AHRQ Grant Final Progress Report

Title of Project: EMR Planning to Improve North Iowa Healthcare

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Organization: Hancock Memorial Hospital

Dates of Project: 09/30/2004 – 09/29/2005

Federal Project Officer: Anna Poker/Lisa Dolan-Branton

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Grant Award Number: 1P20 HS015396

1. Structured Abstract

Purpose and Scope: The purpose of this project was to design a comprehensive, 3-year plan to implement an integrated electronic health record (EHR) for nine small, rural hospitals and their affiliated physician health organization clinics.

Methods. The project partners (nine small, rural hospitals; their secondary referral center; and local Public/Community Health departments) followed a six-step planning process led by the Principal Investigator/Director, Steering Committee, and external consultants over a 1-year time frame. Success was measured on an ongoing basis by evaluating the activities/ process and outcomes of the planning steps. Project participants also completed final surveys to evaluate the effectiveness and results of the entire planning project. **Results.** Project objectives were met within the 1-year time frame due to a high degree of commitment from the partnering organizations as well as the strength of the six-step planning process. The partners prepared a detailed, 3-year plan to implement a standard, sophisticated, and integrated EHR system with computerized physician order entry, evidence-based care guidelines, decision support tools, and revenue cycle products. The proposed EHR system will be supported by Application Service Provider and Remote Host Organization contracts with Mercy Medical Center–North Iowa and Trinity Health. In addition, the project partners applied for and received a 3-year AHRQ HIT Implementation Project Grant that began on September 30, 2005. Evaluations from participants demonstrated higher than average satisfaction with the processes and outcomes of the planning project.

Key Words. Health information technology (HIT), electronic health records (EHR), rural hospitals, rural healthcare

2. Purpose

The purpose of this project was to design a comprehensive, 3-year plan to implement an integrated electronic health record for nine small, rural, Critical Access hospitals and their affiliated physician health organization clinics.

Objectives

1. To complete a successful system-wide, patient-centered planning process led by physicians, nurses, and other clinicians across the partnering organizations in collaboration with administrators, local information systems staff, and expert consultants.
2. To produce a comprehensive, 3-year plan for implementing an integrated EHR system and compatible technologies that will: A) effectively, confidentially, and securely exchange patient information within and across the partners' diverse healthcare settings; B) increase evidence-based care practices; and C) achieve significant, measurable, and sustainable improvements in patient safety, quality of care, and organizational and financial efficiencies.

3. Scope

Background. The nine hospitals that developed an EHR implementation plan through this project are non-profit county, city, and private Critical Access facilities that provide acute, outpatient, clinic, home health, hospice, and long-term care across their diverse healthcare settings. All nine hospitals are members of Mercy Health Network–North Iowa, which is led by Mercy Medical Center–North Iowa, a secondary referral center and the largest

medical provider in the region. Several factors make it a high priority for our hospitals and affiliated primary care clinics to develop an interoperable, integrated electronic health record system: A) North Iowa residents frequently move across our healthcare settings to access care. B) A large number of employed and contracted primary care physicians and specialists, nurses, and pharmacists rotate across two or more of these facilities. C) Budget cuts and declining inpatient levels have led to substantial staff reductions, requiring many hospital and clinic staff to hold multiple job responsibilities and juggle several administrative and/or clinical roles each day. D) Our hospitals serve a high percentage of elderly persons with advanced cardiovascular or cerebrovascular conditions, who are at high risk for experiencing medication errors, especially adverse drug reactions.

Context. Our nine hospitals are committed to strengthening Mercy Health Network–North Iowa and have a strong track record in collaborating to improve healthcare across the region. We jointly purchase hospital supplies and equipment; share physicians, nurses, pharmacists, and other clinical and technical staff; collaborate on many training, quality improvement, and evaluation activities; and coordinate or integrate several administrative, clinical, financial, and technological functions. Nineteen multidisciplinary and interdisciplinary groups of administrators, clinicians, and support staff from our hospitals and clinics meet regularly to share information, resources, and strategies to improve the quality and efficiency of services. From 2000 to 2003, Mercy Health Network–North Iowa was ranked as one of Modern Healthcare's Top 100 Integrated Healthcare Networks based on disease risk management, primary care base, and corporate mission. In 2003, we received a Rural Health Care Network grant award from the HRSA Office of Rural Health Care Policy for establishing a new patient safety network to design and evaluate coordinated strategies for improving patient care and reducing medical errors. The AHRQ HIT Planning Grant project provided an opportunity for us to devise a strategy for implementing integrated information technologies to further enhance patient safety, quality, and efficiency.

Setting. Our hospitals serve 12 sparsely populated north-central Iowa counties with approximately 62,000 residents. All 12 counties are designated as "rural" and have one or more federal and/or state Health Professional Shortage designations based on low ratios of providers to patients. Seven of the 12 counties are also wholly or partially classified as Medically Underserved. This area has one of the highest percentages of elderly people in the United States, with more than 19% of the total population age 65 or older, compared with the averages of 15% for the state of Iowa and 11% for the nation. Local citizens face a depressed farm economy, generally low off-farm wages, and limited access to healthcare. Five counties also have small, but rapidly growing, new immigrant populations from Mexico, ranging from 2.4% to 6% of the total population.

Participants

1. Nine rural, Critical Access hospitals that are members of Mercy Health Network–North Iowa:
    - Hancock County Memorial Hospital, Britt
    - Belmond Medical Center, Belmond
    - Ellsworth Municipal Hospital, Iowa Falls
    - Franklin General Hospital, Hampton
    - Kossuth Regional Health Center, Algona
    - Mercy Medical Center-New Hampton, New Hampton
    - Mitchell County Regional Health Center, Osage
    - Palo Alto County Health System, Emmetsburg
    - Regional Health Services of Howard County, Cresco

2. Mercy Medical Center–North Iowa (MMC-NI), Mason City. MMC-NI is a secondary referral center that leads Mercy Health Network–North Iowa.
3. Trinity Health (Trinity Health, the corporate owner of MMC-NI, participated in Step 5.)
4. Community/Public Health agencies within our service area

4. Methods

Design. The Principal Investigator/Director and Steering Committee followed a six-step planning process that was designed and implemented with assistance from two expert consultants: James Flanagan (PhD, MD), Associate Professor, Clinical Internal Medicine, University of Iowa, and Medical Director of Informatics, Language and Computing, Inc.; and Mark Wilcox (MBA and BA), President of Management Systems Integration.

Step 1: Educate Leaders/Staff Regarding HIT/EHR Benefits and Needs

Major Activities. Dr. James Flanagan, project consultant, led an evening workshop to educate hospital and public/community health board members, administrators, and clinical and administrative staff about the functionalities and capabilities of integrated electronic health record systems. Hancock County Memorial Hospital hosted the presentation, which was transmitted to all nine hospital sites via live teleconferencing. Dr. Flanagan's presentation emphasized the benefits of EHR for accessing patient information and improving clinical quality and organizational effectiveness. He also provided an overview of the processes required to successfully plan and implement an effective EHR system. The last half hour was devoted to an open discussion and staff questions regarding planning, implementing, and using integrated EHR systems.

During the next few days, Dr. Flanagan traveled across the network hospitals to lead educational and needs assessment discussions with Steering Committee members; hospital clinical and administrative leaders; physicians, nurses, pharmacists, and therapists; radiology, laboratory, and medical records personnel; and public/community health agency staff. He used a structured process to encourage staff to express opinions about major gaps and problems with their current paper and electronic health record tools; describe and prioritize the additional patient information and EHR applications they would like; list the care delivery and administrative process goals they wanted to achieve through implementing an integrated EHR system; and discuss their concerns and negative views about increased used of IT in healthcare. Dr. Flanagan used this information to prepare an EHR implementation feasibility report that summarized the assets, gaps, and barriers to EHR implementation within and across our hospitals and clinics.

Evaluation Methods. Participants were asked to complete a generic, printed, anonymous, evaluation survey to appraise Dr. Flanagan's evening presentation. The survey used a four-point scale. However, because all other project evaluation tools used a five-point Likert scale, average scores from this survey were mathematically converted to approximate a five-point scale rating. Dr. Flanagan's needs assessment discussions were not formally evaluated.

Step 2: Prioritize Goals

Major Activities. Dr. Flanagan presented his EHR feasibility report to the Steering Committee. Later, he assisted the PI/Director and Steering Committee in organizing seven formal EHR priority and goal-setting sessions with established key staff groups from the hospitals and clinics and Public/Community Health programs. During these

sessions, participants were asked to compose and prioritize specific, measurable patient care delivery and organizational improvement goals they would like to achieve through implementation of an integrated, patient-centered EHR system. Facilitators asked staff groups to consider the following issues:

- Medical errors and/or other clinical quality problems that could be reduced through increased access to patient information and use of standard, evidence-based practices
- Medication problems, including adverse drug reactions, that could be reduced through improved procedures and alerts at ordering, dispensing, or administration
- Processes for ordering tests, medications, and other treatments and reporting results
- Patient scheduling, registration, and billing procedures
- Communication among clinicians within individual healthcare sites and organizations and among clinicians across the collaborating organizations and referral centers
- Communication between clinicians and patients
- Privacy and security of patient data

Evaluation Methods. Participants were asked to complete an anonymous online survey, evaluating the structure and process of the goal-setting sessions. We did not formally evaluate Dr. Flanagan's feasibility report or his presentation to the Steering Committee

Step 3: Analyze Organizational Readiness

Major Activities. The PI/Director and Steering Committee organized and guided an assessment of the readiness of the participating hospitals and clinics to successfully implement an EHR system. They asked leaders (CEOs, Directors of Nursing, Chief Financial Officers, and Directors from Clinical, Revenue Cycle, and Development departments*)* at each partnering organization to complete a readiness assessment tool that was designed and validated by Trinity Health. Participants used the tool to rate their current level of organizational readiness within the following areas:

- Use of quantifiable metrics in strategic planning and business planning processes
- Use of decision support tools and data for clinical and operational decisions
- Staff knowledge of key metrics monitored by the organization
- Use and sharing of quantifiable objectives across the organization
- Use of specific quantifiable measuring tools – i.e., balanced scorecards, dashboard reports, industry benchmarks to monitor organizational performance
- Emphasis on quantification skills in staff hiring, performance appraisals, and promotion processes
- Alignment of individual staff, department/unit, and organizational performance and rewards with achievement of specific metrics

Evaluation Methods. Participants were asked to complete an anonymous online survey, evaluating the process and outcomes from the organizational readiness assessment.

Step 4: Select New EHR Infrastructure and Applications

Major Activities. Mark Wilcox, rural health information technology consultant, and his assistant, Jim Bale, conducted technical HIT/EHR assessments and goals discussions at the nine hospitals to clarify each organization's clinical and administrative information priorities, parameters, and their projected 3-year budget for hardware and software. Wilcox assessed the existing HIT tools used by the regional hospitals, clinics, community

health agencies and major referral centers and investigated sources and options for building or purchasing and integrating additional infrastructure and EHR applications. He also explored possible common data repository systems and sites (such as Trinity Health and the Iowa Department of Public Health) and researched the steps needed to implement secure, common data storage. With this information, Wilcox prepared written recommendations for acquiring the EHR system capabilities desired by hospital and clinic leaders and presented these recommendations to the Steering Committee.

Evaluation Methods. Mark Wilcox's activities were not formally evaluated.

Step 5: Create 3-year Implementation Plan

Major Activities. The PI/Director and Steering Committee members used the planning decisions and major documents prepared in Steps 1-4 and held many additional planning meetings with MMC-NI and Trinity Health EHR and IS leaders to create a 3-year EHR implementation plan. This plan was incorporated into an AHRQ HIT Implementation grant application. Extensive discussions continued during the final months of the grant project to prepare specific ASP/RHO agreements among MMC-NI, Trinity Health, and the regional hospitals.

Evaluation Methods. At the end of the project, the PI/Director and Project Coordinator prepared and distributed two anonymous, online evaluation instruments to the Steering Committee and all hospital staff who participated in formal project activities. The first survey measured staff satisfaction with the planning project's process and structure. The second assessed staff satisfaction with the planning project's outcomes.

Step 6: Evaluate the Effectiveness of the Planning Process

Major Activities/Evaluation. The Steering Committee and other staff who participated in formal planning activities were also asked to complete a final, anonymous, online summative evaluation of the entire planning project.

Limitations. Several significant challenges arose during this project. First was a lengthy delay in securing a Project Coordinator. Jean Loes was eventually hired but was not able to officially begin this role until 10 days before the end of the Planning Grant period. Craig Bryan, Administrative Fellow for MMC-NI, was assigned specific project coordination responsibilities until Jean was hired. Second, during the final months of the grant period, project leadership was disrupted when Toni Ebeling, PI/Director, was reassigned from her position as CEO of the lead hospital to become interim Vice President of Patient Services for MMC-NI. John O'Brien and Sylvia Getman, CEOs from two participating rural hospitals, assumed some of Toni's PI/Director duties to keep the project on schedule. Third, project leaders had to compress several key components of the planning timeline in order to prepare an AHRQ HIT Implementation grant application by mid-April. Together, these factors strained some of the project's internal communication and evaluation processes. Consequently, key outcomes information from each planning step were not always communicated widely across the organizational partners, and formal evaluations were not completed for all major project activities. This contributed to a significantly smaller percentage of hospital staff who completed the final project evaluations compared with evaluative surveys during the early months of the project (i.e., the response rate of surveys administered in December 2004 and February 2005 were 62% and 80%, respectively) compared with the 25%-32% response rate for surveys administered in November 2005.

5. Results - Outcomes and Findings

Step 1: Educate Leaders/Staff Regarding HIT/EHR Benefits and Needs

Outcomes. Ninety staff (including Steering Committee members) attended Dr. James Flanagan's workshop about the functionalities and capabilities of electronic health record systems and/or the small-group educational and needs assessment discussions that he led at several hospitals. Dr. Flanagan prepared an EHR summary/feasibility report, which encouraged the regional hospitals to work toward a uniform electronic health record system that was compatible with MMC-NI's system in order to improve continuity of care for patients across Mercy Health Network–North Iowa. He also recommended that the regional hospitals explore a lease arrangement for IT services from an intermediary (such as MMC-NI, Trinity Health, or the state of Iowa) rather than purchasing software and hardware and, if possible, operationalizing some of these costs.

Findings. Fifty-six of the 90 participants (62%) returned completed evaluation surveys, rating the content and quality of Dr. Flanagan's formal presentation *(refer to Figure 1).* The average overall score was 2.88, less than what would be considered average approval. Three statements had average scores, indicating relative agreement/approval or higher. Although no formal evaluations were completed for Flanagan's small-group educational and needs assessment discussions, many Steering Committee members and other staff participants reported that the sessions were very informative and useful and increased staff enthusiasm for EHR implementation.

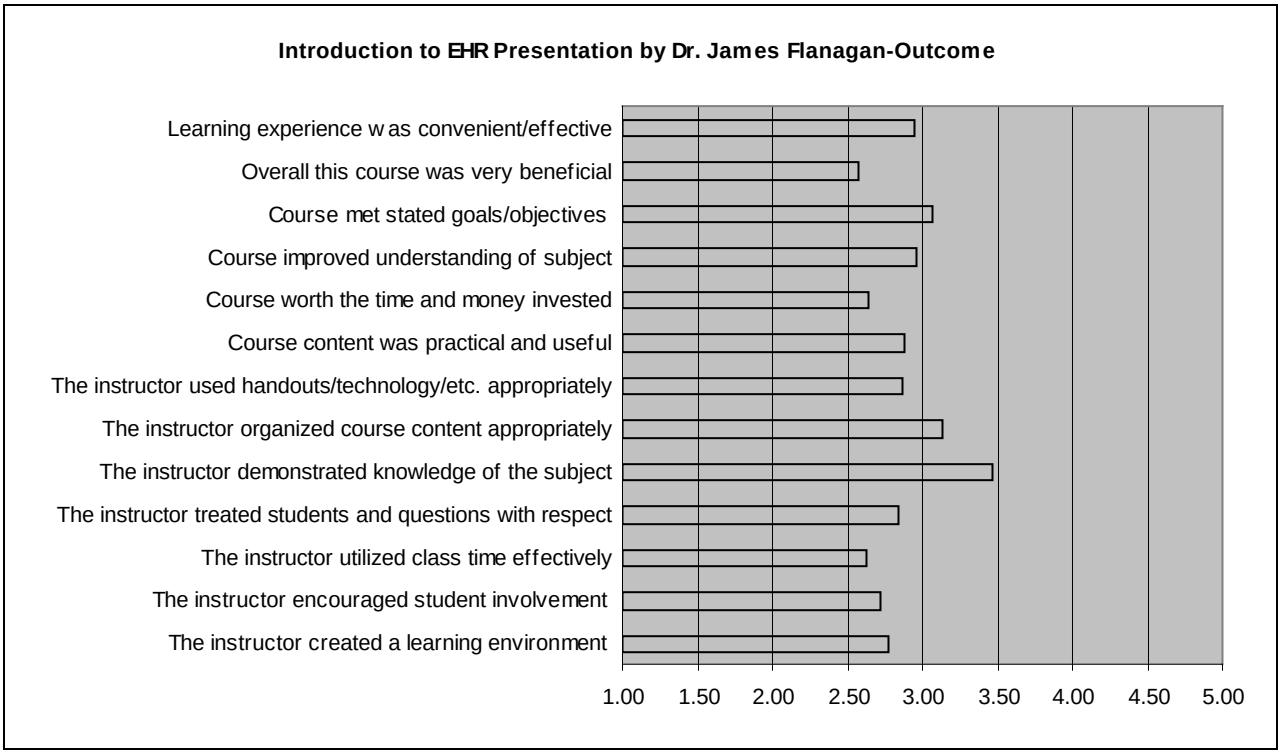


Figure 1. Dr. James Flanagan EHR/HIT Grant Presentation-Outcome Evaluation Results. n=56

Step 2: Prioritize Goals

Outcomes. Seven hospital affinity groups identified and prioritized their goals/needs regarding an electronic health information system. Five groups ranked access as a top

priority, followed by ease of use, use of a common patient identifier, security, and inter(intra)-operability. Order entry/alert systems were also ranked in the top five priorities for three groups. Group members also expressed a number of concerns regarding EHR implementation, such as security and patient privacy, limited IS staffing and capital budgets, and back-up support for malfunctions and system failures. *Refer to Appendix A for summarized results of goal-setting sessions.*

Findings. Fifty-nine of 74 participants (80%) returned evaluation surveys. The grand mean score obtained by averaging the scores for each survey statement was 3.9; 3 is considered relative agreement/approval. Four of the six statements had scores equal to or greater than 4, indicating a higher level of agreement/approval with the goal-setting process (*refer to Figure 2).*

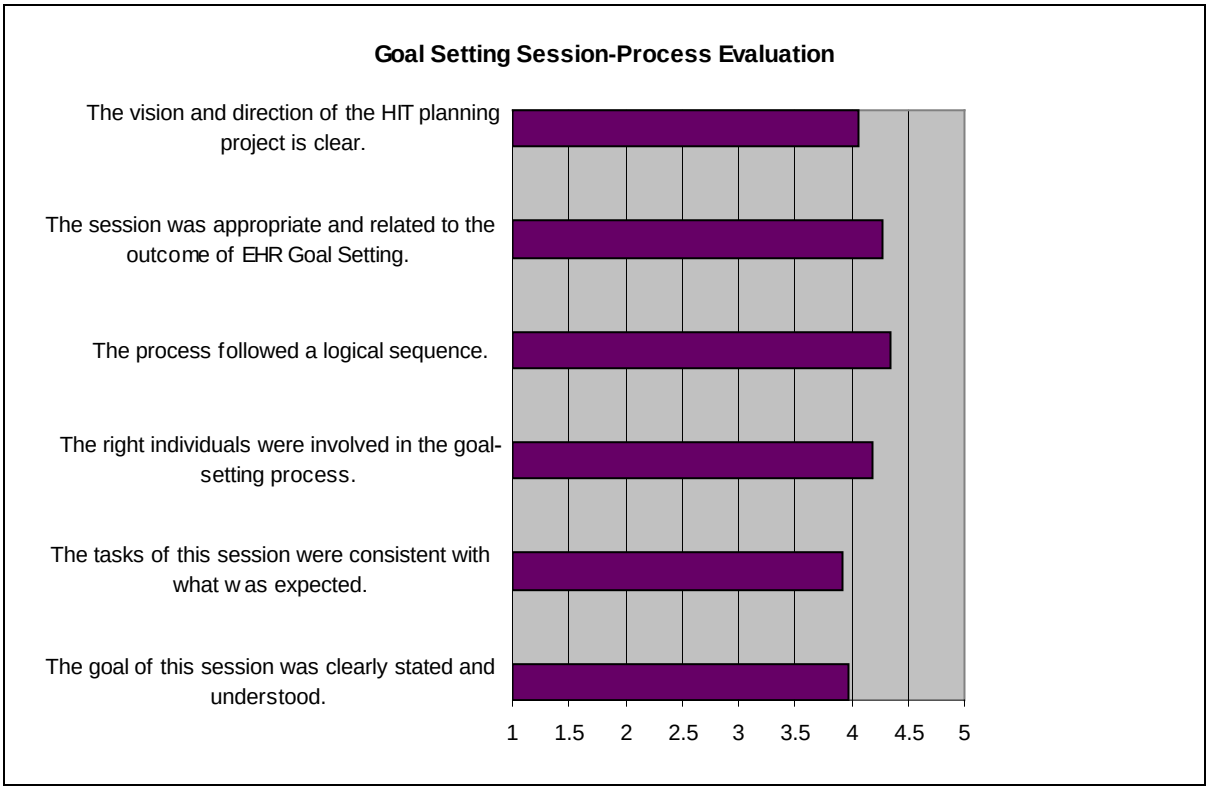


Figure 2. Goal Setting Session Process Evaluation Results. n=59

Step 3: Analyze organizational readiness

Outcomes. Each organization completed a readiness organizational tool. Trinity Health scoring guidelines for the tools are as follows: 13-26 points = organizational environments that are unprepared to support EHRs; 27-39 points = environments that may not be prepared to support EHRs; 40-52 points = environments that are prepared to support EHRs; and 53-65 points = strong environments for supporting EHRs. Our nine regional hospitals averaged a total score of 41 points, indicating environments that were supportive but at a relatively low level of readiness for EHR implementation. Two hospitals had lower than average scores, indicating less support or readiness for EHR implementation. *See Appendix B for summary of results.*

Findings. Thirteen of 37 participants (35%) returned process and outcomes surveys, evaluating the readiness assessment process. The grand mean score obtained by

averaging the scores from each process survey statement was 3.92 (*Figure 3)*. The grand mean score for the outcome surveys was 3.67 (*Figure 4).* This indicated slightly more than average approval for the readiness assessment process and outcomes.

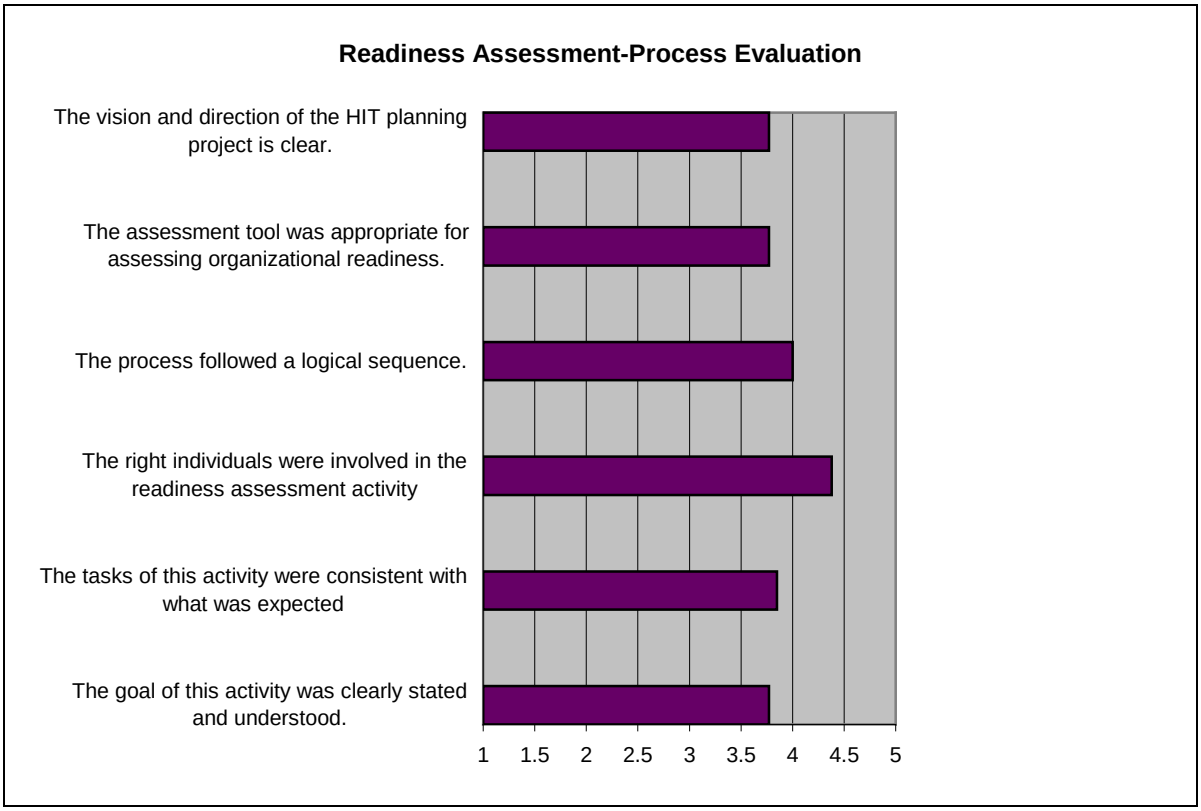


Figure 3. Readiness Assessment-Process Evaluation Results. n=13

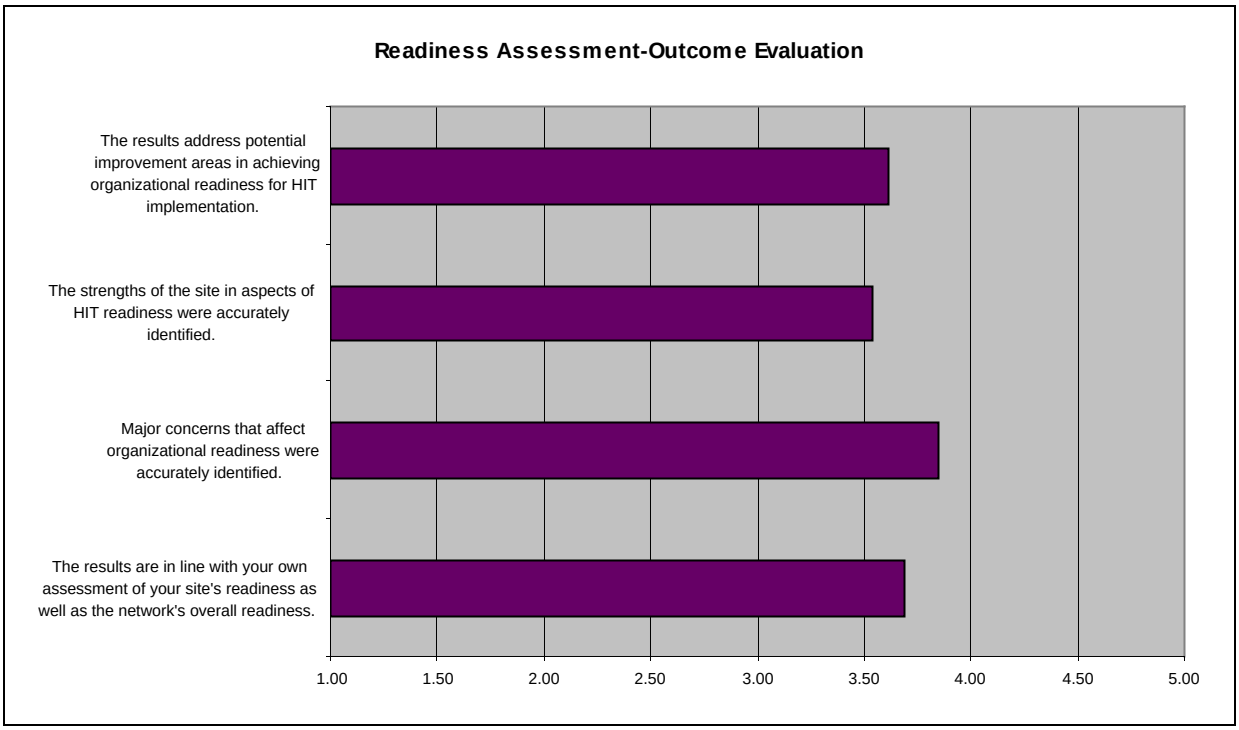


Figure 4. Readiness Assessment-Outcome Evaluation Results. n=13

Step 4. Select New EHR Infrastructure and Applications

Outcomes. Mark Wilcox and his assistant Jim Bale found major gaps and inadequacies in the availability of vital patient information as well as fragmentation or duplication within the clinical and patient registration systems used by the regional hospitals and clinics. Based on patient safety and technical factors, Wilcox and Bale recommended that the hospitals and clinics develop a long-range HIT plan focused on acquiring the same integrated electronic health record applications that were implemented by MMC-NI. They also concluded that our hospitals and clinics could not develop a robust, viable EHR system that would meet federal inter-operable data standards and (HL7) care delivery capabilities by acquiring more clinical components from our current major HIT vendor because of inherent limitations within their clinical applications and the company's resistance to allowing interfaces. Because of the frequent movement of North Iowa patients, physicians, and other clinics between the regional hospitals, their affiliated clinics, and MMC-NI, the consultants advised that quality of care and patient safety would be greatly advanced if all network facilities used one EHR system with a common patient identifier system and shared clinical data repository. To overcome the limited financial, technical, or staffing resources within the regional hospitals, Wilcox recommended that our organizations consider an Application Service Provider (ASP) and Remote Host Organization (RHO) contractual arrangement with MMC-NI or with Trinity Health as a potentially practical and affordable method for achieving a fully integrated EHR. Note: The EHR implementation recommendations offered by Dr. Flanagan and Mark Wilcox were very similar.

Findings. Although no formal evaluations were conducted of Mark Wilcox's project activities, Steering Committee members orally agreed that his site visit assessments and written recommendations were very helpful in developing our EHR implementation plan.

Step 5: Create Implementation Plan

Outcomes. Drawing on staff surveys and the consultants' recommendations, the Steering Committee worked with IS leaders from MMC-NI and Trinity Health to develop a detailed, 3-year EHR implementation plan. Through combining the clinical and technical expertise as well as financial resources from the partnering organizations, the regional hospitals and clinics will implement a sophisticated, standard, and comprehensive EHR system. The plan includes integrated computerized physician order entry, evidence-based care guidelines, decision support tools, revenue cycle products, and a redundant data repository. The major EHR vendors are Cerner and McKesson. Our new EHR technologies will be identical or very similar to those implemented by MMC-NI and will also be interoperable with their system. The Steering Committee submitted this plan to AHRQ in an HIT Implementation Grant application, which was funded.

Although the Project Steering Committee is extremely pleased with the implementation plan we prepared, with assistance afforded by the AHRQ Planning Grant, there is one major disappointment. At this point, MMC-NI and Trinity Health IS along with clinical informatics leaders agree that it is not financially or technically feasible to integrate or interface the proposed regional hospital EHR system with the information systems used by out-of-network health agencies in North Iowa, which also provide care to MHN-NI patients. However, this remains a long-range goal. Meanwhile, organizational leaders will continue working with these community health agencies and professionals on ways to use the new EHR system to increase and improve sharing of patient information in a secure, HIPAA-compliant manner.

Findings. Nineteen of 59 participants (32%) completed the implementation planning process evaluation survey, and 15 (25%) responded to the implementation planning outcome evaluation survey. Survey results indicated generally high levels of satisfaction with the implementation planning process. The grand mean score obtained by averaging individual process survey statement scores was 4.0. The grand mean score obtained by averaging the individual outcomes survey statement scores was 3.4. *(Refer to Figures 5 and 6.)*

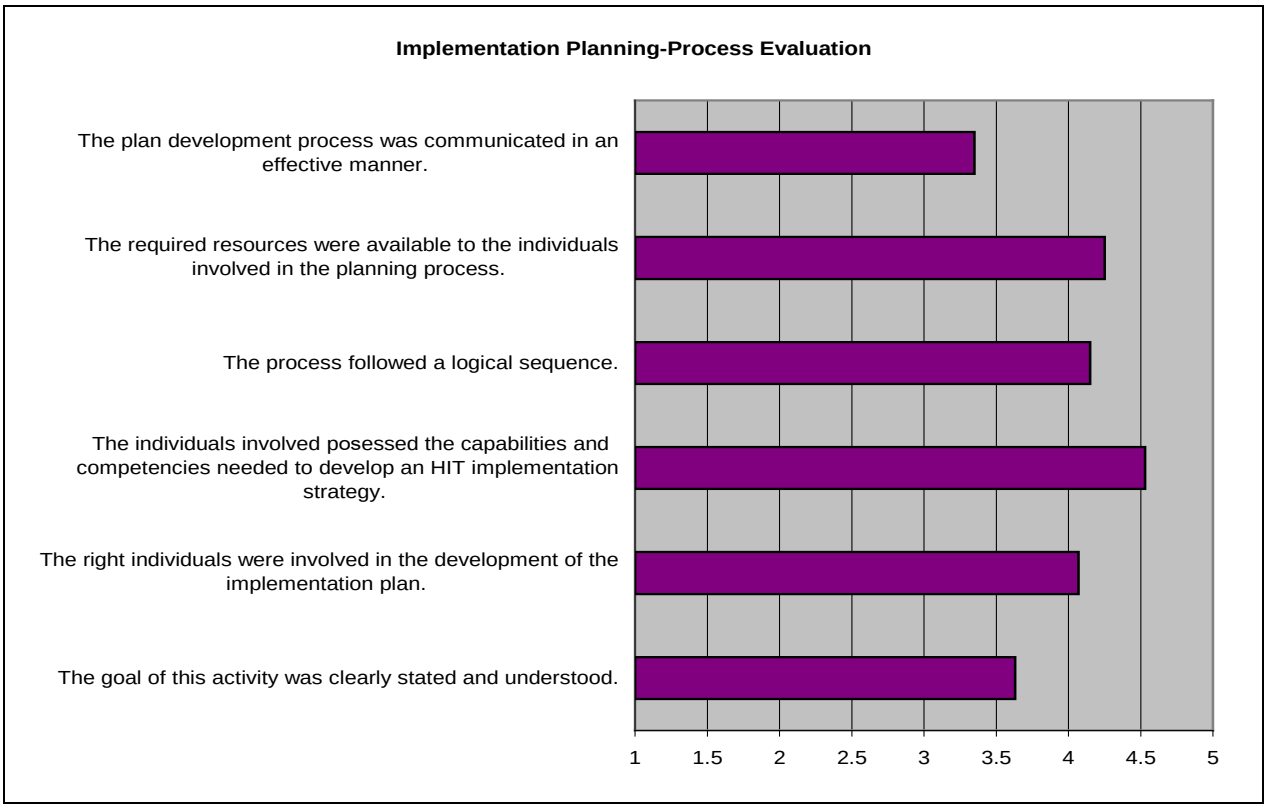


Figure 5. Implementation Planning-Process Evaluation Results. n=19

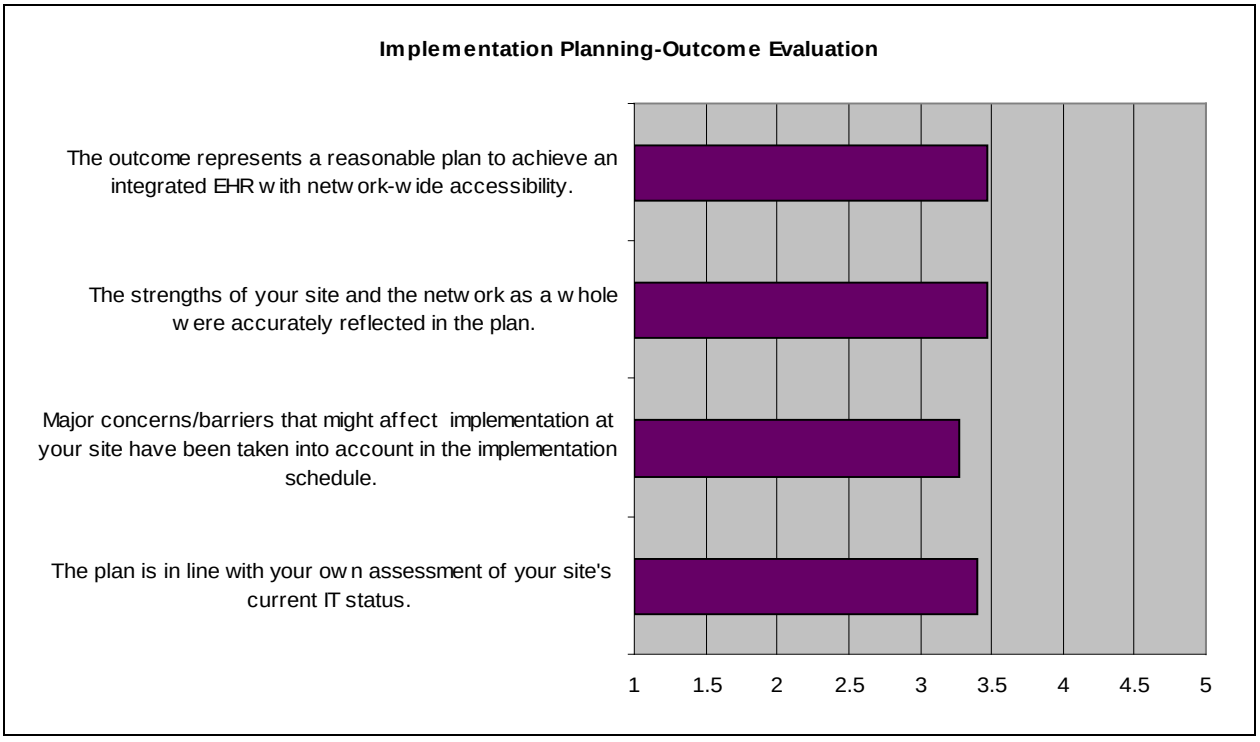


Figure 6. Implementation Planning-Outcome Evaluation Results. n=15

Step 6: Evaluate the Effectiveness of the Planning Process

Findings. Twenty-two of 79 participants (28%) responded to the final summative survey, evaluating the entire planning process. The grand mean score obtained by averaging the individual survey statement scores was 3.53, which reflected slightly higher than average approval for the entire planning process. (*Refer to Figure 7.*) Participants also rated the level of integration and support that each of the major partnering organizations (the nine regional hospitals, MMC-NI, and Trinity Health) contributed to the planning process (*refer to Figure 8).* The overall rating of integration/support contributed by all partners was 3.28. MMC-NI received the highest organizational score for integration/support, with a score of 3.45.

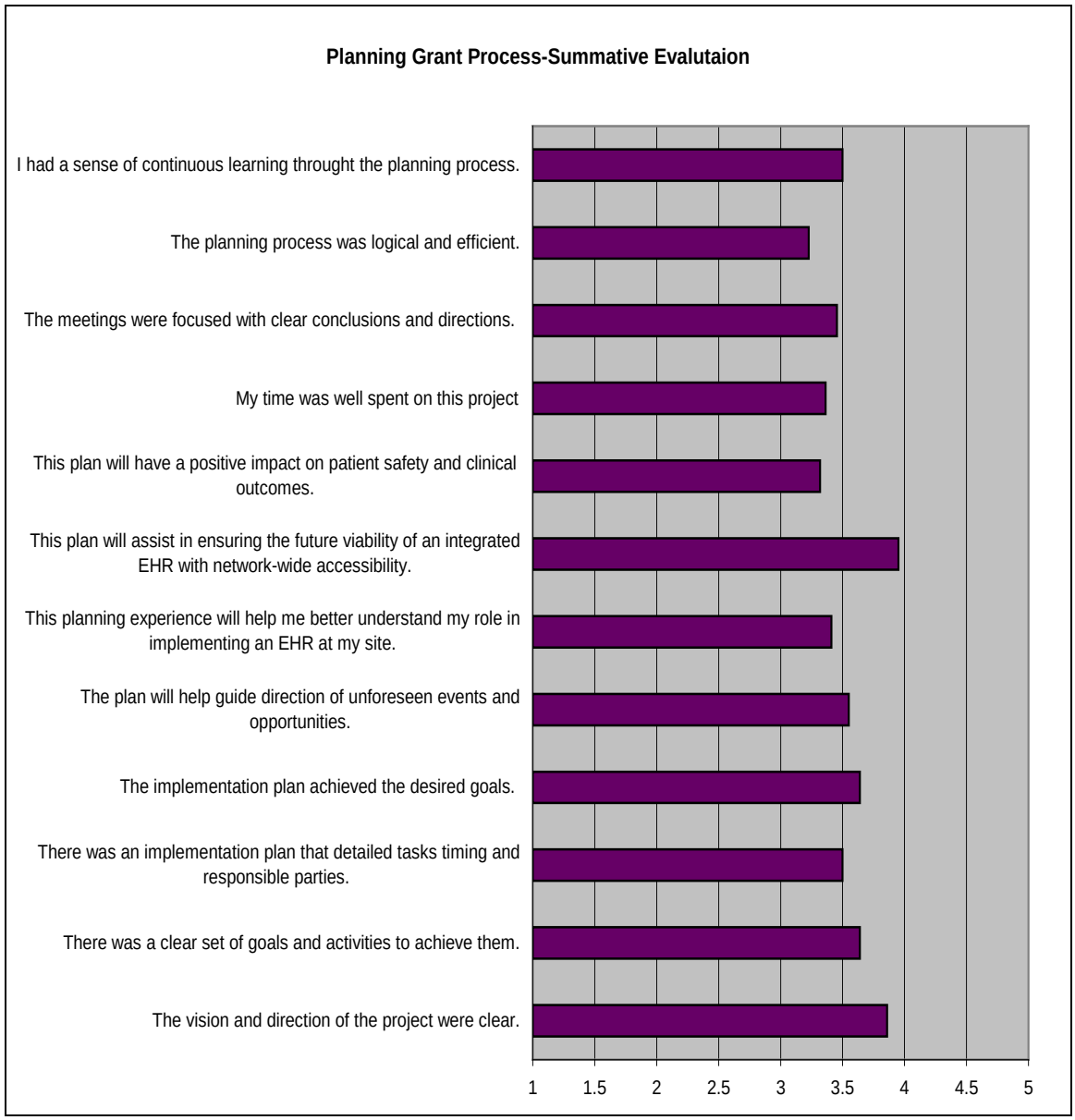


Figure 7. Planning Grant Process Summative Evaluation. n=22

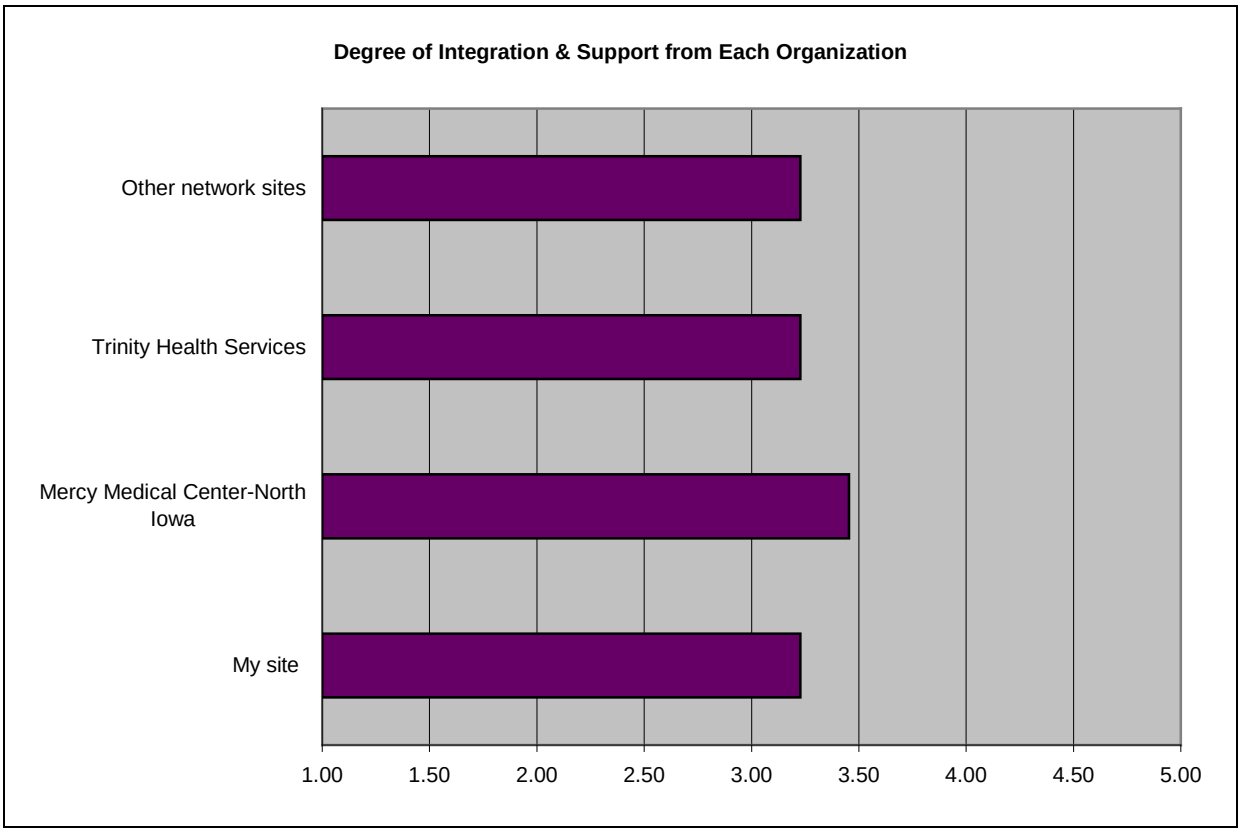


Figure 8. Degree and Integration and Support from Each Organization. n=22

Discussion/Implications/Conclusions

Negative

Although our planning process was very successful overall, it was not perfect. Audio-visual and teleconferencing problems as well as a late start for a lengthy evening workshop interfered with Dr. James Flanagan's, "kick-off" presentation and probably contributed to the relatively low evaluation ratings that he received. Unfortunately, we did not gather official evaluations of the small-group discussions or HIT assessments conducted at the individual hospitals by Dr. Flanagan and Mark Wilcox. Nor did we ask the committee members to evaluate Flanagan and Wilcox's reports or their presentations to the Steering Committee. Anecdotal comments from Steering Committee members and other hospital leaders and clinical staff regarding both evaluators were very positive and indicated that staff interest in HIT grew substantially from interacting with the two consultants. Overall, the Steering Committee believed that the influence and expertise of both Dr. Flanagan and Mr. Wilcox greatly contributed to the success of this planning process.

The low evaluation response rates and "so-so" ratings for some project activities in Steps 3, 5, and 6 were anticipated due to the challenges discussed previously under "Limitations." In addition, the views expressed by this relatively small sample of respondents may not have represented an accurate view of all staff.

Positive

By following this structured, step-by-step, planning process, the nine regional hospitals were able to prepare a thoughtful, informed, and comprehensive EHR implementation plan that will help us to achieve a much higher level of quality, efficiency, and documentation of patient care within and across our organizations. Staff who participated in the project have

also significantly increased their knowledge and understanding of the functions and capacities of electronic health record systems as well as the complexities and challenges of successfully implementing new integrated EHR technologies into ongoing patient care and revenue cycle processes.

Appendix A

EHR Goal Setting Sessions
Summarized Results in Rank Order (Top 5)

1. **Access**
2. **Ease of use**
3. **Common Patient Identifier**
4. **Security**
5. **Inter(intra)-operability**

Summary of overall findings:

Priority Ranking	Goals Identified:						
1st	**Access (5)**	Inter-operability (1)	Building the infrastructure (1)				
2nd	**Ease of Use (3)**	Order Entry/alert system (1)	Security (1)	Single data repository (1)	Inter-operability (1)		
3rd	**Common Patient Identifier (3)**	Alert System (1)	Security (1)	Archiving Old Records (1)	Standardization of operations (1)		
4th	**Security (2)**	Access (1)	Order Entry (1)	Ease of Use (1)	Med Reconciliation (1)	Compliance(1)	Access (1)
5th	**Inter(Intra)-operability (2)**	Access (1)	Adequate Training (1)	Pharmacy to drive CPOE (1)			

Comments:
Of the top five rankings from all seven groups

- Five of seven groups identified access as a top priority
- Ease of use, inter/intra-operability and security were identified in the top five for four groups
- Having common patient identifiers and an order entry/alert system were identified in the top five for three groups

Participating Groups:

Network Clinic Nurses Group
Network HIM Group
Network Hospital Pharmacist Group
Network Radiology Staff Group
Network Laboratory Staff Group
Network Quality Assurance Group
Network Nursing & Patient Care Team

Appendix A (continued)

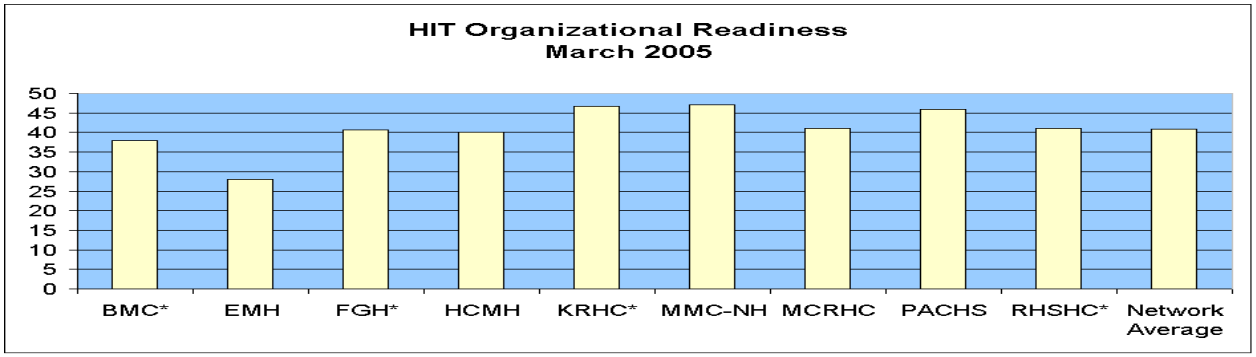
EHR Goal Setting Sessions

Summarized Results (Top 5)

	Radiology	Medical Records	Quality Assurance	Laboratory	Network Nursing & Patient Care	Clinic Nurses	Pharmacy
1	Access • Network wide • Outside the network	Inter-operability amongst all sites	Access (timely)	**Access**	Individualized care plans – multiple assessments drive the plan of care (Access)	Access • Patient info • Computers	Building the baseline infrastructure – needs to be computerized first
2	Single data repository	Security Access Audit trail	• Ease of use • Built-in compliance	Order entry with alert system/ overrides	Easy to use Alert system	• User friendly, easy • Adequate timely training	Inter-operability with entities outside of the network
3	Common patient identifier	Archiving old records	"Alert" system	Unique patient identifier	One Patient identifier	Privacy/confidentiality of patient information – access security	• Standardization of operations, yet retain individual characteristics of each unique site • Remote tele-pharmacy capability
4	• Order entry • Access	Ease of use	• Secure record • Track who has been in the record	Private & Secure, track all changes	Med reconciliation with tests, allergies, etc.	Compliance among all users	Access to all information
5	Intra-operability among all IT systems	Access during downtime	Intra-operability among all IT	Adequate training for all users	Access	Access • Outside of the "Network"	Pharmacy needs to be priority number 1 to drive CPOE

Appendix B
Mercy Health Network-North Iowa Organizational Assessment Survey

		BMC	EMH	FGH	HCMH	KRHC	MMC-NH	MCRHC	PACHS	RHSHC	Network Average
Driven by Business Strategy	Each department is expected to draft a business plan in correspondence with the organization's strategic planning cycle.	1	1	2	2	3	4	2	4	2	2.33
	Departmental business plans include quantifiable metrics to gauge progress toward the strategic plan.	1	2	3	2	4	5	2	4	2	2.78
Focus on Beliefs and Behaviors	Organizational beliefs include a fundamental emphasis on the usage data and of information for real-time, clinical/operational decision making.	4	3	3	4	4	4	4	4	4	3.78
	This belief is openly demonstrated throughout the organization.	4	2	3	4	4	4	3	4	3	3.44
Ensures Accountability	Employees know what key metrics they are to monitor.	3	3	3	2	3	4	5	3	4	3.33
Alignment from	Individuals, departments, operating units, and the entire organization share specific quantifiable objectives.	4	2	3	3	4	4	3	3	4	3.33



	Individuals, departments, and operating units clearly understand how their performance impacts the clinical/operational metrics that are used to manage the organization.	3	2	3	2	3	3	2	3	4	2.78
Links Rewards to Performance	The organization links rewards (monetary and/or other) to utilization of its information.	2	1	2	2	2	2	2	2	3	2.00
	The organization stresses the importance of quantitative skills in the hiring, performance appraisal, and promotion processes.	4	2	3	4	4	3	4	4	4	3.56
Process to Identify & Focus on Key Metrics	The organization utilizes balanced scorecards to ensure consistency in objectives throughout the entire system.	2	1	3	4	3	4	4	3	3	3.00
	Financial/operational dashboard reports are used to monitor performance and make subsequent adjustments as necessary.	3	4	4	4	4	4	4	4	4	3.89
	The organization utilizes industry benchmarks (financial or operational) to identify areas for improvement.	4	3	4	5	4	4	4	4	4	4.00
	Utilization of decision support tools and information management system(s) is a management core competency.	3	2	3	2	3	2	2	4	4	2.78
	Totals	38	28	41	40	47	47	41	46	41	41

*Facilities submitting multiple surveys. Scores were averaged.

Guide to Scoring:

13-26 Points - Environment Does Not Exist for Leveraging an Electronic Health Record
27-39 Points - Environment May Not Support Leveraging an Electronic Health Record
40-52 Points - Environment Supports Leveraging an Electronic Health Record
53-65 Points - Strong Environment Exists for Leveraging an Electronic Health Record