Essential Steps in Super User Education for Ambulatory Clinic Nurses

Shannon McIntire
Teresa Clark

As more hospitals, clinics, and other health care facilities begin to implement electronic medical records (EMRs), there is a growing need to determine strategies for successful implementation. One strategy is having nurses as super users. Super users are defined as a class of higher-level EMR software users who help with software customization and assist clinician end-users with its use. This experience is shared to help others employ possible strategies with implementing an EMR.

Implementing an EMR is an important yet time-consuming task. Once implemented, the EMR can be used to improve patient care, promote patient safety, improve documentation, and reduce costs (Brown, Rudman, Hughes, Rogers, & Smith, 2002; Burt & Sisk, 2005; McCain, 2008; Rouf, Chumley, & Dobbie, 2008; Simon et al., 2008). When it comes to the provision of health care, the recognition of an EMR’s value is escalating. EMRs have the ability to address health care providers’ need for information, increase collaboration among members of care teams, and provide decision-support functions that enhance the quality of health care (Anderson, 2000; House & Johnson, 2008; Terry et al., 2008; Townes, Benson, Johnston, & Vaughn, 2000).

Pre-implementation and education steps for ambulatory care nurses chosen as super users are described in this article. Those chosen as super users supported a new electronic medical record (EMR) within a large academic medical center with more than 200 health care specialty clinics. Essential steps prepared these super users to integrate the EMR into their daily workflows.

Key Words: Electronic health record (EHR), electronic medical record (EMR), education, adoption methods.

Objectives

1. Discuss the role and responsibilities of super users during the education process of an electronic health system.
2. List objectives for pre-implementation education of an electronic health system.
3. Describe the education intervention method for implementing an electronic health system in a medical facility.

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Shannon McIntire, MSN, RN, is an IT Specialist, Iowa Veterans Home, Marshalltown, IA

Teresa Clark, MSN, RN, University of Iowa Hospitals & Clinics, Iowa City, Iowa

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Note: Objectives and CNE Evaluation Form appear on page 343.
umentation needs for the EMR.

Every health care facility has state, federal, and professional standards with which they must comply regarding documentation. Accreditation standards, such as The Joint Commission, or special certification standards, such as National Cancer Institute (NCI) designation, are other standards that can impose needs. Identifying and coordinating all complete documentation requirements for specialty areas, such as urology services, can be a challenge. Figure 1 provides essential objectives for pre-implementation education of a new electronic health system.

Once the initial set up of the EMR software has occurred, a plan needs to be established by the project management team within the organization for who will be responsible to educate the nurses on the new system, and how and when this will occur. Nurse educators, nurse informaticists, training teams from the software company, or even hired consultants are possible choices as educators. Implementation of an EMR at a large hospital with the complexity of multiple outpatient clinics will require many nurses using the system. Each nurse will have to be educated prior to full implementation, as well as participate in the continuing education associated with system updates.

Background

A 680-bed comprehensive academic medical center and regional referral center located in the Midwest embarked on an extensive journey toward transitioning to an EMR system. According to the medical center’s annual report, there were more than 200 health care specialties available, with many outreach clinics accessible throughout the state. In one fiscal year, the medical center recorded over 850,000 outpatient visits. The medical center employed more than 500 ambulatory nurses; among those nurses, more than 100 were considered “super users” for the EMR. Super users were in a class of higher-level EMR users who were more knowledgeable in their ability to operate the EMR software and could help others with the system. Preferably, super users had some experience with using a mouse, keyboard, and possibly some Microsoft Word skills, such as copying and pasting.

At this medical center, approximately 7000 employees required EMR software training. This number included both inpatient and outpatient staff from all health care disciplines. Of the approximate 7000 employees, roughly 3000 were employed as ambulatory staff (University of Iowa Hospitals and Clinics, 2009). In January 2007, the medical center officially initiated the plan to implement a new enterprise clinical information system that would be used in both the inpatient and outpatient settings (University of Iowa Hospitals and Clinics, 2009). They had previously used a combination of both paper and electronic medical records. Interestingly, throughout the medical center, more than one type of electronic record was utilized. Some areas had a home-grown electronic record that had been in place for around 20 years, while other areas had newer software purchases from a commercial vendor.

Since there was a combination of record types being used, there was a great variety of computer skills and attitudes among nurses for switching from existing products and methods. The medical center had implemented software in previous years, and the nursing informatics department was already well established. They had prior experience of successful techniques for educating nurses. This article discusses the initial education of outpatient or ambulatory care clinic nurses in the role of super users on the new electronic medical record software.

Figure 1.
Three Essential Objectives for Pre-Implementation Education of an Electronic Health Information System

1. Introduce the electronic health information system early to nurses chosen as super users to foster a comfort level with software prior to implementation.
2. Provide nurses with a more productive acceptance testing experience using patient scenarios.
3. Allocate time to review/analyze workflow to gather input from super users and all clinical EMR users during pre-implementation. This will enable customization of the system and sufficient process improvement to ensure minimal workflow disruptions to nurses during and after implementation.

Purpose

The purpose of this article is to describe the education process utilized at the medical center as it progressed toward the implementation of the EMR, specifically the planning and implementation of overview sessions designed to educate ambulatory clinic super users on the use of new EMR software. The aim of these overview sessions was to teach basic functionality of EMR software to a smaller group of nurses before education was provided to all nurses throughout each ambulatory clinic. Introducing the system early during the pre-implementation phase to a super user group was an attempt to provide a smoother transition during and after “go-live” of the EMR. The overview
sessions provided the nursing informatics department and the nursing super users with time to identify which pieces of clinical content for documentation or other functions within the EMR still needed to be added to the EMR design. Since overview sessions were conducted approximately six months prior to the “go-live” date, there would be time to make changes before educating all clinicians.

Initial set-up of the vendor’s EMR software was basic, and content was minimal, much of which was meant for all users in general rather than specifically for each specialty area. The system at the time of the overview sessions did not have all the documentation features that each nurse from every possible clinic would need on the day of “go-live.” Much of the final documentation requirements were being collected from each of the ambulatory clinics by the nursing informatics department. Subsequently, the information collected was being built into the system before, during, and after the overview sessions being offered to super users. The dynamic changes to the EMR were seen by super users who could provide feedback on the design prior to formal testing and general training. The intent was to have all EMR documentation ready for the final education provided to all clinicians. The overview sessions were basic functionality only.

This new software came equipped with both a training module and a playground module. The training module allowed nurses to be educated on the basic functionality of the EMR software in a classroom environment. The playground module provided nurses the ability to continue practicing after the overview sessions, thus providing them the opportunity to become more proficient at using the software. Past software programs did not have a playground module in which to practice, so this was an important new feature to assist with education and on-going practice.

Staff identified as super users by their ambulatory clinic nurses managers would help identify any missing documentation areas not currently in the EHR but seen as beneficial. Super users reported those documentation items to nurses informatics staff, who then worked to reduce as many content gaps as possible prior to “go-live” with the EMR developers. Content would continue to be developed before, during, and after go-live as necessary. Super users needed to be proficient at basic computing skills, such as using a mouse and keyboard, and have the willingness to help assist others in learning how to use the software later.

**Education Intervention Method**

The first step for setting up overview sessions was to create a lesson plan with scenarios that would fit into a specified time-frame allotted for each session. In the case of overview sessions, the education was to last approximately two hours. This would allow super users a first glance at the software without overwhelming them. From past educational experiences with software, nursing informatics staff had found that training worked best if no more than 10 to 15 nurses were in a computer session at once. Too many nurses with varying levels of computer skills in one class frustrated those who were proficient with the computer and those who were not as proficient. Keeping the class size small can prevent the participants from feeling like the session is moving too fast or too slow. The goal was to make sure the entire lesson plan was covered within the time constraints, while at the same time, giving nurses the confidence for understanding the information at the end of the session.

Scenarios would include basic outpatient skills, such as how to locate a patient; change the login clinic; view upcoming appointments, demographic information, notes, or labs on scheduled patients; document telephone encounters when someone calls in with questions or concerns; document information during a clinic visit, such as allergies, patient history, and vital signs; administer and record immunizations; and record the administration of medications. These scenarios were basic and not focused on any one particular type of clinic.

The next step included having a staff person from the Health Care Information System (HCIS) Department set up 30 patient records in the system that could be used during the overview sessions. Thirty temporary user IDs and passwords were created by HCIS to provide access to this information. The training user IDs and passwords ensured that the correct clinic and patient scenario record could be accessed for training purposes. These records simulated real patient records by having similar personal, demographic, and health history information. The simulated records would be used to educate super users on the new system to develop skills for working with the new electronic record.

**Super User Role and Responsibilities**

Nurse managers within each clinic area were contacted by the nursing informatics department and requested to identify nurses and other staff who were willing and able to be a super user. Super users would have a responsibility to attend the initial overview session for the EMR and then commit to attend future testing sessions, attend a final educational session before all other nurses would be educated, participate as facilitators during future educational sessions for the rest of the nurses, and serve as an on-going resource for nurs-
es once the software was implemented.

Before any overview sessions were scheduled, the nurse managers from each ambulatory clinic determined how many nurses they wanted as super users. Nurse managers also identified times and days that would allow staff to participate in the educational sessions. The nursing informatics department then consulted with HCIS to reserve computer labs for the three weeks needed to provide overview educational sessions. The number of sessions to be implemented was directly determined from the amount of nurses and the available seating in the computer lab. Computer training labs consisted of classrooms with 10 to 15 computer terminals. Each nurse would have his or her own computer, while the designated trainer demonstrated EMR functionality by projecting an image of the EMR screens on the wall and giving step-by-step instructions.

Seating availability for each computer lab within the hospital varied. Computer lab rooms that seated no more than 15 to 20 staff and were available during the days, and timeframes needed were reserved. Sign-up sheets stating the days, times, and computer lab locations of the trainings were made available to the nurse managers so that super users could sign up to attend an overview session.

One nurse informant served as the primary educator along with 1 or 2 facilitators for the first day’s overview sessions. This process worked well, and therefore, was continued for the remaining sessions. As the nurse informant discussed how to complete different steps in the EMR software, a view of the EMR was projected onto the wall at the same time. Facilitators were available if individual instruction or support was requested or needed during the sessions. Facilitators were of great benefit to assist nurses should they miss any steps during the overview sessions.

**Super User Training**

The medical center had 142 ambulatory super users sign up to attend overview sessions. Two different computer labs were utilized. One computer lab held 10 computers, while the other held 20 computers. A total of 12 overview sessions were held over a 3-week period. Days and times of the week for overview sessions were determined by the nurse managers from each clinic’s first or second choices, and also by when the computer labs were available. As a result, overview sessions were scheduled in the afternoon on Wednesdays, Thursdays, and Fridays, with Thursdays allowing for two afternoon sessions.

Of the 142 super users attending the sessions, at least 64 were staff nurses, 17 were medical assistants, and 28 were nurse managers. Other super users included advanced practice nurses, clinical nurse specialists, and other ambulatory care personnel. Educators and facilitators arrived at least 15 minutes early to unlock the computer room door, start each computer so that computers were ready at the login page, have a sign-in sheet available to record who attended the training sessions, and ensure that hand-outs were printed and available for those attending the session. The initial 30 to 40 minutes of each session was used for a review of the timeline for implementing the EMR, and explaining the purpose and importance of the roles of super users. Super users provided assistance within the clinical area, answered questions from other users, and identified documentation needs for their specific clinic service that were not present within the EMR. In the remaining 80 to 90 minutes, patient scenarios were presented, and the super users were allowed to use the system and ask questions.

Overview sessions also allowed the nursing informatics department an opportunity to see which super users were catching on quickly and which were going to need a little extra help to learn the system to help teach others. The sessions allowed the educator to identify positive and any potential negative attitudes super users had toward the system. Super users who struggled more with learning the system needed remedial education and additional guidance to learn the new software. Those who were less positive about the system needed extra encouragement to embrace the organizational change. Both knowledge and a positive attitude were beneficial to teach other clinicians new EMR skills. Knowing the super user’s abilities and attitudes gave the nursing informatics staff an idea of which clinical areas would potentially require more help on the first and following days of “go-live.”

Since the medical center chose to utilize the “big-bang” method of implementing the system (meaning everyone starts using the system the same day), it was very important to make sure super users were ready and available on the day of “go-live.” There were not enough nursing informatics and HCIS staff available to cover all shifts and all areas on the day of “go-live” without the help of the 142 super users.

Super users were encouraged to practice on the system in the software’s playground environment as soon as possible and as often as possible. Instructors acknowledged that “time” is a premium on the units and in the clinics. There were few opportunity units available while working to practice on the computer. For this reason, several short training patient scenarios were developed so that nurses could get online and practice individual scenarios for 5 to 10 minutes at a time.

Super users were also instructed to utilize the e-learning modules located on Sharepoint, a Microsoft intranet tool used by the medical center to manage...
shared educational documents. The e-learning modules were an interactive way to learn via the computer and provided both review and additional training in computer skills. The e-learning modules reviewed basic functionality of the system but also included short interactive training modules showing staff how to use basic computer functions, such as a mouse or keyboard. Some of the modules were created by the software vendor, and others were created by the medical center’s HCIS staff.

Once super users were comfortable with the basic functionality of the EMR software, they contacted the nursing informatics department to have a competency checklist signed off. The checklist was a method to ensure that the EMR functions covered in the overview sessions were exhibited by the super user, who would be able to demonstrate to other staff the basic functionality of the system. This allowed for more involved participation of the clinical nurses and super users in the learning process. To decrease the amount of hours spent in final EMR instruction, super users were to review certain functions with all clinic staff and then sign off a competency checklist for each clinician in their clinic area. Some competencies known prior to final EMR instruction included the login process; finding a patient on a clinic schedule; finding a patient in the EMR not on the schedule; performing a chart review to view progress notes, labs, or other miscellaneous documents; and the logout process. Competency checklists needed to be signed off prior to final EMR instruction approximately six weeks before the actual “go-live” date.

**Discussion**

Providing overview sessions to super users at least six months prior to “go-live” was a new tactic for the medical center and has been used by others (Halbesleben, Wakefield, Ward, B rokel, & Crandall, 2009). In the past when overview sessions were not offered, nurses were not well prepared to be critical evaluators in testing their workflow of the system prior to actual implementation for acceptability. Nurses were too busy trying to access screens and understand basic functionality rather than identify how the system was used to document care for the patient. Patient scenarios for testing acceptance identified what was successful or what important documentation pieces were still missing.

**Strengths of Overview Sessions**

Identifying super users early and having overview education sessions early provided a non-threatening way to become familiar with the system before attending sessions used to test functionality of the EMR for acceptability. The goal of this method was to allow super users to gain experience with the system, thus providing for a more productive acceptance testing process later on. Super users were encouraged to provide input into the customization of the system for their particular practice environment. Any questions regarding how each super user’s clinic or ambulatory workflow would fit into the system was necessary to make the testing sessions productive to finding any remaining deficiencies before implementation.

Having a nurse experienced with technology provide the training sessions to other nurses was important and of great benefit. Non-clinical information technology staff could provide overview sessions but were unable to answer the clinical workflow questions. An ambulatory or inpatient nurse is much better suited to answer nursing documentation questions related to electronic charting to capture the nursing process completely.

Overview sessions also provided a “mock” experience for the educators to identify what worked and what did not work during sessions for super users. This made subsequent education sessions flow more smoothly. Individuals who reported previous exposure to electronic records systems appeared to have an easier time comprehending the material and transitioning to the EMR system.

**Limitations of Overview Training Sessions**

A limitation to providing overview sessions for super users included the numerous personnel and time resources necessary to have and attend the sessions. Education sessions increased the operational expenses, primarily associated with session salary requirements. Beginning the education process six months in advance of “go-live” required early commitment of staff time, thus reducing available clinic staff. To appropriately select super users, nurse managers needed training and assistance to understand the responsibilities of “super user” and what the role encompassed.

**Opportunities for Future Overview Training sessions**

There are always ways to improve education sessions, and providing super user overview sessions is no different. For future EMR education sessions, it would be beneficial to have e-learning modules available earlier within the medical center’s educational course management application located in Sharepoint. This would allow super users to become comfortable with the system’s features earlier and across the communities with affiliated clinics having smaller staff.

The ability to collect data and analyze how many nurses are practicing on the playground module would have been useful to determine the level of use for these resources. The usage reports from the playground
module would be a method to identify where the clinic nurses used the system to practice, and therefore, would be better prepared for the testing sessions and final EMR education sessions for all clinicians, and skilled as a resource on the day of “go-live” and after.

Conclusion

The adoption rate of EMRs in health care settings varies widely, and there are many barriers and risks involved with implementation. One major challenge has been the time commitment involved to learn and use EMRs. Because people learn by different methods and at different rates, some nurses will learn faster and others more slowly. In order for the implementation of an EMR to be effective, there has to be buy-in from the top administration down to each employee (Fullerton, Aponte, Hopkins, Bragg, & Ballard, 2006; Houser & Johnson, 2008; Terry et al., 2008). How much the nurse manager supports and buys into the importance of the EMR correlates with how well super users attend EMR educational sessions and how well prepared clinicians are when competency checklists are signed off. Without the support of management, nurses would not have the time to attend educational sessions nor practice afterwards.

If a nurse has limited computer experience, the need for additional time for learning is important and must be set aside. A key factor in how EMR implementation moves forward is directly related to the level of computer experience the nurse has (Terry et al., 2008). This article highlighted the importance of super user overview sessions for ambulatory care nurses, provided guidance on how to set up overview sessions, and explained the early role of a nursing super user to prepare a clinic or ambulatory care setting for an EMR.

Those considering implementing EMRs in ambulatory clinic settings should reflect on the following issues: identifying a method to create lesson plans utilizing patient scenarios, building the practice playground environment, identifying the time table with location and dates of training opportunities, soliciting help from nurse managers in recruiting super users well in advance, and promoting buy-in from nurse managers to encourage their nurses to attend training and practice afterward.

This implementation strategy indicates that super user overview training sessions is one method that provides education on the use of electronic health records to help with a smoother transition with a new system at the time of “go-live.” Future studies should examine the contribution of super user responsibilities in the overall impact of EMR usage and ongoing training of new employees.

References


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