

# Minnesota Showcase

## Storyboard Summaries and Contact Information

**Title:** *Using Information Technology to Prepare Tomorrow's Healthcare Professionals*

**Organization:** *College of St. Scholastica*

**Contact:** *Shirley Eichenwald-Maki*  
[seichen@css.edu](mailto:seichen@css.edu)

Health professional education is faced with the challenge of preparing graduates who are confident and competent in using computer-based patient information systems as tools to enhance their clinical assessment, clinical problem analysis and clinical decision-making skills.

Two pioneering curriculum efforts within the Health Sciences Division at The College of St. Scholastica are focused on that specific goal:

- 1) The ATHENS Project is focused on infusing hands-on experiences with computer-based clinical information system applications into the curricula of students enrolled in all of the health professional programs. Funding source: U.S. Department of Education, Title III. Vendor Partner: Cerner Corporation.
- 2) The PHR Project is focused on advocating for consumer empowerment in healthcare decision-making. The project engages health professions' students in creating and maintaining a personal health record as a means to a) promote taking personal responsibility for their own health and b) improving the accuracy and completeness of their communications with their healthcare providers. Funding source: The Minnesota Community Foundation. Vendor Partner: CapMed, a Division of Bio-Imaging.

**Title:** *Itasca County Health Network*

**Organization:** *Itasca County Health Network*

**Contact:** *Lois McCarron*  
[lois\\_mccarron@yahoo.com](mailto:lois_mccarron@yahoo.com)

The purpose of the Itasca County Health Network (ICHN) Project is to improve health care quality, coordination, and cost containment through improved methods for exchanging information among consumers and health care providers. We are designing a system that facilitates quality improvement initiatives by allowing more timely and effective cooperation among health care providers and a system that enhances the efficiency of health care practices by streamlining data exchanges.

**Title:** *Health Information Technology Education and Health Informatics at the University of Minnesota*

**Organization:** *University of Minnesota*

**Contact:** *Stuart M. Speedie, PhD*  
[speed002@umn.edu](mailto:speed002@umn.edu)

The University of Minnesota has offered graduate programs for over three decades that focus on the use of information technology in health care. It admits both a variety of health professionals (physicians, nurses, pharmacists, etc.) as well as those with technical training in such areas as computer science who wish to move into the health information technology arena. The program offers a Masters in Health Informatics designed for working professionals and an MS – PhD track for those interested in developing either a more specific research focus or who seek a more comprehensive level of training in the area.

The program also maintains a post-graduate training program primarily for health professionals who wish to undertake a fellowship in health informatics. The program is funded by the National Library of Medicine and has fourteen positions for US citizens interested in advanced studies for a typical period of two years. Fellows in the program may choose to pursue a graduate degree or work with their advisory committee to create a personalized program that meets their career goals.

**Title:** *The Health Informatics Division – A Partner for Health Information Sharing*

**Organization:** *University of Minnesota*

**Contact:** *Diane Davies, MD*  
[Davi0284@umn.edu](mailto:Davi0284@umn.edu)

The Health Informatics Division of the University of Minnesota Academic Health Center has been engaged in the study and development of clinical computing projects for more than 30 years. It has a rich history of collaboration with many local health-related organizations which has expanded substantially in recent years with health information sharing becoming prominent on the nation's agenda. The Division's current portfolio of activities tied to health information exchange (HIE) includes partnering with three large Twin Cities health systems to develop a shared clinical abstract to be delivered at the point of care, broad and active participation in Minnesota's eHealth Initiative, dissemination of the community's HIE experience through broadcasted informatics seminars and connecting clinical research to primary care. This Division implements and evaluates HIE technology including but not limited to telemedicine, telehome care and teledentistry. Last, but not least, the Division is supporting BHCAG's Bridges to Excellence initiative, a community-based initiative dedicated to the improved care of patients with chronic disease through consumer engagement and the broad adoption of electronic medical records by caregivers.

**Title:***Improving Clinical Lead Screening Practices by Modeling Lead Exposure Risk with GIS*

*Organization: Dakota County Public Health*

*Contact:*Pat Adams

[pat.adams@co.dakota.mn.us](mailto:pat.adams@co.dakota.mn.us)

Childhood lead poisoning is a major, preventable environmental health problem. The Minnesota Department of Health recommends universal screening of children ages 3-6 years for lead exposure. However, lead screening has not been consistently practiced, with just an estimated 25% of children tested.

Efforts to target screening to children at highest risk have also had limited success, with only an estimated 30% of at-risk children screened. Risk factors include poverty, residence in pre-1978 housing, and proximity to highways or industrial sites – all factors that are difficult to assess through self-administered questionnaires.

However, many of these risk factors are directly related to geographic features that can be mapped through a Geographic Information System (GIS). GIS mapping can assist health care professionals in determining the necessity for blood-lead testing by developing a cumulative risk score based on location, such as a child's place of residence, location of daycare, or grandparent's house or other residence frequented by a child.

The application is easy to use in a clinical setting, and can quickly provide useful information to target lead screening efforts.

**Title:***Fond du Lac Reservation Human Services Division*

*Organization: Fon du Lac*

*Contact:*Marilyn Grover

[marilyngrover@fdlrez.com](mailto:marilyngrover@fdlrez.com)

The Fond du Lac Reservation Human Services Division provides a variety of health and social services for the local tribal community. The Division began using an electronic record system in 1988 and has continued to move forward technologically by investing in more advanced electronic health record systems. There are a total of twenty-four health care practitioners who use the systems or whose services are billed for electronically.

Systems include practice management, EHR, dental, public health, and pharmacy. As the use of technology has increased, so has the technology budget. Technology costs are currently approximately 4% of the overall Division budget.

**Title:**            **CONNECTED CARE**

*Organization: St. Mary's Duluth Clinic Health System*

*Contact:        Tess Settergren*  
[tsettergren@smdc.org](mailto:tsettergren@smdc.org)

Unique challenges exist for northern Minnesota e-health efforts. Clinicians need access to patient data, and to each other, in order to provide high quality care and manage population health. Population density, disproportionate age stratification, and a tenuous economic base across the region has given rise to widely dispersed rural physician practices, hospitals, home care/hospice, and long-term care facilities serving an aging population with multi-chronicity. Patient care is "shared" across disparate facilities, but clinical data sharing has been largely an inefficient paper-based task. Small rural healthcare organizations that partner with SMDC to provide a wide range of services find HIT capital and operating costs burdensome. SMDC Health System's e-health initiatives are focused on the following outcomes for 450,000 patients:

- Informed Clinicians
- Interconnected Clinicians
- Personalized Care
- Improving Population Health

**Title:**            **WIRED! Using Technology to Improve Patient Care at Northfield Hospital**

*Organization: Northfield Hospital*

*Contact:        Cindy Grolla*  
[grollac@northfieldhospital.org](mailto:grollac@northfieldhospital.org)

Northfield Hospital patients benefit from an Enterprise Medical Record (EMR) that provides better continuity in their care and enhanced communication. The EMR gives providers access to information across the patient experience. A patient may enter our system at our clinic or Emergency Department then move to surgery and be admitted to an inpatient unit. Each step of the way, providers have real-time access to vital health information for timely decision-making. We have implemented the same Meditech system throughout our organization for better integration. Patients experience fewer repeated questions but not diminished personal contact. Communication between the care team and patients can be more informed and efficient.

We are proud to be able to offer our community the benefits of new technology to complement our new facility. Our caregivers are entirely mobile with wireless networking that allows for real-time charting at the bedside. Nurses have a dynamic work list that is updated as the plan of care changes. Every aspect of our work has been affected in some way. Because we are utilizing the information system to its capacity, every department has been impacted. From Lab to Long-Term Care, from Outpatient Therapy to Pharmacy, our staff has been involved in building the Meditech system to meet the needs of our patients. In doing so, the staff has come to develop a sense of ownership of the system. Because of that personal investment, we know that we will have constant improvements which will mean even better care for our patients.

**Title:            *Doctor's Office Quality – Information Technology (DOQ-IT)***

*Organization: Stratis Health*

*Contact:        Sue Severson, CPHIT CPEHR*  
[sseverson@mnqio.sdps.org](mailto:sseverson@mnqio.sdps.org)

Stratis Health, Minnesota's Medicare Quality Improvement Organization, is embarking on a new initiative to promote adoption of health information technology (HIT) and electronic health records (EHRs) in Minnesota medical groups.

To assist in gaining a better understanding of EHR usage in the state, Stratis Health has surveyed Minnesota medical groups to identify their current level of utilization of these technologies and barriers that exist. The survey results will be shared to help identify the key barriers and issues around implementation and effective utilization for HIT.

DOQ-IT is a special initiative sponsored by the Centers for Medicare & Medicaid Services (CMS). CMS is placing a high priority on improving the quality of care, patient safety, and efficiency of services provided to Medicare beneficiaries in primary care practices through the use of information technology and electronic health records. Stratis Health has been funded by Medicare to assist Minnesota primary care practices that are at any stage of electronic health record (EHR) adoption\*from assessing EHR readiness, to selecting a vendor, to getting the most out of EHR after implementation. Stratis Health is committed to supporting practices as CMS funding permits, by providing education and training, tools, and on-site consultation to those who qualify.

**Title:            *Connecting a Community***

*Organization: Winona Health*

*Contact:        Janice Turek, RN, BS*  
[jturek@winonahealth.org](mailto:jturek@winonahealth.org)

The Winona Health Showcase demonstrates the unique services in Winona offered to patients and providers that enable them to work as a team electronically to manage their health.

Winona's Health Online offers a community service that allows patients and providers to communicate pertinent health information to each other when the information is most needed.

- Disease management with device integration
- View into the Electronic Medical Record housed at the clinics to find most frequently called for information:
- Labs, immunizations, allergies, problem lists and medications.
- Patients and providers can communicate securely to clarify and educate on healthcare issues.
- Appointments can be electronically scheduled
- Refills can be electronically requested

**Title:** *Minnesota Immunization Information Connection (MIIC)*

*Organization: Minnesota Department of Health*

*Contact: Emily Peterson-Stauffer*  
[emily.peterson-stauffer@state.mn.us](mailto:emily.peterson-stauffer@state.mn.us)

The Minnesota Immunization Information Connection (MIIC) is a network of regional immunization services—health care providers, public health agencies, health plans, and schools working together to prevent disease and improve immunization levels. These services combine high quality immunization delivery with public health assessment and outreach to help ensure children and adults are protected against vaccine-preventable diseases.

These regional services use a confidential, computerized information system that contains shared immunization records. This information system—also known as an immunization registry—provides clinics, schools, and parents with secure, accurate, and up-to-date immunization data, no matter where the shots were given. MIIC users can generate reminder cards when shots are coming due or are past due. And they greatly simplify the work of schools in enforcing the school immunization law.

MIIC is available to any organization listed in Minnesota’s Immunization Data Sharing Law (§144.3351).

**Title:** *Newborn Screening Program and Data Integration*

*Organization: Minnesota Department of Health*

*Maternal and Child Health*

*Contact: Nancy Vanderburg*  
[Nancy.Vanderburg@state.mn.us](mailto:Nancy.Vanderburg@state.mn.us)

Newborn Screening Data and program integration are this project’s primary goals. Data integration is being achieved through linkage of the newborn screening database – currently linking dried blood spot and hearing screening databases – with vital statistics, which at present includes birth only. Death records will be added by the end of 2005.

Newborn Screening is receiving regular data loads of vital records, and matching software has been developed, tested, and is being refined. Integration efforts are now in place to link a specialty care center care coordinator at University of Minnesota Medical Center to provide long-term tracking of clinical outcomes for children identified by newborn screening.

The NBS programs have been moved to a Web-based screening application accessible to internal NBS staff. Plans are progressing toward the linking of the newborn screening Oracle database with the Fetal Alcohol Syndrome Registry and the Birth Defects Information System. The Newborn Screening Public Health Laboratory has created and maintained the application, which is hosted on a shared MDH server.

**Title:** *Bridging the Gap: Adapting PHIN Models to Meet State Requirements for Electronic Laboratory Reporting*

*Organization: Minnesota Department of Health Laboratory*

*Contact: Alison Kress*

*[Alison.Kress@health.state.mn.us](mailto:Alison.Kress@health.state.mn.us)*

**Introduction:** The Minnesota Department of Health (MDH)'s Laboratory Automated Reporting System (LARS) was developed to support the state's centralized disease management model, which includes mandated reporting of infectious disease data by laboratories directly to MDH. LARS provides the extensibility necessary to support multiple formats for electronic laboratory reporting. Using PHIN/NEDSS standards, LARS was developed to complement the NEDSS Base System (NBS), meeting state-specific laboratory reporting requirements. Deploying the LARS system prepares the foundation for implementing the NBS in Minnesota. LARS supports our existing laboratory reporting needs while we transition to the NBS and provides web-based system maintenance, enhanced audit checking, and the ability to capture HL7 data elements used for laboratory reporting.

**Objective:** To demonstrate how LARS' enhanced functionality supports existing systems and supports state reporting requirements, while retaining the ability to be integrated with the NBS.

**Methods:** LARS was built using Java and Perl, commonly used, platform-independent programming languages. Results are processed in a Unix-based environment and loaded into an Oracle database from incoming HL7 2.3.x files or delimited files. Laboratory results are accessible via a web-based interface from which department staff can select and print reports. The same results are available in PGP-encrypted text files for ad-hoc statistical analysis. To meet state architecture and security requirements, the data resides on a central database behind a firewall. Data is de-identified after a given time interval, and is accessible using a two-level authentication and authorization process. A web-based system administration module facilitates test re-routing, statistical reporting, and system table and trading partner maintenance by the Registry Manager.

The underlying LARS data model is HL7 compliant and uses standard vocabularies, such as LOINC and SNOMED coding schemes. Data will be parsed from the LARS database into the NBS. Additional functionality supports multiple data exchange formats, intra-program result routing, data correction and enhancement, table maintenance, data de-identification, and extensive system-wide error checking not previously available. Examples of these enhanced functionalities will be shown.

**Results and Conclusions:** State requirements necessitated a laboratory reporting solution that could work as a gateway to the NBS, while retaining the ability to meet the specific needs of laboratories and MDH epidemiology staff. LARS provides the ability to work with the NBS and the extensibility and enhanced functionality needed at MDH.