoperable Electronic Health Records



Since the Minnesota Model was adopted in 2008, the Minnesota e-Health Initiative has provided specific guidance to Minnesota providers working on adoption and utilization of EHRs. The full plan can be found at: www.health.state.mn.us/ehealth. In 2009, the Minnesota e-Health Initiative turned its attention to addressing the third category on the Minnesota Model: Health Information Exchange.

MINNESOTA E-HEALTH CONNECT VISION

Through an integrated statewide approach, the Minnesota e-Health Connect program will advance patient centered health information exchange that will:

- Provide Minnesotans with access to coordinated care each time they access the health care system, across the continuum of care
- Elevate the health of all Minnesotans by facilitating essential communications that support improvements in individual, community and public health
- Ensure that adequate protections are in place to maintain patient privacy, while enabling secure access to all of the information necessary to deliver the best possible care
- Empower Minnesotans with the information they need to work with their providers to achieve the best possible health outcomes
- Serve the citizens of Minnesota as a public good

HEALTH INFORMATION EXCHANGE PRINCIPLES: HEALTH INFORMATION EXCHANGE AS A PUBLIC GOOD

The following principles have guided Minnesota in establishing the vision for health information exchange that will be pursued through the Minnesota e-Health Connect program:

- The improvement of health and health care for Minnesota citizens and communities is the central focus of statewide, interoperable health information exchange
- The need for secure exchange of health information is essential to transforming health care and improving the health of Minnesotans and must supersede technical, business, and bureaucratic barriers
- Health information exchange must provide the functionality necessary to support meaningful use, and expand over time to provide for continuous improvement in quality and coordination of care
- The value of information increases with use, and the value of one set of information increases when linked with other information
- Consumption of HIE services by one health / health care stakeholder must not reduce availability for others, and no health / health care stakeholder can be effectively excluded from appropriately using interoperable HIE services

CALL TO ACTION

Achieving the Minnesota health information exchange vision requires broad stakeholder engagement, support and action by the greater health / health care community to realize the benefits of health information exchange. ***The health / health care community can enable readiness for electronic health information exchange by:***

- Adopting and effectively using certified electronic health record systems per HITECH and Meaningful Use requirements
- Adopting nationally recognized standards to enable readiness for health information exchange
- Connecting to state certified health information exchange organizations and health data intermediaries
- Signing a comprehensive, multi-party trust agreement which provides the framework to support the secure, interoperable exchange of health data (e.g., Data Use and Reciprocal Support Agreements [DURSA])
- Utilizing resources available through HITECH for technical assistance, workforce training, and evaluation

The health / health care community can implement regular, ongoing health information exchange between stakeholders by:

- Monitoring and implementing established best practices around health information exchange
- Participating in federal and state activities related to health information exchange
- Contributing to continuous improvement efforts by evaluating efforts and sharing successes and lessons learned
- Recognizing that the value of the collection and exchange of population health information is the opportunity to improve the health of communities and to reduce health disparities in at-risk populations

MINNESOTA'S APPROACH TO DEVELOPING STRATEGIC PLAN FOR HEALTH INFORMATION EXCHANGE

BACKGROUND

The American Recovery and Reinvestment Act, passed in February 2009, provided funding to states to assist in developing the health information exchange capacity needed to allow providers to become "meaningful users" of electronic health records and receive incentives through the Medicare and Medicaid programs. The assistance provided through the State Health Information Exchange Cooperative Agreement Program is intended to facilitate and expand the secure, electronic movement and use of health information among organizations according to nationally recognized standards. The cooperative agreements specifically require states to use their authority, programs and resources to:

- Ensure the development of state level directories and enable technical services for health information exchange
- Convene stakeholders to ensure trust and support for a statewide approach to health information exchange
- Ensure an effective model for health information exchange governance and accountability
- Coordinate an integrated approach with Medicaid and public health
- Develop and update privacy and security requirements for health information exchange
- Remove barriers and create enablers for health information exchange

STRATEGIC PLANNING PRINCIPLES

Minnesota's strategic planning process was guided by two broad principles:

- Utilize the infrastructure already established in Minnesota through the Minnesota e-Health Initiative Advisory Committee and Workgroup structure to engage a wide array of stakeholders and generate buy-in and trust among stakeholders
- Build upon the Minnesota Statewide Implementation Plan for interoperable electronic health records published in June 2008 (For more information, see *A Prescription for Meeting Minnesota's 2015 Interoperable Electronic Health Record Mandate: A Statewide Implementation Plan*; www.health.state.mn.us/ehealth) which provides a framework for adoption, effective use, and health information exchange in Minnesota

The development of the strategic plan was coordinated through the Minnesota Department of Health Division of Health Policy and the Office of Health Information Technology.

STAKEHOLDER ENGAGEMENT THROUGH THE MINNESOTA E-HEALTH INITIATIVE

Minnesota has engaged a broad set of stakeholders in developing this strategic plan for health information exchange utilizing a trusted foundation of activities that operates in a transparent

manner in order to gain buy-in and trust from stakeholders and the community. The Minnesota e-Health Initiative launched four workgroups for 2009-2010 that assisted in the development of various aspects of the strategic plan for health information exchange. In addition to enabling more broad participation by interested stakeholders, the workgroup structure enabled specific expertise to be focused and engaged in addressing issues and overcoming barriers to health information exchange in Minnesota. The workgroups charged with supporting the development and implementation of strategic plan for HIE were:

- The Exchange and Meaningful Use Workgroup
- The Standards and Interoperability Workgroup
- The Privacy and Security Workgroup
- The Outreach and Communications Workgroup

The workgroups were engaged to address issues across the five critical domains as identified by the Office of the National Coordinator's guidance and requirements for the 3013 Cooperative Agreement – State Health Information Exchange Cooperative Agreement Program. See Table 1 below regarding how the four workgroups and the Minnesota e-Health Initiative Advisory Committee provided input to the strategic and operational planning process across the five critical domain areas.

Table 1. Addressing Domain-Specific Components of the Strategic and Operational Plans through the 2009-2010 Minnesota e-Health Initiative Advisory Committee and Workgroups

Minnesota e-Health Initiative Committee or Workgroup	Governance	Finance	Technical Infrastructure	Business / Technical Operations	Legal / Policy
Advisory Committee	X	X	X	X	X
Exchange and Meaningful Use Workgroup	X	X	X	X	X
Standards and Interoperability Workgroup			X		
Privacy and Security Workgroup					X
Outreach and Communications Workgroup				X	

MINNESOTA'S COMMITMENT TO ENSURING BUY-IN AND TRUST

The Minnesota Department of Health recognizes the importance of engaging a broad base of stakeholders for the Minnesota strategic plan for health information exchange. Minnesota's strategic plan used multiple methods to engage stakeholders to ensure buy-in and trust, including:

- The comprehensive representation of the Minnesota e-Health Initiative Advisory Committee
- The open and public nature of the four Minnesota e-Health Initiative workgroups
- A public comment period on the strategic and operational plans
- Letters of support by Minnesota e-Health Initiative Advisory Committee members
- Maintaining regular communications with key stakeholder associations and a 4000 member e-mail list of e-health community stakeholders

The Minnesota e-Health Initiative, through numerous public meetings and conference calls of the Minnesota e-Health Advisory Committee and Workgroups, engaged more than 250 individuals in Minnesota for this strategic planning process.

PART 1: E-HEATH, HEALTH INFORMATION EXCHANGE AND HEALTH REFORM

E-HEALTH AS PART OF MINNESOTA'S HEALTH REFORM EFFORTS

Minnesota recognizes the potential for the adoption and effective use of electronic health record systems in transforming the health care system and in supporting healthier communities. In May 2008, Governor Pawlenty signed significant health care legislation into law. The comprehensive health care reform package will make significant progress toward achieving quality, affordable, accessible health care for all Minnesotans, including:

- ***Statewide Health Improvement Program***:: improving health and reducing demands on the health care system by decreasing the percentage of Minnesotan's who are obese or overweight or use tobacco.

- ***Health care homes***: providing Minnesotans with complex or chronic conditions coordinated care through health care homes. This new approach to primary care promotes care coordination from a team of health care providers focusing on common goals.

- ***Payment reform, quality measurement and cost/quality transparency***: aiming at making sure the right financial incentives are in place to encourage changes in health care that reduce cost and improve quality. Reforms include the development of health care quality measures, a provider peer grouping system and baskets of care.

- ***Insurance coverage and affordability***: making it easier for people to get information about state health care programs, easier for employees to buy health insurance with pre-tax money, and requiring reports to the Legislature on subsidies for employer-based health insurance coverage and value-based benefit sets.

- ***E-Health***: promoting the adoption and use of new developments in health information technology making health care safer and more efficient.

New tools are bringing the power of information systems to the practice of health care and public health, improving quality, safety and cost. For the past six years, the Minnesota has developed a well-established infrastructure, through the ***Minnesota e-Health Initiative***, to enable statewide connectivity. As part of Minnesota's health reform efforts, several Minnesota requirements have been adopted, including:

- ***2011 e- Prescribing mandate***: requires any person or organization involved in prescribing, filling prescriptions or paying for prescriptions, including communicating or transmitting formulary or benefit information, to establish, maintain and use an electronic prescribing system that utilizes specified standards by January 1, 2011.

- ***2015 interoperable electronic health record mandate***: requires all hospitals and health care providers to have "an interoperable electronic health records system within their hospital system or clinical practice setting" by the year 2015. This applies to all providers

who deliver health services in the state of Minnesota. The mandate ensures that the benefits of e-health apply across the entire continuum of care, from primary to specialty care, public to private, and from traditional to ancillary practitioners.

- ***Minnesota e-Health standards requirement***: requires the adoption of uniform standards to be used for interoperable EHR systems for sharing and synchronizing patient data across systems.

- ***Re-codification of the Minnesota Health Records Act***: enacted the changes necessary to facilitate electronic exchange of health information and support strong privacy protections.

As the adoption and effective use of electronic health records and other health information technology have expanded over recent years, Minnesota has positioned itself well to achieve the goals of secure, electronic statewide exchange of health information. The Minnesota e-Health Connect program will build upon and integrate technical, operational, policy, legal and business infrastructure already developed through the investment of public and private stakeholders in Minnesota. An integrated statewide approach to health information exchange will improve the health and health care of Minnesotans by facilitating and expanding the secure, electronic movement and use of health information among organizations according to nationally-recognized standards.

The Minnesota e-Health Connect program will build upon the previous six-year effort of the ***Minnesota e-Health Initiative***, whose vision has been to *"accelerate the adoption and effective use of health information technology to improve health care quality, increase patient safety, reduce health care costs and enable individuals and communities to make the best possible health decisions."* Enabling the secure exchange of health information among health / health care stakeholders is essential to realizing the broad mission of the Minnesota e-Health Initiative.

THE MINNESOTA E-HEALTH INITIATIVE – A PUBLIC-PRIVATE COLLABORATIVE

The Minnesota e-Health Initiative, a public-private collaborative, was established in 2004 under the direction of the Commissioner of Health and guided by a Legislatively-chartered Minnesota e-Health Advisory Committee. The Committee consists of 25 members representing a broad range of stakeholders charged with advising the Commissioner on matters related to e-Health. This existing organizational and policy infrastructure will continue to guide Minnesota's efforts to enable health information exchange statewide. Representation on the committee includes:

- Consumers
- Academics/informatics
- Health plans
- Large hospitals
- Small hospitals
- Local public health agencies
- Nurses
- Physicians
- Long term care
- Health information technology vendors
- Health care purchasers and employers
- Experts in clinical guideline development
- Quality improvement organizations
- Professionals with expert knowledge of HIT
- Training/education/health professional schools
- Community clinics / FQHCs
- MN Department of Administration
- MN Department of Commerce
- MN Department of Health
- MN Department of Human Services (Medicaid)

- Clinic managers
- Laboratories
- Pharmacists/pharmacies
- MN Health Information Exchange (ex-officio)
- Community Health Information Collaborative (ex-officio)

Role of the Minnesota e-Health Initiative Advisory Committee

The Minnesota e-Health Advisory Committee is charged with providing policy recommendations to the Commissioner of Health on achieving the Minnesota e-Health Initiative vision. Consistent with its statutory responsibilities, the e-Health Advisory Committee supports the implementation of Minnesota's statewide implementation plan for interoperable electronic health record systems, "*Prescription for Meeting Minnesota's 2015 Interoperable Electronic Health Record Mandate – A Statewide Implementation Plan"* primarily by:

- Developing policies and identifying practical tools and information resources to ensure the:
  - Adoption and effective use of interoperable electronic health record (EHR) systems, including adequately trained staff, clinical decision support systems, quality improvement and population health
  - Identification of specific standards for sharing and synchronizing patient data across interoperable EHR systems and across the continuum of care
  - Adoption and implementation of electronic prescribing statewide by all health care providers, group purchasers, prescribers, and dispensers
- Coordinating with national HIT Activities, including:
  - Updating the statewide implementation plan to be consistent with the updated Federal Health Information Technology Strategic Plan released by the Office of the National Coordinator in accordance with the Health Information Technology for Economic and Clinical Health Act (HITECH)
  - Monitoring national activity related to health information technology and engaging in activities that will ensure that the needs of the Minnesota health care community are adequately and efficiently addressed, such as:
    - Coordinating statewide responses to proposed federal health information technology regulations and guidelines
    - Reviewing and advising on activities related to the implementation of HITECH and other HIT related provisions of American Recovery and Reinvestment Act (ARRA), including but not limited to:
      - Regional HIT Extension Centers funded under Section 3012 of the HITECH Act to supply Minnesota providers with the assistance they need to meet meaningful use requirements
      - The State Health Information Exchange Cooperative Agreement funded by Section 3013 to expand the secure, electronic movement and use of health information among organizations according to nationally recognized standards
      - Initiatives to expand the workforce of information technology professionals in health care funded by Section 3016

        - Beacon community initiatives to achieve measurable improvements in health care quality, safety and efficiency in the selected communities, and help lay the groundwork for an emerging health IT industry and workforce
    - Assisting the Office of the National Coordinator in reporting back to Congress on the status of implementation in Minnesota, including assessment information on EHR adoption rates, barriers to adoption and meaningful use, and lessons learned in Minnesota
- Advising as needed on special projects and activities including:
    - Ensuring strong privacy protections that safeguard patient's health information and increase consumer confidence during the identification of standards and implementation of electronic prescribing policies
    - Assessing the status of EHR adoption, effective use and interoperability in private and public settings
    - Implementing and continuously refining the Minnesota e-Health Communications Plan, with emphasis on engaging professional and trade associations
    - Accelerating the adoption of EHRs in all health care delivery settings whether or not they are eligible for existing incentives programs (i.e., long term care, pharmacy & public health)
    - Engaging consumers in e-health
    - Other related topics and issues as identified in the statewide implementation plan or as requested by the Commissioner of Health

HEALTH INFORMATION TECHNOLOGY ADOPTION: PLANNING FOR STATEWIDE CONNECTIVITY

For the past six years, the Minnesota e-Health Initiative has laid the groundwork to enable statewide interoperability. As a result, Minnesota has a well-established infrastructure to assist in planning for statewide connectivity. Below are some of the recent activities that have and will continue to support planning efforts for health information exchange statewide.

2015 Interoperable Electronic Health Record Mandate in Minnesota and e-Health Standards Requirements

In 2007, Minnesota enacted the first e-health mandate in the country which not only requires electronic health records but also emphasizes interoperability and the role of standards in making that happen. Minnesota statutes, section 62J.495, states: "*By January 1, 2015, all hospitals and health care providers must have in place an interoperable electronic health records system within their hospital system or clinical practice setting. The commissioner of health, in consultation with the e-Health Advisory Committee, shall develop a statewide plan to meet this goal, including uniform standards to be used for the interoperable system for sharing and synchronizing patient data across systems. The standards must be compatible with federal efforts. The uniform standards must be developed by January 1, 2009, and updated on an ongoing basis. The commissioner shall include an update on standards development as part of an annual report to the legislature.*"

This mandate applies to all providers who deliver health services in the state of Minnesota and the facilities in which they practice to ensure that the benefits of e-health apply across the entire continuum of care. The statute also requires the Commissioner of Health, in consultation with the e-Health Advisory Committee, to monitor national activity related to health information technology and coordinate statewide input on policy development. The monitoring of proposed federal health information technology regulations and coordination of statewide response includes reviewing and evaluating any standard, implementation specification, or certification criteria proposed by the national health information technology standards committee.

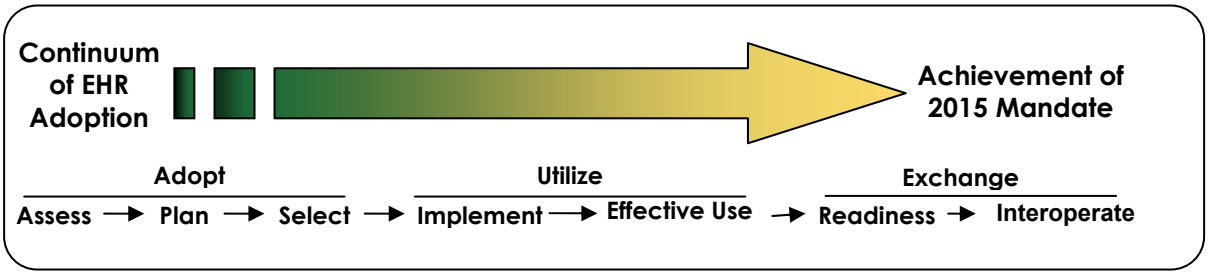
Minnesota e-health standards are a requirement for electronic exchange of health information and achieving interoperability as required by the Minnesota 2015 mandate. Interoperability of EHR systems in Minnesota means the ability of two or more EHR systems or components of EHR systems to exchange information electronically, securely, accurately and verifiably, when and where needed. It is comprised of "technical," "semantic" and "process" interoperability, and the information exchanged includes transactions and standards as defined by the Minnesota Commissioner of Health.

Minnesota Model for Achieving Interoperability and Health Information Exchange

Much of the work of the Minnesota e-Health Initiative through 2008 focused on health information technology, particularly interoperable electronic health records adoption as it was the focus of the 2008 Plan, *Prescription for Meeting Minnesota's 2015 Interoperable Electronic Health Record Mandate – A Statewide Implementation Plan*." In that plan, a model for the Minnesota health and health care community to meet Minnesota's mandate for the adoption and use of interoperable electronic health records by 2015 was adopted (see Figure 2 below). The Minnesota model contains seven major steps in adopting, implementing and effectively using an interoperable EHR. The seven steps can, in turn, be grouped into three major categories:

- ***Adopt***, which includes the sequential steps of assess, plan and select
- ***Utilize***, which involves implementing an EHR product and learning how to use it effectively
- ***Exchange***, which includes readiness to exchange electronically with other partners, and implementing regular, ongoing exchange between interoperable EHR systems

Figure 2. Minnesota Model for Adopting Interoperable Electronic Health Records



Since the Minnesota Model was adopted in 2008, the Minnesota e-Health Initiative has provided specific guidance to Minnesota providers working on adoption and utilization of EHRs. The full plan can be found at: www.health.state.mn.us/ehealth. In 2009, the Minnesota e-Health Initiative

turned its attention to addressing the third category on the Minnesota Model: Health Information Exchange.

Addressing Common Barriers to Health Information Technology Adoption and Health Information Exchange

The 2008 Plan identified commonly perceived barriers related to interoperability and health information exchange such as:

- Lack of universally adopted standards
- Lack of available implementation guides and other technical documents to ensure accurate exchange between disparate systems
- Concerns around ownership of patient records
- Privacy and security concerns

The Minnesota e-Health Initiative has attempted to address these and other common barriers through a set of workgroups which report through the Advisory Committee which then make recommendations to the Commissioner of Health. In 2009 – 2010, four workgroups were launched to address barriers around health information exchange. Those workgroups included:

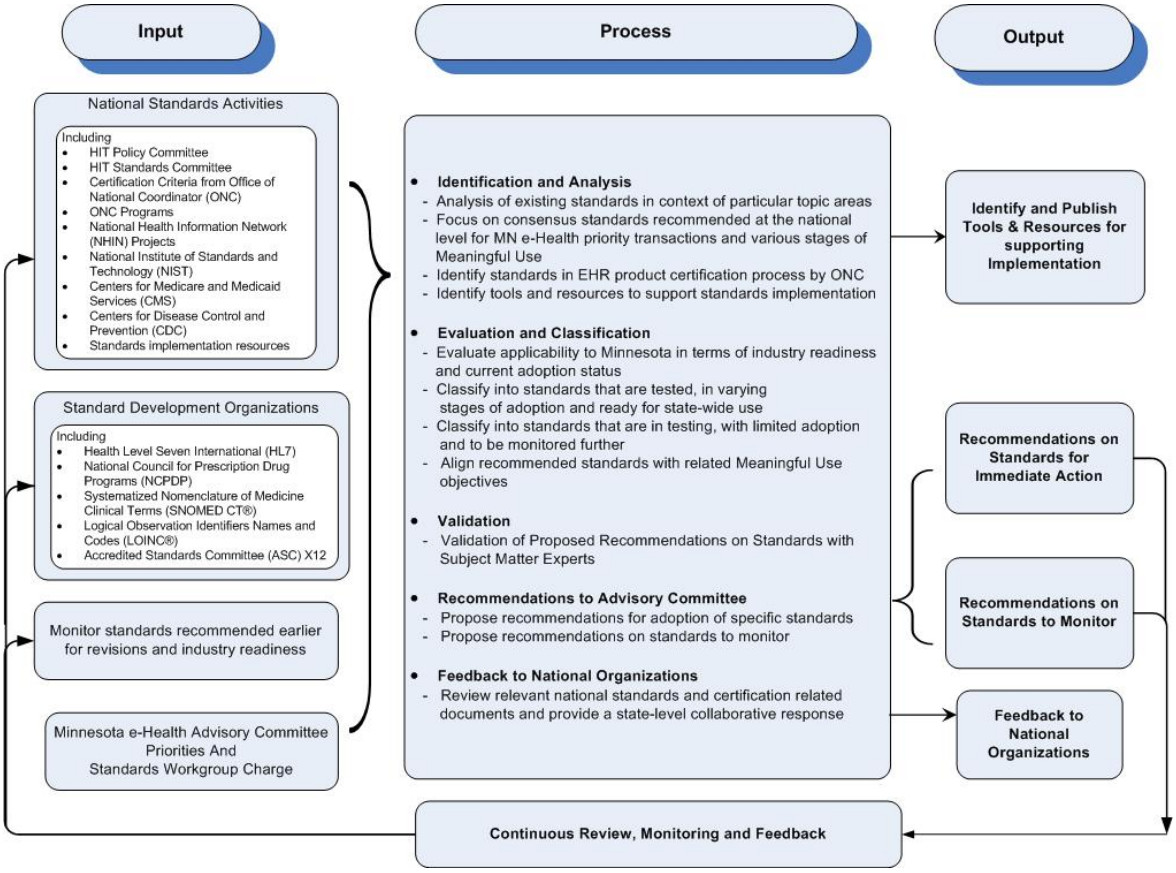
- Standards and Interoperability Workgroup
- Exchange and Meaningful Use Workgroup
- Privacy and Security Workgroup
- Outreach and Communications Workgroup

STANDARDS AND INTEROPERABILITY ACTIVITIES

As part of the Minnesota e-Health Initiative, the **Standards and Interoperability Workgroup** is charged with identifying, monitoring and recommending specific standards for sharing and synchronizing patient data across interoperable electronic health record systems and across the continuum of care. In addition, the group plans to provide recommendations to the Minnesota regional extension center (REACH) on resources and actions that will help increase implementation of these standards to assist Minnesota providers in meeting the requirements of meaningful use. The workgroup consists of industry experts who follow a detailed process for recommending statewide adoption and use of specific types and versions of standards based on Minnesota needs and industry readiness (see Figure 3 below).

The standard setting process is an iterative, ongoing process. Existing standards are continually refined and updated, and new standards will continue to emerge. As a result, the work of standards setting, adoption and use is a continuing cycle with goals of enhancing interoperability. The Standards and Interoperability Workgroup will continue respond as standards are improved and new versions are released to meet the changes due to the 2009 HITECH Act.

Figure 3. Minnesota Approach for Recommending e-Health Standards



The accomplishments and work done to date by this workgroup are published in standards guides published annually on the Minnesota e-Health Initiative website at http://www.health.state.mn.us/e-health/standards/index.html.

HEALTH INFORMATION EXCHANGE AND MEANINGFUL USE OF ELECTRONIC HEALTH RECORDS

The **Exchange and Meaningful Use Workgroup** is charged with making recommendations on the Minnesota approach and development of strategic and operational plans for health information exchange. These recommendations address issues across the five critical domains identified by the Office of the National Coordinator (ONC), including governance, finance, technical infrastructure, business and technical operations and legal/policy. The workgroup is also charged with advising on matters pertaining to the federal and state definition of meaningful use criteria and efforts to assist Minnesota providers in becoming meaningful users.

Minnesota Approach for Health Information Exchange

"Part 2: Environmental Scan" identifies many disparate health information exchange methods that currently exist in Minnesota. The Minnesota e-Health Connect Program will coordinate these disparate methods of health information exchange and facilitate an integrated statewide approach that incorporates and builds upon the investments made to-date by: the Minnesota Health Information Exchange (MN HIE), the Minnesota Department of Human Services (DHS – State Medicaid Agency), the Minnesota Department of Health (MDH), other state agencies, Community Health Information Collaborative (CHIC), Medicare, the Minnesota Veterans Administration Medical Center (VAMC), counties, private and public health care providers, and community health system programs.

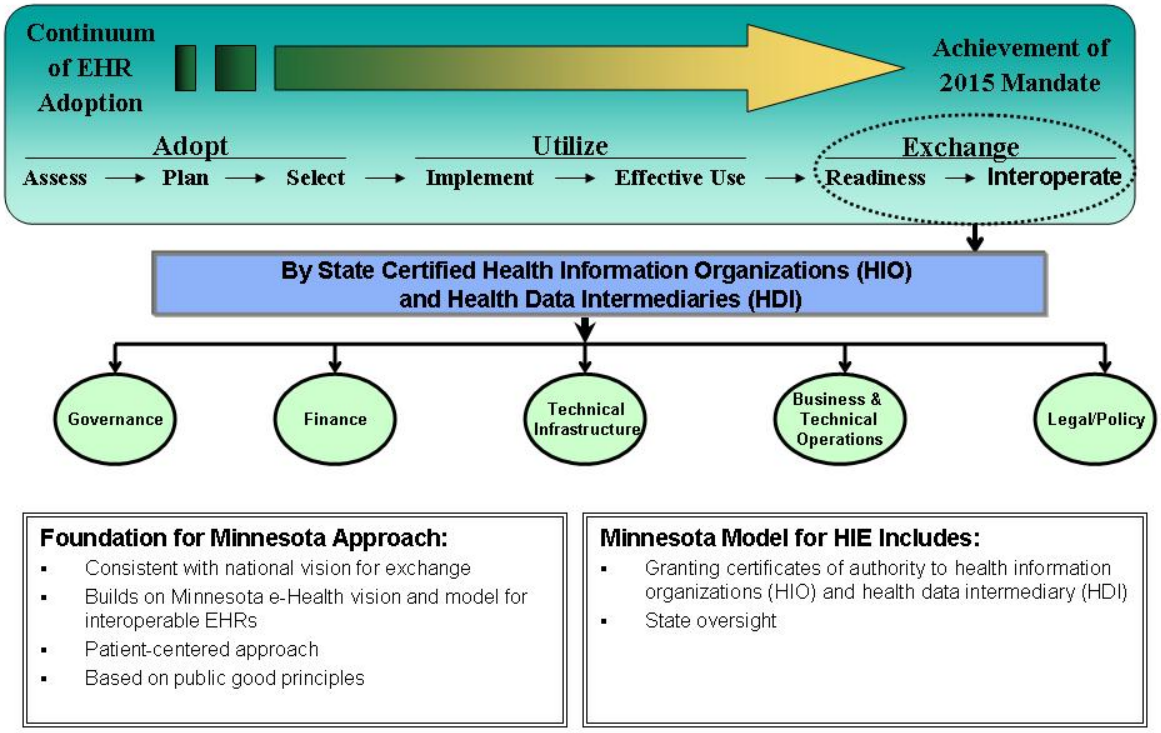
Minnesota has adopted an approach for health information exchange that combines the work done previously by the Minnesota e-Health Initiative. It focuses on the area of exchange in the five domain areas: governance, finance, technical infrastructure, business and technical operations, and legal/policy (see Figure 4). The Minnesota approach is consistent with the national vision for exchange, builds on the Minnesota e-Health Initiative vision and model for interoperable electronic health records, and takes a patient-centered approach that is based on public-good principles.

Minnesota will advance its goals of transforming health care and improving the health of Minnesotans through an integrated statewide approach to health information exchange that will facilitate and expand the secure, electronic movement and use of health information across the continuum of care according to nationally recognized standards. The Minnesota model for health information exchange includes:

- Granting health information organization (HIO) and health data intermediary (HDI) certificates of authority
- An oversight mechanism to be established by the Commissioner of Health

More information about the Minnesota approach for health information exchange, including definitions, can be found in Part 3 – Health Information Exchange Development and Adoption: Minnesota's Strategic Approach for Health Information Exchange. See page 38.

Figure 4. Minnesota Approach for Health Information Exchange



PRIVACY AND SECURITY ACTIVITIES

The Privacy and Security Workgroup monitors and assesses privacy and security-related policies as well as makes recommendations on mechanisms to ensure compliance with state and federal privacy and security requirements for health information technology. The workgroup also supports providers and health / health care stakeholders in the implementation of privacy and security criteria established to qualify as a "meaningful user" of an EHR under the HITECH Act. The group is further tasked with ensuring the privacy and security needs of Minnesota Medicaid, consumers, providers and health / health care stakeholders are fully considered in the development of the statutory framework for HIE and the development of informational/educational resources.

The re-codification in 2007 of the Minnesota Health Records Act enacted the changes necessary to facilitate electronic exchange of health information. However, a number of providers still need assistance in understanding and implementing the law. The Minnesota e-Health Connect program will provide the necessary education and outreach to ensure compliance and support providers in getting connected for health information exchange.

OUTREACH AND COMMUNICATIONS ACTIVITIES

The Outreach and Communications Workgroup advises the Minnesota e-Health Initiative communications activities, including a review of the Minnesota e-Health Initiative communications plan to support health / health care providers and health / health care organizations in achieving meaningful use and meeting the Minnesota interoperable electronic health record mandate in 2015. The Workgroup also advises outreach and communication efforts statewide including coordination with the regional extension center and health information organizations in Minnesota and ARRA-funded initiatives.

MINNESOTA'S ENGAGEMENT IN NATIONAL AND FEDERAL ACTIVITIES THAT SUPPORT INTEROPERABLE ELECTRONIC HEALTH RECORDS

One of the deliverables of the Minnesota e-Health Initiative Advisory Committee and workgroups is to provide feedback to the National Health Information Technology Policy and Standards Committees on proposed criteria for meaningful use and other e-health policy proposals from federal agencies to reflect the needs of the Minnesota health / health care community. Active engagement in the national standards arena is of particular significance in Minnesota as only *qualified* electronic health records may be acquired in Minnesota [Minnesota Statutes, section 62J.495]. The electronic health record must be certified by the Office of the National Coordinator pursuant to the HITECH Act and must meet the standards established according to section 3004 of the HITECH Act as applicable. This requirement ensures that electronic health records have adopted national standards for information exchange and functionality — two critical components for achieving interoperability and improving quality. It also helps to ensure that the considerable financial investment a provider makes in an electronic health record system will bring value in the long run.

The Minnesota e-Health Initiative has met this obligation by convening stakeholders and developing coordinated statewide responses to several policy proposals. Examples of Minnesota-coordinated responses include:

- 2008 response on standards for certifying electronic health records: Minnesota was the only state to submit a coordinated, statewide response requiring review of over 1,400 criteria in six areas (ambulatory, inpatient, emergency department, cardiovascular, child health, and network). Minnesota provided specific feedback on 77 criteria and proposed an additional 40 new ones, many of which were adopted in the final set of certification criteria.
- 2009 response to the Health Information Technology Standards Committee on issues related to implementation of standards related to "meaningful use," encompassing the spectrum of clinical operations, clinical quality and privacy and security.
- 2010 response to the Interim Final Rule (IFR) – RIN 0991-AB58 on standards: initial set of standards, implementation specifications, and certification criteria for electronic health records technology.
- 2010 response to the Centers for Medicare and Medicaid Services (CMS) Notice of Proposed Rule Making (NPRM) for the electronic health record incentive program
- 2010 response to Proposed Establishment of Certification Programs for Health Information Technology – RIN 0991-AB59.

PART 2: ENVIRONMENTAL SCAN

ENVIRONMENTAL SCAN METHODOLOGY

A variety of data sources provide information on electronic health record adoption, electronic health record use, interoperability, and health information exchange in Minnesota. The methodology for creating this environmental scan incorporated information available from multiple sources:

- Minnesota-specific health information technology surveys
- Other existing data sources, including ongoing national surveys, one-time surveys, or regional studies
- Collection of information from subject matter experts

This assessment incorporates the most recent data for health / health care settings where available; however, limited data is available on electronic health record adoption, use and interoperability and related types of health information technology in Minnesota. Minnesota-specific information on adoption and utilization metrics was used when available. For some domains where data were not available and where national-level data are considered to be appropriate, the Minnesota estimates are based on national data.

READINESS FOR ACHIEVING STATEWIDE HEALTH INFORMATION EXCHANGE IN MINNESOTA

The Minnesota e-Health Initiative was charged with assessing the level of adoption, effective use of electronic health records and other Health Information Technology across the health / health care delivery continuum in order to:

- Demonstrate Minnesota's progress on Office of the National Coordinator goal to accelerate the adoption and effective use of health information technology under the HITECH Act
- Assist the Centers for Medicare & Medicaid Services and the Department of Human Services in determining health care professional and hospital eligibility for incentives under the HITECH Act and/or other federal programs
- Other purposes as necessary to support implementation of the HITECH Act

To monitor progress on the achievement of "meaningful use" and Minnesota's 2015 statewide interoperable EHR goal, an assessment framework is an essential tool. To establish a valid and consistent methodology for future assessments, the Minnesota e-Health Initiative will:

- Develop a collaborative of professional and trade associations and other organizations who commit to a shared plan for carrying out HIT assessments
- Review existing survey tools and assessment results from within Minnesota and nationally
- Develop a core set of survey questions that measure stages of adoption, levels of effective use, and exchange capabilities, and barriers (e.g., competing priorities)
- Develop a communications plan around the assessment results, including actions to take for settings that are at risk of not achieving meaningful use or the mandate
- Identify the resources needed to implement this assessment plan effectively.

Significant gaps in knowledge remain about adoption, use and interoperability of electronic health records and other health information technology, particularly for groups like public health. Addressing these gaps is critical not only to ascertaining provider eligibility for incentives within the HITECH Act which require achievement of "meaningful use," but also for achieving the broader e-Health vision in Minnesota.

Electronic Health Record Adoption Rates by Eligible Meaningful Use Providers

Below are available data for electronic health record adoption rates among eligible meaningful use providers in Minnesota.

Hospitals

There are 137 Minnesota Licensed Acute Care Hospitals in Minnesota. The 2007 American Hospital Association (AHA) Survey of Hospital Health Information Technology Adoption assessed electronic health record availability. Minnesota hospitals had a 71 percent response rate. Table 2 below describes the extent to which Minnesota hospitals have implemented electronic health records.

Table 2. Minnesota Hospitals Health Information Technology Adoption American Hospital Association Survey 2007

Electronic Health Record Implementation	No EHR	Partially Implemented EHR	Fully Implemented EHR	N
Has EHR	34	49	15	98
EHR includes:				
▪ Patient-level data	8	39	26	73
▪ Results management from lab, radiology, etc.	4	17	53	74
▪ Order entry management	8	26	40	74
▪ Decision support	21	37	16	74

Source: Minnesota Hospital Association extraction of AHA Survey 2007 data

Critical Access Hospitals – a subset of licensed acute care hospitals

The Consortium of Rural Health Research Centers Survey in 2006 assessed health information technology adoption in the 79 Critical Access Hospitals (CAHs) in Minnesota, resulting in a sixty-five percent response rate. The survey found that nationally, and in Minnesota, CAHs have relatively high use rates for administrative and financial health information technology applications, but much lower use rates for a number of clinical applications. The vast majority of CAHs have high-speed Internet access, and many CAHs are computerizing radiology, lab, and pharmacy functions. However, only 23 percent of the responding CAHs in Minnesota were using electronic health records, and only 21 percent were using prescriber order entry. The national summary report of this study is available at: http://www.flexmonitoring.org/documents/BriefingPaper11_HIT.pdf

Since the information above was collected, information gathered informally from the Minnesota e-Health grant and loan program between 2006-2010 indicates that 49 percent of Minnesota Critical Access Hospitals have implemented an electronic health record and 32 percent are in the process of

implementing an electronic health record. The status of electronic health record adoption is unknown at fifteen Minnesota Critical Access Hospitals. See Table 3 for more information.

Table 3. Minnesota Critical Access Hospitals (n=79)

EHR Implemented		EHR Implementation in Process		Status Unknown	
Number of Critical Access Hospitals	Percent	Number of Critical Access Hospitals	Percent	Number of Critical Access Hospitals	Percent
39	49	25	32	15	19

Source: Minnesota Department of Health

Hospitals- non-acute care

There are 11 non-acute care hospitals in Minnesota; however, there is currently very limited or no information available for this group of providers.

Clinics- primary care

A 2010 survey conducted by Minnesota Community Measurement was returned by 915 of 1027 Minnesota based clinics, with a response rate of 89%. The results indicates that of those who responded, 66% have an EHR installed and in use by at least some clinic staff and providers. See Table 4 below. The complete survey questions can be found in Appendix I.

Table 4 : EHR Adoption and Implementation Status	**% (#) clinics**
EHR installed and in all (more than 90%) areas of the clinic	60% (548)
EHR installed and in use by some of clinic staff and providers	6% (60)
Purchased/begun installation of an EHR, but not yet using system	9% (86)
Do not have an EHR	24% (221)
Total	100% (915)

Specialty care clinics

There are approximately 200 specialty care clinics in Minnesota; however, no data is currently available on EHR adoption in these clinics.

Electronic Health Record Adoption Rates by Other Health Care Providers

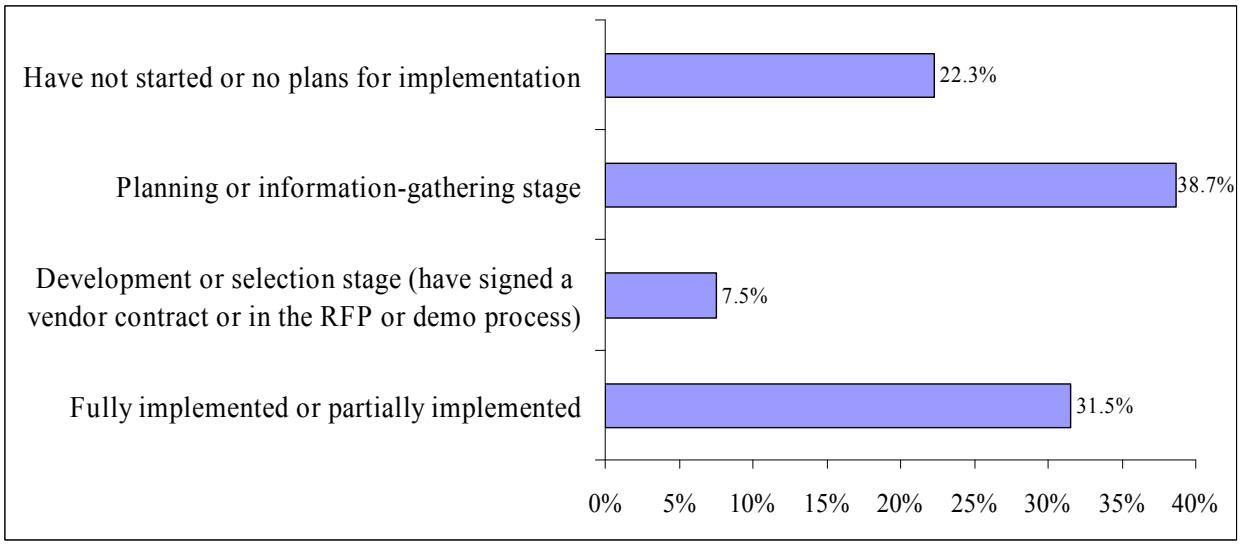
Below are available data for electronic health record adoption rates among other providers in Minnesota.

Nursing homes

There are 380 nursing homes in Minnesota. A 2008 survey conducted by Stratis Health established a baseline measurement, with approximately 32 percent of nursing homes indicating that they have an electronic health record, while approximately 8 percent indicated they are in a development or selection stage. Thirty-nine percent of respondents are in the planning or information-gathering stage, while seven percent are in the vendor development or selection stage, participating in demonstrations, or in a request-for-proposal process. Twenty-two percent of respondents reported that they have not implemented an electronic health record and/or have no plans for implementation. See Figure 5 below.

Nursing homes affiliated with some sort of group–either a hospital, integrated system, or a regional chain, or located in an urban area–are more likely to have an electronic health record implemented than those who are not part of a group. Nursing homes that are not part of a group, such as free-standing nursing homes in rural communities, are less likely to have an electronic health record fully or partially implemented. Additional information on this survey is located at: http://www.stratishealth.org/documents/HIT_LTCSurveyResults.pdf.

Figure 5. Electronic Health Record Implementation Status of Minnesota Nursing Homes



Source: Stratis Health, 2008.

Pharmacies

There are 1,311 licensed pharmacies located in Minnesota. 1,071 are community pharmacies –either chain or independent; 240 are in special settings (e.g. hospital, long term care). Most are linked electronically with pharmacy claims and pharmacy benefit managers. Of the 1,071 community pharmacies, 567 (52.9 percent) are linked to allow e-prescribing by prescribing providers and are electronically filling prescriptions. Of the 567 pharmacies electronically filling prescriptions, 540 are community chain pharmacies and represent 86 percent of the total 626 community chain pharmacies; the remaining 27 pharmacies are community independent pharmacies and represent 6 percent of the total 445. See Table 5 below. The majority of community chain pharmacies are in urban Minnesota

while the majority of community independent pharmacies are located in rural Minnesota. Their geographic location is likely to be a factor to the difference in their adoption.

Table 5. Electronic Prescribing Use by Pharmacies or Other Dispensers

Pharmacies or Other Dispensers

				Electronic Prescribing Use		
	Totals [6,7]	Urban	Rural	Electronically Filling [9,10]	Percent Active	Gap/ Need
Community Chain Pharmacy	626	361	265	540	86.3%	13.7%
Community Independent Pharmacy	445	139	306	27	6.1%	93.9%
Total Chain and Independent	**1,071**	**500**	**571**	**567**	**52.9%**	**47.1%**
Special Settings	240	62	178			

[6] Source: Minnesota Board of Pharmacy, 2006 Note: There are 6,901 licensed pharmacists in Minnesota.
[7] Source: Minnesota Board of Pharmacy, 2006. Special settings include hospitals, nursing homes, parenteral-enteral/home health care, and nuc
[8] Source: Surescripts, 2008. Activated by Surescripts after pharmacy software is certified.
[9] Source: Surescripts, 2008. Actively electronically filling prescriptions.
[10] Source: HealthPartners, 2009. HealthPartners pharmacies electronically filling prescriptions (18 pharmacies).

CURRENT STATUS OF HEALTH INFORMATION EXCHANGE IN MINNESOTA

Overview of Health Information Exchange in Minnesota

Electronic health information exchange is underway through a variety of methods in Minnesota. The primary approaches to health information exchange in Minnesota currently include:

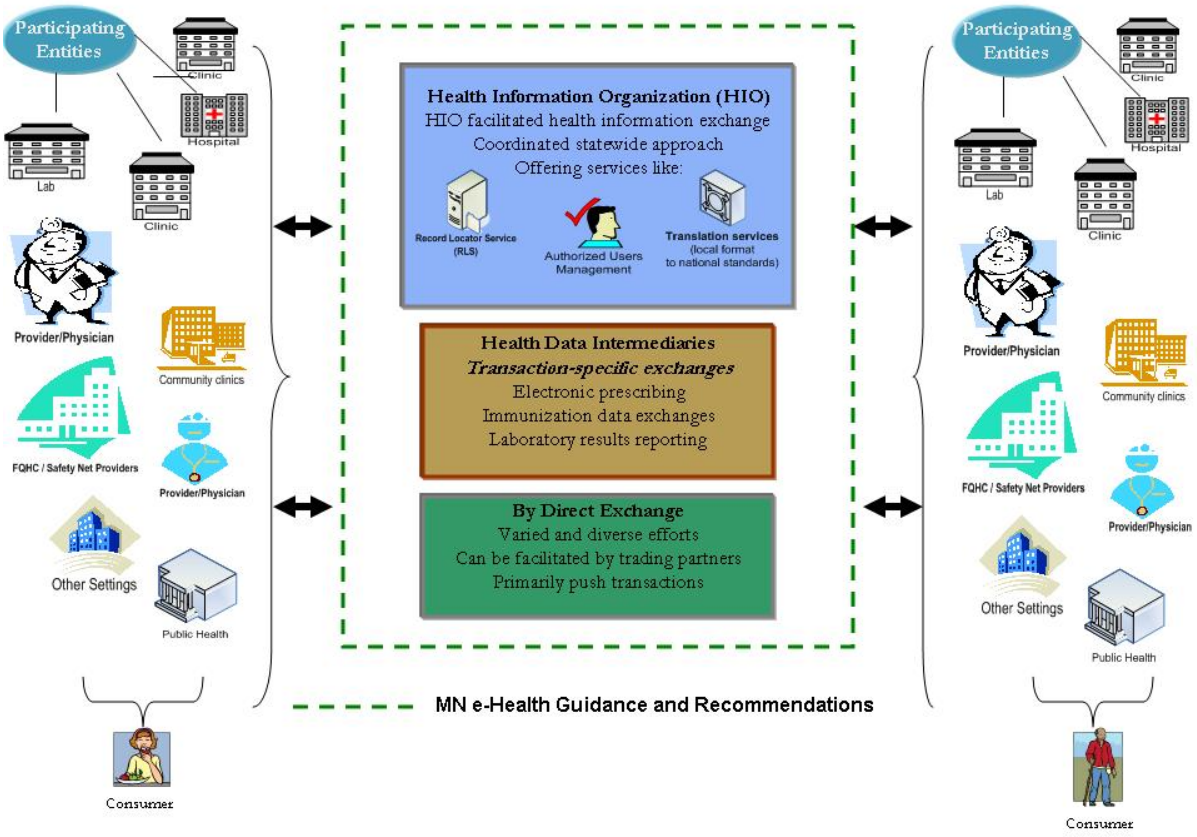
- Through a facilitated connection via health information organizations
- Through transaction-specific exchanges via a health data intermediary (e.g., electronic prescribing)
- Through direct exchanges between participating entities

Connections are also being established on a transaction-by-transaction basis as needed to meet specific needs for exchange, such as:

- Direct web interfaces and electronic messages to exchange immunization data
- Connections to intermediaries that facilitate e-prescribing and other selected transactions

Figure 6 below depicts the types of health information exchange presently occurring in Minnesota.

Figure 6. Types of Health Information Exchange in Minnesota



Minnesota Health Information Organizations with Current Initiatives to Enhance Exchange and Interoperability

Currently, two health information exchange organizations exist in Minnesota, Minnesota Health Information Exxchange (MN HIE) and Community Health Information Collaborative (CHIC). MN HIE and CHIC have indicated that discussions are underway with to connect the two health information exchange systems to support an integrated information exchange in Minnesota.

Minnesota Health Information Exchange (MN HIE)

MN HIE currently provides services that allow providers to look up patients, access medication history, and manage patient consent consistent with Minnesota and federal privacy and security laws. MN HIE is developing the capacity to exchange immunization records, lab results, patient eligibility, Continuity of Care Documents (CCD), and making enhancements to security. Beyond the services currently offered and scheduled for release, MN HIE has developed an initial plan for achieving the functionality necessary to support the exchange requirements put forth in the National HIT Policy Committee's recommendations for defining meaningful use. For more information on MN HIE, see www.mnhie.org.

Community Health Information Collaborative (CHIC)

Community Health Information Collaborative (CHIC) has developed a personal health record, participated in clinical a data exchange demonstration with NHIN, and recently implemented health information exchange through their HIE-Bridge service. CHIC recently received a contract from the Social Security Administration to connect HIE-Bridge to the SSA to speed up disability determinations for injured workers in Minnesota. The SSA project will be supported using the clinical exchange service available in HIE-Bridge. New services are being added soon to include direct connectivity with the MN Immunization registry, Social Security Administration, public health reporting, e-Prescribing, e-Referral, labs and full NHIN connectivity to other states and projects. More information on HIE-Bridge can be found at: http://hiebridge.org/index.html.

Assessment of Current Health Information Exchange Capabilities

Electronic prescribing, refill requests, prescription fill status and/or medication fill history

In 2008, approximately ten percent of Minnesota providers and prescribers and 53 percent of Minnesota pharmacies were electronically prescribing with transactions done by electronic data interchange. Additionally, 807,910 (3.6 percent) of all eligible prescriptions (new and refill) were electronically routed in Minnesota, representing an increase from the 258,019 or 1.6 percent of eligible prescriptions routed electronically in 2007. National statistics from Surescripts indicate that providers requested and received medication history for approximately 1.8 percent of all patient visits in 2008, and MN HIE data show that their medication history service is being accessed approximately 550 times per month by providers at one Twin Cities hospital. Data are not currently available on the use of the fill status notification; however recent comments from Surescripts have indicated that the transaction has rarely been used up until this point.

Pharmacy eligibility requests
Data from Surescripts indicates that in 2008, Minnesota providers submitted 1,030,386 eligibility requests, for which 322,510 responses were available indicating a 31.30 percent response rate. Claims transactions submitted during the same time period for new and refill prescriptions are assumed to be 807,910 or 3.61 percent.

Electronic eligibility and claims transactions
Based on data provided by the Minnesota Council of Health Plans, the Minnesota Department of Health reports that in 2006, Minnesota health plans paid over 56 million claims, of which 83 percent (approximately 46.5 million) were submitted electronically.

The Minnesota Department of Human Services reports that in FY 2009, Minnesota's Medicaid Management Information System (MMIS) processed approximately 23 million fee-for-service claims (medical, pharmacy, and dental), of which approximately 97 percent (22.2 million) were processed electronically. In addition MMIS currently processes more than 98 percent of all claims in under two days. Effective July 20, 2009, all fee for service claims must be submitted electronically through the MN-ITS system, which is the Minnesota Department of Human Services' billing system for Minnesota Health Care Programs claims and other transactions.

Electronic clinical laboratory ordering and results delivery
There are approximately 174 clinical laboratories in Minnesota. Laboratories are primarily using automation and health information technology, but only approximately 11 percent are able to use current standards for electronic exchange. At least eight Minnesota labs are reporting electronic data on communicable disease surveillance. Modernization will require improving interoperability and exchange using HL7, LOINC, SNOMED and other standards.

Electronic public health reporting – immunizations
The Minnesota statewide immunization registry (MIIC) reports that 87 percent of Minnesota's primary care provider sites are enrolled in their voluntary program. Approximately 76 percent of provider sites have submitted data regularly within the past six months. While the enrollment rate is high in the MIIC program, Minnesota is striving to achieve the federal goal of 95 percent. For the time period September 1, 2009, through October 5, 2009, 550,487 total immunizations were entered into MIIC. Of those, 82 percent came from electronic sources; 18 percent from direct data entry. Of the 82 percent from electronic sources, 62 percent were incorporated from flat file format loads, 15 percent from HL7 batch files, and 5 percent from HL7 transactions submitted in real-time.

Electronic public health reporting – reportable disease conditions
Approximately 50 case reports each day are received by the web-based "blue-card" system (manual web-based entry). Included in the web-based reporting data are two hospitals which upload case reports extracted from their electronic health record systems which accounts for one percent of all the case reports received. All web-based case reports received are sent in flat file format. While the use of standards like HL7 transactions are planned, they are not yet implemented.

Electronic public health reporting – reportable conditions laboratory results
The Minnesota Department of Health infectious disease surveillance program receives approximately 10,000 lab results per month through electronic lab reporting. This estimate also includes lead reporting (both positive and negative results), which is a reportable condition in

Minnesota. Table 6 below lists details related to format of reporting and frequency (noted frequency includes multiple reports which are then parsed by disease condition).

Table 6. Electronic public health report – reportable conditions laboratory results

Private Labs		**Frequency of Messages**
Lab 1	HL7 V.2.3(z)	1 per week
Lab 2	HL7 V.2.3(z); changing to HL7 2.3.1	2 or 3 per week
Lab 3	HL7 V.2.3(z); changing to HL7 2.3.1	1 or more per day
Lab 4	HL7 V.2.3.1	1 or more per day
Public Labs		
MDH Public Lab	Delimited	1 per day
Ramsey County Public Lab	Delimited	1 every other week

This estimate of electronic lab reporting accounts for approximately 10 percent of total lab reports received by the Minnesota Department of Health related to surveillance of infectious diseases and lead. Currently only six laboratories are capable of doing electronic reporting (ELR), but the goal is to get 100 percent of labs in Minnesota and reference labs to report results electronically.

Local health departments

Most of the 91 local health departments in Minnesota use one of three major information systems for managing information about their clients; however, the data sets are not standardized and the systems are not interoperable within departments or between state and other local departments. A Minnesota Department of Health survey of local health departments in 2004 indicated that:

- About two-thirds of local public health agencies use one of the following applications: CHAMP (31 local health departments), CareFacts (4 local health departments), or PH-DOC (19 local health departments)
- Local health departments will need a comprehensive, integrated information system operating on national standards in order to achieve health information exchange with partners outside of local health departments. Progress on this activity has been slowed by the lack of national standards, limited funding and the need to define the core information system functions necessary to support public health.

Quality reporting capabilities

Minnesota's health reform law requires the Minnesota Department of Health to develop a uniform system for publicly reporting quality measures for all Minnesota physician clinics and hospitals. Minnesota Statutes, section 62U.02, requires physician clinics and hospitals to begin submitting quality data in January 2010 on a set of measures to be publicly reported beginning in July 2010. This is a significant evolution from the voluntary reporting structure that currently exists in Minnesota. The Minnesota Department of Health expects that health care providers' increased implementation of electronic health records will significantly increase the value of the Minnesota Statewide Quality Reporting and Measurement System. Electronic health records will allow more sophisticated clinical outcome measures, which are better risk adjusted for diverse populations and severity of illness. Electronic health records will also simplify the collection and reporting of quality measures. The Minnesota Department of Health is working with physician clinics and hospitals to implement the statewide reporting system through Minnesota Community Measurement, which is an independent, community non-profit whose mission is to accelerate the improvement of health by publicly reporting health care information. According to Minnesota Community Measurement,

clinics reporting data from their electronic health records for 2008 dates of service included 218 sites which submitted through direct data submission using an electronic health record, and 97 sites submitted partially using an electronic health record.

Clinical summary exchange for care coordination and patient engagement

Minnesota Statutes section 256B.0751, subdivision 2, directs the Minnesota Department of Health and the Minnesota Department of Human Services to develop and implement standards of certification for health care homes (i.e., medical homes) for state health care programs. The Minnesota Department of Health and the Minnesota Department of Human Services published a proposed rule on July 6, 2009, to carry out these directives by developing and implementing standards that facilitate consistent and ongoing communication among the health care home and the patient and family, and provide the patient with continuous access to the patient's health care home. The proposed rule implies a deep reliance on the effective use of EHRs and health information exchange as providers seek to be certified (or re-certified) as health care homes. Specifically, the rules stipulate that designated clinic staff, on-call providers, or phone triage system representatives have continuous access to:

- The participant's medical record information including the participant's contact information, personal clinician's or local trade area clinician's name and contact information and designated enrollment in a health care home
- The participant's racial or ethnic background, primary language, and preferred means of communication
- The participant's consents and restrictions regarding the release of medical information, including release of information to specific family members
- The participant's diagnoses, allergies, medications related to chronic and complex conditions, and whether a care plan has been created for the participant

The proposed rules further require health care homes to collect information about participants' cultural background, racial heritage, and primary language and describe how the applicant will use this information to improve care. Health care homes will be required to use an electronic, searchable patient registry that enables the health care home to manage health care services, provide appropriate follow-up, and identify gaps in patient care; and specific quality measures will have to be reported to demonstrate continuous improvement in the quality of the patient's experience, the patient's health outcomes, and the cost-effectiveness of services.

The use of continuity of care document (CCD) or other standards for exchange of clinical summaries is currently limited, but increasing in Minnesota. The Minnesota e-Health Advisory Committee has recommended the use of these and other standards statewide, these are published in the companion guides posted on www.health.state.mn.us/ehealth.

Broadband capacity and access

Minnesota's health care providers have achieved some capacity and access to broadband services necessary for health information exchange, to transmit radiologic images, and access services currently available. For Minnesota's rural providers, in addition to transmission of data, the broadband capacity must support access to health care by supporting live telehealth services. A current project underway using Federal Communications Commission Rural Health Care Pilot funds has set the standard for accommodating exchange and telehealth for small hospitals and clinics as a

T-1 connection delivering 5 Mb connection, with administrative network security policy and operational requirements for data transport that meets federal and state HIPAA security and privacy requirements. No current statewide data exists to identify Minnesota's health care provider broadband needs, capacity and access.

The Minnesota Ultra High-Speed Broadband (MUHSB) Taskforce was authorized by the Minnesota Legislature in 2007 to make recommendations by November 1, 2009, to the Governor and Legislature regarding the creation of a statewide high-speed Internet access goal and a plan for implementation by 2015 to achieve high-speed broadband for all citizens, educational institutions, health care institutions, community-based organizations, and government institutions. The Minnesota Department of Health's Office of Rural Health and Primary Care provided testimony to the task force regarding health care provider needs for health information exchange. The MUHSB Taskforce undertook an extensive geographic broadband mapping project, resulting in an interactive online map that shows service availability at the census tract level. The mapping does not target health care provider capacity specifically; however, it will identify gaps in service geographic availability that will inform health care broadband planning efforts in the future. The most recent statewide broadband map can be found at http://connectmn.org/mapping/.

ONGOING HEALTH INFORMATION TECHNOLOGY ASSESSMENTS

Minnesota Community Measurement

The Minnesota Community Measurement has developed a survey based on the National Quality Forum's framework for measuring health information technology adoption and use at Minnesota clinics. The survey studies whether to what extent medical groups are using health information technology. The most recent survey results were released in June 2010, and it is anticipated that additional surveys will be conducted annually. For additional details on the survey results, please see Appendix K for the fact sheet titled, "Electronic Health Record Use in Ambulatoriy Care Clinic Settings in Minnesota: June 2010." Minnesota Community Measurement plans to continue to conduct the survey on an annual basis

Minnesota Hospital Association and American Hospital Association

The national American Hospital Association Survey included Minnesota-specific questions and was implemented the beginning of 2010. In addition to the general national American Hospital Association Survey, there was also an Information Technology Supplement Survey. The 2009 Information Technology Supplement Survey was in the field in early 2010 with results expected to be available in fall 2010. Once available, data from this survey will be incorporated into Minnesota's environmental scan as part of ongoing assessment activities.

RELEVANT COLLABORATIVE OPPORTUNITIES

A variety of Minnesota collaborative opportunities are underway with Minnesota networks supporting or hosting health information technology related activities. The following is a summary of many of these collaborative opportunities.

Epic Users Group
The Epic Users Group consists of a network of Epic customers that are currently using Epic products. Development of a Continuity of Care Document (CCD) Standard [Care Everywhere ©] is in process. Care Everywhere© is Epic's implementation of CCD standard to facilitate movement of health information in the Epic network. Care Everywhere© can query and bring back documents based on authorization and access privileges.

Greater Minnesota Telehealth/Electronic Health Record Broadband Initiative
The Greater Minnesota Telehealth/Electronic Health Record Broadband Initiative (GMTBI) is a consortium of five health care networks representing approximately 120 health care facilities that was authorized for funding under the 3-year FCC Rural Healthcare Pilot Program. The vision of the GMTBI is to enable a set of standard telehealth connection services throughout the State of Minnesota that will facilitate any health care location in the state to share one or more telehealth services with any other health care location within Minnesota, and ultimately, to interconnect with other health care providers regionally and nationally.

Lac qui Parle Health Network
Lac qui Parle Health Network (LqPHN) is a network of three integrated health systems in southwest Minnesota (Johnson Memorial Health Services - Dawson; Madison Lutheran Home - Madison; and Appleton Area Health Services – Appleton) that came together several years ago to coordinate health information technology investments and share health information technology resources.

Medi-Sota
Medi-Sota, Inc. is a non-profit health care consortium of 30 rural health care providers in Minnesota and one health care organization in eastern South Dakota. Medi-Sota provides a variety of services to members (i.e., educational programs for members and trustees, preferred vendor contracts**,** networking opportunities, etc.). Medi-Sota is a participant in the Minnesota Federal Communications Commission Pilot Project.

Minnesota Rural Health Cooperative
The Minnesota Rural Health Cooperative formed in 1995 to provide contracting services to member hospitals and clinics. The current membership includes Critical Access Hospitals and clinics located in south central and southwestern Minnesota. Services provided include: credentialing, health plan contracting and contract administrative support, assistance with health plan mandated quality assurance projects, patient satisfaction surveys, shared health information technology projects, health information technology services, and technology support.

Neighborhood Health Care Network
The Neighborhood Health Care Network is a shared management services organization that supports community health clinics in serving economically and ethnically diverse populations in the Minneapolis-St. Paul metropolitan area. Since its incorporation in 1995, the Network has focused on building the highest quality and most cost-efficient infrastructure for the health care safety net in the Twin Cities Metro. Network membership includes fourteen independent, non-profit community health centers with clinic locations in Minneapolis, St. Paul, and Stillwater.

The Network hosts and maintains state-of-the-art practice management software for member clinics—five of which have moved to a shared computer network. In 2007, the Network began planning a shared electronic health record system. The Network currently provides electronic

practice-management technology to five member clinics, keeping costs low through economies of scale. Building on this system, the Network is working with three of these organizations to implement an electronic health record system. In the future, data from these systems will be used to improve clinical quality and operational efficiency. The Network is also working with clinic members already on electronic health record systems to coordinate shared learning and explore data exchange across the systems.

North Region Health Alliance

The North Region Health Alliance is a collaborative of health care providers of Northeastern North Dakota and Northwestern Minnesota covering 20,000 square miles. The North Region Health Alliance was developed to provide economies and efficiencies of scale to better serve the residents of the respective service areas with the purpose of preserving rural health care access with quality, state-of-art technology, and the use of best practices. What individual facilities cannot afford to provide individually, they can collaboratively economize otherwise prohibitively costly financial projects and services. North Region Health Alliance is currently a participant in the Minnesota Federal Communications Commission Pilot Project.

Northern Minnesota Network

The Northern Minnesota Network (NMN) is a 501(c)(3) Health Center Controlled Network, started in 2001 and incorporated in 2004, providing health information technology resources and support to safety net providers in rural areas in Minnesota and eastern North Dakota to support the community health care system. The three members of the Northern Minnesota Network are Federally Qualified Health Centers (FQHCs) that provide care through 20 clinical sites in rural, medically underserved areas of Minnesota and eastern North Dakota.

The Network provides a robust health information technology system including: resources, access, support and maintenance for a complete electronic health record system, e-prescribing system, e-faxing solution, and electronic transmission of laboratory results.

SISU Medical Systems

SISU Medical Systems is a consortium of medical centers in Northern Minnesota working together to share information technology resources. Examples of these shared resources include: information systems staff, hardware, software, and a fully-equipped and secure data center. While SISU Medical Systems was officially established as a nonprofit corporation in 1997, several of the organizations that are members of SISU have shared information technology resources since 1982.

Administrative Uniformity Committee

The Administrative Uniformity Committee (AUC) is a voluntary, broad-based, advisory group representing Minnesota health care public and private payers, hospitals, physicians and other health care providers and state agencies. The AUC has worked for over 15 years to streamline health care administrative activities across Minnesota. A major focus of the AUC's recent work has been to consult with the Commissioner of Health on rules for the standard, electronic exchange of three types of common health care business transactions as required by state law. This first-in-the-nation law, enacted in 2007 as Minnesota Statutes, section 62J.536, received bipartisan legislative support, broad health care community endorsement, and the support of Governor Pawlenty as a means to reduce the costs and burdens of millions of routine health care business transactions each year. The AUC has provided hundreds of hours of in-kind support and technical assistance in the

development and refinement of rules specifying the standard data content and format to be used in the required electronic exchange of three types of business transactions: inquiries regarding patient insurance benefits and coverage; claims (billings), and remittance advices. For more information regarding Minnesota's health care administrative simplification efforts, including links to further information regarding the AUC, go to: http://www.health.state.mn.us/asa.

HEALTH INFORMATION TECHNOLOGY RESOURCES

Many health information technology resources are available in Minnesota, some of which are listed below. These resources will add value as tools in improving the electronic health record adoption and exchange rates.

Minnesota Statewide Implementation Plan and Guides

Through the Minnesota e-Health Initiative, a Statewide Implementation Plan and several guides have been created, including guides on :

- Addressing Common Barriers to EHR Adoption : A Practical Guide for Health Care Providers
- Standards Recommended to Achieve Interoperability in Minnesota
- A Practical Guide for Electronic Prescribing
- A Practical Guide for Effective Use of EHR Systems

The 2008 Statewide Implementation Plan and the guides can be downloaded at: http://www.health.state.mn.us/e-health/ehrplan.html.

Stratis Health Toolkits

As the State Quality Improvement Organization, Stratis Health is working in Minnesota to advance e-health and health information technology across the settings of care – hospitals, clinics, mental health facilities, nursing homes, and home health agencies. Stratis Health has developed setting-specific tools and resources to assist provider organizations in planning for and optimizing use of health information technology, including toolkits for:

- Adult primary care clinics
- Critical access and small hospitals
- Nursing homes
- Home health

These resources can be downloaded at: http://www.stratishealth.org/expertise/healthit/index.html.

Key Health Alliance

Key Health Alliance is a partnership of Stratis Health, Rural Health Resource Center, and the College of St. Scholastica. It was developed with an emphasis of meeting the needs of the rural and underserved. The three organizations have a long history of working together to improve health care. Each organization has unique and complementary expertise and experience in health care

quality, education, patient safety initiatives, and health information technology. This partnership formalizes their commitment to a long term, ongoing, working relationship.

The Regional Extension Assistance Center for Health Information Technology (REACH)—a program of Key Health Alliance—serves as a Health Information Technology Regional Extension Center, as part of the American Recovery and Reinvestment Act (ARRA) of 2009. It is one of 32 HIT Regional Extension Centers being established across the country to provide education and technical assistance to help providers select, implement, and achieve meaningful use of certified EHR technology, as well as the ability to exchange health information with other providers and agencies.

To help meet national HIT Regional Extension Center Program goals, REACH aims to provide technical assistance services and support to 5,100 priority primary care physicians and other clinicians in Minnesota and North Dakota over the next four years. In addition to primary care practices, REACH services will be available to providers of all types across the continuum of care. Services will be available to all providers, including those who already have an EHR and those that do not. Technical assistance and services from REACH will focus on the following areas of support as you work towards adoption and meaningful use:

- Select and purchase EHR software
- EHR implementation and project management support
- Practice and workflow redesign
- Functional interoperability and health information exchange assessment and guidance
- Privacy and security best practices
- EHR optimization and meaningful use

PART 3: HEALTH INFORMATION EXCHANGE DEVELOPMENT AND ADOPTION: MINNESOTA'S STRATEGIC APPROACH TO HEALTH INFORMATION EXCHANGE

As the adoption and meaningful use of electronic health records and other health information technology have expanded over recent years, Minnesota has positioned itself well to achieve the goals of secure, electronic statewide exchange of health information. The Minnesota e-Health Connect program will build upon and integrate technical, operational, policy, legal and business infrastructure already developed through the investment of public and private stakeholders in Minnesota. The Minnesota e-Health Connect program is established through funding from the American Reinvestment and Reinvestment Act of 2009.

THE MINNESOTA E-HEALTH CONNECT VISION

Through an integrated statewide approach, the Minnesota e-Health Connect program will advance patient centered health information exchange that will:

- Provide Minnesotans with access to coordinated care each time they access the health care system, across the continuum of care
- Elevate the health of all Minnesotans by facilitating essential communications that support improvements in individual, community and public health
- Ensure that adequate protections are in place to maintain patient privacy, while enabling secure access to all of the information necessary to deliver the best possible care
- Empower Minnesotans with the information they need to work with their providers to achieve the best possible health outcomes
- Serve the citizens of Minnesota as a public good

HEALTH INFORMATION EXCHANGE PRINCIPLES: HEALTH INFORMATION EXCHANGE AS A PUBLIC GOOD

The following principles have guided Minnesota in establishing the vision for health information exchange that will be pursued through the Minnesota e-Health Connect program:

- The improvement of health and health care for Minnesota citizens and communities is the central focus of statewide, interoperable health information exchange
- The need for secure exchange of health information is essential to transforming health care and improving the health of Minnesotans and must supersede technical, business, and bureaucratic barriers
- Health information exchange must provide functionality necessary to support meaningful use, and expand over time to provide for continuous improvement in quality and coordination of care
- The value of information increases with use, and the value of one set of information increases when linked with other information
- Consumption of HIE services by one health / health care stakeholder must not reduce availability for others, and no health / health care stakeholder can be effectively excluded from appropriately using interoperable HIE services

GOAL 1: Enable interoperable health information exchange within Minnesota, across state borders and with the Nationwide Health Information Network (NHIN).

GOVERNANCE DOMAIN OBJECTIVE:
Ensure an effective model for health information exchange governance and accountability.

GOVERNANCE STRATEGY 1: Multi-stakeholder approach to health information exchange policy development

Strategy 1a. The Minnesota Department of Health Office of Health Information Technology (OHIT), under the direction of the State Government HIT Coordinator, will convene health / health care stakeholders through the existing e-Health Advisory Committee and related workgroups established under Minnesota Statutes section 62J.495 to identify the appropriate model of governance for health information exchange in Minnesota, including:

- Recommending consensus definitions for terms related to health information exchange
- Identifying the appropriate model of governance for health information exchange in Minnesota that aligns with the emerging national health information exchange governance model
- Recommending criteria for certification of health information organizations to ensure sound practices across the five critical domains of health information exchange: governance, finance, technical infrastructure, business and technical operations, and legal/policy
- Providing on-going advice to the Commissioner of Health on policy recommendations pertaining to health information exchange

Strategy 1b. Raise awareness of health information exchange policy-making activities and encourage stakeholder involvement through utilizing existing communication vehicles and identifying new communications methods and approaches to identify and reach out to a broader group of stakeholders, and coordinate communications efforts with other HITECH-funded programs.

GOVERNANCE STRATEGY 2: Health information exchange accountability, oversight and enforcement

Strategy 2a. Minnesota e-Health Advisory Committee recommendations on health information exchange will be used as a basis for creating the statutory framework for health information exchange that will:

- Grant the Commissioner of Health state oversight authority
- Include measures to ensure an open and transparent process
- Provide opportunities for public input from consumers and stakeholders

Strategy 2b. Measures will be included in the statutory framework to ensure health information organization adherence to governance criteria, and provide processes for corrective action where necessary.

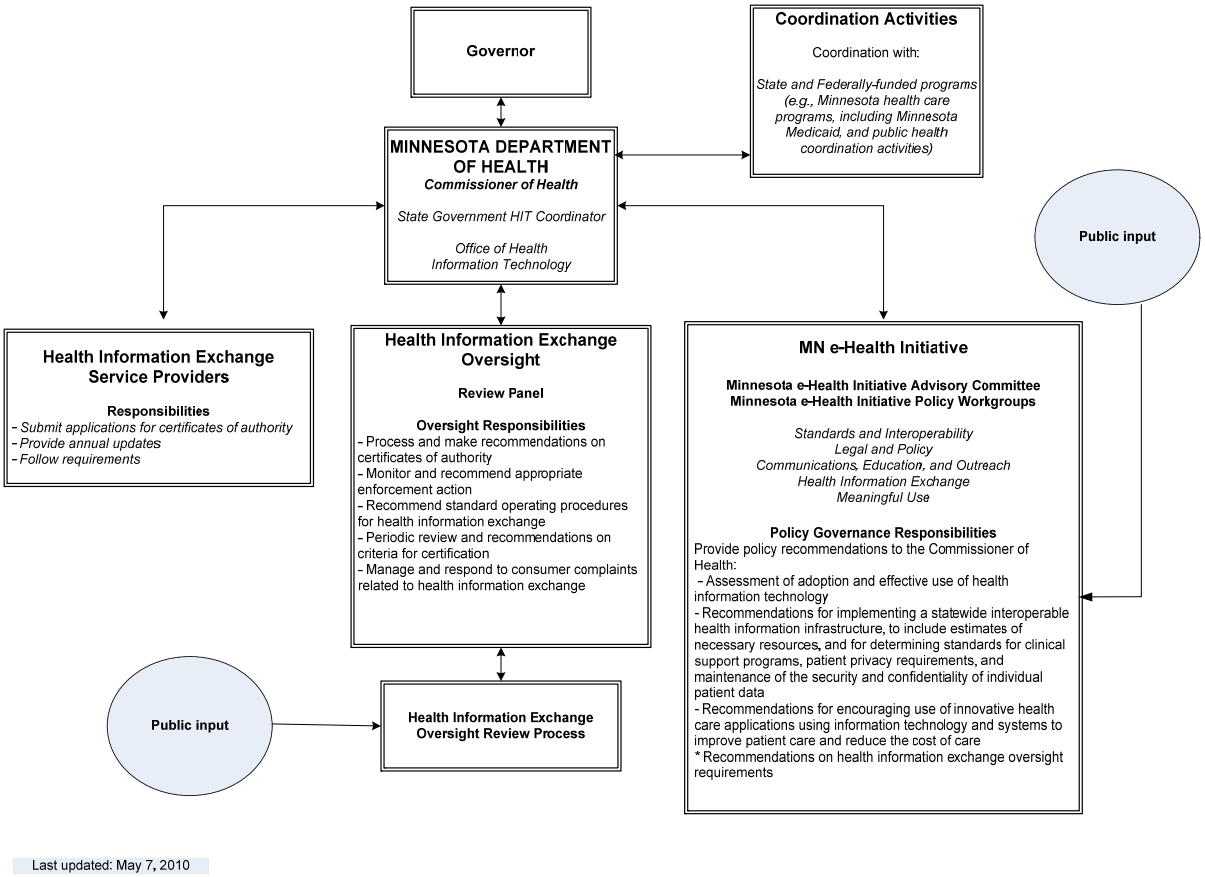
Strategy 2c. A Mechanism that provides for the ongoing financing of health information exchange accountability, oversight and enforcement will be established within the statutory framework.

Collaborative Governance Model

The Minnesota e-Health Connect program will utilize a multi-tiered governance structure that encompasses much of the existing e-Health infrastructure with new aspects of health information exchange oversight. Figure 7 below depicts important aspects of Minnesota's collaborative governance model, including:

- The Minnesota e-Health Advisory Committee and workgroups that make policy recommendations to the Commissioner of Health
- State health information exchange oversight processes as established by the Commissioner of Health
- The State Government Health Information Technology Coordinator and Minnesota Department of Health Office of Health Information Technology that oversees the collaborative governance model, including staffing the Minnesota e-Health Advisory Committee, workgroups, and health information exchange oversight processes (for more details on Minnesota Department of Health responsibilities, see Appendix H)
- Collaborations with the Minnesota Department of Human Services to ensure coordination with State Medicaid and the State Medicaid Health Information Technology Plan

Figure 7. Governance Structure for Health Information Exchange in Minnesota



Legal Framework for Health Information Exchange and Oversight

New legislation enacted in 2010, Minnesota Statutes, sections 62J.498 to 62J.4982, establishes a legal framework for health information exchange and oversight as a result of recommendations that were made by the Minnesota e-Health Advisory Committee to the Commissioner of Health. The intent of this framework is that it allows for incremental development of health information exchange policies over time, and across the five critical domains identified by the Office of the National Coordinator.

The core principles framing the legislation are:

- Ensure that information follows the patient across the full continuum of care
- Prevent the fragmentation of health information that can occur when there is a lack of interoperability or cooperation between health information exchange service providers
- Ensure that organizations engaged in health information exchange are adhering to nationally recognized standards
- Ensure that health information exchange service providers properly protect patient privacy and security
- Ensure that Minnesota has a reliable health information exchange infrastructure in place by late 2010 to allow Minnesota providers and hospitals to achieve meaningful use incentives

- Allow for transparency by making meetings available to the public and providing preliminary recommendations on health information exchange to the public with opportunities for public comment prior to recommendations to the Commissioner of Health

The legal framework for health information exchange and oversight also provides key definitions of entities participating in health information exchange activities, and outlines requirements for those providing health information exchange services. These service providers include:

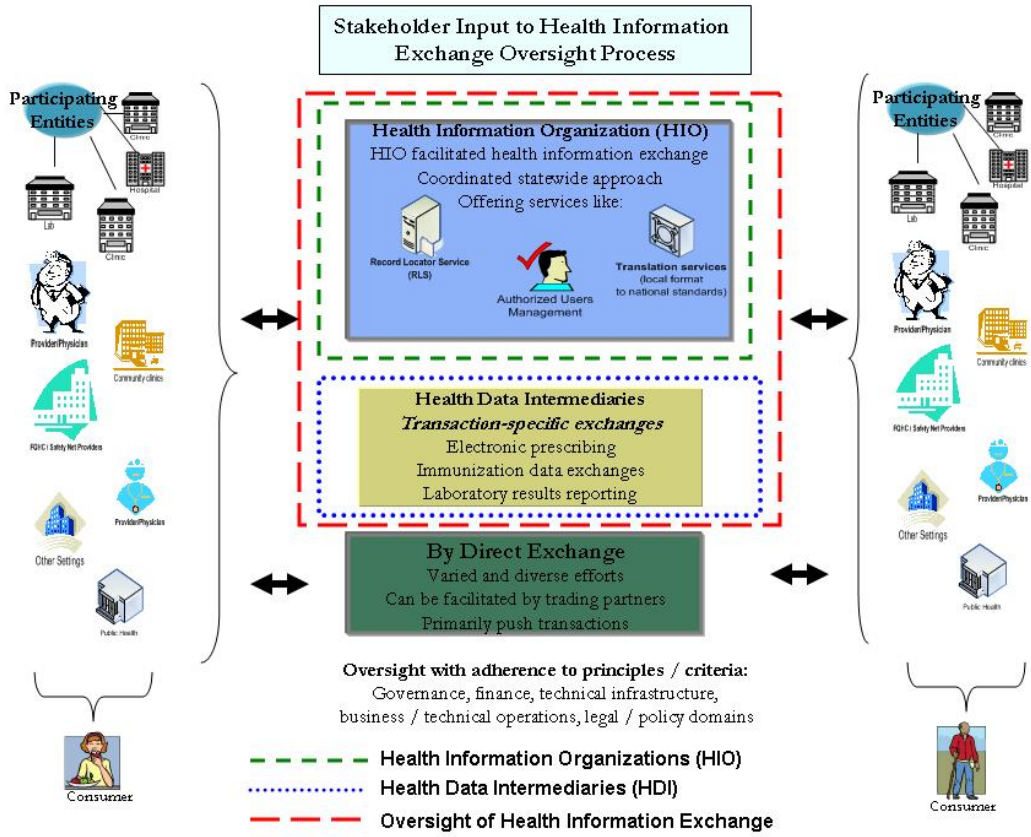
Health data intermediary: *an entity that provides the infrastructure to connect computer systems or other electronic devices used by health care providers, laboratories, pharmacies, health plans, third-party administrators, or pharmacy benefit managers to facilitate the secure transmission of health information, including pharmaceutical electronic data intermediaries as defined in 62J.495. This does not include health care providers engaged in direct health information exchange.*

Health information organization*: an organization that oversees, governs, and facilitates the exchange of health-related information among organizations according to nationally recognized standards.*

The new law requires these service providers to apply for a certificate of authority to do business in the State of Minnesota, to demonstrate compliance with key criteria, and to enter into reciprocal agreements with other health information exchange service providers to ensure that information follows patients across the continuum of care.

Figure 8 below depicts the aspects of health information exchange that will have an oversight component as established by Minnesota law. Additional detail can be found in the accompanying Minnesota Operational Plan for Health Information Exchange.

Figure 8. Components of Health Information Exchange Oversight for Clinical Transactions



Accountability and Transparency

The public nature of the existing Minnesota e-Health Initiative infrastructure along with the current legal framework for health information exchange and oversight allows for numerous opportunities for public accountability and transparency including:

- Public hearings regarding health information exchange oversight
- Public meetings of the Minnesota e-Health Advisory Committee and workgroups
- Public comment periods for significant / annual updates to the strategic plan
- Annual reports to the Minnesota Legislature on the Minnesota e-Health Initiative

The Commissioner of Health is required to oversee Minnesota's legal framework for health information exchange and oversight in a manner that is accountable and transparent to the public and health information exchange stakeholders. Specific **responsibilities of the Commissioner of Health regarding health information exchange oversight** include:

- Take action on applications for certificates of authority to operate as a health information exchange service provider
- Provide ongoing compliance monitoring
- Respond to public complaints
- Take enforcement action as necessary
- Report annually on key topics

In carrying out these responsibilities, the Commissioner of Health is required to adhere to a process that ensures transparency and allows for public review of health information exchange service provider applications, specifically by:

- Making materials pertaining to applications available to the public
- Holding public hearings for input from interested stakeholders, including consumers
- Making feedback and recommendations gathered at hearings public
- Consulting with impacted health care providers and their respective statewide associations

The legal framework for health information exchange also defines a **compliance and enforcement framework** that:

- Provides penalties and enforcement authority
- Allows for the suspension or revocation of certificates of authority
- Sets administrative procedures for a denial, suspension, or revocation of a certificate of authority

In addition, the legal framework for health information exchange and oversight accounts for specific **consumer protections** including the following:

- Ensures that information follows the patient, regardless of where they access care
- Ensures that health information exchange service providers are connected and prevents silos of patient data
- Requires the Commissioner of Health to protect the public interest by responding to public complaints related to health information exchange, taking enforcement actions necessary to protect the public interest on matters pertaining to health information exchange
- Provides transparency and opportunities for consumer input on health information exchange by requiring public hearings and opportunities for feedback and recommendations
- Allows the ability to act on clear and present danger to public health or safety
- Ensures that health information exchange service providers are responsive to consumers by requiring health information organizations' boards to broadly represent participating entities and consumers and requiring health information organizations to describe procedures to respond to consumer complaints
- Ensures that health information exchange service providers have appropriate insurance to protect the interest of the public
- Requires compliance with all state and federal privacy and security requirements
- Requires enforcement actions to consider the effect of the violation on patients and whether the violation hindered an individual's ability to obtain care

TECHNICAL INFRASTRUCTURE DOMAIN OBJECTIVE:
Expand technical infrastructure and services over time to facilitate the transactions necessary to support meaningful use, and support health information exchange across the continuum of care, including:

- Establishing a mechanism to promote utilization of nationally-recommended standards related to content exchange (vocabulary, messages, and documents), transport, privacy and security used for health information exchange
- Ensuring that standard operating procedures are in place that will assure role-based user authentication for both senders and receivers of electronic health information
- Certifying trust agreements between health information organizations and end users are in place, and addressing core content to ensure the health information accessed through health information exchange services are secure and confidential in compliance with federal and state privacy and security laws and best practices

TECHNICAL INFRASTRUCTURE STRATEGY 1: Ensure that health information exchange is based on principles which support the Minnesota e-Health vision and based on a multi-stakeholder endorsed technical architecture.

TECHNICAL INFRASTRUCTURE STRATEGY 2: Ensure all investments in HIE services require the use of nationally recognized standards.

TECHNICAL INFRASTRUCTURE STRATEGY 3: Maximize the limited state and federal funding available to support HIE by leveraging current exchange mechanisms and building on existing health information exchange infrastructures, including but not limited to:

- Master patient indices
- Health information organizations
- The Nationwide Health Information Network
- The Medicaid Management Information System (MMIS)

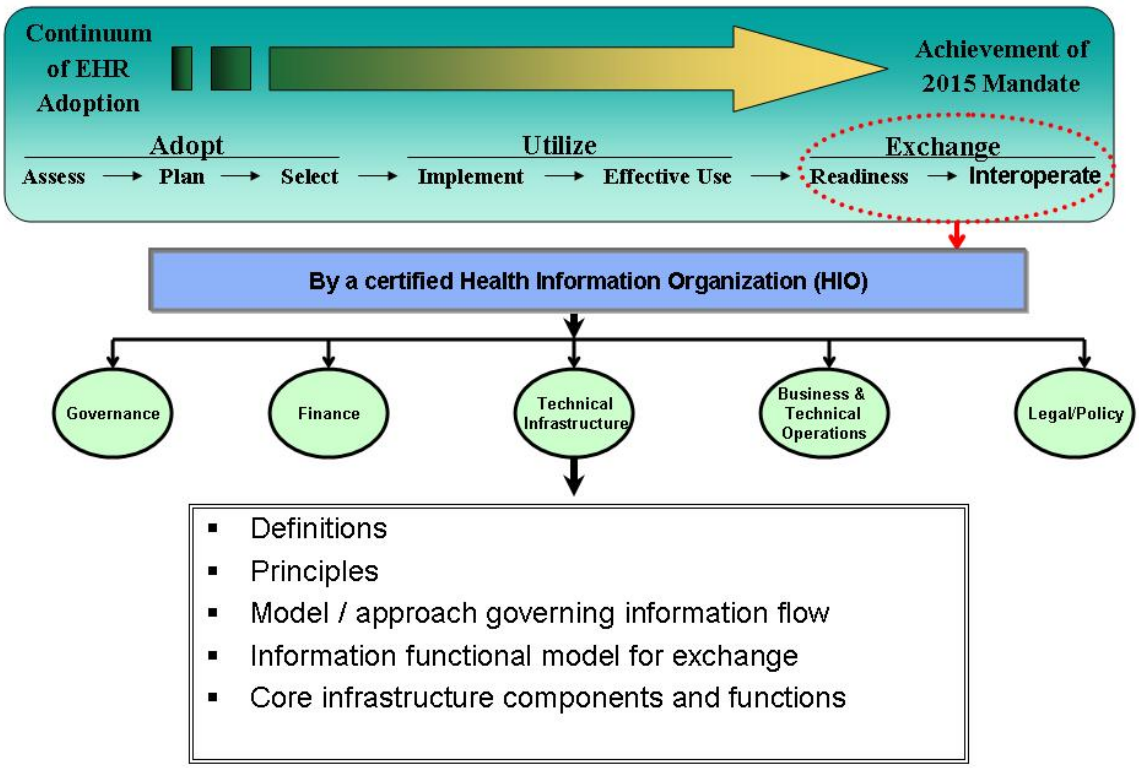
TECHNICAL INFRASTRUCTURE STRATEGY 4: Use an integrated approach to facilitate exchange of health information across entities.

Minnesota's Approach for Health Information Exchange

Health information exchange is the mobilization of health information electronically across organizations within a region or community according to nationally recognized standards. The vision for exchange of health information in Minnesota is to electronically move health information among disparate health information systems while maintaining the meaning of the information exchanged. This vision will be realized through the implementation of the Minnesota e-Health Connect program to support development of appropriate technical infrastructure across various health information organizations (HIOs) statewide that facilitate exchange with adequate oversight provided by the Minnesota Department of Health. The technical infrastructure plans will be flexible to accommodate advancing technologies and to meet varying stakeholder needs.

Figure 9 below depicts Minnesota's framework for technical architecture. The framework incorporates the Minnesota continuum for health information technology adoption, use, and efforts to achieve interoperability, and calls out Minnesota's approach for establishing health information exchange technical infrastructure.

Figure 9. Minnesota's Framework for Health Information Exchange Technical Infrastructure



Working Definitions

In order to describe critical aspects of Minnesota's technical infrastructure, working definitions of technical architecture, health information exchange, health information exchange service provider (including health information organization, health data intermediary), direct health information exchange and the Nationwide Health Information Network (NHIN), and interoperability are provided.

Technical architecture
The Minnesota e-Health technical architecture is a framework that consists of sets of policies, standards and services that contain support for secure statewide and national interoperability of health information and includes the following components:

- Definitions of key terms
- Principles of design and function
- Approach for information flow and support for governance policies
- Core infrastructure components
- Core functions to achieve meaningful use

Health information exchange
The electronic transmission of health-related information between organizations according to nationally-recognized standards.

Health information exchange service provider
A health data intermediary or health information organization that has been issued a certificate of authority by the Commissioner of Health under Minnesota Statutes, section 62J.4981. Definitions of the different types of health information exchange service providers are provided on page 47.

Direct health information exchange
The electronic transmission of health-related information through a direct connection between the electronic health record systems of health care providers without the use of a health data intermediary.

Nationwide Health Information Network (NHIN)
A set of policies, standards and services based on trust fabric that enable the Internet to be used for secure and meaningful exchange of health information to improve health and health care.

Interoperability

The **Minnesota e-Health framework for interoperability** consists of:

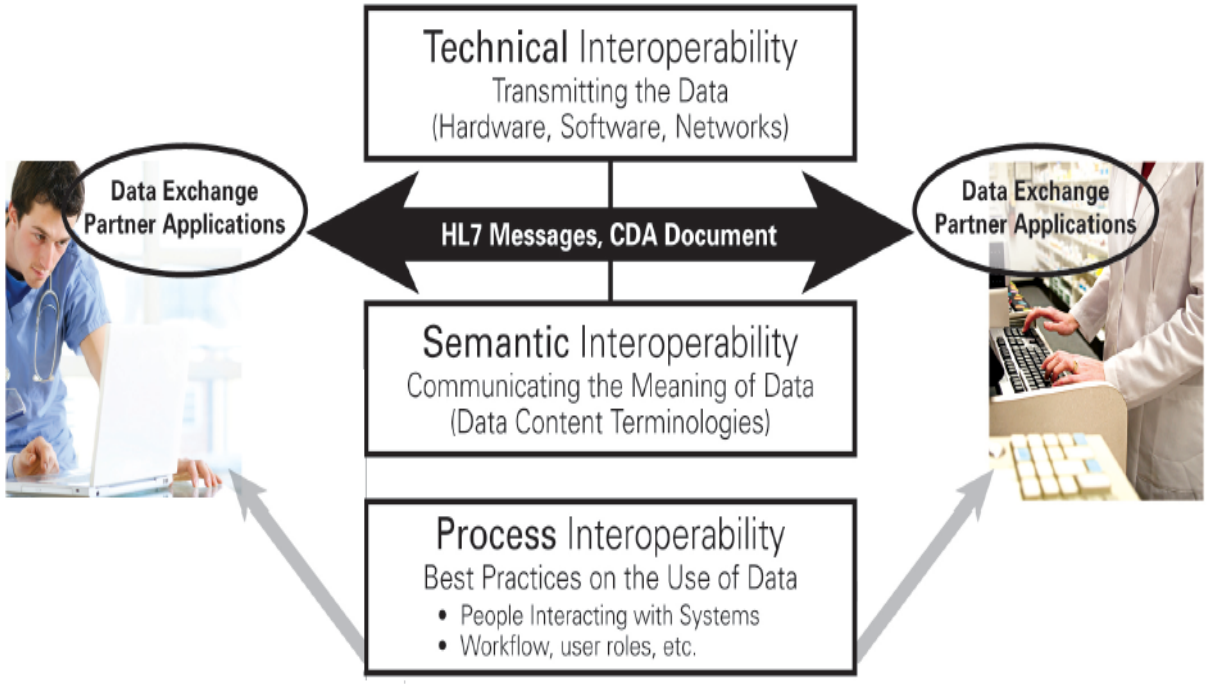
- Definitions
- Types of interoperability
- Transactions for exchange

Minnesota e-Health definition of interoperability
Interoperability of Electronic Health Record (EHR) systems in Minnesota means the ability of two or more EHR systems or components of EHR systems[1] to exchange information electronically, securely, accurately and verifiably, when and where needed. It is comprised of "technical," "semantic" and "process" interoperability, and the information exchanged includes transactions and standards as defined by the Minnesota Commissioner of Health.

[1] Electronic health record systems include ancillary health information systems such as laboratory, pharmacy and radiology as identified in Appendix B of the statewide implementation plan. http://www.health.state.mn.us/e-health/ehrplan2008.pdf

Types of interoperability
The concepts of technical, semantic and process interoperability are described below and shown in Figure 10.

Figure 10. Types of Interoperability



Technical interoperability – *transmitting the data*
The focus of technical interoperability is on the accurate and secure conveyance of data from one point to another. This refers to hardware, software, networks, data transmission, and closely related functions like access and security management. Technical interoperability has to do with connectivity and messaging across the network and across disparate applications/systems. Technical interoperability in health care reduces the effect of distance between clinicians, whether in the same building or across the country.

Semantic interoperability – *communicating the meaning of data*
The focus of semantic interoperability is on communicating the meaning of the data being exchanged; that is, communicating information in a form that will be understood in exactly the same way by both sender and receiver. This is essential in health care due to the complexity of the information, the various stakeholders involved, and the implications of accurate information interpretation to ensure quality and safety and to facilitate the care of the patient. Semantic interoperability requires standard representation of data and information using data content terminologies such as ICD-9, SNOMEDCT® and LOINC®. Vendors today are being driven to rapidly move away from proprietary methods for recording and coding information toward adopting national data content and other standards.

Process interoperability *– best practices on exchange and use of data*
Process interoperability is an emerging concept that pertains to accurate and useful integration of information in a work setting. This refers to coordination of work processes, user role specifications, and the presentation of data and information within the context of workflows.

All three types of interoperability are required for the consistent, accurate, secure and timely exchange of health information among various stakeholders in health care. These various types of interoperability are also interdependent. For data to be transmitted from one entity to another, technical interoperability is required. Once the data moves, semantic interoperability assures that the data is interpreted correctly by the receiver, whether a machine or a person. Process interoperability assures that these data are all put to correct use within the context of human-machine interactions.

Key Transactions for Exchange

Key transactions and standards currently include the following:

- Electronic prescribing and medication management
- Immunization information exchange
- Laboratory results reporting
- Exchange of clinical summaries
- Public health surveillance and case reporting

Minnesota's Approach to Health Information Exchange Technical Architecture

The Minnesota e-Health Connect program has outlined a proposed approach to the technical architecture for health information exchange in Minnesota that is based on stakeholder input and consensus through the Minnesota e-Health Initiative Exchange and Meaningful Use and the Standards and Interoperability workgroups. Below are high level concepts of the technical architecture and approach.

General approach and assumptions to Minnesota's technical architecture

The Minnesota e-Health health information exchange architecture will:

- Support the Minnesota e-Health Connect statewide program vision, goals, and objectives
- Support the clinical and administrative needs for public and private sectors
- Build on the Minnesota public-private collaborative model
- Use an oversight process as part of the governance model
- Integrate national standards and practices when possible and state standards when necessary
- Leverage existing infrastructures
- Use standard operating procedures (SOPs) to ensure statewide coordination and interoperability
- Support national, regional, and interstate connections

Principles for the Minnesota health information exchange technical architecture

Minnesota will expand existing and develop new technical architectures that will:

- Use established standards and best practices

    - Federal, state and industry standards and certifications should guide technical decisions in planning, investment, and implementation
    - Utilize community best practices when standards do not exist
    - Ensure alignment of technical architectures with the Nationwide Health Information Network core services and specifications
- Facilitate flow of health information across stakeholders
    - Obstacles to the efficient and secure flow of information should be addressed to ensure that health information is available where and when it is needed
    - Enable interoperability (technical and semantic) across stakeholders
- Support services which fit community needs
    - Priority transactions identified by stakeholders and outlined as part of meaningful use for federal incentives should be supported as they offer value proposition for exchange of health information
- Design for resilience
    - Applications must be adaptable to changing functional and technical requirements
    - Stakeholders in development and implementation of the infrastructure plan should act collaboratively to make decisions on strategic and operational changes
- Design for scalability
    - Technical architecture – support increases in usage as growth continues
    - Technical capacity – expandable to handle increased load
- Assure data privacy and security
    - Consumer privacy, security and confidentiality shall be considered critical to the successful exchange and use of health information
    - Data should be protected by policies involving disclosure, consent and sharing
- Meet business requirements regarding data quality
    - High data quality should be a priority with careful consideration of various factors (accuracy, completeness, timeliness of data, and accessibility to the data)
- Provide platform and vendor neutrality
    - Platform architectures should not be pre-determined, but should be decided based on stakeholder needs and best practices
    - Platform architectures should be flexible enough to adapt over time as needs change
- Improve cost effectiveness
    - Past investments should be leveraged and decisions made should be fiscally responsible
    - Reduce unnecessary duplication and redundancies

Types of Health Information Exchange in Minnesota

In the desired state of standards-based health information exchange between certified systems, health information exchange will occur through a variety of mechanisms between participating entities (e.g., clinics, hospitals, labs, public health, etc.). The architectural approach of the Minnesota e-Health Connect program recognizes the existence of these exchange approaches. Health information exchange may occur:

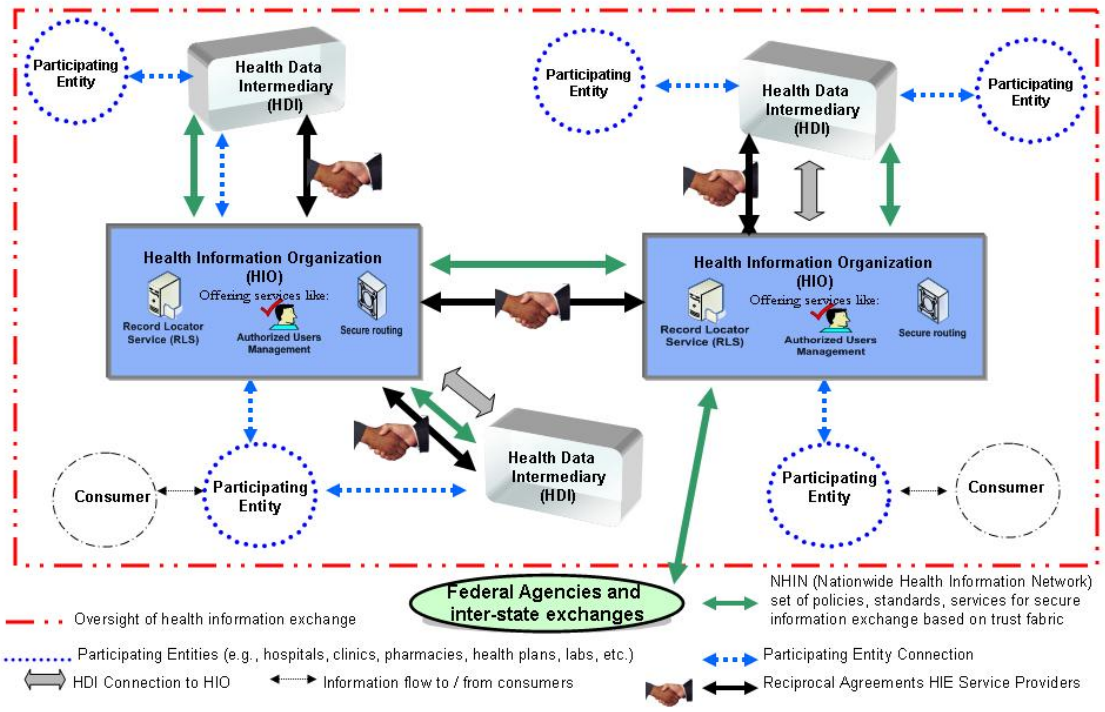
- Through a facilitated connection via health information organizations
- Through transaction-specific exchanges via a health data intermediary (e.g., electronic prescribing)

- Through direct exchanges between participating entities

Relationships among Health Information Exchange Service Providers and Participating Entities

Figure 11 describes the various relationships between participating entities, health information exchange organizations, health data intermediaries, the consumer, and federal agencies and inter-state exchange (e.g., via the Nationwide Health Information Network) and the role of the Minnesota's legal framework in providing oversight to select exchange mechanisms. Although Minnesota's legal framework for health information exchange does not provide direct oversight of consumers' or participating entities' connections to health information exchange organizations or health data intermediaries, they are beneficiaries of the oversight mechanism.

Figure 11. Relationships among Health Information Exchange Service Providers and Participating Entities

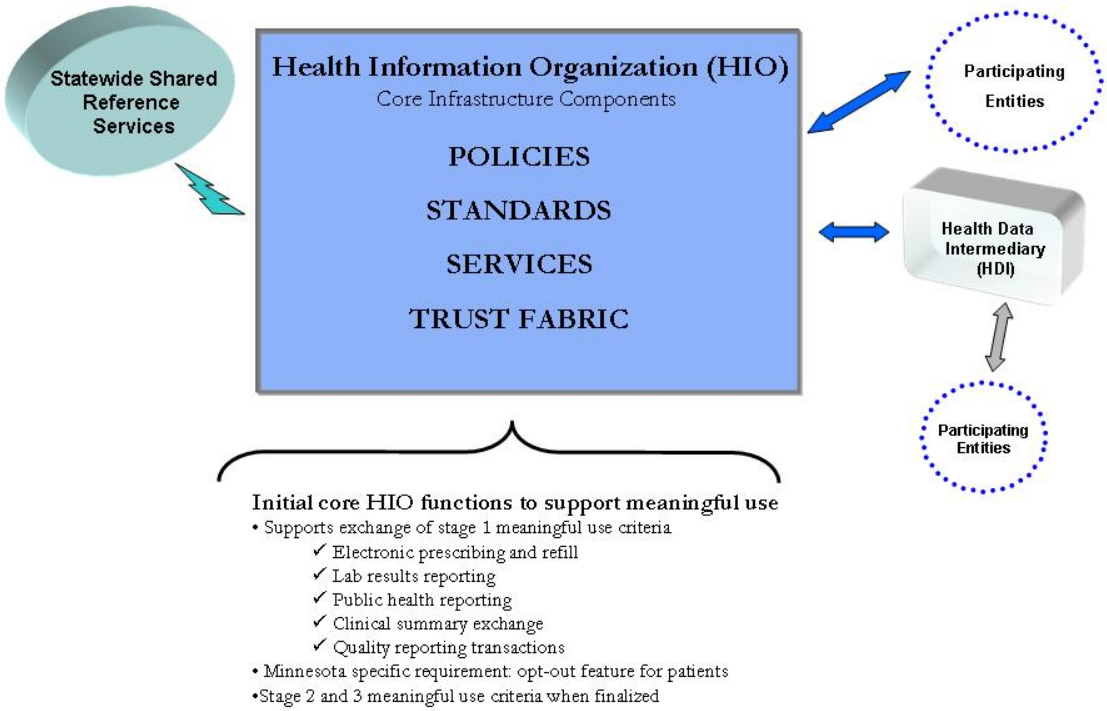


Health Information Organization Infrastructure Components, Functions, and Services

Health information organizations will uphold the following core infrastructure components: adhering to policies and best practices, assuring adoption and use of standards, providing sets of services, and establishing the trust fabric that supports privacy and security components to enable buy-in and support for health information exchange. Health information organizations will provide the core functionality to support health information exchange, beginning initially with stage 1 meaningful use criteria, and eventually progressing to stage 2 and stage 3 criteria. See Figure 13

below for a depiction of health information organization core infrastructure components and functions and their relationship to participating entities and health data intermediaries.

Figure 13. Health Information Organization Core Infrastructure Components and Functions



Prioritized health information exchange services of health information organizations

The existing health information exchange infrastructure in Minnesota provides services that allow providers to look up patients, access medication history, and manage patient consent consistent with Minnesota and federal privacy and security laws. Capacity is being developed to exchange immunization records, lab results, patient eligibility, Continuity of Care Documents, and making additional enhancements to security. Consistent with guidance from the Office of the National Coordinator, the Minnesota e-Health Connect program will enable the following prioritized health information exchange services:

- Electronic eligibility and claims transactions
- Electronic prescribing and refill requests
- Prescription fill status and/or medication fill history
- Electronic clinical laboratory ordering and results delivery
- Electronic public health reporting
- Quality reporting
- Clinical summary exchange for care coordination and patient engagement.

Required and Potential Future Health Information Exchange Organization Services and Functions

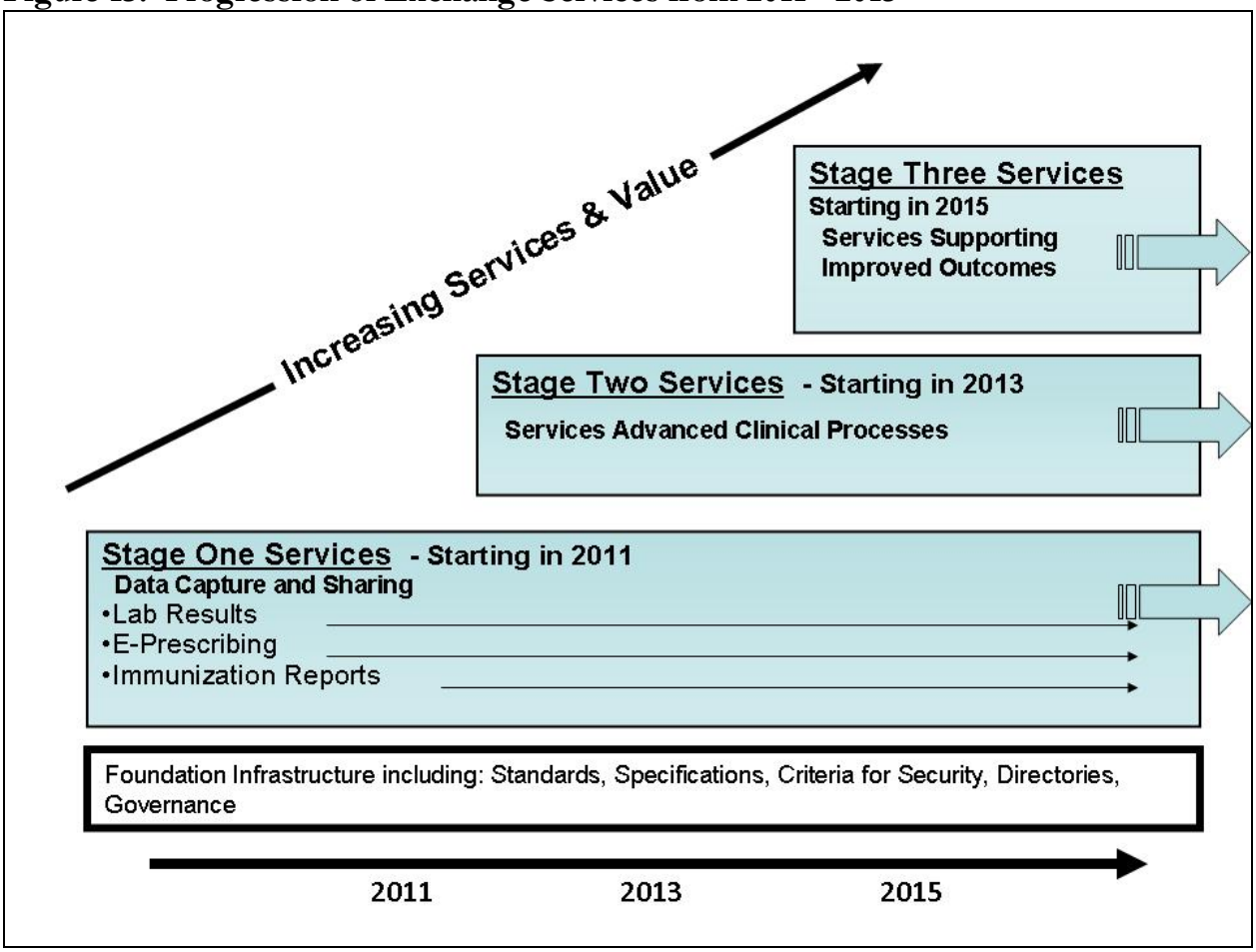
Table 7 below describes required services and functions of a health information organization and also identifies desired and potential future required services and functions.

Table 7. Required and Desired Health Information Exchange Organization Services and Functions

Required Health Information Organization Services and Functions	Desired / Future Health Information Organization Services and Functions
SERVICES Record locator service Connection – secure routing for messages, portal access, NHIN gateway services Directories – providers, facilities, patients, documents Nationwide Health Information Network (NHIN) / Interstate connectivity Audits / reporting	**SERVICES** Additional value-added services such as: Terminology / translation services Templates Advanced directives PHR management
FUNCTIONS TO SUPPORT MEANINGFUL USE Supports exchange of stage 1 meaningful use criteria initially: - Clinical summary exchange - Quality reporting transactions - Electronic prescribing and refill - Lab results reporting - Public health reporting (e.g., disease reporting, immunizations) Supports exchange of stage 2 and 3 meaningful use criteria over time Minnesota specific requirement: opt-out feature for patients	**FUNCTIONS TO SUPPORT MEANINGFUL USE** Administrative data (if included in final rule)
FEDARAL AND/OR STATE STANDARDS Recommended in Final Rule – transport, content exchange standards (message and vocabulary standards), privacy-security standards Minnesota-specified Administrative	
TRUST FABRIC Security: authorization, authentication, access, audit Consent management Provider agreements Minnesota opt-out options and other consumer-driven choices	
SUPPORT FUNCTIONS Shared agreements Technical support Provider outreach Trust relationships	**SUPPORT FUNCTIONS** Additional value-added support functions such as: Quality reporting assistance

Minnesota health information exchange services will adapt and expand over time and as the meaningful use rules become further defined. Figure 13 displays how services will continue to expand from stage one meaningful use through stage three meaningful use with a foundation of infrastructure including: standards, specifications, criteria for security, directories, and governance.

Figure 13. Progression of Exchange Services from 2011 - 2015



Health information organization shared directories as a required service

Minnesota recognizes that the creation and use of shared services will streamline and enhance interoperability by creating efficiencies and cost effectiveness as well as reducing the level of variation in technical approaches across geographies. One example of a possible shared service is shared directories. Minnesota is still determining its ultimate long-term approach to shared directories; however, the following types of shared directories will be required of health information organizations:

- Patients / individuals
- Facilities / organizations
- Providers for services delivered
- Users for authentication
- Health plans for insurance verification

Minnesota will be working in the coming months to solidify the overall approach for developing, supporting, and sharing directories. Considerations will be made for issues related to:

- Directories as a shared service
- Content management
- Responsibility for quality (e.g., accuracy / completeness of data)
- Scope of maintenance (e.g., de-duplication processes)

- Policies such as the timeliness of updates
- Potential use of web-enabled state level directories, including health care provider directories, health plan directories, and licensed clinical laboratories that will support standards-based directory queries

Health information exchange organization certification criteria

One of the vital elements of a health information organization that facilitates exchange is a technical infrastructure that is capable of scalability and is able to accommodate privacy and security requirements and other essential policy requirements.

The 2009-2010 Exchange and Meaningful Use workgroup of the Minnesota e-Health Initiative proposed recommendations on technical infrastructure of a HIO which were endorsed by the Minnesota e-Health Initiative Advisory Committee. The recommendations called for HIOs being certified from an appropriate accreditation body and also meeting state-specific requirements for certification. The recommendations state that certification criteria related to technical infrastructure and business and technical operations domains from the draft Health Information Exchange Accreditation Program of the Electronic Healthcare Network Accreditation Commission (EHNAC) are baseline requirements for Minnesota Health Information Organizations (HIOs). The recommendations also go beyond EHNAC requirements by requiring systems in HIOs to have necessary bandwidth to carry load at all points in time and to have a disaster recovery plan in place. Additionally, the recommendations aim to align the technical infrastructure to meet the legal standards by requiring all state-certified HIOs and state-registered health data intermediaries (HDIs) to have a record locator service (RLS), as defined in Minnesota law, when a transaction requires a patient look-up.

Integration and Alignment with other Architectures

Minnesota is beginning planning efforts with various groups regarding implementation plans for integration and/or alignment with other architectures (e.g., Minnesota Medicaid Information System, Nationwide Health Information Network, and Federal Care Delivery Systems). The Minnesota e-Health Connect program will assure that the Minnesota health information exchange architecture aligns with the necessary state and federal architectures in order to ensure interoperability. As a starting requirement, Minnesota's legal framework for health information exchange requires health information organizations to connect to and align with the Nationwide Health Information Network.

LEGAL AND POLICY ISSUES DOMAIN OBJECTIVE

Ensure that a clear policy framework is established to enable health information exchange by providing requirements to ensure that information follows the patient and that patients' rights are protected.

LEGAL AND POLICY ISSUES DOMAIN STRATEGY 1: Build upon existing e-Health statutes by developing recommendations related to health information exchange, including exchange within Minnesota and across state borders.

LEGAL AND POLICY ISSUES DOMAIN STRATEGY 2: Address key issues related to privacy, security, and the management of patient consent within Minnesota and across state borders.

LEGAL AND POLICY ISSUES DOMAIN STRATEGY 3: Share strategic plan for HIE with states that have been identified as high-priority by the Minnesota e-Health community, and establish a plan to work with each state to enable HIE.

MONITORING, ASSESSING, AND UPDATING PRIVACY AND SECURITY POLICIES

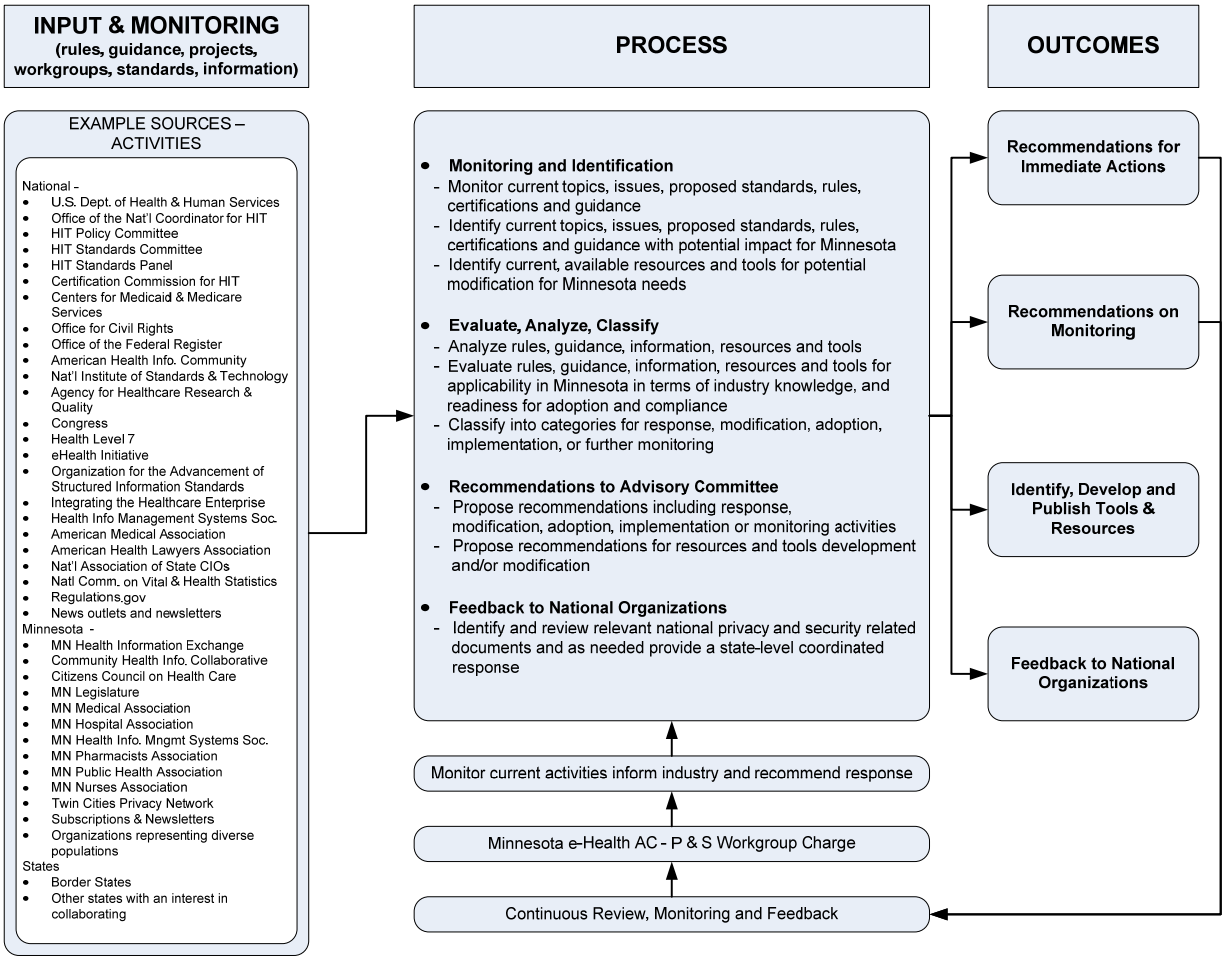
Minnesota utilizes an established process for monitoring, assessing and updating policies related to health information technology. Please see Figure 14 for an example of Minnesota's process flow for privacy and security policies. Through the work of the Minnesota e-Health Privacy, Legal and Policy Workgroup in 2010-2011, the Minnesota e-Health Connect program will continue to monitor the national Health Information Technology Policy privacy and security sub-group's activities as well as the Office of the National Coordinator's (ONC) activities for potential policy implications in Minnesota.

Role of the Minnesota e-Health Privacy and Security Workgroup to Date

In addition to monitoring and assessment, the 2009-2010 Minnesota e-Health Initiative Privacy and Security Workgroup has previously been charged with:

- Making recommendations on mechanisms to ensure compliance with state and federal privacy and security requirements for health IT
- Supporting providers and health / health care stakeholders in the implementation of privacy and security criteria established to qualify as a "meaningful user" of an EHR under the HITECH Act
- Facilitating the development of statewide responses to rules and guidance developed pursuant to the HITECH Act
- Ensuring that the privacy and security needs of Minnesota Medicaid, consumers, providers and health / health care stakeholders are fully considered in the development of the statutory framework for HIE and the development of informational/educational resources and tools

Figure 14. Minnesota Approach for Privacy and Security Process Flow



Minnesota Alignment with Federal Laws/Regulations to Facilitate Electronic Health Information Exchange

From 2005 to 2008, MDH participated in the national Health Information Security and Privacy Collaboration (HISPC) project, which completed a comprehensive review of laws and practices to identify those that impeded the electronic exchange of health data and determined how Minnesota law aligned with federal statutes such as HIPAA. The project identified the most significant privacy and security issues and gaps facing organizations in implementing the electronic exchange of health information and developed solutions to address these gaps.

This work resulted in the 2007 re-codification and update of the Minnesota Health Records Act (Minnesota Statutes, sections 144.291 to 144.298) to support secure and confidential electronic exchange of health information. Before the re-codification, Minnesota health care providers were required to obtain and submit a signed paper consent form to another health care provider prior to exchanging health information even for treatment. The new law provides a mechanism that allows consent to be exchanged electronically and eliminates the need for a paper based system. It also

updated the assignment of liability associated with inappropriate requests or disclosures of health information.

INTERSTATE HEALTH INFORMATION EXCHANGE

Assessing Variations in Privacy and Security Laws across States

While variations in state laws and regulations pertaining to the disclosure of protected health information (PHI) have been assessed, findings have provided specific insights into the diversity of state-level privacy approaches. Differences in state privacy laws drive business practices across the health industry and perpetuate various "consent cultures" that define the context for health information exchange (HIE). When considering dynamics such as variation in state laws, scope of current HIT activity, adoption rates, technological capacity and consumer support, it is clear that state-level engagement in interstate HIE, both regional and nationwide, faces significant challenges until the issues related to legal and policy, both organizational and institutional, are addressed.

States are moving at different rates and with different priorities with respect to addressing state legal barriers to HIE. A number of states have adopted laws specifically aimed at facilitating electronic HIE, while others have laws originally intended for a paper-based system that lack a comprehensive and consistent approach to current as well as emerging health care information policies, practices, standards, and technologies. Organizations in Minnesota have formed or are in the process of forming organized state-level HIE initiatives involving diverse private sector and government participation to guide statewide and regional HIE development and ensure its alignment with public policy goals. Despite the varying stages of HIE development these organizations have worked to address the legal and policy challenges related to HIE. These issues include audit, authentication, consent, breach notification, security and operational policies.

The Minnesota e-Health Connect program recognizes the critical importance of establishing and maintaining relationships with other states, and is beginning to establish relationships with bordering and other states to determine the best way to work together on interstate exchange issues.

Developing Relationships with other States

Minnesota has a number of integrated delivery networks serving patient populations that extend into neighboring states, making secure and confidential multi-state sharing of electronic health information of high importance. Building on previous work of the HISPC project, the Minnesota e-Health Connect program will work on:

- Establishing the legal and policy framework for the exchange of health information across state lines
- Unifying data sharing and legal agreements by building on the existing efforts of Minnesota's health information organizations
- Establishing, where prudent and beneficial to the health care community, uniform subscription agreements, privacy and security policies and procedures, standard templates for consultant agreements, non-disclosure agreements, data exchange and support agreements, business associate agreements and master technology service agreements.

- Collaborating and solidifying of policy, privacy and security requirements for interstate and inter-organizational health information exchange, including: data sharing, laws, regulations, and adaptation to health information security by organizations involved in the exchange of personal health information

The Minnesota e-Health Connect program will work with other state agencies (initially with border-states) to schedule regular joint meetings of stakeholder leadership to address legal and policy issues surrounding interstate health information exchange.

Interstate Privacy and Security Principles

Privacy and security principles should be considered when facilitating secure interstate health information exchange to ensure that Minnesota's needs are fully represented. The 2009-2010 Minnesota e-Health Privacy and Security Workgroup has reviewed, discussed, and initially endorsed principles that were adapted from two documents: Minnesota Privacy and Security Project Final Solutions Report, and the Office for Civil Rights (OCR) Companion Documents for The Nationwide Privacy and Security Framework for Electronic Exchange of Individually Identifiable Health Information (Privacy and Security Framework). Many of these principles are already being met through existing federal regulations; however, the workgroup will periodically analyze and review the principles to evaluate and update in the context of the evolving privacy and security context landscape. The principles can be found in Appendix J.

PAST EFFORTS AND CURRENT PLANS TO MODERNIZE STATE LAWS

The statutory privacy protections in Minnesota, evolved over the past two decades, contained several limitations as health care moved into an electronic information age. There have been significant changes to the laws in Minnesota governing protected health information intended to provide additional protections beyond those provided by the Health Insurance Portability and Accountability Act (HIPAA) and address many of the issues related to privacy, security and interstate health information exchange. In 2007, the Minnesota Legislature completed a historic revision of the Minnesota Health Records Act, Minnesota Statutes, sections 144.291 through 144.298.

The Legislature also when a provider could access a patient's health information without the patient's consent if that information was essential to provide effective and safe emergency care. The issue of how consent could be relayed electronically has been addressed as well as what privacy protections should apply to a record locator service (RLS). The Minnesota Health Records Act specifically describes the requirements for establishing and implementing a RLS, which allows health care providers to locate patient health information from other participants in the health information organization. The statute provides a framework that addresses how the RLS is established, initially populated with patient information, policies and procedures for who may access an RLS, auditing requirements, requirements for patient consent and opt-out provisions, and liability for negligent or intentional violations of the requirements associated with RLS.

In addition to the changes to state laws around privacy mentioned above, Governor Tim Pawlenty and the Minnesota Legislature recognized that more effective use of health information—including the timely exchange of information—were needed to improve the quality and safety of care, and

help control costs. To assist in meeting these critical goals, Minnesota enacted three mandates that drive the adoption and use of electronic health records (EHRs) and other health information technology (HIT):

- An interoperable EHR mandate
- Administrative uniformity
- An e-Prescribing mandate

Interoperable EHR Mandate

In 2007, the first e-health mandate was enacted: "*By January 1, 2015, all hospitals and health care providers must have in place an interoperable electronic health records system within their hospital system or clinical practice setting. The commissioner of health, in consultation with the Minnesota e-Health Advisory Committee, shall develop a statewide plan to meet this goal, including uniform standards to be used for the interoperable system for sharing and synchronizing patient data across systems.*"

This mandate applies to all providers who deliver health services in the state of Minnesota and the facilities in which they practice, to ensure that the benefits of e-health apply across the entire continuum of care.
The 2008 Statewide Plan developed by the Minnesota e-Health Initiative identified seven major steps in adopting, implementing and effectively using an interoperable EHR. The seven steps can, in turn, be grouped into three major categories:

- Adopt, which includes the sequential steps of Assess, Plan and Select
- Utilize, which involves implementing an EHR product and learning how to use it effectively
- Exchange, which includes readiness to exchange electronically with other partners, and implementing regular, ongoing exchange between interoperable EHR systems.

Administrative Uniformity

Minnesota Statutes, section 62J.536 requires all health care providers and group purchasers (payers) to electronically exchange the following three administrative transactions using a single, standard data content and format, effective in 2009:

- Eligibility and benefit inquiries and responses;
- Claims (billings); and
- Payment remittance advices.

The mandate applies to an estimated 60,000 physicians, hospitals, dentists, chiropractors, pharmacies, and other health care providers providing services in Minnesota, as well as over 2000 insurance carriers and Third Party Administrators (TPAs) licensed or doing business in the state, and other payers. MDH has developed and implemented rules specifying the single standard data content and format to be used. The rules were developed in consultation with a large stakeholder advisory group, the Minnesota Administrative Uniformity Committee (AUC), through an open public process that has included several public comment periods. The goal of the effort is to reduce administrative costs and burdens associated with the more than 55 million health care claims and other routine health care business transactions exchanged each year. MDH estimates that when fully implemented, the rules will reduce those administrative costs throughout the state's health care system by more than $60 million a year. With the implementation of the rules, 2009 represented an

important milestone in Minnesota's efforts to bring about greater use of HIT and more standard, efficient health care business transactions.

e-Prescribing Mandate

Minnesota Statutes, section 62J.497 requires all providers, group purchasers, prescribers, and dispensers to establish, maintain, and use an electronic prescription drug program effective January 1, 2011. The mandate requires. This program must comply with the applicable standards for transmitting, directly or through an intermediary, prescriptions and prescription-related information using electronic media. Guidance on implementation of this law can be found at: http://www.health.state.mn.us/e-health/eprescribing/erx121409guidance.pdf.

2010 Legislative Updates

The 2010 legislative session brought additional updates to facilitate electronic information exchange:

- Oversight of information exchange and enforcement
- Additional updates regarding administrative uniformity

Oversight of Information Exchange and Enforcement

The 2010 Minnesota legislative session established a legal framework for health information exchange and oversight as a result of recommendations that were made by the Minnesota e-Health Advisory Committee to the Commissioner of Health. The full details of this legal framework can be found in the governance domain section of the strategic plan.

The state legal framework for health information exchange and oversight gives the Commissioner of Health responsibility for compliance and enforcement that:

- Requires HIE service providers to demonstrate compliance with state and federal laws pertaining to privacy and security
- Provides penalties and enforcement authority
- Allows for the suspension or revocation of certificates of authority for health information exchange service providers
- Sets administrative procedures for denial, suspension, or revocation of a certificate of authority

Administrative Uniformity

Minnesota's Health Care Administrative Simplification Act (ASA), Minnesota Statutes, sections 62J.50-62J.61, was amended in 2010 (Laws of Minnesota 2010, chapter 243, section 3) to create new requirements for health care clearinghouses and to extend enforcement and compliance provisions of the ASA to clearinghouses. The changes include requirements beginning January 1, 2012, for clearinghouses, group purchasers (payers), and providers to exchange standard, electronic acknowledgments when receiving health care claims or remittance transactions. The law further clarifies when fees may be charged for the exchange of standard administrative transactions, requires clearinghouses to make electronic connections with other clearinghouses or trading partners, and authorizes the Commissioner of Health to require clearinghouses to report and post certain information regarding their products, services, pricing and other information. .

Future Plans to Update State Laws

The Minnesota Department of Health will continue to monitor, assess and plan modifications and new policies that will support the secure and private inter- and intrastate exchange of health information.

ESTABLISHING TRUST AGREEMENTS FOR HEALTH INFORMATION EXCHANGE

Health information exchange organizations in Minnesota have developed subscription agreements to establish the business and working relationships with their participating members. In addition, one of the Health Information Organizations, the Community Health Information Collaboration (CHIC), participated on the Nationwide Health Information Network (NHIN) pilot project and assisted in the development of the Data Use and Reciprocal Subscription Agreement (DURSA). The Minnesota Privacy, Legal and Policy Issues Workgroup plans to analyze the DURSA and recommend any changes necessary to ensure that the privacy protections currently afforded Minnesota consumers and stakeholders are included. The workgroup will also develop templates, tools and resources related to data sharing agreements and data use agreements to assist HIE organizations with the challenges of developing uniform and standard agreements.

FINANCE DOMAIN OBJECTIVE

Ensure the financial sustainability of health information exchange services beyond the Cooperative Agreement Program by:

- Ensuring state-certified HIOs maintain a business plan that clearly addresses financial sustainability beyond the cooperative agreement program.
- Ensuring that a critical mass of Minnesota health / health care stakeholders are connected and utilizing HIE services.
- Ensuring state-certified HIOs address specific barriers encountered by stakeholders related to technical, legal, financial, and/or organizational matters.

FINANCE DOMAIN STRATEGY 1: Establish financial requirements for health information organizations seeking state certification; provide on-going state oversight and review of business plans and other information necessary to determine compliance with financial criteria.

FINANCE DOMAIN STRATEGY 2: Ensure that business plans:

- **Provide contingency plans for sustainability if funding sources do not materialize as originally predicted.**
- **Clearly address marketing mechanisms and plans to connect a critical mass of providers to HIE services.**

Minnesota's Business Model for Health Information Exchange

In summer of 2009, the Minnesota e-Health Advisory Committee reviewed the possible models of governance for exchange outlined in the State Alliance for e-Health's 2009 report. At that time, the Advisory Committee, consistent with its rich tradition of collaboration between public and private stakeholders, identified a public-private partnership with some characteristics of a public utility as the most likely model to meet the state's needs. Discussions on the ideal model for the state continued into the fall, and resulted in recommendations that further defined the model and provided recommendations on the appropriate level of government oversight. Similar to a public utility, the group recommended that the State provide a mechanism for public accountability of health information exchange service providers in Minnesota as outlined in the governance domain section of the plan.

The Minnesota e-Health Connect budget provides federal funds to supplement investments made by both public and private stakeholders in Minnesota to enable health information exchange; however, long-term financial sustainability of health information exchange services in Minnesota will be dependent on continued diversified funding streams beyond ARRA funding, such as ongoing revenue from fees for services and continued investments by public and private stakeholders.

In order to be successful in establishing long-term financial sustainability, further data collection and analysis is necessary to determine the on-going costs of health information exchange, and to identify and overcome barriers to financial sustainability in the Minnesota market. Minnesota recognizes that further analysis of the on-going costs of health information exchange as well as the various business models available to support these services is necessary, and will rely on data collected through our short-term financial sustainability plan to inform and engage stakeholders in establishing long-term funding strategies to ensure the on-going sustainability of health information exchange services in Minnesota.

Working Definition of Financial Sustainability

Achieving statewide interoperability is not a static target that is completed after initial planning and implementation stages. Efforts to build statewide health information exchange (HIE) capacity require development of business plans to address both the capital needs and the ongoing challenges of sustaining the infrastructure for interoperability that is needed as part of a high-performing health care system.

Financial sustainability of health information exchange is the ability to create, meet evolving needs of, and sustain an environment for health information exchange with a governance, financing, business and technical operations, policy and technical infrastructure that facilitates high-value HIE services in partnership with stakeholders (adapted from: the State Health Information Exchange Toolkit, http://statehieresources.org)

Short-term Financial Sustainability Plan

In the short-term, Minnesota will adopt a market-driven approach to financial sustainability through Minnesota's legal and policy framework. The Minnesota legal and policy framework requires health information exchange service providers (e.g., health information organizations and health data intermediaries) to:

- Maintain strategic and operational plans that support health / health care providers in achieving meaningful use
- Maintain a business plan that addresses the needs of community clinics, critical access hospitals, and free clinics in accessing health information exchange services
- Submit a rate plan outlining fee structures for health information exchange services, including an plan to:
    - Distribute costs equitably among users of health information exchange services
    - Provide predictable costs for health / health care providers
    - Cover all costs associated with conducting the full range of meaningful use transactions
    - Provide a predictable revenue stream for the health information exchange service provider to maintain operating costs and develop technical infrastructure

By initially allowing for a flexible pricing model in Minnesota, valuable information will be gleaned on possible approaches for funding health information exchange and achieving long-term financial sustainability. The information gathered through the health information exchange oversight process pertaining to current financial models and rate structures will provide a foundation for discussions with Minnesota stakeholders to determine a long-term financial sustainability plan that will ultimately garner widespread support and meet the ongoing needs of the community.

Principles for Long-Term Financial Sustainability

Discussions with stakeholders in determining the long-term financial sustainability plan will be framed by the following core principles:

- Maintain a predictable, transparent and inclusive statewide legal framework for health information exchange that provides a mechanism to ensure financial sustainability and provides supplementary information necessary for a long-term financial sustainability plan.

Minnesota's proposed legal framework for health information exchange has health information organizations submit annually:

- ***Strategic and operational plans*** that demonstrate expansion of HIE services over time and documentation of increasing adoption rates to a sufficient number of participating entities to achieve financial sustainability
- ***Business plans*** that ensure the necessary capacity to support meaningful use transactions; provide an approach for attaining financial sustainability, including public and private financing strategies and rate structures; provide rates of adoption, utilization, and transaction volume, and mechanisms to support health information exchange; provide an explanation of methods employed to address the needs of community clinics, critical access hospitals, and free clinics in accessing health information exchange services
- ***Rate plans*** that outline fee structures for health information exchange services that distribute costs equitably among users of health information services; provide predictable costs for participating entities; cover all costs associated with the full range of meaningful use clinical transactions, including access to health information retrieved through other state-certified health information exchange service providers; and provide for a predictable revenue stream for the health information organization and generates sufficient resources to maintain operating costs and develop technical infrastructure necessary to serve the public interest

- Statewide HIE financial sustainability plans should be based on a scalable technical infrastructure, and be flexible enough to adapt to the evolution between start-up and ongoing maintenance, changing market demands, and HIE requirements over time
- Financing burdens for the ongoing maintenance and improvement of the HIEs should be borne across the full range of customers, with no single constituency of an HIE expected to bear a disproportionate share of the costs unless they are receiving a disproportionate share of the benefits
- Patients should not bear any undue costs
- A critical mass of adoption and effective use of EHRs is needed in order for financial sustainability to occur and should be defined with best available data
- Sustainability plans should be based on metrics around cost-benefit indicators, including improvement in quality of care and the overall value of health information exchange
- New health information exchange products and services should be evaluated based on added value and benefit to users and consumers and should also encourage innovation

Long-Term Financial Sustainability Plan

The Minnesota Department of Health, with the input and guidance from the Minnesota e-Health Initiative Advisory Committee and workgroups in 2010 will develop a financial sustainability plan that engages stakeholders and identifies long-term solutions to financial sustainability. The long-term financial sustainability plan will address mechanisms to support governance and operations of health information exchange beyond the ARRA funding, and will identify and provide solutions to key barriers to financial sustainability including, but not limited to:

Low provider participation in HIE due to:

- Misinformation and lack of knowledge/awareness in the marketplace, including lack of understanding of value propositions with the exchange of data (e.g., vendors providing misinformation about the means to achieve meaningful use)
- Perception of low value by being an early adopter due to a low number of trading partners

- Competing priorities among providers (e.g., providers are focused on implementation within their organization/facility; EHR implementation challenges have led to view EHR as a hindrance to providing quality care at the point of care; exchange is not at the top of priorities, other mandates such as the conversion to ICD-10)
- Providers are waiting for final Meaningful Use rule and/or are only focused on meeting Stage 1
- Perception that health information organizations within MN are not needed if NHIN provides connection for providers initially
- A sole reliance on utilization of health data intermediaries and direct connections creates data silos
- Lack of adequate resources (e.g., funding, workforce readiness, technical assistance to providers, reliable internet access)
- Investments in EHRs and HIT are a new cost for some providers
- Stakeholders not necessarily buying into the arguments related to the potential return on investment
- Lack of availability of services to expand HIE
- Privacy and security concerns related to proper handling of personal health information

Low patient/consumer participation in HIE / high opt-out rates due to:

- Lack of understanding of value propositions with the exchange of data
- Lack of health literacy among consumers, and lack of cultural competency among providers
- Inadequate public trust in health information exchange concepts, governance, technical capabilities, etc.
- Privacy concerns related to HIE

Governance issues

- Lack of guidelines to determine if a HIO is financially sustainable

The Minnesota Operational Plan for Health Information Exchange describes a proposed approach for developing a long-term financial sustainability plan.

BUSINESS AND TECHNICAL OPERATIONS DOMAIN OBJECTIVE

Oversee business and technical operations with clear articulation of:

- Responsibilities of the state and other health information exchange entities
- Approach to meet meaningful use requirements
- Efforts to coordinate and align efforts with Medicaid and public health requirements for HIE and meaningful use criteria
- Approach to leveraging existing HIE capability
- Plan for utilizing the Nationwide Health Information Network for information exchange between states with federal agencies

BUSINESS AND TECHNICAL OPERATIONS DOMAIN STRATEGY 1: **Implement Minnesota e-Health Advisory Committee recommendations related to health information exchange, including:**

- Definitions
- Health information exchange activities
- Health information exchange requirements
- Certification criteria for HIOs
- Oversight of health information exchange

BUSINESS AND TECHNICAL OPERATIONS DOMAIN STRATEGY 2: **Develop a culturally competent communications and outreach plan to:**

- Inform providers on availability and requirements for federal incentives and penalties, including HIE
- Inform providers of the 2015 Minnesota mandate for interoperable electronic health records, and encourage them to utilize HITECH opportunities to achieve compliance with the mandate
- Increase health / health care community awareness and mitigate misinformation regarding state and federal requirements for Medicare and Medicaid incentive payments
- Assist providers in understanding the costs and benefits associated with HIE, and impact of not connecting on the quality and safety of care and the financial interest of the practice or setting
- Explain the relationship between HIE and Minnesota's overall health reform efforts, and how the effective use of HIT (including exchange) can assist them in meeting other state requirements associated with health reforms such as health care homes and administrative simplification
- Provide vendors with information on the Minnesota model for HIE, criteria for meaningful use, and the 2015 mandate to ensure that information provided by vendors to Minnesota stakeholders is consistent, comprehensive and accurate
- Inform consumers about the benefits of health information exchange and how their personal health information will be protected

BUSINESS AND TECHNICAL OPERATIONS DOMAIN STRATEGY 3: **Actively seek to identify barriers encountered by health / health care stakeholders in accessing and effectively using HIE services, including the following methods for gathering information:**

- Review regular reports submitted by state certified HIO's regarding provider connectivity and listing any known barriers identified through outreach and marketing efforts
- Request and review regular reports from Regional Extension Centers to gather provider experiences in accessing and effectively using HIE services, including barriers identified through REC technical assistance efforts
- Utilize the Minnesota e-Health Advisory Committee and related workgroups to develop solutions to address identified HIE barriers
- Review ongoing assessment information (e.g., Minnesota Community Measurement HIT survey, American Hospital Association/Minnesota Hospital Association survey)

Implementation Plan

The Minnesota Department of Health, as the State Designated Entity, will coordinate all efforts associated with Minnesota's Strategic Plan for Health Information Exchange. Operational detail is included in Minnesota's Operational Plan for Health Information Exchange

Minnesota's approach to meeting health information exchange meaningful use requirements

Minnesota will utilize the existing e-Health infrastructure through the Minnesota e-Health Initiative to meet health information exchange meaningful use requirements. Through a long-standing history of collaboration and stakeholder buy-in and support, the Minnesota e-Health Initiative will provide a forum and a structure for making recommendations regarding meeting meaningful use requirements and will provide a venue for dissemination of information and outreach opportunities for providers meeting meaningful use eligibility criteria.

The Minnesota e-Health Initiative will continue to have workgroups focused on relevant e-Health topics, in particular health information exchange-related aspects to e-Health. The current plan is to have five workgroups for the 2010-2011 year and to re-evaluate workgroup needs in the subsequent years. For 2010-2011, the planned workgroups are:

Health Information Exchange Workgroup

- Serves as an advisory group to the Minnesota e-Health Connect program and will recommend subsequent revisions to strategic and operational plans for health information exchange
- Addresses ongoing issues related to health information exchange, including financial sustainability and the development of a long-term financial sustainability plan for health information exchange in Minnesota
- Provides policy development recommendations to the Advisory Committee related to health information exchange

Standards and Interoperability Workgroup

- Provides ongoing review and feedback on nationally-recognized standards, implementation specifications and certification criteria necessary to facilitate and expand the secure electronic

movement and use of health information among organizations in Minnesota
- Provides feedback to the National Health Information Technology Policy and Standards Committees on proposed criteria for meaningful use to reflect the needs of the Minnesota health care community
- Makes recommendations regarding the development of statewide strategic and operational plans for health information exchange related to technical infrastructure (including standards, implementation specifications and certification criteria)
- Provides recommendations to the Minnesota regional extension center on resources and actions that will help increase implementation of these standards to assist Minnesota providers in meeting the requirements of meaningful use

Adoption and Meaningful Use Workgroup
- Serves as a coordination point for implementation of meaningful use activities, (e.g., Regional Extension Center, Medicaid Meaningful Use)
- Identifies gaps, makes recommendations and provides guidance in Minnesota for meeting meaningful use requirements
- Makes recommendations and identifies resources for how to support providers not eligible for meaningful use incentives

Privacy, Legal and Policy Issues Workgroup
- Monitors and assesses policy and legal issues related to health information exchange
- Assesses privacy and security-related policies and makes recommendations on mechanisms to ensure compliance with state and federal requirements for health information exchange
- Supports providers and health care stakeholders in the implementation of privacy and security criteria established to qualify as a "meaningful user" of an EHR under the HITECH Act
- Ensures the privacy and security needs of Minnesota Medicaid, consumers, providers and health / health care stakeholders are fully considered in the development of the statutory framework for HIE and the development of informational/educational resources and tools

Outreach and Communication Workgroup
- Advises on the coordination of outreach and communication efforts statewide including coordination with the regional extension center and health information organizations in Minnesota and ARRA funded initiatives
- Advises the Minnesota e-Health Initiative communications and outreach activities in order to support health care providers and organizations achieve meaningful use and meeting the Minnesota interoperable electronic health record mandate in 2015

Coordination efforts

A variety of coordination efforts are underway to meet Medicaid and public health requirements for health information exchange and meaningful use criteria, align and develop connections with NHIN and federal care delivery systems (e.g., Veterans Administration, Indian Health Services, etc.). Goal Three of this plan focuses on creating synergies in this regard, and Part Four of this plan discusses plans for coordinating with these and other various groups.

Leveraging existing health information exchange capacity

Minnesota's approach to health information exchange leverages existing infrastructure around health information exchange. Investments will be made into one of the state's health information

organizations to assure continued expansion of this infrastructure to meet meaningful use and health information exchange requirements.

Project, program, and vendor Management

The Minnesota Department of Health (MDH) has existing policies and procedures around project, program, and vendor management – including information technology project management, financial management, risk management and mitigation, and contracting processes and procedures.

GOAL 2: Ensure trust and support for a statewide approach to health information exchange.

In order for Minnesota e-Health Connect program to be successful, it is important to ensure trust and support for health information exchange. The objectives and strategies for Goal Two provide additional detail on ways that the Minnesota e-Health Connect program will foster trust and support by a wide range of Minnesota stakeholders.

OBJECTIVE A: Engaging stakeholders
Engage stakeholders through an open and transparent governance structure.

OBJECTIVE A STRATEGY 1: Provide mechanisms for receiving public input on recommendations related to health information exchange.

The Minnesota e-Health Connect program will engage stakeholders, including consumers, through many public venues including but not limited to: public opportunities for engagement through the Minnesota e-Health Initiative Advisory Committee and Workgroup meetings; public hearings related to health information exchange oversight; open educational opportunities through Minnesota e-Health Initiative conference calls and the annual Minnesota e-Health Summit.

OBJECTIVE B: Adoption and effective use of electronic health records
Accelerate the adoption and effective use of electronic health records and other health information technology as prerequisites to enabling health information exchange.

OBJECTIVE B STRATEGY 1: Research and identify funding opportunities to assist those health / health care providers and settings not eligible for HITECH incentives in identifying available resources.

OBJECTIVE B STRATEGY 2: Establish and disseminate methods of standardization of clinical operations necessary for HIE.

OBJECTIVE B STRATEGY 3: Coordinate with Regional Extension Centers and the Minnesota Department of Health Office of Rural Health and Primary Care to ensure the Minnesota health / health care community is receiving the technical and informational support services to enable health information exchange within the state and across state lines.

While the primary focus on the Minnesota e-Health Connect program will focus on health information exchange, there is recognition that there are segments of providers that still have not adopted electronic health records due to various factors (e.g., lack of standards, lack of awareness / knowledge, financing challenges). The Minnesota e-Health Connect program, to the extent possible, will work with existing programs and projects to support the continued adoption and effective use of electronic health records to ensure readiness for health information exchange.

OBJECTIVE C: Protecting personal health information
Ensure that federal and state requirements and best practices to protect personal health information are utilized to maintain patient privacy and consumer confidence, while enabling secure access to all of the information necessary to deliver the best possible care.

OBJECTIVE C STRATEGY 1: Work through the Minnesota Privacy, Legal and Policy Workgroup to:

1. Review current laws related to health information exchange and identify potential updates; make recommendations needed to ensure that adequate privacy protections are in place
2. Monitor and respond to federal health information privacy and security activities, particularly those related to consumer preferences, and make recommendations to the Commissioner of Health on how standard operating procedures for consumer preferences should be addressed when national standards become available.
3. Identify the best approach to ensure patient privacy protections are maintained while enabling interstate health information exchange

The Minnesota Privacy, Legal and Policy Workgroup will conduct a policy analysis of existing Minnesota laws in the fall of 2010 and consider whether any additional updates are needed to ensure privacy and security of personal health information. In addition, the Minnesota Privacy, Legal and Policy Workgroup will work with the Standards and Interoperability Workgroup to analyze existing security standards to ensure that they are in place by health information exchange service providers and participating entities.

OBJECTIVE D: Achieving data quality and data integrity
Promote process interoperability to achieve data quality and integrity and encourage continuous data quality improvement.

OBJECTIVE D STRATEGY 1: Promote and disseminate recommendations and standard operating procedures to promote data uniformity and to promote timely, accurate, and completeness of data in all health and health care settings.

The Minnesota e-Health Connect program will work with stakeholder groups through the Minnesota e-Health Initiative to promote and disseminate guidelines that encourage process interoperability to achieve data quality and integrity. Example stakeholder groups targeted through the Minnesota e-Health Initiative include: associations such as the Minnesota Hospital Association, the Minnesota Medical Association, and the Regional Extension Center – Key Health Alliance, and Minnesota's Beacon project.

GOAL 3: Create synergies and leverage resources available through all state and federal programs to support health information exchange and the effective use of HIT to improve health and health care.

The objectives and strategies in goal three address the need for a coordinated approach for health information exchange, particularly with Medicaid, public health, other ARRA HITECH funded programs, and federal care delivery systems.

OBJECTIVE A: Integrated approach with Medicaid
Coordinate an integrated approach with Medicaid to enable information exchange and support monitoring of provider participation in HIE as required for the administration of Medicaid meaningful use incentives.

OBJECTIVE A STRATEGY 1: Coordination within government
Utilize the Minnesota HIE Steering Committee for state government HIE coordination, including coordination with Medicaid.

OBJECTIVE B STRATEGY 2: Coordination outside of government
Utilize the e-Health Advisory Committee and Workgroups to gather stakeholder input and advise the Department of Health and the Department of Human Services in HIT/HIE planning activities, including the statewide plan for health information exchange and the state Medicaid HIT plan.

Refer to Part 4 of the plan for more information about the Minnesota e-Health Connect's plans to develop an integrated approach with Medicaid.

OBJECTIVE B: Integrated approach with public health
Coordinate an integrated approach with state and local public health departments to enable information exchange.

OBJECTIVE B STRATEGY 1: Identify a feasible approach for developing public health information system specifications to achieve meaningful use requirements between public health and the private health care setting.

OBJECTIVE B STRATEGY 2: Identify opportunities to involve public health beyond meaningful use requirements.

The Minnesota e-Health Connect program will work within state and local health departments to identify opportunities for improved health information exchange capabilities. The Public Health Informatics Institute recently released a report that will assist state and local health departments in preparing for health information exchange and meaningful use of electronic health records. The report describes the vital role public health plays in health information exchange and the role health information exchange plays in improving population health.

Adapted from the report, *"The Value of Health IT in Improving Population Health and Transforming Public Health Practice: A Brief for Local and State Health Officials. November 2009. Public Health Informatics Institute,"* the Minnesota public health community plays an important role in health information exchange as:

- A source of clinical and other health information on clients seen by public health, or on specimens tested by public health
- A source of information on emergent issues in a community that could assist a clinician in diagnostic and treatment decisions
- A source of population-based analysis of individual disease data to provide improved trends to providers
- A recipient of reportable disease information
- A recipient of biosurveillance data reporting streams
- A provider of expert knowledge in population health improvement, and in clinical and treatment guidelines

Similarly, health information exchange plays a role in population health:

- A source of improved population health data collection
- The ability to promptly route and deliver to community clinicians emergent information from public health
- Assist public health in cross-jurisdictional collaboration on data collection and sharing

As an important stakeholder in health information exchange in Minnesota, the Minnesota e-Health Connect program will continue to engage the public health community by:

- Including public health in the Minnesota e-Health Initiative efforts, including the Minnesota e-Health Advisory Committee and Workgroup structure
- Publicizing opportunities for public health to contribute to and participate in training
- Demonstrating the value that public health brings to the discussions on health information exchange
- Supporting public health in developing a viable public funding strategy to ensure that state and local public health have the capacity to effectively participate

The report referenced above offers additional opportunities for public health at the community, public health agency, and national level and should be used as a reference for modernizing public health information systems in order to enable health information exchange.

OBJECTIVE C: Coordinating with other HITECH programs
Establish and coordinate common messages, training programs, and educational materials related to health information exchange through other programs funded by sections 3011, 3012, 3016, and 4201 of the HITECH Act.

OBJECTIVE C STRATEGY 1: Utilize the Minnesota e-Health Advisory Committee as the primary coordination mechanism for all HITECH funded programs, including sections: 3011, 3012, 3013, 3016, and 4201.

OBJECTIVE C STRATEGY 2: Disseminate lessons learned throughout Minnesota.

OBJECTIVE C STRATEGY 3: Coordinate with workforce training opportunities (e.g., 3016) across the state and in a uniform way to ensure that uniform educational resources are available across the state and across all health / health care providers, and support efforts to raise awareness of those resources.

The existing Minnesota e-Health Initiative structure provides a forum to coordinate activities of other funded programs of the HITECH act and to disseminate lessons learned from Beacon Communities and other HITECH programs.

OBJECTIVE D: Coordinating with state and federal programs and care delivery systems
Ensure a coordinated approach with other federally funded programs and federal care delivery systems, including the Department of Defense, Indian Health Services, Veterans Administration, Social Security Administration, Centers for Disease Control and Prevention, and Centers for Medicare and Medicaid Services.

OBJECTIVE D STRATEGY 1: Actively recruit representatives from state and federally funded programs and federal care delivery organizations to participate in the Minnesota e-Health Initiative's policy development activities and articulate program needs related to HIE.

OBJECTIVE D STRATEGY 2: Ensure that any sub-recipients of funds provided through the Section 3013 Cooperative Agreement Program clearly articulate their approach to ensure that HIE services are compatible with other federal programs and delivery systems.

The Minnesota e-Health Connect program recognizes the importance of coordinating health information exchange activities with other federally funded programs and federal care delivery systems. Stakeholder discussions have begun with various groups; the Minnesota e-Health Connect program will continue to recruit representatives to serve on workgroups related to health information exchange. In addition, requirements will be set for any sub-recipients of funding regarding necessary connections to federal programs and federal care delivery systems.

GOAL 4: Improve coordination of care, quality of care, and health outcomes and decrease health care costs in Minnesota through health information exchange and meaningful use of electronic health records.

As the ultimate goal of health information exchange is about achieving improved health-related outcomes, it is critical to identify strategic direction for how Minnesota will monitor progress towards outcomes and how the Minnesota e-Health Connect program can work in collaboration with other health care reform initiatives regarding efforts to evaluate the affect of health care reform on similar goals.

OBJECTIVE A: Monitoring outcomes
Develop and implement an evaluation plan to monitor progress towards process and outcome-based indicators

OBJECTIVE A STRATEGY 1: Develop a Minnesota framework for evaluation, in conjunction with the Office of the National Coordinator, for evaluation and monitoring the impact of health information exchange on coordination of care, quality of care and health outcomes.

OBJECTIVE A STRATEGY 2: Identify available data sources, data collection methods and analysis plans for key indicators.

OBJECTIVE A STRATEGY 3: Collect and analyze data and publish information to demonstrate linkages between investments in health information exchange, health care reform, and improved coordination of care, quality of care and health outcomes in Minnesota.

OBJECTIVE A STRATEGY 4: Work collaboratively with other health care reform initiatives in Minnesota to demonstrate program effectiveness in the broader context of health reform.

The Minnesota e-Health Connect program will develop an evaluation framework and logic model, including potential data sources to monitor and track progress towards achieving the goals of Minnesota's health care reform efforts: improved coordination of care, quality of care, and health outcomes and decreased health care costs. The Minnesota e-Health Connect will coordinate with other relevant health care reform initiatives to coordinate evaluation efforts whenever possible and will participate with any national evaluation efforts.

ONGOING ASSESSMENT, EVALUATION, AND ADJUSTMENTS TO THE MINNESOTA APPROACH

Recognizing the importance of ongoing assessment, evaluation, and adjustments to the Minnesota approach to health information exchange, Minnesota has launched several efforts that will provide data sources for the evaluation of health information exchange activities in Minnesota.

Utilization of Assessment Tools

Two surveys, tied to Minnesota's Health Reform activities, will provide data sources for future assessment and evaluation of Minnesota's approach to health information exchange.

Minnesota Community Measurement Survey
The Minnesota Community Measurement Survey focuses on health information technology adoption and use at Minnesota clinics, based on the National Quality Forum's framework for measuring health information technology and studies whether medical groups are using health information technology to electronically write prescriptions, manage patient care, offer electronic patient visits and electronic appointment scheduling.

American Hospital Association Survey
As a requirement to Minnesota's Health Reform activities, the Minnesota Hospital Association will be adding Minnesota-specific questions to the national American Hospital Association Survey implemented in 2010.

Monitoring Key Performance Measures

The Minnesota e-Health Connect program will develop an evaluation plan that will track a variety of performance measures on an annual basis, as required by ONC. The Minnesota Operational Plan for Health Information Exchange identifies initial performance measures and their potential data sources to report on performance measures.

PART 4: COORDINATION WITH STATE AND FEDERALLY-FUNDED ACTIVITIES

In order to be successful in achieving statewide health information exchange, Minnesota recognizes the importance of coordination and collaboration of federal activities in order to achieve a more cohesive effort, minimize redundancies, and increase synergies. Below are current and future federal activities to coordinate with:

- Medicaid services
- Medicare and federally-funded state programs
- Federal health and health care programs
- Federal American Recovery and Reinvestment Act programs

COORDINATION WITH THE MINNESOTA DEPARTMENT OF HUMAN SERVICES (MINNESOTA MEDICAID)

Over the past six years, the Minnesota e-Health Initiative has built a strong history of close coordination with the Minnesota Medicaid program, including the following:

- Pursuant to Minnesota Statutes section 62J.495, the Medicaid Director serves as the Department of Human Services' representative on the Minnesota e-Health Advisory Committee.
- After the Department of Human Services joined the Minnesota Health Information Exchange (MN HIE) as a founding partner, the agency formed the MN HIE State Steering Committee. Included among the members of the MN HIE State Steering Committee is the State Government Health Information Technology Coordinator, the State Medicaid Director, the State Medicaid Health Information Technology Coordinator, and staff from the Office of Health Information Technology.
- The Department of Human Services is soliciting broad stakeholder input on the requirements for meaningful use through the Minnesota e-Health Initiative's Exchange and Meaningful Use Workgroup and plans to enlist the group to provide feedback on the development of the State Medicaid HIT plan in summer of 2010.

These efforts will be continued and will serve as the foundation for continued coordination through out the Minnesota e-Health Connect program.

Minnesota's State Medicaid Health Information Technology Plan (SMHP)

Minnesota's State Medicaid HIT Plan (SMHP) will accelerate the development of Medicaid's capacity to facilitate care coordination and improved quality and efficiency and will be consistent with the broader statewide vision for health information exchange. To facilitate an integrated approach to HIT in Minnesota the Statewide HIT Plan and SMHP will be aligned and consistent.

OHIT and DHS are leveraging the existing organizational infrastructure and common stakeholder forums of the Minnesota e-Health Initiative and the e-Health Advisory Committee to ensure the integration between the Minnesota e-Health Connect Program and the requirements of Section 4201 of HITECH related to Medicaid Incentive Payments. DHS and MDH worked collaboratively to produce a draft implementation strategy for the Medicaid Incentive Payments that leverages existing expertise from both agencies. To support the ongoing joint efforts of DHS and MDH and ensure Minnesota's Medicaid HIT Plan and Strategic and Operational Plans for HIE are coordinated an interagency team has been established and consists of the State Government HIT Coordinator, the

Deputy Director of OHIT, the Minnesota Medicaid Director, and the Minnesota Medicaid HIT Coordinator.

Alignment with Minnesota Medicaid Information System

The Minnesota e-Health Connect program will work with the Minnesota Medicaid program to ensure alignment of architectures (i.e., Minnesota Medicaid Management Information System) for enabling health information exchange.

The Minnesota Medicaid Management Information System (MMIS) is a legacy claims processing system in a mainframe environment with web-based data gathering applications for health care providers. Examples of health information technology applications are pay-for-performance programs for diabetes and cardiovascular care; and the following applications developed with Medicaid Transformation Grant funding: Children's Mental Health Outcome Measures; automated authorization of services; and yet to be released functionality to provide medication history, inpatient hospital stays and emergency department visit information regarding Minnesota Health Care Program members. MMIS' back-end is used to supply the Medicaid medication history to the Minnesota Health Information Exchange (MN HIE). Minnesota anticipates changes will be needed to MMIS to support future health information exchange transactions and to position Minnesota for better measurement and monitoring of health outcomes for Medicaid recipients.

COORDINATION WITH MEDICARE AND FEDERALLY FUNDED, STATE BASED PROGRAMS

Minnesota Department of Health staff have established opportunities for coordination and collaboration with Medicare and other federally funded state programs. Below are some of the federally funded, state-based programs including information on how they may benefit from e-Health in Minnesota and how Minnesota e-Health may be able to coordinate with them in the future.

Minnesota Department of Health Programs

Epidemiology and Laboratory Capacity Cooperative Agreement Program

The Minnesota Department of Health plans to identify key resources in the Epidemiology and Laboratory Capacity Cooperative Agreement Program to identify coordination activities related to health information exchange and meaningful use.

Assistance for Integrating the Long Term Care Population into State Grants to promote Health Information Technology

The Minnesota e-Health Initiative recognizes the need for integrating the long term care population into state grants to promote health information technology. Minnesota's long term care community has been actively engaged through the Minnesota e-Health Advisory Committee and plans to continue to do so in the future. In addition, a special section of the 2008 Minnesota e-Health State Plan is designated for long-term care for future coordination efforts.

HIV Care Grant Program Part B States/Territories Formula and Supplemental Awards/AIDS Drug Assistance Program Formula and Supplemental Awards (HRSA)

The mission of the Minnesota Department of Health STD and HIV Section is to prevent death and disability from HIV and other sexually transmitted diseases, particularly among populations with a disproportionate burden of disease. Surveillance of HIV and AIDS information is facilitated by a couple of disparate systems, but with the Department's conversion to the Minnesota Electronic Disease Surveillance System (MEDSS), more data collection will be done electronically in the future. The MDH Office of Health Information Technology is engaged in the project team at MDH.

Maternal and Child Health State Systems Development Initiative Programs (HRSA)
Minnesota has focused its Social Security Disability Insurance resources on building data capacity for the statewide Maternal and Child Health (MCH) and the Minnesota Children with Special Healthcare Needs (MSCHN) programs. Minnesota has continued to make progress in regard to data linkage areas outlined in the federal program guidance.

In addition, the Minnesota Department of Health has established the Interoperable Child Health Information Systems (ICHIS) project, which aims to improve the quality, safety, and efficiency of health services statewide for Minnesota's children through the enhanced use and interoperability of child health information systems in Minnesota. The project is establishing a department-wide, coordinated approach to the analysis, planning and business case development activities that will enable thoughtful and efficient progress towards creating greater interoperability across child health information systems within MDH. The project has involved several program areas within MDH: vital records, newborn screening and follow-up, birth defects, immunizations, the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), blood lead screening, legal staff, and information technology staff. In addition, project staff will be developing and maintaining relationships with key partners and stakeholders external to MDH in order to connect these internal activities with relevant external health information exchange activities. The MDH Office of Health Information Technology has been engaged in the ICHIS project and plan to continue staying connected in the future.

Minnesota Office of Rural Health and Primary Care (HRSA)
The Minnesota Department of Health Office of Rural Health and Primary Care (ORHPC), as the federally designated State Office of Rural Health and the Primary Care Office for Minnesota, supports access to quality primary and emergency health care in rural and underserved urban communities through coordination of federal and state resources.

The ORHPC and Office of Health Information Technology (OHIT) will regularly coordinate resources to ensure that rural and safety net providers achieve meaningful use and exchange of health information and to leverage other federal and state resources including:

- Medicare Rural Hospital Flexibility Program (HRSA)
- Small Hospital Improvement Program (HRSA)
- Minnesota state-funded grants and loans: Electronic Health Record Revolving Loan Program, Community Clinic Grant Program, Rural Hospital Transition Planning Grant Program, and Rural Hospital Capital Improvement Program.
- The Minnesota Telehealth/e-Health Broadband Initiative.

ORHPC and OHIT will also collaborate on the following activities:

- Outreach and communication to providers through ORHPC electronic communications vehicles will regularly include updates on MN e-Health Initiative and OHIT activities.
- Coordination of MN e-Health Initiative Outreach and Communications work group activities and products

- Coordination of the Minnesota Rural Health Conference and the Minnesota e-Health Summit.
- Support the Section 3012 Regional Extension Center for Minnesota-North Dakota in its work with Minnesota's safety net providers in achieving adoption and meaningful use.
- Collaboration with the MN Department of Human Services to develop and implement Minnesota's Medicaid HIT incentive program under HITECH Act, Section 4012

Minnesota Department of Health Office of Emergency Preparedness

The MDH Office of Emergency Preparedness (OEP) coordinates statewide emergency preparedness activities and assists MDH staff, local public health agencies, hospitals, health care organizations, tribes and public safety officials in their efforts to plan for, respond to and recover from public health emergencies. OEP administers a variety of programs including:

- An emergency preparedness grant and a pandemic influenza grant from the Centers for Disease Control and Prevention. Critical areas of these grants include disease surveillance, public health laboratory services, local and statewide planning, information systems technology, communications, and education and training.
- The Healthcare System Preparedness Program funded by a grant from the Health Resources and Services Administration which funds hospital and health system preparedness planning efforts at the state level and in eight regions of the state.
- Administering federal grants to local public health agencies, American Indian Tribes and hospitals to enhance public health and health care emergency preparedness.
- The Health Alert Network, which alerts local public health agencies, clinicians, hospitals and other partners in Minnesota's health care system to events which may threaten the health of Minnesotans.
- The Minnesota system for Tracking Resources, Alerts, and Communications (MNTrac), a database-driven web application designed to track bed, pharmaceutical and resource availability from hospitals and provide for allocation of resources to support surge capacity needs. Hospital bed diversion status, emergency event planning, emergency chat, and alert notifications are supported in real time using MNTrac.
- Minnesota's Strategic National Stockpile (SNS). The SNS would allow for the rapid distribution of vaccines and other health care supplies during a public health emergency.

Given recent emphasis on emergency preparedness nationwide, OEP could benefit greatly from more real time health information exchange. The MDH Office of Health Information Technology recognizes the benefit to include emergency preparedness partners and plans to seek their attention as relevant opportunities arise.

Minnesota Department of Human Services Programs

State Mental Health Data Infrastructure Grants for Quality Improvement (SAMHSA)

A core function of the Adult Mental Health Division at the Minnesota Department of Human Services is to oversee the implementation of the Mental Health Act by supervising mental health services offered to 87 counties through 525 private practitioners in community mental health centers. All are currently working on implementation of electronic health records, but a common set of standards has not yet been defined. The Adult Mental Health Division currently depends on multiple fragmented data sources and would benefit from health information exchange by being able to access information in real-time as well as access to additional clinical information they do not currently have for program evaluation and improving clinical outcomes. The Adult Mental Health

Division staff are aware of the Minnesota e-Health Initiative and have been invited to participate in planning activities around exchange and meaningful use.

Other Programs

Emergency Medical Services for Children Program (HRSA)
Timely access to pediatric specialty services in the acute stages of illness and/or injury is critical to reducing poor pediatric outcomes. When the medical needs of a child are beyond the resources available at a receiving facility, transfer of the child to a facility with the appropriate resources is critical. The Emergency Medical Services for Children (EMSC) program in Minnesota is a collaborative effort of the Emergency Medical Services Regulatory Board (EMSRB), Children's Hospitals and Clinics of Minnesota, and the University of Minnesota. The main goal of EMSC is to improve pediatric emergency care in Minnesota. The Minnesota e-Health Connect program aligns with EMSC goals by developing the network of communications necessary for pediatric specialty centers to obtain a complete health history of a child they may be receiving in an emergency situation. Real-time health information exchange would benefit EMSC by improving the pediatric emergency care infrastructure in Minnesota.

PARTICIPATION WITH FEDERAL HEALTH AND HEALTH CARE DELIVERY PROGRAMS

The Minnesota e-Health Connect program realizes the importance of creating an interoperable electronic health information network infrastructure that includes federal care delivery organizations. The Minnesota e-Health Initiative Advisory Committee has involved federal care delivery organizations as a part of their workgroups and activities for several years. Most recently, the Veterans Administration (VA) has participated on the Minnesota e-Health Initiative Exchange and Meaningful Use Workgroup.

The recent activity of the VA and Kaiser Permanente illustrates the growing needs and opportunities presented by private health systems interoperating with federal care delivery organizations to improve health care quality. The VA, the Department of Defense (DOD) and Indian Health Services (IHS) have been working collaboratively to develop, implement and effectively use health information technology to provide high quality seamless medical care to the populations they serve. The ability to provide interoperable health information from the public to the private sector and from the private to the public sector is an important component of effective use of electronic health records to help provide the highest quality of care.

The following is a brief description of the activities of the VA, DOD and IHS and a depiction of how Minnesota Health-e Connect can strategically connect and plan to interoperate with these federal care delivery organizations.

Veterans Administration and Department of Defense Joint Projects

The Veterans Administration (VA) and the Department of Defense (DOD) have identified six objectives for achieving full interoperability in compliance with applicable standards by September 2009. The VA and DOD have achieved planned capabilities for three of the objectives: refine social history data, share physical exam data, and demonstrate initial network gateway operation. The

departments have partially achieved planned capabilities for the remaining objectives, with some additional work needed.

Leaders of the VA and the DOD veteran and military health systems are committed to pursuing information systems that allow them to exchange health information more effectively. They have been working to develop a common health information infrastructure and architecture comprised of standardized data, communications, security, and high performance health information systems. The VA and DOD have several joint projects focused on sharing electronic health record information.

The Veteran's Administration VistA EHR System

The VA will continue to utilize the VistA EHR system currently in place until the Health***e***-VistA system is implemented and the legacy VistA system is phased out. The legacy VistA system supports both ambulatory and inpatient care and includes a graphical user interface for clinicians known as the Computerized Patient Record System (CPRS) that allows review and updates of patients electronic medical record. This includes the ability to place orders, including those for medications, special procedures, X-rays, nursing interventions, diets, and laboratory tests. In addition, VistA includes computerized order entry, bar code medication administration, electronic prescribing and clinical guidelines. Additional key information regarding the VistA system includes:

- VistA system is public domain software, available through the Freedom of Information Act directly from the VA website, or through a growing network of distributors
- VistA is a collection of about 100 integrated software modules
- VistA was developed using the M or MUMPS language/database
- The VA currently runs a majority of VistA systems on the proprietary InterSystems Caché version of MUMPS, but an open source MUMPS database engine, called GT.M, for Linux and Unix computers has also been developed
- VA hospitals using VistA has achieved the qualifications for HIMSS stage 7, the highest level of electronic health record integration and a non-VA hospital using VistA is one of 42 US hospitals that has achieved HIMSS stage 6
- VistA implementations have been deployed (or are currently being deployed) in non-VA health care facilities in Texas, Arizona, Florida, Hawaii, Oklahoma, West Virginia, California, New York, and Washington, D.C

Minnesota e-Health Connect program will continue to engage representatives from the VA to ensure consideration of the VA and the populations it serves. It is also important to continue to research and develop relationships at the state and federal level of the VA to prepare and plan for developing an interoperable health care network.

Department of Defense (DOD)

In addition to the current activities between the Veteran's Administration (VA) and the Department of Defense (DOD), the DOD has had several health information technology projects of significance. One project, in particular, is the DOD's EHR AHLTA Version 3.3. As a CCHIT certified product, AHLTA has been tested and passed inspection of 100 percent of a set of criteria for:

- Functionality (ability to create and manage electronic records for all patients, as well as automating workflow in a physician's office)
- Interoperability (a first step in the ability to receive and send electronic data to other entities such as laboratories)

- Security (ability to keep patients' information safe)

DOD and VA have made tremendous progress in their ability to share electronic health information. The Bi-Directional Health Information Exchange (BHIE) mentioned above allows providers at all military treatment facilities to access BHIE directly from AHLTA, eliminating the requirement for login to a separate system to view data from the VA. This interface also allows VA providers to access information from all DOD health care facilities. Expanded use of BHIE coupled with the progress made in real-time bidirectional exchanges of computable clinical information between DOD's Clinical Data Repository and the VA's Health Data Repository brings the DOD and VA closer to the ultimate goal of complete electronic interoperability. The success of their collaboration has placed them firmly at the forefront of the national effort to share electronic health information.

The Minnesota e-Health Connect program is interested in understanding the possibilities and opportunities to participate with the DOD as they continue to work towards interoperability and the secure exchange of health information. This will be critical to be able to not only understand the issues connected with the populations served by the DOD but determine the benefits of providing public and private sector interoperable health information systems.

Indian Health Services

Indian Health Services (IHS) was supported in the American Recovery and Reinvestment Act of 2009 by the commitment of $590 million to the IHS for facilities and sanitation projects, maintenance and improvement, medical equipment, and health information technology. The statute outlines two focus areas for health information technology and committed $85 million to telehealth and related infrastructure for health information technology. IHS has assigned representatives to participate in the Minnesota e-Health Initiative Exchange and Meaningful Use Workgroup in order to help coordinate related activities.

COORDINATION WITH OTHER FEDERAL ARRA PROGRAMS

Minnesota has a rich tradition of collaboration, and many community organizations have been leaders in working on various aspects of health information exchange in Minnesota. Through the Minnesota e-Health Initiative, established offices and activities of the Minnesota Department of Health, and the broad spectrum of involved organizations and organizations, the Minnesota e-Health Connect program will coordinate efforts with other ARRA programs funded under HITECH. Listed below are HITECH programs that are funded in Minnesota and the e-Health Connect Program's plans too coordinate with them.

Coordination with Key Health Alliance (3012: Regional Extension Center)

The partners of the Key Health Alliance (KHA, comprised of Stratis Health, the National Rural Health Resource Center, and The College of St. Scholastica), have a long history of providing assistance and support in the adoption and effective use of health information technology, focusing on the needs of the rural and underserved. KHA is committed to utilizing the existing e-Health infrastructure in Minnesota for planning and feedback, including the e-Health Advisory Committee

and its workgroups. In addition, KHA will form a Minnesota Council composed of a small group of organizations pivotal to Regional Center success; and this group includes MDH. These efforts will help ensure alignment, coordination, and efficiency in resources across the Section 3012 and 3013 programs in Minnesota. The MDH Office of Health Information Technology and the Minnesota e-Health Initiative commit to close coordination with the KHA.

Coordination with Research and Community programs (3011)

Mayo Clinic in Minnesota has been awarded a Strategic Health IT (SHARP) research grant on secondary use of electronic health record data. Mayo's role will be to research and advance methods for using electronic medical records for medical research, while also maintaining privacy and security. The research will involve interdisciplinary efforts among researchers, health care providers and the technology industry. The goal is to integrate findings into medical practice quickly across the nation. The Minnesota e-Health Connect program will continue to stay engaged in the development of this project and will play a collaborative role whenever possible.

Their project will generate a framework of open-source services that can be dynamically configured to transform EHR data into standards-conforming, comparable information suitable for large-scale analyses, inferencing, and integration of disparate health data. They will apply these services to phenotype recognition (disease, risk factor, eligibility, or adverse event) in medical centers and population-based settings. Finally, the grant will examine data quality and repair strategies with real-world evaluations of their behavior in Clinical and Translational Science Awards (CTSAs), health information exchanges (HIEs), and Nationwide Health Information Network (NHIN) connections. The Minnesota Department of Health will be serving on their advisory team as a venue to ensure coordination of efforts.

Coordination with Education and Training (3016)

The Minnesota e-Health Connect program will work with organizations funded to develop and provide education and training. The University of Minnesota was awarded a grant in the University-based Training Programs funding category; and Minnesota's Normandale Community College received funding in the community college Consortia funding category.

Coordination with EHR – Incentives Program(4201)

Under the HITECH act, funding is available to certain eligible professionals and hospitals, as described below. Funds will be distributed through Medicare and Medicaid incentive payments to eligible professionals, physicians, and hospitals who are "meaningful EHR users." CMS expects that under Medicare, "meaningful EHR users" would demonstrate meaningful use of a certified EHR, the electronic exchange of health information to improve the quality of health care, and reporting on clinical quality and other measures using certified EHR technology. Medicaid programs will determine their own requirements in line with the Medicaid-related provisions of the Recovery Act. Funds will be distributed through Medicare and Medicaid incentive payments to eligible professionals and hospitals who are "meaningful EHR users." The Minnesota e-Health Connect program will coordinate with both incentive programs to facilitate a smooth transition to achieving meaningful use in Minnesota.

Coordination with Beacon Community Program (3011)– Mayo Clinic

The 11 county region of Southeastern Minnesota will collaborate in the adoption and meaningful use of HIT standards and the exchange of health information to improve health care, with metrics in the domain of childhood asthma and diabetes mellitus. Central to this effort is the proactive engagement of all 11 county public health departments who will operate as a consortium to improve the linkage of local public health services with community providers through health information exchange. The Minnesota e-Health Connect program will continue to stay engaged in the development of this project and will play a collaborative role whenever possible. The Minnesota Department of Health will serve on the Governance Board for the Beacon Community project.

PART 5: SUMMARY OF CALL TO ACTION

Secure and meaningful health information exchange of electronic health records provides a historic opportunity to improve the continuity, quality, and safety of health care in Minnesota. The Minnesota Strategic Plan for Health Information Exchange builds upon the previous six-year effort of the Minnesota e-Health Initiative and provides a vision to advance patient-centered information exchange that will:

- Provide Minnesotans with access to coordinated care each time they access the health / health care system, across the continuum of care
- Elevate the health of all Minnesotans by facilitating essential communications that support improvements in individual, community and public health
- Ensure that adequate protections are in place to maintain patient privacy, while enabling secure access to all of the information necessary to deliver the best possible care
- Empower Minnesotans with the information they need to work with their providers to achieve the best possible health outcomes
- Serve the citizens of Minnesota as a public good

Achieving the Minnesota health information exchange vision requires broad stakeholder engagement, support and action by the greater health / health care community to realize the benefits of health information exchange. ***The health / health care community can enable readiness for electronic health information exchange by:***

- Adopting and effectively using certified electronic health record systems per HITECH and Meaningful Use requirements
- Adopting nationally recognized standards to enable readiness for health information exchange
- Connecting to state certified health information exchange organizations and health data intermediaries
- Signing a comprehensive, multi-party trust agreement which provides the framework to support the secure, interoperable exchange of health data (e.g., Data Use and Reciprocal Support Agreements [DURSA])
- Utilizing resources available through HITECH for technical assistance, workforce training, and evaluation

The health / health care community can implement regular, ongoing health information exchange between stakeholders by:

- Monitoring and implementing established best practices around health information exchange
- Participating in federal and state activities related to health information exchange
- Contributing to continuous improvement efforts by evaluating efforts and sharing successes and lessons learned
- Recognizing that the value of the collection and exchange of population health information is the opportunity to improve the health of communities and to reduce health disparities in at-risk populations

PART 6: APPENDICES

Appendix A: Glossary of Key Terms

American Recovery and Reinvestment Act (ARRA)
An economic stimulus package enacted by Congress in February 2009 and provides funding to states for a variety of opportunities, including health information technology funding.

Direct health information exchange
The electronic transmission of health-related information through a direct connection between the electronic health record systems of health care providers without the use of a health data intermediary.

Health information exchange (HIE)
The electronic transmission of health-related information between organizations according to nationally recognized standards.

Health information exchange service provider
A health data intermediary or health information organization that has been issued a certificate of authority by the Commissioner of Health under section 62J.4981.

- **Health information organization (HIO)**: An organization that oversees, governs, and facilitates the exchange of health-related information among organizations according to nationally recognized standards.
- **Health data intermediary (HDI)**: an entity that provides the infrastructure to connect computer systems or other electronic devices used by health care providers, laboratories, pharmacies, health plans, third-party administrators, or pharmacy benefit managers to facilitate the secure transmission of health information, including pharmaceutical electronic data intermediaries as defined in 62J.495. This does not include health care providers engaged in direct health information exchange.

Health Information Technology for Economic and Health (HITECH) Act
Part of the American Recovery and Reinvestment Act of 2009, the HITECH act advances the use of health information technology requiring government to take a leadership role in developing standards that allow for the nationwide electronic exchange and use of health information to improve quality and coordination of care and investing funding in health information technology infrastructure and Medicare and Medicaid incentives to encourage doctors and hospitals to use health information technology electronically to exchange patients' health information.

Nationwide Health Information Network (NHIN)
A set of policies, standards and services based on trust fabric that enable the internet to be used for secure and meaningful exchange of health information to improve health and health care.

Interoperability
Interoperability of Electronic Health Records (EHR) systems in Minnesota means the ability of two or more EHR systems or components of EHR systems to exchange information electronically, securely, accurately and verifiably, when and where needed. It is comprised of "technical," "semantic" and "process" interoperability, and the information exchanged includes transactions and standards as defined by the Minnesota Commissioner of Health.

Appendix B. Minnesota e-Health Initiative Advisory Committee Charge

Vision

The Minnesota e-Health Initiative vision is *to "accelerate the use of health information technology to improve health care quality, increase patient safety, reduce health care costs and enable individuals and communities to make the best possible health decisions."*

Approach

Minnesota is experiencing a transformation in the uses of electronic health records and other health information technology. Guiding this transformation is the Minnesota e-Health Initiative - a private/public collaboration to accelerate the adoption and use of health information technology as a powerful tool to improve health care quality, increase patient safety, reduce health care costs and improve public health. The Minnesota e-Health Initiative is distinctive in its broad support and comprehensive vision, which is focused on consumers and provides value to people and communities. The Minnesota e-Health Advisory Committee makes recommendations to the Commissioner of Health on policies and strategies that:

- **Empower Consumers** with information to make informed health and medical decisions;
- **Inform and Connect Health care Providers** so they have access to the information and decision support they need;
- **Protect Communities** with accessible prevention resources, and rapid detection and response to community health threats; and
- **Enhance the Infrastructure** necessary to fulfill the e-Health vision.

Statutory Authorization

The Minnesota e-Health Advisory Committee will perform the work assigned to the e-Health Advisory Committee as established by Minnesota Statutes, section 62J.495.

Committee Charge (Updated September 2009)

The e-Health Advisory Committee shall provide recommendations to the Commissioner of Health on achieving the vision of the e-Health Initiative. Consistent with its statutory responsibilities, the e-Health Advisory Committee will support the implementation of the statewide implementation plan for interoperable electronic health records (EHRs) systems primarily by:

- Developing policies and identifying practical tools and information resources to ensure the:
  - Adoption and effective use of interoperable EHR systems, including adequately trained staff, clinical decision support systems, quality improvement and population health.
  - Identification of specific standards for sharing and synchronizing patient data across interoperable EHR systems and across the continuum of care.
  - Adoption and implementation of electronic prescribing statewide by all health care providers, group purchasers, prescribers, and dispensers.
- Coordinating with national HIT Activities, including:
  - Update the statewide implementation plan to be consistent with the updated Federal HIT Strategic Plan released by the Office of the National Coordinator in accordance with the Health Information Technology for Economic and Clinical Health Act (HITECH).
  - Monitor national activity related to health information technology and engage in activities that will ensure that the needs of the Minnesota health care community are adequately and efficiently addressed, such as
    - Coordination of statewide responses to proposed federal health information technology regulations and guidelines.
    - Reviewing and advising on activities related to the implementation of HITECH and other HIT related provisions of American Recovery and Reinvestment Act (ARRA), including but not limited to:

- Regional HIT Extension Centers funded under Section 3012 of the HITECH Act to supply Minnesota providers with the assistance they need to meet meaningful use requirements.
- The State Health Information Exchange Cooperative Agreement funded by Section 3013 to expand the secure, electronic movement and use of health information among organizations according to nationally recognized standards.
- Initiatives to expand the workforce of information technology professionals in health care funded by Section 3016.

  • Assisting the Office of the National Coordinator in reporting back to Congress on the status of implementation in Minnesota, including assessment information on EHR adoption rates, barriers to adoption and meaningful use, and lessons learned in Minnesota.

- Advising as needed on special projects and activities including:
  - Ensuring strong privacy protections that safeguard patient's health information and increase consumer confidence during the identification of standards and implementation of electronic prescribing policies.
  - Assessing the status of EHR adoption, effective use and interoperability in private and public settings.
  - Implementing and continuously refining the Minnesota e-Health Communications Plan, with emphasis on engaging professional and trade associations.
  - Accelerating the adoption of EHRs in all health care delivery settings whether or not they are eligible for existing incentives programs (ie. long term care & public health)
  - Engaging consumers in e-health.
  - Other related topics and issues as identified in the statewide implementation plan or as requested by the Commissioner of Health.

Expectations of Members

- To attend quarterly meetings of the e-Health Advisory Committee. Committee meetings will be 3 - 4 hours in length. Appointed members may contact the designated alternate member to attend on their behalf for up to two Advisory Committee meetings each year.
- To participate in at least one workgroup, actively contributing perspective and expertise in approximately 1 – 2 in-person workgroup meetings per quarter and 2-3 conference calls for 1 to 1.5 hours per quarter. Workgroup meetings will be 2-3 hours in length and scheduled as needed.
- To bring the perspective of the stakeholder group you were selected to represent to all committee and workgroup discussions and decisions.
- To keep the statewide interests of the Initiative foremost in your decisions and recommendations.
- To review meeting materials ahead of time and be prepared to contribute clear and focused ideas for committee discussion.

Timeline 2009 -2010 (Updated August 2009)

- **September 2009 – June 2010**: Quarterly e-Health Advisory Committee meetings.
- **September 2009 – June 2010**: 2 – 4 Advisory Committee Workgroup meetings per quarter.
- **January 15, 2010**: Commissioner of Health provides an annual report to the Minnesota Legislature outlining progress to date in implementing a statewide health information infrastructure and recommending future projects. This annual report will include a section on the identification, adoption and refinement of uniform standards for sharing and synchronizing patient data across systems.
- **June 2010**: Proposed 6th annual Minnesota e-Health Summit and update on progress.

Committee Members:
The Advisory Committee consists of representatives of consumers, academics, research, health plans, hospitals, local public health, nurses, physicians, community clinics/FQHCs, long term care, clinic managers, laboratories, pharmacists, health care purchasers/employers, expert in clinical guideline development, quality improvement organizations, health-system CIOs, HIT vendors, professionals with expert knowledge in HIT, state agencies, and Minnesota exchange organizations.

Appendix C. MN e-Health Advisory Committee Members (2009-2010)

Walter Cooney, JD Advisory Committee Co-Chair Executive Director Neighborhood Health Care Network Representing: Community Clinics and Federally Qualified Health Centers	**Jennifer Lundblad, PhD** Advisory Committee Co-Chair President and Chief Executive Officer Stratis Health Representing: Quality Improvement Organization
Alan Abramson, PhD Senior Vice President, IS&T and Chief Information Officer HealthPartners Representing: Health Plans	**Barry Bershow, MD** Vice President, Quality Fairview Health Services Representing: Expert in Clinical Guideline Development
Laurie Beyer-Kropuenske, JD Director, Information Policy Analysis Division Department of Administration Representing: Minnesota Department of Administration	**RD Brown** Consumer Advocate Representing: Consumers
Angie Franks Senior Vice President of Sales & Market Dev. Healthland Representing: Vendors of Health Information Technology	**Tim Gallagher** Vice President of Pharmacy Operations Astrup Drug, Inc. Representing: Pharmacists
Raymond Gensinger, Jr., MD Chief Medical Information Officer Fairview Health Services Representing: Professional with Expert Knowledge of Health Information Technology	**John Gross** Director, Health Care Policy Minnesota Department of Commerce Representing: Minnesota Department of Commerce
Maureen Ideker Representing: Small and Critical Access Hospitals	**Julie Jacko, PhD** Director, The Institute for Health Informatics University of Minnesota Representing: Academics and Clinical Research
Paul Kleeberg, MD Clinical Director Key Health Alliance Representing: Physicians	**Marty LaVenture, PhD** Director, Center for Health Informatics Minnesota Department of Health Representing: Minnesota Department of Health
Bobbie McAdam Director, e-Business Medica Representing: Health Plans	**Walter Menning** Vice Chair, Information Services Mayo Clinic Representing: Health System Chief Information Officers
Charlie Montreuil Vice President, Enterprise Rewards and Corporate Human Resourses Best Buy Representing: Health Care Purchasers and Employers	**Brian Osberg** Assistant Commissioner Minnesota Department of Human Services Representing: Minnesota Department of Human Services

David Osborne Director of Health Information Technology/ Privacy Officer Volunteers of America Representing: Long Term Care	**Joanne Sunquist** Chief Information Officer Hennepin County Medical Center Representing: Large Hospitals
Mary Wellik Director Olmsted County Public Health Services Representing: Local Public Health	**Bonnie Westra, RN, PhD** Assistant Professor University of Minnesota, School of Nursing Representing: Nurses
John Whisney Director of Ridgeview Clinics Ridgeview Medical Center Representing: Clinic Managers	**Tamara Winden** Health Informatics Specialist Allina Hospitals and Clinics Representing: Laboratories
Marty Witrak, PhD, RN Professor, Dean, School of Nursing College of St. Scholastica Representing: Academics and Research	**Cheryl M. Stephens, MBA, PhD** Executive Director Community Health Information Collaborative Ex-Officio Exchange Liaison: CHIC
Michael Ubl Executive Director Minnesota Health Information Exchange Ex-Officio Exchange Liaison: MN-HIE	

Minnesota e-Health Initiative Advisory Committee Designated Alternates

Megan Daman, RN, MA Nurse Manager University of Minnesota Medical Center Alternate Representing: Nurses	**Becki Hennings** Medical Laboratory Technician St. Michaels's Hospital Alternate Representing: Laboratories
John Hofflander Senior Vice President and Chief Information Officer PreferredOne Alternate Representing: Health Plans	**Martha LaFave** Health Fund Coordinater Internaitonal Union of Operating Engineers Local 49 Alternate Representing: Health Care Purchasers & Employers
Melinda Machones, MBA Health IT Consultant Alternate Representing: Professional with Expert Knowledge of Health Information Technology	**Justin McMartin** Government Coordinator LSS Systems Alternate Representing: Vendors of Health IT
Julie Ring Director Local Public Health Association of Minnesota Alternate Representing: Local Public Health	**Phil Riveness** Associate Administrator Noran Neurological Clinic Alternate Representing: Clinic Managers
Rebecca Schierman, MPH Manager, Quality Improvement Minnesota Medical Association Alternate Representing: Physicians	**Peter Schuna** Director of Strategic Initiatives Pathway Health Services Alternate Representing: Long Term Care
Mark Sonneborn Vice President, Information Services Minnesota Hospital Association Alternate Representing: Hospitals	**Kenneth Zaiken, PMP** Consumer Advocate Alternate Representing: Consumers

Appendix D. Minnesota e-Health Standards & Interoperability Work Group Charge (2009-2010)

Workgroup Charge

- Identify and recommend nationally recognized standards, implementation specifications and certification criteria necessary to facilitate and expand the secure electronic movement and use of health information among organizations in Minnesota
- Review and comment on standards, implementation specifications and certification criteria related to meeting the requirements of "meaningful use" and recommend resources and actions that will help increase implementation of these standards.
- Review and comment on standards related to the development and implementation of statewide strategic and operational plans for health information exchange [Section 3013 of American Recovery and Reinvestment Act (ARRA)].

Background

Standards related to "meaningful use" and health information exchange. The Health Information Technology for Economic and Clinical Health Act of 2009 (the HITECH Act) aims to facilitate and expand the secure, electronic movement of health information among organizations through its State Health Information Exchange (HIE) Cooperative Agreement program (Section 3013). The standards based exchange of information is essential to achievement of "meaningful use" as identified in HITECH Act. One of the state responsibilities/requirements is to ensure compliance with relevant HHS adopted standards and all applicable policies for interoperability, privacy and security. Minnesota Department of Health has been designated as the entity to create and execute strategic and operational plans that advance standards-based heath information exchange.

Minnesota e-Health Standards are a requirement for electronic exchange of health information and achieving interoperability as required by the Minnesota 2015 mandate. Interoperability of Electronic Health Records (EHR) systems in Minnesota means the ability of two or more EHR systems or components of EHR systems to exchange information electronically, securely, accurately and verifiably, when and where needed. It is comprised of "technical," "semantic" and "process" interoperability, and the information exchanged includes transactions and standards as defined by the Minnesota Commissioner of Health. The Minnesota vision for exchange is to electronically move health information among disparate systems in order to improve health care quality, increase patient safety, reduce health care costs and improve public health, consistent with principles of health reform.

The 2009-2010 standards workgroup charge builds on the accomplishments of the previous two years' work which is published in the 2009 edition of *Guide 2: Standards Recommended to Achieve Interoperability in Minnesota* at http://www.health.state.mn.us/ehealth/summit/g2standards2009.pdf. The workgroup will continue to look to key national standards activities for priorities, standards recommended, implementation specifications; certification criteria and timelines

Work Group Deliverables and Timeline

Deliverables Related to Standards:

- September 2009 – March 2010: Provide review and feedback as necessary on HITECH activities including:

    - Identify, review and comment on proposed standards, implementation specifications and certification criteria for electronic exchange and use of health information (related to "meaningful use" requirements)
    - Review and provide feedback on strategic and operational plans that support standards-based health information exchange as specified by Section 3013 of HITECH Act.
- By December 2009: Review and comment on the standards section of the January 2010 MDH report to the Minnesota Legislature.
- By January 2010: Review and comment on Minnesota framework for exchange of health information
- By April 2010: Update the tools and resources to support implementation of e-health standards including those that can help support achieving meaningful use.
- By April 2010: Deliver a final draft of the 2010 update for Guide 2 (Standards Recommended for Use in Minnesota).
- Review and comment on plans of the regional extension centers to promote standards-based exchange of health information as part of "meaningful use" requirements

General Deliverables:
- June 2010: Provide a status report issued at Minnesota e-Health Summit.
- September – May 2010: Provide quarterly updates to the Minnesota e-Health Advisory Committee.
- Identify opportunities in common with other committees, workgroups and organizations.

Workgroup Member Expectations
- Serve a one-year term: September 2009 – June 2010.
- Participate in monthly workgroup meetings during the term and additional conference calls as needed.
- Bring the perspective of the stakeholder group you represent to all discussions and decisions.
- Keep the statewide interests of the e-Health Initiative foremost in decisions and recommendations.
- Review meeting materials ahead of time and be prepared to contribute clear and focused ideas for discussion.

Value in Participating
- Proactively help shape future policy directions that can have a major impact on your organization.
- Enable your organization to be more prepared to respond to standards as they are established.

Workgroup Leadership
Co-Chairs:

Bobbie McAdam
Director, e-Business
Medica

Mike Ubl
Executive Director
Minnesota Health Information Exchange

Many members of the 2008-09 standards workgroup have expressed interest in continued participation. Additional members will be recruited across the spectrum of care based on expertise and subject matter knowledge. Meetings are open to the public and all participants are welcome.

Appendix E. Exchange and Meaningful Use Workgroup Charge (2009-2010)

Workgroup Charge

- Review and comment on the Minnesota framework for health information exchange (HIE). Provide input on recommendations related to criteria for a Minnesota Designated Health Information Organization (HIO). Provide input on American Recovery and Reinvestment Act of 2009 (ARRA) implementation activities relevant to exchange and meaningful use.
- Review and comment on proposed strategic and operational State plans pertaining to the development of statewide policy, governance, technical infrastructure, and business practices needed to support the delivery of HIE services
- Provide review and feedback as necessary on proposed state and federal definitions, criteria and/or proposed regulations regarding meaningful use and exchange pertaining to Medicare and/or Medicaid incentive payments under the American Recovery and Reinvestment Act of 2009 (ARRA) to ensure that Minnesota providers seeking to obtain incentive payments are able to meet federal and state criteria.

Background

Meaningful Use Incentives: The American Recovery and Reinvestment Act of 2009 (ARRA) establishes Medicare and Medicaid incentives for hospitals and health care providers who can demonstrate they are meaningful users of electronic health records (EHRs). There are three core requirements for "meaningful use" identified in the new law:

1. Use of certified or qualified EHR technology
2. Electronic exchange of health information
3. Use of EHR in reporting on clinical and other quality measures

The ARRA requires the Office of the National Coordinator (ONC) and the Centers for Medicare and Medicaid Services (CMS) to develop rules, guidance and plans to promote the adoption and meaningful use of EHRs. Draft rules are expected to be published in late December 2009. The law gives states some leeway in 2010 for determining the definition of meaningful use for the purpose of determining eligibility for Medicaid incentives. The Minnesota Departments of Health and Human Services will jointly implement the Medicaid incentives and define meaningful use to meet Minnesota and federal priorities. How meaningful use is defined is important because it will determine whether Minnesota providers are able to meet the necessary criteria to receive incentive funds.

Health Information Exchange: ARRA includes funds to states for aid in developing the health information exchange capacity needed to allow providers to meet meaningful use criteria. This assistance is provided through the State Health Information Exchange Cooperative Agreement Program, the overall purpose of which is to facilitate and expand the secure, electronic movement and use of health information among organizations according to nationally recognized standards. The cooperative agreements will focus on developing the statewide policy, governance, technical infrastructure, and business practices needed to support the delivery of HIE services. The resulting capabilities for health care-providing entities to exchange health information must meet the Medicaid and Medicare meaningful use requirements for health care providers to achieve financial incentives.

Work Group Deliverables and Timeline

1. **September-December 2009.**
   - Provide input on recommendations related to criteria for a Minnesota Designated Health Information Organization (HIO) and present feedback to the e-Health Advisory Committee.
   - Review and provide feedback on proposed Minnesota HIE Plan as required for the Cooperative Agreement Program, including the addition of strategies to address HIE development in Minnesota.
   - Provide review and feedback as necessary on proposed state and federal definitions, criteria and/or proposed regulations regarding meaningful use of health information technology.

2. **January –April 2010.** Review and provide feedback on meaningful use criteria including Medicaid meaningful use. Review and provide feedback on the proposed Operational Plan to execute the revised Minnesota HIE strategic Plan that will be executed to enable statewide exchange. The updated strategic and operational plans are to be consistent with the funding opportunity announcement (FOA) requirements.
3. **September 2009–April 2010. Provide review and feedback as necessary on ARRA program activities including but not limited to proposed documents for:**
   - Outreach and communication related to meaningful use
4. **By April 2010**. Monitor assessment activities and the status of EHR adoption conducted by MDH staff in Minnesota to identify specific challenges facing Minnesota providers in meeting federal and state criteria to obtain Medicare and/or Medicaid incentive payments under ARRA, and provide recommendations to Regional HIT Extension Center where additional practical guidance should be developed for eligible Minnesota providers.
5. Identify communication, education and collaboration opportunities to address common topics and issues with other organizations, the regional extension center and e-Health workgroups.
6. **June 2010.** Provide a status report issued at the Minnesota e-Health Summit.
7. **Quarterly.** Progress updates to the Minnesota e-Health Advisory Committee.

Guiding Principles and Themes

- Focus guidance on the core ARRA requirements for providers needing to achieve meaningful use requirements for purposes of Medicare and Medicaid HIT incentive payments and then expand guidance to include all health care settings.
- Consider and expand upon the previous work completed and published in guides 1, 2, 3, and 4.
- Consider the broad view of issues that affect achieving meaningful use including technical, organizational, legal, community and telecommunications or related issues.
- Initial focus should be on meaningful use criteria for 2011 and then subsequent years 2013 and 2015.
- Consider data collected at the provider level – a patient-centered approach.
- Ensure that deliverables are consistent with and support federal and state health care reform efforts, especially health care homes and quality reporting.

Workgroup Member Expectations

- Serve a one-year term: September 2009 – June 2010.
- Participate in meetings and/or conference calls approximately every 2-3 weeks or more frequently as needed during the term.
- Bring the perspective of the stakeholder group you represent to all discussions and decisions.
- Keep the statewide interests of the e-Health Initiative foremost in your decisions and recommendations.
- Review meeting materials ahead of time and be prepared to contribute clear and focused ideas for discussion.

Value in Participating

- Proactively help shape future policy directions that can have a major impact on your organization.
- Enable your organization to be more prepared to respond to the requirements of state and federal implementation plans as they are established.

Workgroup Leadership

Co-Chair:
Alan Abramson, PhD
Senior Vice President IS&T, CIO
HealthPartners

Co-Chair:
Paul Kleeberg, MD
Consultant on Medical Informatics

Appendix F. Privacy & Security Workgroup Charge (2009-2010)

Workgroup Charge

- Review and comment on privacy and security topics related to the development and implementation of statewide strategic and operational plans for health information exchange and topics related to the support for Minnesota providers and hospitals efforts to meet the privacy and security requirements of "meaningful use".
- Provide comment and feedback on the development of federal privacy and security rules and guidance developed pursuant to the American Recovery & Reinvestment Act (ARRA) and the Health Information Technology for Economic and Clinical Health Act (HITECH).
- Support providers and health care stakeholders in the implementation of privacy and security criteria established to qualify as a "meaningful user" of an Electronic Health Record (EHR) under HITECH.
- Ensure the needs of consumers, providers and health care stakeholder needs are fully considered in the development of privacy and security informational/educational resources and tools.

Background

Consumer acceptance and trust are the foundation for the successful development and implementation of EHR's and other Health Information Technologies (HIT). Privacy and security protections afforded to a patients' health information are important factors in earning that trust. Patients and consumers have a strong interest in how the privacy, confidentiality, and integrity of their information will be addressed and integrated into the implementation of EHR's and other HIT.

The HITECH Act included an expansion in federal HIPAA laws, and requires the Office of the National Coordinator (ONC) and the federal Department of Health and Human Services (HHS) to develop rules and guidance to implement the new law. The HITECH Act also includes provisions for the development of an incentive/grant program to promote the adoption and effective use of health information technology.

This year, the MPSP is chartered as a workgroup that will focus their efforts on several key privacy and security activities including but not limited to: reviewing and commenting on the statewide strategic and operational plans as a part of the HITECH Act 3013 grant program, modification of Health Information Security and Privacy Collaborative (HISPC) resources and tools for consumers, and information and resources to support providers and hospitals in meeting the privacy and security requirements for the meaningful use of EHRs. The 2009-2010 Minnesota Privacy and Security Advisory Group will require participation of experts in the area of privacy, security and HIT as well as other interested stakeholders.

Tasks, Deliverables and Timeline through June 2010

- As needed, review and comment on:
  - Minnesota e-Health privacy and security resources and tools to inform and educate physicians and hospitals to help them meet the requirements of "meaningful use".
  - Minnesota e-health consumer privacy and security information tools and resources built on existing work such as the Health Information Security and Privacy Collaboration (HISPC) consumer education tools and resources.
  - Identified coordinated response to federal requests for public comment on proposed rules and guidance pursuant to the HITECH Act.
  - Privacy and security topics and issues as identified by Minnesota e-Health Initiative Advisory Committee and staff.
  - Privacy and security portions of federal grant applications.
  - The proposed privacy and security portions of the state strategic and operational plans, during development and implementation including:
    - Harmonizing federal and state laws
    - Objectives, measures and standards for meaningful use
    - Reporting requirements

- Legal and policy domain including but not limited to:
  - Issues related to intra and interstate health information exchange
  - Standard policies and procedures for health information exchange
  - Standard language for trust agreements, i.e. business associate, data sharing, data use and reciprocal support agreements
  - Compliance with all applicable state and federal privacy and security policies
  - Exchange requirements with federal care delivery organizations such as the VA and Indian Health Services

- Ongoing: Work in concert with the Regional Extension Center (REC) to meet the privacy and security requirements of the (3013) and REC (3012) grant programs.
- January 2010: Review and comment on the privacy and security activities and deliverables in the MDH report to the Minnesota Legislature.
- Quarterly: Provide updates to the Minnesota e-Health Advisory Committee.
- Ongoing: Identify communication, education and collaboration opportunities to address common topics and issues with advisory committee and other workgroups.

Workgroup Member Expectations

- Serve a one-year term: September 2009 – June 2010.
- Participate in meetings and conference calls as needed.
- Bring the perspective of the stakeholder group you represent to all discussions and decisions.
- Keep the statewide interests of the e-Health Initiative with a focus on exchange foremost in your decisions and recommendations.
- Review meeting materials ahead of time and be prepared to contribute clear and focused ideas for discussion.

Value in Participating

- Proactively help shape future policy directions that can have a major impact on your organization.
- Enable your organization to be more prepared to respond to privacy and security requirements as they are established.

Workgroup Leadership

Co-Chairs:

Laurie Beyer-Kropuenske Director, Information Policy Analysis Division Minnesota Department of Administration	Darrell Shreve Vice President of Health Policy Aging Services of Minnesota

Approximately 20-25 stakeholders will be invited from across the spectrum of care based on expertise and subject matter knowledge to participate on the workgroup. Meetings are open to the public and all participants are welcome.

Appendix G. Outreach and Communications Workgroup Charge (2009-2010)

Workgroup Charge

Advise on the Minnesota e-Health Initiative communications activities, including a review of the Communications Plan to support health care providers and health care organizations in achieving meaningful use, and meeting the Minnesota interoperable electronic health record (EHR) mandate in 2015.

Advise on the coordination of outreach and communication efforts statewide, including coordination with the regional extension center and health information organizations in Minnesota and ARRA funded initiatives.

Background

The *Minnesota Department of Health and the Minnesota e-Health Advisory Committee have been working to carry out significant legislation enacted in Minnesota in 2007 and 2008. This includes mandates that all health care providers have interoperable EHRs by 2015 (MS s 62J.495), and that all health care providers, dispensers and payers establish and use an e-prescribing system by January 1, 2011 (MS s 62J.497).* In June of 2008, the Minnesota e-Health Initiative and the Minnesota e-Health Advisory Committee issued: *A Prescription for Meeting Minnesota's 2015 Interoperable Electronic Health Record Mandate: A Statewide Implementation Pla*n. In 2009, companion guides to the statewide plan were updated or added including: *A Practical Guide to Electronic Prescribing*, *Standards Recommended to Achieve Interoperability in Minnesota*, and *A Practical Guide to Effective Use of EHR Systems.*

The Health Information Technology for Economic and Clinical Health Act (HITECH Act), part of the American Recovery and Reinvestment Act of 2009 (ARRA), requires the Office of the National Coordinator (ONC) and federal Department of Health and Human Services (HHS) to develop rules, guidance and plans to promote adoption and meaningful use of health information technology (HIT). The Act also establishes incentives for hospitals and health care providers through Medicare and Medicaid for meaningful use of electronic health records (EHRs).

Workgroup Tasks through June 2010

- Review the revised Minnesota e-Health Communications Plan with representatives from Minnesota professional and trade associations, vendors and others and recommend revisions and updates.
- Inventory the key communications tools, including those used by Minnesota professional and trade associations.
- Identify any gaps in outreach and communications and prioritize groups and messages.
- Recommend activities to address outreach gaps that engage health care organizations, providers, and consumers to support the adoption and use of EHRs to achieve meaningful use and compliance with the 2011 and 2015 mandates.
- Identify outreach activities and opportunities for coordination with the regional extension center for Minnesota and health information organizations (HIOs) in Minnesota).
- Identify communication, education and collaboration opportunities with other committees and workgroups such as the Exchange and Meaningful Use Workgroup, Privacy and Security Workgroup or Standards Workgroup, as well as other organizations identified by the workgroup.

Workgroup Deliverables

September 2009 – June 2010:

- April 2010: Review the revised Minnesota e-Health Communications Plan, in particular, the following components:
  - Recommendations for coordination opportunities with regional extension center for Minnesota, health information organizations (HIOs) in Minnesota, the Minnesota Department of Human Services (DHS)-Medicaid, and others as identified.
  - Efforts to integrate with federal work to support of Minnesota providers for achieving *meaningful use* through EHR adoption, effective use, and health information exchange.
  - Recommendations for consumer communications tools to list on the Minnesota e-Health website, incorporating the contributions of Minnesota e-Health workgroups.
- April 2010: Identify activities that health and health care organizations, associations and providers can engage in to ensure information is relayed in a meaningful way to the Minnesota health care community.
- April 2010: Inventory of key communications tools used by Minnesota and national professional and trade associations.

Workgroup Member Expectations

- Serve a one-year term: September 2009–June 2010.
- Participate in two meetings and additional conference calls as needed.
- Bring the perspective of the stakeholder group you represent to all discussions and decisions.
- Keep the statewide interests of the e-Health Initiative foremost in your decisions and recommendations.
- Review meeting materials ahead of time and be prepared to contribute clear and focused ideas for discussion.

Value in Participating

- Proactively help shape future policy directions that can have a major impact on your organization.
- Enable your organization to be more prepared to respond to the requirements of state and federal implementation plans as they are established.

Workgroup Leadership

Co-Chair:	Co-Chair:	Co-Chair:
Becky Schierman	Mark Sonneborn	Sue Severson
Quality Improvement Mgr.	Vice President, Information Services	Director, HIT Services
Minnesota Medical Association	Minnesota Hospital Association	Stratis Health

Approximately 20-25 workgroup members will be invited from across the spectrum of care based on expertise and subject matter knowledge to participate on the committee. Meetings are open to the public and all participants are welcome.

Appendix H. Minnesota Department of Health Roles and Responsibilities in Health Information Exchange

State Government Health Information Technology Coordinator

Dr. James I. Golden is the Director of the Minnesota Department of Health's Division of Health Policy and has been designated by the Governor as the State Government Health Information Technology Coordinator. In his role as State Government Health Information Technology Coordinator, Dr. Golden is responsible for overall all direction and coordination of state government participation in health information exchange. Serving in these dual roles will enable Dr. Golden to ensure consistency between the cooperative agreement program and the overall goals of the state for health care reform. The Health Policy Division is responsible for:

- Monitoring and tracking health care access, cost, and quality
- Implementing Minnesota's current health reform efforts
- Promoting and supporting the adoption, effective use and exchange of health information through EHRs
- Implementing uniform billing and coding requirements
- Promoting access to quality health care for rural and underserved urban Minnesotans through the Office of Rural Health and Primary Care
- Administering the Medical Education and Research Cost fund to support medical education activities in Minnesota
- Maintaining the official, permanent state birth and death records for Minnesota.

The Minnesota Office of Health Information Technology (OHIT) will be responsible in working with Dr. Golden to coordinate and facilitate an integrated statewide approach to health information technology and health information exchange.

The Office of Health Information Technology's responsibilities include:

- Convening stakeholders to create a comprehensive and unified vision for the adoption and effective use of electronic health records including health information exchange in Minnesota
- Developing and implementing Minnesota's strategic and operational plan for health information exchange to expand the secure, electronic movement and use of health information among health care organizations according to nationally recognized standards
- Providing staff support to health information exchange oversight processes
- Providing opportunities for engaging consumers in health information exchange policy discussions and oversight processes
- Collaborating with other Federally-funded programs designed to promote the adoption and use of electronic health records and health information exchange (e.g., Regional Extension Centers, Medicare and Medicaid Incentive programs, the State Office of Rural Health and Primary Care)
- Coordinating across state government to maximize federal and state investments in health information technology and infrastructure development (e.g. the Department of Human Services, the Department Of Corrections, and the Department of Administration)
- Carrying out the e-health responsibilities assign to the Department of Health under M.S. § 62J.495-497

- Providing leadership for implementing the 2008 Minnesota strategic plan for adoption and use of electronic health records for a broad set of stakeholders across the continuum of care and population health
- Providing leadership and technical assistance on standards and other health informatics issues

Office of Health Information Technology Staff:
- Director – Martin LaVenture, PhD
- Deputy Director – Liz Cinqueonce
- Health Information Technology Program Lead – Jennifer Fritz, MPH
- Health Informatics Consultant – Priya Rajamani, MBBS, PhD
- Project Consultant – Bob Johnson, MPP
- Privacy and Security Coordinator – Donna Watz, JD
- Outreach and Education Coordinator – TBD
- Health Informatics Consultant - TBD

Appendix I. Minnesota Community Measurement Health Information Technology Survey Questionnaire

Hello,

Welcome to the Minnesota Health Information Technology Survey. Completing this survey will serve multiple purposes:

1. Fulfill state requirements as outlined by the health reform rule
2. Public reporting for MN Community Measurement
3. Assessment of state EMR adoption
4. Health plan HIT assessment needs

Thank you for your participation! If you have additional questions about the data and its use, please contact support@mncm.org.

MN Community Measurement

Please answer all questions on behalf of your clinic site to the best of your ability. If you need more definition of terms, or assistance with questions, please contact support@mncm.org.

DEFINITIONS
Electronic Health Record (EHR): An electronic system used by a clinic to track, record, and manage patient health.

1. Your clinic information:

Your clinic information: Clinic name:

Medical group affiliation:

Your clinic ID (from MNCM):

2. Survey responder information:

Survey responder information:
Your name:

Your title:

Your e-mail:

Implementation

DEFINITION: An EHR is an electronic system used by a clinic to track, record, and manage patient health.

1. As of today, how would you describe your clinic's electronic health record (EHR) implementation status?

☐ As of today, how would you describe your clinic's electronic health record (EHR) implementation status? My clinic has an EHR installed and in use for all departments, all staff, and all providers

☐ My clinic has an EHR that is installed in some or all departments and in use by some of the staff and providers

☐ My clinic does not have an EHR implemented or in use as of today

2. Estimated number of clinic employees able to use and currently using your EHR system (including scheduling, nurses, billers, coders, assistants, administration, etc.).

☐ Estimated number of clinic employees able to use and currently using your EHR system (including scheduling, nurses, billers, coders, assistants, administration, etc.). None (0% of employees)

☐ Some (Less than half of employees)

☐ Most (more than half of employees)

☐ All (100% of employees)

3. Select the employee types currently using the EHR on a regular (e.g. daily) basis. (select all that apply)

☐ Select the employee types currently using the EHR on a regular (e.g. daily) basis. (select all that apply) Administrative staff

☐ Schedulers and/or billing staff

☐ Coders

☐ Call center staff

☐ Ancillary support

☐ Nurses

☐ Physicians

☐ Other employee types (please specify)

4. Does your clinic have workflow designs/policies that integrate EHR functions into practice (e.g. a documented procedure for prescription refills or a documented procedure for privacy)?

☐ Does your clinic have workflow designs/policies that integrate EHR functions into practice (e.g. a documented procedure for prescription refills or a documented procedure for privacy)?

Yes

☐ No

Electronic Health Record Primary Questions

This page addresses questions about a clinic's electronic health record (EHR) system.

DEFINITION: An EHR is an electronic system used by a clinic to track, record, and manage patient health.

1. Your EHR system details:

Your EHR system details: EHR name:

EHR version currently installed/in use:

Date your EHR installation was completed for all departments:

2. Do you know if the EHR your clinic uses is certified by the Certification Commission for Health Information Technology (CCHIT)? A list of certified EHR's is on-line at www.cchit.org.

☐ Do you know if the EHR your clinic uses is certified by the Certification Commission for Health Information Technology (CCHIT)? A list of certified EHR's is on-line at www.cchit.org.
Not sure

☐ Yes

☐ No

Non-CCHIT EHR System details

This page asks about the functions of your clinic's EHR.

1. Does your EHR have the ability to track and record...

	Yes	No
Patient demographic information (gender, race, language, ethnicity, insurance)?	☐ Does your EHR have the ability to track and record... Patient demographic information (gender, race, language, ethnicity, insurance)? Yes	☐ No
Providers associated with a patient encounter?	☐ Providers associated with a patient encounter? Yes	☐ No
Patient medical issues (e.g. a problem list of the patients current medical complaints/diagnoses)?	☐ Patient medical issues (e.g. a problem list of the patients current medical complaints/diagnoses)? Yes	☐ No
Patient medications?	☐ Patient medications? Yes	☐ No
Patient allergies?	☐ Patient allergies? Yes	☐ No
Ordered and pending lab values (e.g. HbA1c values)?	☐ Ordered and pending lab values (e.g. HbA1c values)? Yes	☐ No
Ordered and pending diagnostic test results (e.g. mammography or other screening tests)?	☐ Ordered and pending diagnostic test results (e.g. mammography or other screening tests)? Yes	☐ No
Provider orders (including referrals)?	☐ Provider orders (including referrals)? Yes	☐ No

2. Does your EHR have the ability to create, store, and maintain clinical documentation and notes?

☐ Does your EHR have the ability to create, store, and maintain clinical documentation and notes? Yes

☐ No

3. Does your EHR have the ability to scan and store external documents?

☐ Does your EHR have the ability to scan and store external documents? Yes

☐ No

4. Does your EHR system have the ability to generate and record patient-specific instructions (e.g. educational materials or test instructions)?

☐ Does your EHR system have the ability to generate and record patient-specific instructions (e.g. educational materials or test instructions)? Yes

☐ No

5. Does your EHR have the ability to alert providers to patient-specific disease management (such as eye exams for diabetic patients) and/or preventive services (such as mammograms and colorectal cancer screening)?

☐ Does your EHR have the ability to alert providers to patient-specific disease management (such as eye exams for diabetic patients) and/or preventive services (such as mammograms and colorectal cancer screening)? Yes

☐ No

6. Does the EHR have the ability to generate claims for some or all insurers?

☐ Does the EHR have the ability to generate claims for some or all insurers? Yes

☐ No

EHR Follow-up Questions: Computerized Provider Order Entry (CPOE)

This page asks more questions about your clinic's use of an EHR's order entry function.

DEFINITION: Computerized Provider Order Entry (CPOE) is a computer application that allows a physician's orders for diagnostic and treatment services (such as medications, laboratory, and other tests) to be entered electronically instead of being recorded on order sheets or prescription pads. The computer compares the order against standards for dosing, checks for allergies or interactions with other medications, and warns the physician about potential problems.

1. Does your clinic's EHR have a Computerized Provider Order Entry (CPOE) function?

☐ Does your clinic's EHR have a Computerized Provider Order Entry (CPOE) function? Yes, our clinic has and uses CPOE for some or all provider orders

☐ No, our clinic's electronic systems have a CPOE function but this function is not in use or turned off

☐ No, our clinic's electronic system does not have a CPOE function

2. What percentage of provider orders (e.g. referrals, medication orders, and diagnostic test orders) are completed using Computerized Provider Order Entry (CPOE)?

What percentage of provider orders (e.g. referrals, medication orders, and diagnostic test orders) are completed using Computerized Provider Order Entry (CPOE)?

3. Is the CPOE function integrated with other systems (example: medication orders are entered by a provider and electronically transmitted to a pharmacy and filled without printing/faxing the order)? SHOULD THIS QUESTION BE DELETED?

☐ Is the CPOE function integrated with other systems (example: medication orders are entered by a provider and electronically transmitted to a pharmacy and filled without printing/faxing the order)? SHOULD THIS QUESTION BE DELETED? Yes

☐ No

4. What are the barriers to using CPOE for all provider orders? (select all that apply)

☐ What are the barriers to using CPOE for all provider orders? (select all that apply) Not applicable - using CPOE 100% of the time

☐ Still using handwritten or paper orders per provider preference

☐ Requires staff and/or provider training

☐ In process of building in orders into system

☐ Requires a system upgrade

☐ Hardware issues (computers not available in all exam rooms, etc.)

☐ Other (please specify)

EHR Follow-up Questions: Clinical Decision Support Tools

This page asks more questions about your clinic's use of decision support tools.

DEFINITION: Clinical decision support tools are computerized functions that assist users in making decisions in their job functions. In the practice of medicine, these functions include providing electronic access to medical literature, alerting the user to potential adverse drug interactions, and suggesting alternative treatment plans for a certain diagnosis.

1. Does your EHR have clinical decision support tools (e.g. medication guides, chronic condition care plans, etc.) that providers can use at the point of care?

☐ Does your EHR have clinical decision support tools (e.g. medication guides, chronic condition care plans, etc.) that providers can use at the point of care? Yes, our clinic has and uses clinical decision support tools at the point of care

☐ No, our clinic's EHR can provide decision support, but this function is not in use or turned off

☐ No, our clinic does not have electronic clinical decision support tools

2. Does your clinic use the EHR or a link to clinical decision making support tools for high tech diagnostic imaging?

☐ Does your clinic use the EHR or a link to clinical decision making support tools for high tech diagnostic imaging? Yes

☐ No

3. Does your EHR system have alerts or pop-ups that providers see during an encounter with a patient? (select all that apply)

☐ Does your EHR system have alerts or pop-ups that providers see during an encounter with a patient? (select all that apply) Yes - For potential drug interactions

☐ Yes - For patient-specific or condition specific reminders (e.g. foot exams for diabetics or glucose tests for pregnant women)

☐ Yes - For preventive care services due (e.g. mammograms or influenza vaccinations)

☐ No - Our clinic has the ability to use alerts, but the function is not turned on

☐ No - Our clinic's EHR does not have alerts

4. What are the barriers to using tools for clinical decision making at the point of care? (select all that apply)

☐ What are the barriers to using tools for clinical decision making at the point of care? (select all that apply) Requires staff and/or provider training

☐ Requires resources to build/implement

☐ Requires a system upgrade

☐ Hardware issues (computers not available in all exam rooms, etc.)

☐ Not applicable - There are no barriers to using the EHR's clinical decision making tools

Other (please specify)

5. IS THIS A BETTER WAY TO STRUCTURE THIS PAGE?
Which of the clinical decision making support tools below does your clinic use for patient care:

	Yes	No
Pop-ups and alerts that providers see during a patient encounter (for any subject)	IS THIS A BETTER WAY TO STRUCTURE THIS PAGE? Which of the clinical decision making support tools below does your clinic use for patient care: Pop-ups and alerts that providers see during a patient encounter (for any subject) Yes	No
High tech diagnostic imaging tools	High tech diagnostic imaging tools Yes	No
Medication guides/alerts that pop up during an encounter	Medication guides/alerts that pop up during an encounter Yes	No
Chronic care plans that providers access during an encounter	Chronic care plans that providers access during an encounter Yes	No
Patient specific or condition specific reminders that pop up during a patient encounter (such as foot exams for diabetic patients)	Patient specific or	No

	Yes	No
	condition specific reminders that pop up during a patient encounter (such as foot exams for diabetic patients) Yes	
Preventive care services due (such as mammograms for women who do not have a current breast cancer screening test)		

EHR Follow-up Questions: Lab and Test Results

This page asks additional information about electronic storage of lab and diagnostic test results.

1. Does your clinic's EHR store lab values (like HbA1C values) and test results (like mammography results)?

☐ Does your clinic's EHR store lab values (like HbA1C values) and test results (like mammography results)? Yes

☐ No

2. Does your clinic use a computerized system to retrieve lab and diagnostic test results? (select all that apply)

☐ Does your clinic use a computerized system to retrieve lab and diagnostic test results? (select all that apply) Yes - providers use a computer to access all lab and diagnostic test results

☐ Yes - providers use a computer to access some, but not all, lab and diagnostic test results

☐ Not really - providers primarily use paper, faxes, or phone calls to view lab and diagnostic test results

3. Does your clinic have and use your EHR's ability to generate automated reminders if lab and test results are missing within a pre-defined time frame?

☐ Does your clinic have and use your EHR's ability to generate automated reminders if lab and test results are missing within a pre-defined time frame? Yes

☐ No

4. Does your clinic use automated reminders for lab and test results?

☐ Does your clinic use automated reminders for lab and test results? Yes, all pending results generate reminders

☐ Yes, some pending results generate reminders

☐ No, the function is available but not in use

EHR Follow-up Questions: EHR's in Clinical Practice

1. Can your EHR produce a clinical summary (add definition) of a visit?

☐ Can your EHR produce a clinical summary (add definition) of a visit? Yes

☐ No

2. Does your clinic use the EHR's clinical summary function?

☐ Does your clinic use the EHR's clinical summary function? Yes, we provide clinical summaries to patients for every patient visit

☐ Yes, we provide clinical summaries to patients for all face-to-face visits

☐ Yes, we provide clinical summaries to patients for some patient visits

☐ No, the function is available but not in use

3. Can your EHR generate a personal action plan (insert definition) for patient compliance?

☐ Can your EHR generate a personal action plan (insert definition) for patient compliance? Yes

☐ No

Pharmacy Information Systems

1. Does your clinic have an electronic pharmacy information system (separate from an EHR if you have an EHR)?

☐ Does your clinic have an electronic pharmacy information system (separate from an EHR if you have an EHR)? Yes - We have a separate pharmacy system from our EHR

☐ No - We have an EHR system that has a pharmacy component

2. If applicable, name of electronic pharmacy system.

If applicable, name of electronic pharmacy system. Pharmacy system name:

Version:

Year installed:

3. If applicable, is your electronic pharmacy system CCHIT certified?

☐ If applicable, is your electronic pharmacy system CCHIT certified? Yes

☐ No

☐ Not sure

Non-CCHIT Certified Pharmacy Systems

1. Does your electronic pharmacy system have the ability to maintain a current medication list, including over-the-counter medications for patients?

☐ Does your electronic pharmacy system have the ability to maintain a current medication list, including over-the-counter medications for patients? Yes

☐ No

2. Does your electronic pharmacy system have the ability to create prescription orders with sufficient information for a pharmacy to fill and dispense a prescription?

☐ Does your electronic pharmacy system have the ability to create prescription orders with sufficient information for a pharmacy to fill and dispense a prescription? Yes

☐ No

3. Does your electronic pharmacy system have the ability to print or fax a prescription?

☐ Does your electronic pharmacy system have the ability to print or fax a prescription? Yes

☐ No

Electronic Pharmacy Systems: More Information

1. SHOULD WE ASK ABOUT E-PRESCRIBING? WITH A DEFINITION - EX: DOES YOUR SYSTEM SUPPORT E-PRESCRIBING (ELECTRONIC BENEFIT INFORMATION, ELECTRONIC MEDICATION HISTORY/USE, AND ELECTRONIC PRESCRIPTION WRITING)?

☐ SHOULD WE ASK ABOUT E-PRESCRIBING? WITH A DEFINITION - EX: DOES YOUR SYSTEM SUPPORT E-PRESCRIBING (ELECTRONIC BENEFIT INFORMATION, ELECTRONIC MEDICATION HISTORY/USE, AND ELECTRONIC PRESCRIPTION WRITING)? Yes

☐ No

2. Does your electronic pharmacy information system allow providers to write prescriptions directly into the system?

☐ Does your electronic pharmacy information system allow providers to write prescriptions directly into the system? Yes

☐ No

3. What percentage of your prescriptions are being entered directly into the electronic pharmacy information system?

What percentage of your prescriptions are being entered directly into the electronic pharmacy information system?

4. Does your electronic pharmacy information system communicate directly with a prescription electronic intermediatry (an outside system that supports sending, transfering, and receiving prescription information)?

☐ Does your electronic pharmacy information system communicate directly with a prescription electronic intermediatry (an outside system that supports sending, transfering, and receiving prescription information)? Yes

☐ No

5. Does your clinic use any of the following electronic pharmacy system functions:

	Yes	**No**
Provide generic alternatives to medications as a list	☐ Does your clinic use any of the following electronic pharmacy system functions: Provide generic	☐ No

	Yes	No
Provide point-of-prescribing generic alternatives	☐ Provide point-of-prescribing generic alternatives Yes	☐ No
Provide cost comparisons of drugs within therapeutic classes	☐ Provide cost comparisons of drugs within therapeutic classes Yes	☐ No

6. Does your electronic pharmacy system perform medication reconciliation (provides/compares the drug being prescribed with the other medications the patient has been taking)?

☐ Does your electronic pharmacy system perform medication reconciliation (provides/compares the drug being prescribed with the other medications the patient has been taking)? Yes, for every presciption at every encounter

☐ Yes, for some prescriptions and some encounters

☐ No, we do not have or use this function

7. Does your clinic use the following electronic pharmacy information system medication reconciliation functions: (ARE THERE OTHER CHOICES FOR MEDICATION RECONCILIATION?)

	Yes	No
Identify high risk medications and use in elderly patients	☐ Does your clinic use the following electronic pharmacy information system medication reconciliation functions: (ARE THERE OTHER CHOICES FOR MEDICATION RECONCILIATION?) Identify high risk medications and use in elderly patients Yes	☐ No

	Yes	No
Modify doses based on patient age and weight	☐ Modify doses based on patient age and weight Yes	☐ No
Alert provider to potential drug interactions/allergies	☐ Alert provider to potential drug interactions/allergies Yes	☐

Patient services

1. Does your clinic offer on-line scheduling (add definition?) for patients?

☐ Does your clinic offer on-line scheduling (add definition?) for patients? Yes - For all encounters/providers

☐ Yes - For some encounters/providers

☐ No

2. Does your clinic offer on-line bill payment for patients?

☐ Does your clinic offer on-line bill payment for patients? Yes - For all patients

☐ Yes - For some patients (such as self-pay)

☐ No

3. Does your clinic have and use on-line prescription refill requests?

☐ Does your clinic have and use on-line prescription refill requests? Yes

☐ No

4. Does your clinic allow patients to access their EHR on-line (the system your clinic uses to track health and medical activity)?

☐ Does your clinic allow patients to access their EHR on-line (the system your clinic uses to track health and medical activity)? Yes

☐ No

5. CAN THIS QUESTION BE REMOVED? What percentage of patients can access their health information on-line?

CAN THIS QUESTION BE REMOVED? What percentage of patients can access their health information on-line?

6. Which parts of the medical record can patients access on-line?

	Yes	No
Pharmacy information	☐ Which parts of the medical record can patients access on-line? Pharmacy information Yes	☐ No
Clinical documentation and notes	☐ Clinical documentation and notes Yes	☐ No

	Yes	No
Care plans / Self-management tools	Care plans / Self-management tools Yes	No
Problem lists	Problem lists Yes	No
Educational materials	Educational materials Yes	No

Other (please specify)

7. NEED TO REVISE - ALLOW MULTIPLE YES'S Can patients enter health information and track/report health activities on-line?

NEED TO REVISE - ALLOW MULTIPLE YES'S Can patients enter health information and track/report health activities on-line? Yes - Patients can upload information to be reviewed by staff/providers

Yes - Patients can enter information directly into their EHR

No

E-visits and Electronic Communication

1. Does your clinic offer any of the following on-line services (add definitions?):

	Yes	No
E-visits?	☐ Does your clinic offer any of the following on-line services (add definitions?): E-visits? Yes	☐ No
Secure e-mail for communication between providers and patients?	☐ Secure e-mail for communication between providers and patients? Yes	☐ No
Electronic communication of test results?	☐ Electronic communication of test results? Yes	☐ No
Electronic visit reminders?	☐ Electronic visit reminders? Yes	☐ No
Blogs or on-line support groups?	☐ Blogs or on-line support groups? Yes	☐ No
Wifi for patient use?	☐ Wifi for patient use? Yes	☐ No
Personal health records for patients (separate from the EHR and used by the patient to maintain a record of health and medical activities)?	☐ Personal health records for patients (separate from the EHR and used by the patient to maintain a record of health and medical activities)? Yes	☐

Privacy and Security

1. What HIPAA privacy precautions do you take for your electronic processes and systems? (select all that apply)

☐ What HIPAA privacy precautions do you take for your electronic processes and systems? (select all that apply) We have written privacy policies specific to electronic processes and systems

☐ We do regular security checks on access to patient records

☐ We conduct regular education and trainings for staff around HIPAA privacy in relationship to electronic systems

☐ Other (please specify)

2. Does your clinic perform any HIPAA privacy audits on your EHR system and electronic processes? (select all that apply)

☐ Does your clinic perform any HIPAA privacy audits on your EHR system and electronic processes? (select all that apply) Yes - We have done internal audits

☐ Yes - We have done external audits in the past

☐ No - We have never done an audit on HIPAA privacy

☐ Other (please specify)

3. Does your clinic allow patients to set the following privacy standards:

	Yes	No
Define permissions for who should have access to their health record and under what circumstances	☐ Does your clinic allow patients to set the following privacy standards: Define permissions for who should have access to their health record and under what circumstances Yes	☐ No

	Yes	No
Express preferences regarding how and under what circumstances health information may be shared with others	☐ Express preferences regarding how and under what circumstances health information may be shared with others Yes	☐ No
Authorization of the release of health information to another provider or third party	☐ Authorization of the release of health information to another provider or third party Yes	☐ No

4. Does your EHR automatically limit what system users can see in a health record when not directly related to the care being provided (example: HIV status or substance abuse information)?

☐ Does your EHR automatically limit what system users can see in a health record when not directly related to the care being provided (example: HIV status or substance abuse information)? Yes

☐ No

Patient Specific Information

1. How does your clinic track patient consents?

☐ How does your clinic track patient consents? Electronic consents - With electronic signatures

☐ Scanned paper consents - Signed papers are scanned into the EHR

☐ Paper consents only - Signed consents are filed as paper

2. How does your clinic track advanced directives / patient preferences?

☐ How does your clinic track advanced directives / patient preferences? Electronically accessible - stored in the EHR

☐ Electronically accessible - stored in readily accessible/consistent part of the EHR

☐ Paper documents

Quality Improvement Functions for Population Management

1. Does your clinic use data from the EHR for any of the following:

	Yes	No
To create internal benchmarks?	Does your clinic use data from the EHR for any of the following: To create internal benchmarks? Yes	No
For provider-specific data sharing?	For provider-specific data sharing? Yes	No
To set goals around clinical guidelines?	To set goals around clinical guidelines? Yes	No
To identify high risk patients?	To identify high risk patients? Yes	No
For care management?	For care management? Yes	No
For quality data reporting to external organizations?	For quality data reporting to external organizations? Yes	No

2. Does your clinic collect any of the following information within your EHR: (select all that apply)

Does your clinic collect any of the following information within your EHR: (select all that apply) Gender

Age

Race

- [ ] Ethnicity
- [ ] Language
- [ ] Insurance type
- [ ] Marital status
- [ ] Not applicable/We do not collect demographic information in our EHR

3. Does your clinic use the EHR's demographic and problem list fucntions to do any of the following: (select all that apply) ARE THESE TWO QUESTIONS?

- [ ] Does your clinic use the EHR's demographic and problem list fucntions to do any of the following: (select all that apply) ARE THESE TWO QUESTIONS? Create disease registries? NEED TO DEFINE?
- [ ] Identify patients for flagged reminders?
- [ ] Identify patients current with preventive services (such as colorectal cancer screening or mammography)?
- [ ] Not applicable - we do not use our EHR to identify patients for services

4. Does your clinic track any of the following with the EHR: (select all that apply)

- [ ] Does your clinic track any of the following with the EHR: (select all that apply) Health services utilization - NEED MORE CLARITY OF WHAT THIS MEANS?
- [ ] Cost of care - IS THIS A CLINIC LEVEL FUNCTION?
- [ ] Gaps/disparities - NEED TO DEFINE?

5. DOES THERE NEED TO BE A QUESTION ABOUT MEDICAL HOMES HERE? ADJUSTMENTS TO EHRs TO IDENTIFY HEALTH CARE HOME PRACTICES?

- [ ] DOES THERE NEED TO BE A QUESTION ABOUT MEDICAL HOMES HERE? ADJUSTMENTS TO EHRs TO IDENTIFY HEALTH CARE HOME PRACTICES? Yes
- [ ] No

Information Exchange Activities

1. Does your clinic electronically send any information from the EHR with the following: (select all that apply) SHOULD WE ADD A SYNDROMIC SURVEILLANCE CHOICE?

☐ Does your clinic electronically send any information from the EHR with the following: (select all that apply) SHOULD WE ADD A SYNDROMIC SURVEILLANCE CHOICE? Patients

☐ Hospitals (in system/affiliated)

☐ Hospitals (outside of system)

☐ Support agencies (nursing homes, home health, assisted living facilities, etc.)

☐ State immunization registries

☐ Electronic record locator sharing pool

☐ Not applicable - We do not send information from our EHR electronically (we print and mail or fax information)

2. Does your clinic have the ability to receive electronic information from any of the following: (select all that apply)

☐ Does your clinic have the ability to receive electronic information from any of the following: (select all that apply) Patients

☐ Hospitals (in system/affiliated)

☐ Hospitals (outside system)

☐ Other agencies (nursing homes, home health, etc.)

☐ Not applicable - We receive information via paper records/faxes

3. Does your EHR support interoperability standards to support health information exchange? NEED TO DEFINE THIS

☐ Does your EHR support interoperability standards to support health information exchange? NEED TO DEFINE THIS Yes

☐ No

☐ Not certain

4. Is your clinic a member/subscriber to a Health Information Exchange (an organization that helps coordinate health information sharing electronically with other health care providers)?

☐ Is your clinic a member/subscriber to a Health Information Exchange (an organization that helps coordinate health information sharing electronically with other health care providers)? Yes

☐ No

☐ Not sure

5. What barriers are there to participating in a health information exchange (HIE) organization? (select all that apply) SHOULD THERE BE A FREE TEXT OPTION?

- [ ] What barriers are there to participating in a health information exchange (HIE) organization? (select all that apply) SHOULD THERE BE A FREE TEXT OPTION? Not applicable - We participate in a HIE organization
- [ ] Not a priority
- [ ] Fees too high
- [ ] Not aware of such organizations
- [ ] No access

Telemedicine

DEFINITION: Telemedicine is the use of telecommunication technologies (e.g. phones, e-mail, videos) to provide health care services to a patient who is physically not with the provider. Telemedicine can include diagnosis, treatment, education, and other health care activites.

1. Does your clinic utilize telemedicine services:

	Yes	No
To provide services to other providers	☐ Does your clinic utilize telemedicine services: To provide services to other providers Yes	☐ No
To receive services from other providers	☐ To receive services from other providers Yes	☐ No
To conduct visits with patients	☐ To conduct visits with patients Yes	☐ No

2. If your clinic utilizes telemedicine services, which services are used: (select all that apply)

☐ If your clinic utilizes telemedicine services, which services are used: (select all that apply) Not applicable - We do not utilize telemedicine services

☐ Behavioral/mental health

☐ Imaging/radiology

☐ Specialty care

☐ Surgical follow-up

☐ Patient monitoring

☐ Home care/hospice

☐ Other (please specify)

3. If your clinic does not utilize telemedince serives, what are the primary barriers? (select all that apply)

If your clinic does not utilize telemedince serives, what are the primary barriers? (select all that apply) No identified need

- Specialists/practitioners available
- Costs
- Lack of staff to support
- Lack of staff expertise
- Insufficient bandwidth
- Hardware not available (computers, cameras, etc.)
- Other (please specify)

Clinics without an EHR

DEFINITION: An EHR is an electronic system used by a clinic to track, record, and manage patient health.

1. Does your clinic have a plan to acquire and implement an EHR?

☐ Does your clinic have a plan to acquire and implement an EHR? Yes - We have purchased/are going to purchase and implement within the year

☐ Yes - We are planning/exploring vendors and systems for implementation within the next 1-3 years

☐ Yes - We would like to implement an EHR within the next 1-3 years, but have not yet started planning/exploring vendors

☐ Yes - We are planning/exploring vendors and systems for implementation within the next 4-5 years

☐ Yes - We would like to implement an EHR within the next 4-5 years, but have not yet started planning/exploring vendors

☐ No - We have no plans to implement an EHR in the next 1-5 years

2. Please identify if the following barriers impact your clinic's EHR implementation status:

	Significant barrier	Somewhat of a barrier	Not a barrier
Cost to acquire	☐ Please identify if the following barriers impact your clinic's EHR implementation status: Cost to acquire Significant barrier	☐ Somewhat of a barrier	☐ Not a barrier
Return-on-investment concerns	☐ Return-on-investment concerns Significant barrier	☐ Somewhat of a barrier	☐ Not a barrier
Physician support	☐ Physician support Significant barrier	☐ Somewhat of a barrier	☐ Not a barrier
Non-physician provider support	☐ Non-physician provider support Significant barrier	☐ Somewhat of a barrier	☐ Not a barrier
Staff support	☐ Staff support Significant barrier	☐ Somewhat of a barrier	☐ Not a barrier
Administration support	☐ Administration	☐	☐ Not a

	Significant barrier	Somewhat of a barrier	Not a barrier
	support Significant barrier	Somewhat of a barrier	barrier
Staff education and training	Staff education and training Significant barrier	Somewhat of a barrier	Not a barrier
Security/privacy concerns	Security/privacy concerns Significant barrier	Somewhat of a barrier	Not a barrier
Internal knowledge/technical resources	Internal knowledge/technical resources Significant barrier	Somewhat of a barrier	Not a barrier

Other (please specify)

3. Are you connected with a regional extension center for health information technology support? ADD DEFINITION HERE.

Are you connected with a regional extension center for health information technology support? ADD DEFINITION HERE. Yes

No

THANK YOU!

You have completed your HIT assessment survey! Thank you very much. This information will be housed by Minnesota Community Measurement and used for the following purposes:
1. Public reporting
2. The State of Minnesota HIT assessment
3. Shared with Regional Health Information Extension Centers for identification/distribution of assistance in accordance with the American Recovery and Reinvestment Act

If you have further questions about the use of this data, please contact Brenda Paul at paul@mncm.org

Appendix J. Minnesota Interstate Privacy and Security Principles

When considering secure interstate health information exchange the following privacy and security principles should be considered in discussions with other states to ensure Minnesota's needs are fully represented. The following principles are separated into two main heading areas (Minnesota Privacy and Security Project and Office for Civil Rights) to indicate the source of the proposed principle.

Minnesota Privacy and Security Project Principles

Authorization

- Organizations participating in interstate health information exchange should require that authorized users must use at least single-factor authentication (e.g., password) to access an HIO.
- Organizations participating in interstate exchange will be responsible to authorize, maintain, and terminate authorized users access to an HIO.
- Organizations participating in interstate exchange should use role-based access standards.
- Organizations participating in interstate exchange should develop and accept security credentialing guidelines for authorizing individuals to access HIOs.
- Medical credentialing of health care providers (distinct from security credentialing) should not be required by organizations participating in interstate exchange.

Authentication

- All organizations participating in interstate exchange should minimally require single-factor authentication or the minimum required national standard (e.g., Nationwide Health Information Network specifications) for verifying the identity of all individuals authorized to access patients' health information within and across each participating organization.
- Authentication should be as seamless as possible when accessing information across participating organizations.
- Where possible, organizations participating in interstate exchange should follow the same or similar process or criteria for authenticating authorized users.

Access Control

- Health care providers participating in interstate exchange should only access information for patients with whom they have a treatment relationship and then only the health information relevant to the treatment being provided.
- All organizations participating in interstate exchange should develop and accept written policies and procedures for authorization, authentication, access and auditing.
- All organizations participating in interstate exchange should develop and accept a minimum standard training requirement.
- All organizations participating in interstate exchange should have sanction policies for violations of policies and procedures for accessing/exchanging information.
- Organizations participating in interstate exchange should have policies and procedures for disabling individuals' access at termination of employment or during an investigation of a violation of interstate exchange policies and procedures.
- Policies and procedures should be developed for terminating an individual's session due to inactivity.
- Organizations participating in interstate exchange should develop and accept consent and consent management policies and procedures that support the statutes and practices of the most protective state.

Auditing Principles

- All organizations participating in interstate exchange should develop and maintain audit logs that document individual's access through interstate exchange.

- All organizations participating in interstate exchange should develop and accept: a) the data elements to be maintained and exchanged for auditing; b) the frequency at which the auditing data will be exchanged; and c) the minimum retention time of audit logs.
- All organizations participating in interstate exchange should develop and accept procedures for: a) alerting other participating organizations of situations where patients' health information may have been inappropriately accessed; and b) jointly investigating situations where patients' health information may have been inappropriately accessed.

Office for Civil Rights Principles

- Individuals should be provided with a timely means to dispute the accuracy or integrity of their individually identifiable health information, and to have erroneous information corrected or to have a dispute documented if their requests are denied.
- There should be openness and transparency about policies, procedures, and technologies that directly affect individuals and/or their individually identifiable health information.
- Individuals should be provided a reasonable opportunity and capability to make informed decisions about the collection, use, and disclosure of their individually identifiable health information.
- Individually identifiable health information should be collected, used, and/or disclosed only to the extent necessary to accomplish a specified purpose(s) and never to discriminate inappropriately.
- Individually identifiable health information should be protected with reasonable administrative, technical, and physical safeguards to ensure its confidentiality, integrity, and availability and to prevent unauthorized or inappropriate access, use, or disclosure.
- The principles in the Privacy and Security Framework should be implemented, and adherence assured, through appropriate monitoring and other means and methods should be in place to report and mitigate non-adherence and breaches.

MDH Office of HIT and Minnesota e-Health

Electronic Health Record Use in Ambulatory Care Clinic Settings in Minnesota
June 2010

Background

The Minnesota Department of Health (MDH) is responsible for assessing the level of adoption, use and interoperability of electronic health records (EHRs) and other Health Information Technology (HIT) in a variety of health and care settings. This vital information is needed to:

- Measure Minnesota's progress on state and national goals to accelerate adoption and effective use of health information technology;
- Monitor advancement towards meaningful use of information technology to help ensure that eligible professionals and hospitals receive federal incentives under the HITECH Act or other federal incentive programs; and
- Identify gaps in capacity in local communities so that limited resources can be better targeted to areas of need.

Introduction

The Minnesota Statewide Quality Reporting and Measurement System (Minnesota Rules, Chapter 4654) requires that all physician clinics complete an HIT ambulatory clinic assessment survey. MDH contracted with Minnesota Community Measurement (MNCM) to develop and administer this survey. The survey was designed to collect information for use by multiple stakeholders to minimize the number of surveys medical groups and clinics are required to complete. The survey was also intended to be comprehensive and aimed to collect data which would fit multiple needs. This fact sheet highlights results of the 2010 assessment.

Methods

A ten member technical advisory group guided the development of the HIT ambulatory clinic assessment survey. The group reviewed previous national and state surveys and identified 65 survey questions. A link to the online survey was sent to 1100 clinics registered as part of chapter 4654 rules. Some clinics in Wisconsin and Iowa were registered and completed a survey. Data was collected but only Minnesota based clinics are used in this analysis.

Results

The survey was returned by 915 of 1027 Minnesota based clinics identified, for a response rate of 89%.

Adoption Rate

The reported ambulatory clinic EHR adoption rate in Minnesota is 66% (608/915). This includes clinics who indicated that they have an EHR installed and either *some or all* of the clinic staff and providers are using it (s*ee Table 1*).

Sixty percent (548/915) of the clinics have an EHR installed which is in use in all (more than 90%) of the areas of the clinic. Twenty four percent of the clinics responded having no EHR.

Table 1 : EHR Adoption and Implementation Status	**% (#) clinics**
EHR installed and in all (more than 90%) areas of the clinic	60% (548)
EHR installed and in use by some of clinic staff and providers	6% (60)
Purchased/begun installation of an EHR, but not yet using system	9% (86)
Do not have an EHR	24% (221)
Total	100% (915)

Source: MDH, Minnesota Statewide Quality Reporting and Measurement System

The survey also showed that a majority of the clinics using EHR rely solely on electronic records. Two-thirds (410/608) of these clinics responded that “We do not maintain paper charts, we are entirely paperless”

Effective Use Rates

Clinics responded to a series of questions regarding use of EHR functions known to be associated with helping improve the quality of care.

Use of Computerized Provider Order Entry (CPOE) is an indicator associated with improved quality of care. Respondents reported CPOE use for some or all provider orders in 78% (474/608) of the clinics *(see Table 2)*.

Table 2: CPOE Function	**% (#) clinics**
Use CPOE for some or all provider orders	78% (474)
Have CPOE, but not in use	8% (48)
Do not have CPOE	13% (80)
No response	1% (6)
Total	100% (608)

Source: MDH, Minnesota Statewide Quality Reporting and Measurement System

Clinical Decision Support (CDS) systems provide clinicians, staff, patients, and other individuals with knowledge and person-specific information which is presented at appropriate times to enhance health and health care. The Institute of Medicine advocates use of CDS systems to improve quality of care and health of communities.

Measures for seven areas of CDS systems were studied. The percent of clinics with any type of clinical decision support tool is 95% (580/608). Routine use of CDS for at least one item is reported by 87% (530/608) of the clinics *(see Table 3)*.

Table 3: Use of Clinical Decision Support (CDS)	**% (#) clinics**
Number of clinics with any type of clinical decision support tools	94% (573 / 608)
Number of clinics using any type of clinical decision support tools ROUTINELY	87% (530 / 608)

Source: MDH, Minnesota Statewide Quality Reporting and Measurement System

Health Information Exchange Rates

The clinics reported a higher rate of exchange of information with hospitals that are affiliated with the clinic than with hospitals that are outside or not affiliated with the clinic *(see Table 4)*.

Table 4: Health Information Exchange (HIE) with Affiliated and Outside Hospitals		
Clinics that:	**Hospitals (in-system / affiliated)**	**Hospitals (outside of system)**
Send clinical data to this entity only	20% (121)	16% (96)
Receive clinical data from this entity only	6% (39)	1% (6)
Send **AND** receive clinical data from this entity	29% (179)	2% (15)
Neither send nor receive clinical data from this entity	42% (254)	78% (477)
No response	2% (15)	2% (14)
Total	100% (608)	100% (608)

Source: MDH, Minnesota Statewide Quality Reporting and Measurement System

Barriers to Implementation

Providers reported a number of barriers to implementation. The cost to implement, concerns about return on investment and lack of knowledge/resources were cited as the most frequent issues. This was followed by the need for physician support, staff education and training and security/privacy concerns.

Discussion

This survey shows a notable increase in effective use and exchange activity compared to previous surveys. Little change was noted in the approximately 25% of clinics reporting that they have no EHR. Coordination with HITECH programs that support adoption and implementation is essential to help remove barriers and support achieving meaningful use requirements.

For More Information

For more information and updates on assessment data for a variety of care settings visit online at: http://www.health.state.mn.us/e-health/.

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