


**National Committee on Vital and Health Statistics
Executive Subcommittee
on “Meaningful Use”**

April 29th, 2009


Statement by
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The Minnesota e-Health Initiative

A public-private collaboration established in 2004

- Legislatively chartered
- Coordinates and recommends statewide policy on e-health
- Develops and acts on statewide e-health priorities
- Reflects the health community's strong commitment to act in a coordinated, systematic and focused way



“Vision: ... accelerate the adoption and effective use of **Health Information Technology** to improve healthcare quality, increase patient safety, reduce healthcare costs, and enable individuals and communities to make the best possible health decisions.”



Source: e-Health Initiative Report to the MN Legislature, January 2004



A Prescription for Meeting Minnesota's 2015 Interoperable Electronic Health Record Mandate
A Statewide Implementation Plan

2008 EDITION

Minnesota e-Health

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

FOR MORE INFORMATION: Minnesota Department of Health
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Minnesota's Statewide Implementation Plan

Components of the Plan

- Part 1: Background
- Part 2: Minnesota Model for EHR Adoption
- Part 3: Emerging Issues
- Part 4: Recommendations

Appendices

- Guide 1: Addressing Common Barriers
- Guide 2: Minnesota e-Health Standards

Special Interest Area:

- # 1 Long Term Care
- # 2 Public Health




Available at: <http://www.health.state.mn.us/ehealth/ehrplan.html>


Minnesota Model for Adopting Interoperable Electronic Health Records Statewide

- Breaks achieving the 2015 mandate into manageable steps
- Applies across organizational settings

Continuum of EHR Adoption



Achievement of 2015 Mandate



Adopt


Utilize

Exchange

Assess → Plan → Select

Implement → Effective Use

Readiness → Interoperate



“Meaningful Use” as Part of Broader Effective Use Framework

Minnesota e-Health Definition of Effective Use:

“... effective use means: adequately planned for, selected, and implemented EHR systems are efficiently and properly populated and

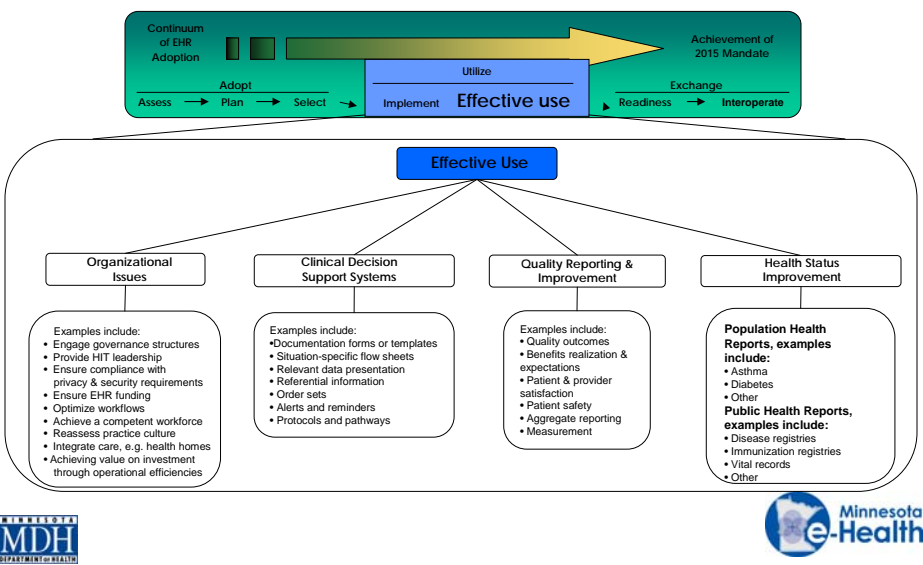
At a minimum, include:

- Addressing post-live **organizational issues**
- Using clinical **decision support** systems
- Providing **quality reporting** and improvement
- Support for **Population & Public Health** status improvement”



Minnesota e-Health Working Framework

Effective Use of Electronic Health Records



Minnesota Population & Public Health Definitions

Population Health (everyone's responsibility)

- Aims to improve the health of an **entire population** and reduce health inequalities among population groups
- **Beyond individual-level focus** of mainstream medicine by addressing a **broad range of health risk factors** – environment, social structure, resource distribution.

Public Health (governmental responsibility)

- Provides the **backbone to the public health infrastructure** and depends on other sectors (e.g., health care system, academia) to **improve the overall health of a community** based on population health analysis



Public & Population Health Principles for “Meaningful Use”

Population & Public Health are essential to the:

- Definition for “meaningful use”
- Criteria for certification of EHR’s
- Bi-directional exchange of information
- First year “achievable” core components
- Ongoing set of components that increase over time
- Approach for progressive implementation, relative to first year as a qualified “meaningful user”
- Resources for filling gaps for public health agencies and other settings
 - Gap in capital/funding to modernize systems
 - Gap in knowledge of informatics & related technical skills



“Meaningful Use” Should Include

- **EHR Functions for Population & Public Health**
Including:
 - Lists of patients for with chronic conditions and risk factors
 - Create list for case management and referral or follow-up
 - Tickler capability for monitoring and follow-up
 - Ability to produce summary tables for analysis

- **Bi-Directional Exchange for Population & Public Health**
Including:
 - e-Prescribing and Medication Management
 - Laboratory Results Reporting
 - Immunization History – leading to use of forecasting and decision support
 - Clinical Summaries – support chronic disease management
 - Disease Surveillance and Reporting
 - Quality Reports
 - Population Health Reports



1. Vision of Population & Public Health Practice

Healthier Communities Supported by:

- Certified EHRs that have complete population health functions
- Near real-time bi-directional electronic communications with public health authorities that achieves high level of interoperability (Technical, Semantic and Process)
- Highly integrated population & public health network



2. High Priority Data Needs Can Be Advanced by eHIE?

Key Priorities Include:

- e-Prescribing and Medication Management
- Laboratory Results Reporting
- Immunization Data Exchange
- Clinical Summaries - e.g. CCD
- Disease Surveillance and Reporting



3. Specific Requirements for “Meaningful Use”?

- Require certified EHR’s to have functions that support population & public health
- Require a schedule for exchange that is:
 - Achievable at the start
 - Increased over time
 - Relative to first year of qualification as “meaningful user”



4. Criteria for 2011 and a Path to 2016

Fill the gap in access to capital funding resources

- Fill the gap for modernizing population & public health systems to be more effective and support exchange, including reporting and exchange requirements.
- Complete the interoperability standards, especially for exchange.

Fill the gap in knowledge

- Ensure technical support centers have support for population & public health and are established as close to the communities as possible.
- Ensure that RFPs include a component for population & public health expectations
- Support the CDC National Center for Public Health Informatics in applied research and evaluation for population & public health.
- Expand workforce skills and competencies in informatics. (E.g. support a spectrum of training, courses and skills development. Similar to the models being proposed by AMIA.)



Acknowledgements

- **Advisory Committee Co-Chairs and Members**
 - Co-chairs: Dr. Jennifer Lundblad & Walter Cooney
- **Workgroup Co-chairs & Participants**
 - Dr Bonnie Westra and Dr. Paul Kleeberg - Effective Use
 - Dr. Alan Abramson & Tim Gallagher - ePrescribing
 - Dr. Bobbie McAdam and Mike Ubl - Standards
- **Department Leadership**
 - Scott Leitz, Dr. James Golden, Barb Wills, Liz Carpenter



For More Information

www.health.state.mn.us/e-health

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Before the
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Executive Subcommittee

Hearing on “Meaningful Use”

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Statement of Martin LaVenture PhD, MPH, Director, Center for Health Informatics and e-Health,
Minnesota Department of Health

April 29, 2009

Good morning Chairman Reynolds and Executive Subcommittee members. Thank you for holding this hearing and allowing me the opportunity to provide the perspective of the Minnesota e-Health Initiative on the definition of “meaningful use”, and specifically how it relates to population and public health.

The Minnesota e-Health Initiative is a public-private collaborative whose vision is to accelerate the adoption and use of health information technology in order to improve health care quality, increase patient safety, reduce health care costs and improve public health. It is guided by a legislatively chartered, statewide advisory committee with 25 representatives from interested and affected stakeholders in health information technology (HIT). The Minnesota Legislature charged the Minnesota Department of Health with leading this initiative since its inception in 2004. The work of the Initiative has resulted in several achievements including the development of a statewide plan to provide the framework for the Minnesota health and health care community to meet Minnesota’s 2007 mandate for the adoption and use of interoperable electronic health records by 2015.

Acknowledgements

The success of the Minnesota e-Health initiative over the past five years is due in large part to the leadership and contributions of the Minnesota e-Health Advisory Committee members. The committee is co-chaired by Dr. Jennifer Lundblad CEO of Stratis Health and Walt Cooney, Executive Director of the Neighborhood Health Care Network. Members of the Committee are shown in attachment A. In addition several workgroups are convened and thousands of hours of volunteer time are committed to collaboratively examine and resolve issues of common interest and further advance progress in Minnesota.

What do we mean by population and public health?

In Minnesota, the following definitions are used for Minnesota-e-Health related activity.

Population Health (everyone’s responsibility)

Population health is an approach to health that aims to improve the health of an entire population. One major step in achieving this aim is to reduce health inequities among population groups. Population health seeks to step beyond the individual-level focus of mainstream medicine and public health by addressing a broad range of factors that impact health on a population level. An important theme in population health is importance of social determinants of health and the relatively minor impact that medicine and healthcare have on improving health overall.

Public Health (governmental responsibility)

Public health is concerned with threats to the overall health of a community based on population health analysis. Governmental public health agencies provide the backbone to the public health infrastructure, but this infrastructure is also dependent on other entities such as the health care



delivery system, the public health and health sciences academia, and other sectors that are heavily engaged and more clearly identified with health activities.

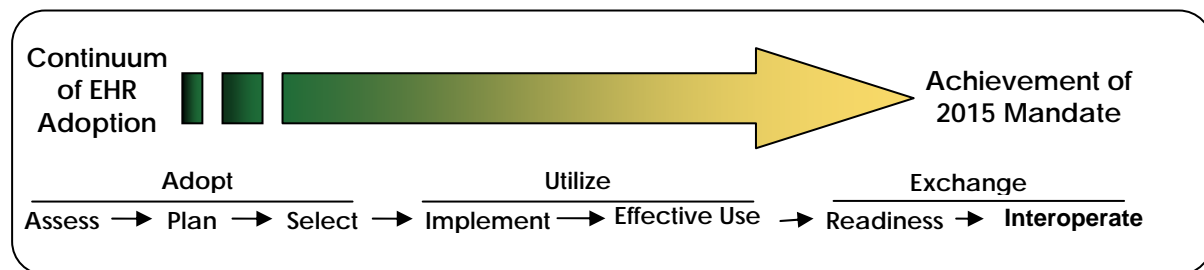
Minnesota Framework and Statewide Approach to Adoption and Effective Use of Electronic Health Records

In 2007, the Minnesota Legislature required the Commissioner of health to develop a state-wide plan for the implementation of interoperable EHR's by 2015. The advisory committee and workgroups developed an approach that is shown in Figure 1 and called the Minnesota Model for Adopting Interoperable Health Records. The approach is intended to provide a logical and practical framework that is inclusive of the more than 1500 different settings and thousands of different health professionals impacted by the Minnesota interoperable EHR mandate.

The Minnesota e-Health Initiative has 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, including 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



“Meaningful Use” in the Context of a Broader Framework of Effective Use

The Minnesota e-Health Initiative views the definition of “meaningful use” as a part of a broader framework of *effective use* of electronic health records. Recognizing that the real value in EHR systems comes from using them effectively to support efficient workflows and effective clinical decisions, for the last eight months the Minnesota e-Health Initiative has engaged a workgroup to define *effective use* of electronic health records for Minnesota. This group identified several dimensions to achieving and benefiting from effective use of an EHR system, including:

- The system is adequately planned for, selected and implemented
- The system is efficiently and properly populated and used
- It is both supported by and supports continuous commitment of individuals and organizations to improving patient safety, and providing optimal and comprehensive care to clients
- Use of the system achieves demonstrable value for individuals, families, organizations and populations across the continuum of care

These characteristics of *effective use* acknowledge that effectively using complex EHR systems is of

necessity a complex concept itself, having to faithfully represent the needs of diverse clinical and administrative users, working in diverse settings, and seeking to meet the diverse needs of patients, payers and others.

The Four Key Components of *Effective Use* for the Minnesota e-Health Initiative Framework include:

1. Addressing Organizational Issues After Going Live

Action on organizational issues that arise after going live with an EHR system is critical to ensure effective use. This includes appropriate governance for operations, informatics leadership, compliance with privacy and security requirements, financial support, workflow optimization, a workforce competent in the use of HIT, and ensuring patient involvement and support.

2. Smart Use of Clinical Decision Support Systems (DSS)

Smart use of clinical decision support systems is critical to achieve a balance of what is possible and what is realistic to incorporate into the workflow. This balance is needed to help avoid alert fatigue and involves setting priorities for DSS use. This is an ongoing issue that must be monitored and adjusted regularly.

3. Quality Improvement and Reporting

Information contained in EHRs must be used to improve clinic practices. For the Minnesota e-Health Initiative this is called quality improvement and reporting and includes aggregating information to measure care provided to your clients and comparing it to selected criteria. This also includes contributing information as needed to support Minnesota Community Measurement, Hospital Compare, and PQRI requirements for reporting.

4. Support of Health Status, Including Population Health and Public Health

Aggregated information must be used to better understand the health status of patients and the community. This includes population health and aggregating information to identify trends among patients such as asthmatics, and diabetics. This also includes contributing innovation as required for reporting and support of community health.

A diagram of this framework for *effective use* has been distributed with my testimony.

Principles for Meaningful Use:

The Minnesota e-Health Initiative views “meaningful use” as a part of the broader *effective use* framework, and believes the applied definition of “meaningful use” should have the following eight characteristics or principles:

1. Public health and population health are essential to the notion of “meaningful use” and must be included in the definition.

Meaningful health reform requires a robust population and public health component.

Population and public health are vital to Health reform and integral to effective use of Electronic health records.

2. Population health and public health functions should be a component of certified/qualified EHR systems.



Core population health functions such as registries and disease surveillance should be criteria for certifications.

3. Bi-directional exchange of population and public health data is essential.

Any exchange of population and public health information should be bidirectional. Knowledge from public health systems in the community should have the capability to be returned electronically as knowledge that can help better inform clinical practice.

4. The components for meaningful use should be dynamic and change over time.

Population and public health requirements should be added over time as standards mature and a threshold of industry readiness is achieved.

5. Incentives should be sequential and increased over time to begin moving providers closer to the goal of comprehensive, effective use of EHR systems.

In order to accommodate the process that is required to successfully implement these systems, it is essential for “meaningful use” to be defined progressively over time, with gradual increases in the requirements for exchange and quality reporting. Supporting sequential use should allow for first year requirements to be the same no matter when you start. The penalty is for not making progress, not for starting late.

6. Incentives should support accuracy, completeness and timeliness of information.

In order for clinical data to be useful for population health purposes, electronic health records must contain essential population health functional specifications (e.g., the ability to generate specific reports on patients with diabetes, high cholesterol, or hypertension for quality measurement/improvement or for other population health purposes; the ability to provide acute disease surveillance reporting). The use of electronic clinical data that is derived from the care delivery process is both beneficial and necessary for improving population health, because it can help in:

- Improving the quality, safety, efficiency and effectiveness of healthcare
- Monitoring, detecting and responding to hazards and threats to protect the public’s health
- Expanding knowledge about disease, diagnosis and appropriate treatments and services
- Providing patient access to personal health records and patient prevention resources
- Addressing health disparities in order to reduce health inequities among population groups

Just as it is beneficial and necessary for clinical data to be available for the purposes of improving population health, it is beneficial and necessary for population health data to be available to clinicians for the improvement of care. The sharing of clinical and population health data is mutually beneficial for multiple stakeholders, including public health, healthcare, population health research, and consumers. For example,

- Consumers having access to their own personal health records allows for better personal decision making
- Healthcare providers and consumers are more fully informed about health benefits and risks in the community such as: child lead exposure, patterns of infectious disease or new outbreaks, multi-drug resistant tuberculosis, spread of Lyme disease, risks for methicillin-resistant *Staphylococcus aureus* (MSRA) bacterial infections), and health risks affecting disparate populations

Presently, in Minnesota there are more than sixty conditions that require reporting to the Minnesota Department of Health. Disease reports are currently sent to the agency from providers, hospitals, clinics, and laboratories. Many are submitted by mail and fax and some are transmitted electronically. With electronic reporting, the transmission time has been shown to reduce reporting time from weeks to days, improve accuracy and completeness of data, and speed follow-up public health prevention and control action. The expected benefits of an electronic screening and surveillance/reporting system are far reaching.

Interoperable EHRs **enable public health** through more complete, accurate, and timely reporting of cases; allowing a more rapid response to possible outbreaks; and allowing a more accurate assessment of disease burden in the community. Similarly interoperable EHRs **enable health care providers** by providing more timely confirmation of cases and more timely information on outbreaks, immunizations, and antibiotic choices. This then **benefits patients** who receive more timely screening and follow-up. And it **benefits the community** by decreasing the overall disease burden and increasing protection from disease outbreaks.

7. “Meaningful use” exchange requirements should begin modestly and allow for state and regional priorities.

Much of the benefit of improving the continuity, quality and safety of care depends on the ability to securely and meaningfully exchange health information records from point to point in a timely manner. In order to facilitate a collaborative approach to implementation, the Minnesota e-Health Initiative identified initial priority transactions for exchange in Minnesota. These key exchange transactions include:

- (1) e-Prescribing and Medication Management
- (2) Laboratory Results Reporting
- (3) Immunization Data Exchange
- (4) Clinical Summaries
- (5) Disease Surveillance and Reporting
- (6) And others.

In 2008, Minnesota passed a mandate requiring all prescriptions in Minnesota to be transmitted electronically by 2011. This mandate has provided a common focal point for stakeholders to work together as a community to move forward and implement (incrementally) one element of exchange.

In crafting the definition of meaningful use, we would encourage DHHS provide some level of flexibility to allow various states or regions to determine their own exchange priorities. One way to implement this would be to identify multiple priority transactions that will be required over-time, but allow flexibility for the sequence in which they transactions are implemented in order to support state and community level priorities.

8. The definition must be mindful of the fact that gaps remain in the system, and in order for exchange to work effectively, the systems of all exchange partners must be modernized.

In order to make exchange work, the systems of all exchange partners must be modernized. Significant gaps in funding remain that must be addressed in order to fully realize the benefits of electronic health records and other health information technology. While the HITECH Act provides a valuable influx of funds to support these activities, the needs of several stakeholders remain unmet, including local public

health agencies, long term care, pharmacies and mental health providers. In addition, access to capital, technical and other resources for the adoption and effective use of electronic health records remains a challenge for providers in rural and underserved areas.

The primary barrier that has risen to the top of our discussions that providers must overcome is the lack of access to capital resources. As a state we have attempted to provide assistance to providers in meeting the capital challenge. However, the need identified has greatly exceeded the resources we have available. In 2006, the Minnesota Legislature appropriated \$14.6 million in grant and loan programs to support adoption of interoperable electronic health records, and targeted these funds toward rural and safety net providers. From 2006-2008, \$8.3 million was distributed through the e-Health Grant Program. Grant requests during this period totaled more than \$27 million, leaving an identified gap of more than \$18 million. Similarly, during the same time period, Minnesota distributed \$6.3 million through our EHR Loan Program. Requests for loans exceeded \$14 million, leaving an additional unmet need greater than \$4 million. Understanding that Section 3014 of the HITECH Act is an optional mechanism for ONC to employ in carrying out the Act, we believe it to be essential.

The second most commonly cited barrier to adoption and implementation of EHRs among our providers is the lack of knowledge and skills for informatics and related technical “know-how” necessary to purchase, implement, and integrate these information systems into their practice. We are encouraged by the inclusion of resources under Section 3012 for the creation of extension centers at the national and regional level to assist providers in meeting this challenge. As ONC moves forward in the implementation of this aspect of HITECH, we have expressed the need for the regional centers to be as close to the communities they serve as possible in order to have the greatest impact. Having a clear understanding of the context the providers are operating in – including the framework of state laws and regulations as well as the nuances of the health care community in which they practice – are essential in order to deliver meaningful assistance in helping providers to meet “meaningful use” criteria and move toward comprehensive effective use.

Assisting providers in accessing the capital resources necessary to adopt and implement electronic health records, and using “meaningful use” to guide them on the path toward *effective use* is the cornerstone in realizing the goals of the HITECH Act to improve health care quality, safety and efficiency.

As I close this testimony today, I will leave you with some summary thoughts focused around the four questions the Executive Subcommittee has suggested we address:

1. What is your vision of population/public health practice in an era when the health care of all Americans is supported by EHRs?

Public health and population health have been integral component of the comprehensive vision for e-health in Minnesota. We believe population health and public health are essential for effective use and should be included at an achievable level in the initial definition of “meaningful use” and increased over time as systems are modernized and the capacity for exchange increases.

We envision population and public health as integral to the success of the HITECH Act and overall health reforms.

We envision seamless two-way electronic communications with health data supporting the gathering of information critical for disease prevention and community preparedness, and analysis, knowledge, contributing back to support health professionals with decision support.

We envision more accurate and timely community-specific information available to clinicians at the point of care when epidemiologic data is integrated into clinical decision support.

2. What high priority population & public health data needs can be advanced by EHR functions and health information exchange?

The Minnesota e-Health Initiative has identified five key transactions as priorities for exchange, including:

- (1) e-Prescribing and Medication Management
- (2) Laboratory Results Reporting
- (3) Immunization Data Exchange
- (4) Clinical Summaries
- (5) Disease Surveillance and Reporting

We anticipate this priority list will expand overtime as those on the list are implemented, and new population and public health priorities are advanced.

We would encourage vendors to develop systems that have the functionality to facilitate provider reporting – both prior to, and after exchange capabilities exist – to enable the users of EHRs to create registries of patients with chronic disease states, and incorporate functions that would automatically generate reports that could be used for disease reporting. Because of the work of the CDC, there is much commonality across states’ disease reporting requirements. We would urge vendors to take this into consideration and ensure that the products they create will help to facilitate these population and public health functions.

3. What specific requirements for meaningful EHR use, including information exchange, will most significantly benefit population health?

The benefits to population health and public health can be derived by:

- a. Including EHR requirements for population health and public health functions as part of the certification / qualifications process for “meaningful use.”
- b. Including requirements for two-way exchange of transactions, such as those described in question # 2.
- c. Including requirements that lay the foundation for electronic exchange of population health and public health data for chronic disease and preparedness, as systems are modernized to receive this information.

4. How can public and population health needs & requirements translate into meaningful use criteria that are practical to implement for 2011? How might they affect or be affected by the path to 2016 and beyond?

“Meaningful use” criteria relating to population and public health should be guided by a core set of principles as described above.

In order to achieve *effective use*, gaps in capital funding and informatics related knowledge need to be addressed. This can be accomplished by:

- Supporting public and private modernizations – e.g. Grants for population health and public health
- Supporting standard requirements for public health information systems and exchange and development of information system requirements.
- Urging the completion of data standards for population health and public health - in particular for exchange.
- Ensuring technical support centers are locally based and have knowledgeable experts to support population health and public health.
- Making certain that all RFPs released include a population health and public health considerations.
- Securing support for CDC’s informatics center and research for population health and public health as part of the NIST efforts.
- Ensuring the workforce of population health and public health informatics experts is expanded and fully trained, and supporting workforce training that requires a spectrum of courses and skill development, similar to the models being proposed by the American Medical Informatics Association (AMIA).

Attachments:

- A. Acknowledgements: Minnesota e-Health Advisory Committee, Workgroup Co-chairs and staff
- B. Figure: Minnesota Framework for Effective Use of Electronic Health Records

APPENDIX E

Minnesota e-Health Initiative Advisory Committee Members

Walter Cooney

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Executive Director
Neighborhood Health Care Network
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and Chief Information Officer
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Representing: Academics and Research

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Maureen Ideker

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Marty LaVenture, PhD

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Carolyn Pare

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Jennifer Lundblad, PhD

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Barry Bershaw, MD

Medical Director, Quality & Informatics
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Improvement

RD Brown

Consumer Advocate
Representing: Consumers

Tim Gallagher

Vice President of Pharmacy Operations
Astrup Drug, Inc.
Representing: Pharmacists

John Gross

Director, Health Care Policy
Minnesota Department of Commerce
Representing: State Government

Paul Kleeberg, MD

Medical Director, Clinical Decision Support
HealthEast Care System
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Knowledge of Health Information Technology

Bobbie McAdam

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Brian Osberg

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Minnesota Department of Human Services
Representing: State Government Purchasers

Rebecca Schierman

Quality Improvement Manager
Minnesota Medical Association
Representing: Physicians

Peter Schuna

Administrator/CEO
Cerenity Care Center
Representing: Long Term Care

Joanne Sunquist

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Mary Wellik

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Tamara Winden

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Jennifer Sundby, RHIA

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The Evangelical Lutheran Good
Samaritan Society
Representing: Long Term Care

Michael Ubl

Director IT Strategy and eHealth
Blue Cross Blue Shield Minnesota
Representing: Health Plans

Bonnie Westra, RN, PhD

Assistant Professor
University of Minnesota, School of Nursing
Representing: Nurses

Proposed Working Framework

Effective Use of Electronic Health Records

