

Lessons Learned from
Electronic Health Record Implementation
at Three North Dakota Critical Access Hospitals

March 2009



John Snow, Inc.
1860 Blake Street, Suite 320
Denver, Co 80202

Background:

The North Dakota Center for Rural Health is engaged in a collaborative project whose overall goal is to facilitate the exchange of health information in the participating communities by implementing an interoperable electronic health record (EHR). The intent of EHR implementation is to promote the improvement of patient safety and the efficiency and effectiveness of health care services in the respective communities. The participating communities are: Park River, Cavalier and Northwood. Short-term goals of the project involve evaluating and meeting the specific health care facility needs relative to health information technology (HIT) implementation and utilization. Long-term objectives of the project include employing a clinical portal and integration engine that will allow the electronic exchange of health information between disparate systems within all the health care organizations in the communities, as well as between the communities and tertiary care facilities.

As a component of this project, the North Dakota Center for Rural Health engaged John Snow Inc. (JSI) to assist the Center with evaluating data and work flow processes in designated health care organizations that are in the three participating communities listed above. The specific organizations are: Northwood Deaconess Health Center and Valley Community Health Centers in Northwood, First Care Health Center in Park River, and Pembina County Memorial Hospital (including CliniCare and Wedgewood Manor) in Cavalier. Two out of the three organizations (First Care Health Center and Pembina County Memorial Hospital) selected the Healthland EHR system, while Northwood Deaconess Health Center selected the American Healthnet product. Each organization was required to implement their EHR system within 18 months of grant funding by the Center for Rural Health and each facility was at a slightly different point along the EHR implementation continuum when JSI conducted their assessment.

JSI's assessment evaluated the success of the EHR implementation as it relates to increased work flow efficiencies and improved data flow within the specific organizations and across their respective components including clinics and nursing homes. The assessment included onsite interviews, reviews of facilities and infrastructure, and consideration of pertinent background documentation. Within each organization, interviews were conducted with Administrative, Information Technology (IT) and Clinical staff. In addition to gaining an understanding of the organization and the workflow, the interview tools, which were distinguished by discipline, were intended to uncover the perceived successes and challenges of the EHR implementation and help identify any outstanding HIT issues facing each organization.

As a result of the assessment, JSI provided each organization with a report that included a written analysis of how EHR implementation has affected the data and work-flow within the organization. In addition, the individual reports included



some recommendations for improving the flow of data within each organization and planning for effective implementation of HIT in the future. The purpose of this report is to outline some common successes and challenges that were experienced across the organizations and provide some broad recommendations related to the HIT implementation process that could be beneficial to other health care organizations in North Dakota interested in implementing an EHR.

The cross-cutting themes on which our recommendations are based are listed below and are categorized as pre-implementation and post-implementation findings. In addition, some highlighted success and challenges are also listed to help illustrate what some of the organizations found most helpful and where obstacles may have been avoided. Those recommendations that were common to all three organizations have also been included.

Pre-EHR Implementation Findings:

- Staff expressed a desire to have the EHR selection process and implementation goals clearly explained to them, including communication about how health information technology (HIT) fits into the overall mission of the organization, particularly Quality Improvement objectives regarding patient health outcomes and process measures.
- Many staff wanted to be included early in the EHR planning phases in order to identify and address any potential shortcomings in the system.
- There was significant consensus that selection, planning and implementation of an EHR would ideally be completed over a period of 36 months rather than the 18-month time frame in which these particular organizations implemented their systems.
- Clinical staff across the organizations agreed that planning for a period of decreased productivity during EHR implementation would have been helpful in reducing anxiety.
- An organization-wide assessment of basic computer skills was an important step in designing an effective training program. Staff who did not consider themselves to be computer savvy appreciated the opportunity to receive fundamental computer literacy training prior to EHR implementation.
- Spending time building forms and entering values into the system was seen by most staff as an excellent opportunity to thoroughly review the forms currently being used and design them in a way that ensured adherence to regulations while also capturing more content with less effort than with paper charts. Although, all staff agreed that a comprehensive

internal work flow and data analyses completed prior to EHR implementation would have been beneficial.

- Regardless of which system was being discussed, the vendor trainers were considered to not be knowledgeable enough across different modules to provide a comprehensive training experience. This created a feeling that the training sessions were too compartmentalized. The hindsight among staff is that if training was more comprehensive, the overall communication might be increased and the amount of inaccurate information currently being entered into the system might be decreased.
- Training was thought to be most beneficial when provided by an individual that had a broad health care background including some clinical knowledge so the individual could explain the big picture.
- Cross-fertilization of departmental staff within training sessions was also suggested as a helpful strategy to learning the “big picture.”
- Having many “super-users” trained helped expedite some basic IT support to the end users, particularly after hours when it was more difficult to access internal or external IT support.
- A delay in training medical providers (particularly in electronic signatures) caused a subsequent delay in achieving the anticipated work flow efficiencies that come from using an EHR.
- Follow-up training sessions were thought to be something worth considering now that staff has a better sense of what questions to ask.
- Each organization felt that they had limited opportunities to collaborate with like-organizations currently utilizing similar EHR products, therefore losing potential learning opportunities.

Post-EHR Implementation Findings:

- Staff members agreed that daily and then weekly EHR meetings following implementation were a valuable forum for raising concerns and sharing suggestions. In addition, having a clear process for prioritizing requests proved helpful in addressing problems/issues.
- Nursing staff felt that beginning the use of EHR with one patient and increasing the number of patients on the EHR system incrementally as they were able to adapt to the system helped to relieve stress levels and enhance learning.

- Each organization saw the value in using the EHR to support Quality Assurance/Improvement (QA/QI) and Utilization Review efforts.
- In order to help alleviate some of the user concerns, several staff are being given the opportunity to participate in internal and external EHR forums and user groups.
- Leadership support for an environment of trust and open communication was found to foster honest feedback on the system and the EHR implementation process, which points to increased buy-in that is necessary for successful HIT initiatives.

Highlighted Implementation Successes:

- Communicating a clear process for prioritizing IT requests
- Conducting weekly EHR meetings where various departments and levels of staff identify and resolve issues
- Training a sufficient number of super-users to empower staff to problem-solve simple user issues
- Transitioning to the EHR starting with 1 patient a day and increasing at a slow pace
- Making a strong investment in training (both initially and ongoing)
- Supporting HIT at the highest level through organizational leadership

Highlighted Implementation Challenges:

- Clear and up front communication of the vision for HIT and how it fits into the organizational mission
- Lack of comprehensive work flow and data analyses prior to EHR implementation
- Encouraging providers to utilize the EHR, including the use of electronic signatures
- Collaborating with other organizations, particularly other CAHs in North Dakota
- Obtaining comprehensive training from the vendor
- Allowing enough time to complete the selection, planning and implementation process (ideally 36 months vs. 18 months)
- Preparing for a loss in productivity that accompanies EHR implementation.

Common Recommendations:

LEADERSHIP AND PLANNING:

1. Develop 5-year HIT Plan: To illustrate how the short and long-range needs/objectives/plans of HIT fit into the overall mission and goals of the organization, particularly the organization's Quality Improvement objectives regarding patient health outcomes and process measures.

COMMUNICATION:

2. Further Enhance Communication between the Hospital and other entities, such as the Clinic and/or the Nursing Home: To improve information flow between all levels of care with a focus on the patient, like disciplines across all three levels of care should communicate regularly.
3. Continue Developing Collaboration Opportunities between Critical Access Hospitals that have implemented an EHR: To share experience and potential solutions to common issues.
4. Work towards Interoperability with other Health Care Organizations in Community: To ensure the ability to electronically exchange patient information in a secure environment.

BUILDING HIT CAPACITY:

5. Continue Training: To enhance efficiency and job satisfaction on behalf of all staff. In addition, ongoing training opportunities will help to standardize processes and procedures, eliminate workflow redundancies and identify where skills-based trainings would be best utilized.
6. Develop Job Description for "Super-User": To describe the essential functions that a super-user plays in supporting the IT functions of the organization.
7. Complete written job descriptions for IT staff: To define the duties, essential functions and requirements of IT-related positions/roles, establish performance standards upon which IT staff can be evaluated, and use in recruitment if/when the HIT needs of the organization grow to support the IT function.
8. Maintain an ongoing training schedule: To provide new employees with training and current staff with ongoing/maintenance training that will enhance efficiency and job satisfaction, standardize processes and procedures, and identify where skills-based trainings would be best utilized.

9. Update Policies and Procedures: To update all staff with clear and concise documentation on how roles, responsibilities and/or processes may have been changed due to implementation of the EHR, as well as instruct staff on the appropriate usage of computer equipment and detail procedures for IT help desk functions.
10. Implement a Standardized Orientation Process: To ensure consistencies across hospital, nursing home and clinic operations in the use of HIT.

MAXIMIZING THE IMPACT OF HIT:

11. Ensure that Clinical Documentation Issues of EHR are Addressed: To hold the vendor accountable for necessary improvements to the EHR's functionality in order to facilitate its use by all staff.
12. Compile a List of Necessary and Useful Reports: To optimize the effectiveness and utility of the EHR, management staff should develop a list of useful reports that can be generated from the system, so that the vendor can begin to build the reports.
13. Develop Evaluation Criteria: To establish a framework for each HIT initiative in order to quantify the success and/or need for improvements.
 - a. Include stakeholders in the development of the evaluation framework
 - b. Track the metrics identified in the evaluation framework for an agreed upon time span and report back to the stakeholders
 - c. Identify and address any areas where the system has not yet met expectations
 - d. Develop a plan to address those areas in the future
14. Encourage Future Interoperability: To promote clinical information exchange between the hospital and other entities, such as a community health center and/or nursing home.