Proceedings from the 2008 Wisconsin Quality and Safety Forum, Part II

In 2008, quality and safety improvement initiatives in Wisconsin focused on developing an organization-wide culture of quality, and implementing processes to improve patient care and satisfaction. Below are descriptions of improvement projects undertaken by hospitals and other health care organizations, and showcased at the 2008 Wisconsin Quality & Safety Forum. The projects are broken into 6 categories: clinical improvement, customer service, infection control, medications, performance improvement, and safety. The first 3 categories appeared in Issue 8 of Volume 107 of the Wisconsin Medical Journal. (WMJ. 2008;107[8]:382-388)

MEDICATIONS
Implementing Bar Code Medication Administration at Children’s Hospital of Wisconsin
Jeff Hanan, Howick Associates, Madison, Wis

The Children’s Hospital and Health System (CHHS) approach to change stresses that the key to success is to engage people who will be affected by the change in the planning and decision-making as well as implementing and executing the change. Involvement of this type expands the awareness and understanding of those impacted and sets up opportunities for them to have a say in how the change will be implemented early in the planning process. Leaders who work to engage those impacted by change need practical tools to assist them in getting employees’ ideas during the planning, implementation, and evaluation of the change. Once employees are involved, they are less apt to feel resistance for changes and will view the change as something being done “with me,” as opposed to something being done “to me.”

For bar code medication implementation in the hospital, advice from the external consulting partner led to more active engagement and involvement of key disciplines in the execution of this change; nursing, pharmacy, and key physicians all participated in planning and decision-making. A facilitator was identified to support the project planning process, and meeting effectiveness of the bar code implementation team was dramatically improved with new tools and increased communication. As a result, accountability around tasks increased, planning improved and communications ramped up and more “nurse champions” were participating in the process.

From an educational perspective, the external partner facilitated approximately 24 training sessions focused on introducing concepts, techniques, and practical tools for leading change. Nurse managers and others were able to work in teams and small groups to plan, problem-solve, and apply change management techniques to real changes they were accountable for implementing in their units.

One of the training objectives was to provide engagement tools to assist the participants in involving others in the planning and decision-making on changes in their departments or units. CHHS made over 40 engagement tools available to support employee involvement and decision-making. One such tool was the “elevator speech,” used to help teams create a consistent message about the work in which they are involved. During the workshops, participants developed elevator speeches for their areas and shared those speeches with one another to collect feedback and refine their message. This simple tool can be effective in a busy business culture with short attention spans; 1 minute is often all the time we get to explain something. Consistency in messages between leaders about change is critical.

Fear of technology is just 1 of a long list of roadblocks to change. In the CHHS approach to change, managing that list through the help of informal leaders or “champions” is essential to successful change. For bar code implementation, each of the units had champions, who were non-managers that were enthused about change and were already serving as informal advisers to other nurses. Resistance to change is reduced by spending time with people who “get it,” who are excited by change, and want to lead change.

Another effective tool was a communications planning tool, which helped teams realize that communication was every member’s responsibility. The teams developed a communications strategy that identified the key audiences that must be considered as well as the appropriate messages for each audience.

The bar code team worked with the hospitals public relations and communications group to use a variety of media to reach everyone in the hospital, which was a challenge in a 24/7 institution. They used the communications planning tool to identify all their audiences and developed posters, e-mails, 1-to-1 conversations and an issues list to make certain that they weren’t missing anyone.

Results from these changes are still being determined.

Medication Bar Coding
Marie Wiesmann, Fort HealthCare, Fort Atkinson, Wis

As medication bar coding was implemented, some of the issues identified by staff included
• Issues with hand-held scanners not working correctly
• Medications that did not “appear” to need to be scanned (Saline flush, patch removal, 0 dose insulin)
• Not following the Medication Administration Record (MAR) notations used for communication.
All of the issues listed were evaluated and improved. Re-education was provided through individual contacts, staff meeting education, Powerpoint education forwarded via e-mail, and poster displays.

Daily audits with immediate feedback resumed and staff were notified concurrently of issues. Compliance immediately improved and has continued to be acceptable. After 3 months, the audits were reviewed by the PCS Clinical Coordinator and shared with managers if trends or issues came up.

The process evaluation and re-design provided the greatest impact on the process. Ensuring all equipment is functioning properly and the process is streamlined for staff has improved overall compliance. Data from July 2008 showed 99% or higher for all inpatient areas.

There will always be a need for overrides and the expectation to be at 100% is not realistic consistently, but 98-99% is a realistic goal and we have been able to achieve it.

**PERFORMANCE IMPROVEMENT**

**“Upstream” Laboratory Collections in the Emergency Department**

*Ed Bieri, Mary Holtz; Wheaton Franciscan Healthcare-St. Francis, Milwaukee, Wis*

The hospital was struggling with patient throughput. In the Emergency Department (ED), decreased laboratory turn-around time (TAT) was viewed as an opportunity to enhance overall patient throughput. Increased ED volumes have resulted in “gridlock” and diversion of ambulances to other institutions. As a subgroup of the institution’s Efficiency and Throughput Task Force, the ED and laboratory began meeting on a regular basis to examine current processes and look for improvements to decrease laboratory test TAT, enhance patient throughput in the ED, and provide better patient service. The group consisted of an ED physician, laboratory medical director, the administrative directors of the lab and ED, departmental supervisors, and other associates from the lab and ED.

This group’s first task was to examine current process by flow charting. The flow chart became a very convoluted document and it was readily identified that multiple specimen collection processes were being utilized. Variances, including who was to collect the specimen, when the specimen was to be collected, personal preferences for collection, and lack of standard work were more the norm than any standard process. Examination of the current process clearly showed the need for a standard procedure in blood specimen collection and transport to the laboratory.

It was found that both nursing and laboratory phlebotomists collected blood specimens. Nursing staff would collect 5-6 tubes of blood at an IV start that we referred to as a “rainbow” (all the tubes had different colored caps) which covered over 95% of tests ordered in the ED. This collection occurred with or without test orders, but generally after the patient had seen a physician. The laboratory would perform a phlebotomy (rainbow) on any patient that did not require an IV start, or when the IV start was unsuccessful. The laboratory phlebotomist would be dispatched from the laboratory on receipt of a test order. This process led to confusion as to whom was collecting the laboratory specimens (ED or the laboratory) and led to delays in test results. Specimens were sent to the laboratory via a pneumatic tube system where they were processed awaiting test orders. When orders were received, the tests were run immediately.

The group decided it would be better to have the laboratory collect the majority of blood specimens in the ED. Having the collection process under the control of 1 department would lead to less variation and the development of a standard work process. To accomplish this, the laboratory would station a phlebotomist in the ED during peak volume times. It was also decided that the collection should occur further “upstream” in the patient’s visit, closer to when the patient presents in triage. This would occur before the patient had seen a physician.

With physician guidance, the laboratory would collect blood on all patients except those under 12 years of age, Urgent Care patients, Fast Track patients, and patients that the physician or nurse indicated would not require lab tests. Utilization of an electronic ED patient tracking computer program indicated patient status as to the need for laboratory testing. This showed the phlebotomist which patients to draw. Patients in the waiting room were brought to a blood collection room for collection. Patients were also drawn in the ED rooms. Specimens were sent to the laboratory via a pneumatic tube system where they were processed awaiting test orders. When orders were received, the tests were run immediately. Test results were available electronically as soon as they were complete.

We followed high volume test TAT from the ED. The order to result time was documented. These tests included hemogram/differential (TAT reduced 32%), creatine kinase (CK) (TAT reduced 45%), CKMB (TAT reduced 58%), comprehensive metabolic panel (TAT reduced 41%), basic metabolic panel (TAT reduced 41%), troponin I (TAT reduced 54%), and International Normalized Ratio (TAT reduced 55%). There was also a reduction in specimen rejection due to hemolysis since most blood was collected by phlebotomy rather than IV starts.

Decreased laboratory test TAT allow the ED physician to determine a diagnosis earlier and treat patients in a shorter time period. Shorter waiting times and less time spent in the ED is a great patient satisfier. Specimen integrity also plays a role in the overall quality of the patient visit to the ED.

We have found that having laboratory associates in the ED has increased teamwork between both departments. There was some strife between the lab and ED before this joint project, but bringing the departments together toward a common goal of high quality patient care has decreased complaints.

**Daily ICU Rounding with 12-Hour Goal Setting**

*Christine Statler, RN; Mark Thompson, MD, CMO; Monroe Clinic, Monroe, Wis*

This project includes rounding on all Intensive Care Unit (ICU) patients daily, Monday through Friday. Rounds include the care nurse, the ICU Supervisor, the ICU Director and other
During this time, data was collected to help determine the best laboratory layout. Areas addressed were delivery of blood, urine, and culture specimens to the laboratory; processing of specimens within the laboratory; automated instrumentation used for analyzing specimen; and manual steps required for analyzing certain samples.

Lean is a systematic method for identifying and eliminating waste (non-value-added activities) through continuous improvement. Even though Lean did not originate in health care, the methods and principles can be integrated into laboratory processes. One aspect of Lean is to look at the 7 areas of wastes: excess transportation, excess inventory, excess motion, waiting, overproduction, over-processing, and defects.

The data obtained from reviewing current lab layout, processes, and sample flow was used to drive the new laboratory layout. The new lab layout is termed Efficient Laboratory Flow (ELF). The ELF contains the highly automated, high volume analyzers located close to the pneumatic tube system used to deliver specimen to the laboratory. This arrangement allows for the steady flow of samples to be tested in a more timely manner. A manual and semi-automated area were created to help support the ELF. Implementing the ELF has aided in decreasing TAT, sample travel, technologist travel, and costs. To make these changes, some physical remodeling of the laboratory was required.

To help decrease TAT, batching of samples was eliminated and a first in, first out practice was put into effect. This means the first sample into the ELF is the first sample resulted, thus eliminating the need for special labeling for STAT tests, since all samples are placed into the work flow as they arrive. Implementation of the ELF saves 641 miles and 8760 minutes of sample travel per year. Standard work duties were adopted for each staff position to ensure that all staff perform their work in the standard manner, thereby reducing variation in the process.

The laboratory also introduced the Kanban system, which is used to control inventory flow of reagents and supplies by visual signals. A 2 bin stocking system was created, which provides a day’s worth of supplies to the ELF, manual, and semi-automated areas. The 2 bin system makes necessary supplies readily available and reduces the number of trips to the store room to replenish supplies. Kanban results in more efficiently stocking and utilization of supplies which minimizes supply costs related to inventory throughout the lab.

This project has standardized work flow within the laboratory reducing variation between staff members. Because samples are delivered to the laboratory in small batches (1 or 2 patients per pneumatic tube delivery) there is little delay in getting specimens to the laboratory. And since the specimen arrive in smaller batches, this provides a steady flow of specimen to the laboratory processor, eliminating really hectic times with many samples to handle followed by slow times waiting for samples to arrive. This helps reduce test TAT.

Hemostasis Reference Laboratory “Forms 5S”

Jack Ford, BloodCenter of Wisconsin, Milwaukee, Wis

This project was undertaken to address the compliance issues as well as staff confusion as to where to find forms and which forms to use. In using the lean 5S methodology, the laboratory staff involved in the event sought to Sort, Set in Order, Shine, Standardize, and Sustain. BloodCenter of Wisconsin adds a sixth S—Safety—to ensure that safety is always taken into account first as improvements are implemented.

The team first sought out all copies of old forms hidden throughout the laboratory, and destroyed (recycled) those that were outdated (Sort). They then created bins to organize the forms that were used on a regular basis (Set in Order). Throughout Sorting and Setting in Order, the team cleaned out unused order forms and other unnecessary paper (Shine). Then the team developed a system for reordering forms, utilizing principles of Lean’s Kanban approach (Standardize). Finally, at the daily staff “huddle,” the team communicated its improvements to the rest of the laboratory staff, outlining the policies to be followed in order to maintain the improvements (Sustain).
Lab Test Ordering
Victoria Bender, UW Health Wausau Family Medicine, Wausau, Wis

We tried to address 3 main problems in our clinic: (1)streamlining the lab ordering system, (2) handling patients walking into the clinic without lab appointments, and (3) obtaining reimbursement for lab tests ordered without regard to Medicare regulations.

(1) The current lab ordering system included multiple ordering processes resulting in incorrect tests being ordered.

Analysis and Solution: A cause and effect analysis was done that highlighted the need for 1 form to be used for lab ordering versus orders being written in multiple chart locations. The proposed form would have diagnosis codes, staffing information, and timetable for future tests.

Implementation: Providers and staff were given extensive education on use of the form. No tests were run without a completed form and providers were contacted if a form was missing. We maintained patient satisfaction by previewing charts before patient appointments for completed order forms.

Results/Re-measurement: From the baseline survey in January 2007 until our third chart audit in August 2007, we have improved our use of the white lab forms to 82% for resident providers and 66% for faculty providers. Our goal for the clinic is 100% for all providers.

(2) The current system resulted in patients walking into the clinic without lab appointments.

Analysis and Solution: The appointment secretary collected data regarding “walk-in” lab appointments. Walk-in patients resulted in patient delays due to locating charts, scheduled patients being processed at their scheduled times, difficulty contacting providers to clarify orders, missing diagnosis codes, patients tests not complying with Medicare test guidelines, and the lack of an interpreter for Spanish speaking patients. Our proposed solution was to educate providers and patients.

Implementation: Faculty and resident providers were given extensive feedback on the delays caused by walk-in patients. Providers were asked to have every patient make a follow-up lab appointment prior to leaving the clinic. Providers were to complete a yellow check-out sheet and the receptionist would review this form to schedule patients appropriately. The white lab form implementation was a valuable component of obtaining the correct test.

We contracted with a language line service to have full customer service as needed for interpretation. Our Hmong interpreter would have minimal interruptions during pre-scheduled patient visits. We could offer multiple language interpretation on an as needed basis.

Results/Re-measurement: Baseline data for walk-in patients in May 2007 was compared to an audit in August 2007. We have fewer walk-in patients with the observation that patients are calling in “at the last minute, but they are calling.”

(3) We currently have reimbursement issues involving tests being ordered for Medicare patients without regard for Medicare regulations.

Analysis and Solution: Billing and laboratory staff tracked billing data to observe the nonbillable tests on Medicare patients. Three tests were cited as the largest challenges in complying with Medicare regulations: prostate specific antigen, lipid panels, and prostate. Our solution involved provider and staff education as well as use of the white lab ordering form.

Implementation: Medical assistant staff and laboratory staff vigilantly checked the white order forms on all Medicare patients. Use of Advance Beneficiary Notice (ABN) forms was reviewed. Faculty providers reviewed test coding when tests were ordered by resident.

Results/Re-measurement: ABN forms were missing in 1 of 1200 patients drawn for lab tests. A biller, lab technologist, and medical assistant will continue to audit lab ordering forms and identify any providers who were not coding correctly on lab order forms. Providers will have 1-to-1 coding training.

Lean Impact in an Esoteric Reference Laboratory
Lynne LeMense, BloodCenter of Wisconsin, Milwaukee, Wis

All Platelet & Neutrophil (PNIL) laboratory staff participated in Lean events; kaizen teams were determined by force field analysis to maximize productivity and group cohesion. Multiple Lean tools were utilized to assess the current work being performed in the PNIL lab. For example “7-Ways” was used to determine layout of laboratory workstations, supply storage, and to evaluate potential workflow. Work patterns and travel distances were assessed through Spaghetti Mapping. 5S was used to remove clutter and safety issues and to organize workstations. Visual management was used to establish standardized workstations, weekly performance metrics, and a supply re-ordering process. WWW or “What, who, when” tables were essential for assigning responsibility and assuring tasks were completed during each kaizen.

In addition to the Lean tools used for improving process, effective leadership and teamwork skills were also used to impact quality and compliance. Kaizens require teams in order to accomplish the work. The collective knowledge and skill in a team is more powerful than an individual. Team members for the kaizens were made from the PNIL staff. This caused the lab to be split up onto a kaizen team or in the lab to test samples. This division had the opportunity to cause mistrust, but it was used to avoid “groupthink” and foster relationships. Each member of the PNIL was assessed by the department supervisor and Lean leader based on the following attributes: willingness to change, knowledge area, communication skills, ability to handle stress, and work with others. We divided up the change resisters among the kaizen teams because they acted as “devils advocates” to bring up healthy conflict and to break group thinking.

The assigning of staff to particular teams meant that a person would not be working with someone with whom they had an established relationship. To build relationships and trust among the team members, we started each kaizen day with an icebreaker. These activities highlighted a skill that a member
was proud of or a funny moment that they were willing to share. The first day of each phase began with developing “ground rules” for how the team would work. These became the working norms for the group. In addition, the team also rotated the responsibilities of scribe, reporter, and timekeeper for various activities during the kaizen. Everybody had to take the responsibility of “reporting out” in front of the whole group even if it was for a minute.

Establishing workstations by assay instead of by technologist reduced travel time by 52% for set up and testing; travel distance for 1 assay alone went from 3032 feet to 1277 feet, a reduction of 58%. Implementing consolidation processes for biological and chemical wastes reduced costs by $2040 per year. Standardization of the assay schedule reduced TAT on assays by 2 hours or more routinely. The new assay schedule also opened up 8 hours/week of technologist time, which allowed for more sample volumes to be accommodated without increasing staff. Schedule changes reduced assay supply costs by $13,649 per year. Through the 5S process, 240 pounds of paper were removed, eliminating clutter and improving the work environment. Safety was improved by the removal of high shelving units that were overstocked. The enhanced working environment impacted employee satisfaction and visitor assessment. New visual management systems allow staff to quickly identify supply levels and initiate an order process. Weekly posting and discussion of TAT has enabled the lab to maintain reduced TAT.

Effective teamwork and leadership impacted the ability of the team to be effective during the changes. Just as important, teamwork and leadership built on trust, clear goals, and effective communication impacted the department’s ability to sustain the changes of improved TAT and quality.

**Mock Tracers in Regulatory Readiness**

Paula Elmer, RN; Mark Thompson, MD, CMO; Monroe Clinic, Monroe, Wis

As an organization, it has been a struggle for us to schedule and complete mock tracers. The Regulatory Readiness Team (RRT) is charged with this task but members had difficulty selecting departments, scheduling the mock tracer and identifying what should be reviewed during the tracer.

Working with the RRT, the Quality Management Department developed a list of at-risk departments that would serve as starting points for mock tracers. Areas of focus were also identified. These were based on the Joint Commission’s list of most cited standards, our own survey results, and new or revised standards.

Members of the RRT were divided into teams of 2 people. Each team consists of a clinical and a non-clinical person. Each quarter, team members draw their mock tracer assignment. A member of the Quality Management Department then schedules the mock tracer with the department to be visited and the mock tracer team.

The form used to record the findings of the mock tracer team was simplified and is forwarded to the Quality Management Department in hand written form immediately after the tracer is completed. The results of the tracers are sent to the department manager for follow up and are compiled in a quarterly report for the RRT.

**Quality and Efficiency Measures Using Administrative Data**

*Julie Bartels, Wisconsin Health Information Organization, De Pere, Wis*

Newspaper headlines and political rhetoric to the contrary, the American health care system is working hard to reinvent itself as a market segment that cares about its customers and competes for their loyalty on the basis of value and earned relationships.

The new business model for health care is far different from the one most health care professionals (and patients for that matter) grew up with, studied in graduate school, and/or practice in each day. Today’s health care business model is an open and transparent system that depends on a constant flow of feedback to measure health care professional effectiveness and efficiency and support continuous quality improvement.

National recognition of the importance of health care professional measurement and performance feedback has spurred the development of an impressive number of state-level initiatives to construct all payer claims databases, sometimes referred to as data marts. The purpose of these data marts is to produce process and efficiency measures that can be shared with the provider community to encourage practice quality improvement and with consumers to make value-based purchasing decisions. The challenge is that simply producing measures is no guarantee that the quality of care will improve. It is necessary to prime the provider practice quality improvement pump by building awareness of the measures and educating physicians on the science and data behind the measures. Performance reports can then drive the behavioral change that will result in sustainable cost, efficiency, and quality improvements that lead to higher quality outcomes for patients.

Variation in provider demographics and geography, attitude and receptiveness, practice affiliation, and specialty creates variation in each professional’s ability to receive, understand, accept, and then act on performance feedback. Common sense tells us that 1 size will not fit all when it comes to effective professional communications. Little is known about how to effectively package and deliver quality-based performance results through these variables and secure provider engagement to modify practice patterns.

The Wisconsin Health Information Organization (WHIO) attempts to not only aggregate administrative claims data for analytical and performance measurement purposes but to deliver that information to professionals in a format and manner that builds professional knowledge of personal and peer group performance and encourages practice quality, effectiveness, and efficiency improvement.

Results are still being determined.

**Standardizing the Process for Documenting Remote Telemetry**

*Georgia Owens, CNS; Aurora Lakeland Medical Center, Elkhorn, Wis*

At Aurora Lakeland Medical Center (ALMC), telemetry monitoring is pro-
vided for patients on the medical/surgical units using a remote surveillance with oversight by Intensive Care Unit (ICU) staff. According to the Aurora South Region Remote Telemetry Policy (#40-04140), remote telemetry strips are “run” twice a day at 6 AM and 5 PM, mounted, and interpreted by the ICU Registered Nursing staff. The mounted strips are pneumatically tubed to the floor and placed on the patient medical record under a specific tab for electrocardiograph monitoring. A patient care incident involving an incorrectly mounted telemetry strip triggered this investigation to ensure that standardized remote telemetry monitoring practices were in place.

First we obtained baseline data on all charts of in-patients on remote telemetry from January 10, 2008, through February 4, 2008, and evaluated these based on the following criteria:

1. Remote telemetry strips are interpreted by the ICU RNs: Only 93/465 (20%) of the telemetry strips had documented interpretations.
2. Remote telemetry strips are correctly mounted in patient chart: 438/465 (94%) of telemetry strips were mounted correctly.
3. Remote telemetry strips are correctly filed in the patient charts: 205/220 patient’s charts (93%) of remote telemetric strips were correctly filed in patient charts.

An interdisciplinary team was formed including unit managers, supervisors, and key staff representatives (RN/HUC) to address the issues identified. The interdisciplinary team reviewed the baseline data and identified a need to enhance staff adherence to the regional policy for remote telemetry monitoring in 3 areas: (1) Incorrect mounting of remote telemetry strips; (2) Incorrect filing of remote telemetry strips; (3) Lack of adherence to the remote telemetry monitoring policy with regard to identifying information on the mounted telemetry strips.

Data collection was initiated to identify the daily volume of remote telemetry patients and to gather additional data about the quality of mounting, interpretation, and filing.

The first change implemented was staff education. Georgia Owens, CNS, developed a plan to provide education to the Intensive Care Unit (ICU), medical, and surgical staff regarding the remote telemetry policy and the expected responsibilities and their accountability.

Unit-specific educational sessions were conducted for the medical, surgical, and ICU staff on the current policy and their accountability in checking that remote telemetry strips are correctly mounted, interpreted by the ICU nurse, and correctly filed in the appropriate patient chart at unit meetings. Education was also provided through articles in the CNS newsletter. Direct and constant feedback was also provided to staff when no adherence was observed via CNS’s 1-to-1 conversation, individual e-mails, and/or unit-based voice care and manager reinforcement. All of the staff were educated via the various methods with re-emphasis on accountability and patient safety. One hundred percent of staff attended the sessions or were educated via newsletter, e-mail, or 1-to-1 and gave extremely positive feedback. The staff were very positive in accepting feedback regarding errors.

The second change implemented was additional quality oversight. The team worked to implement a process for ongoing monitoring for quality and engage the house supervisors to take a more active role in identifying patients on remote telemetry, identifying issues related to remote telemetry, and assisting with strip interpretation.

The house supervisor’s report was modified to add the identification of the patients on remote telemetry with special focus on any issues requiring intervention. Monday through Friday, the CNS reviewed the House Supervisor report, rounded in the ICU on the remote telemetry patients, and reviewed the patient’s chart on the medical or surgical floor for compliance with the established standard of care.

The CNS conducted daily oversight (Monday through Friday) with feedback to staff when noncompliance was observed. The supervisors and managers welcomed the interventions of identifying those patients on remote telemetry from a patient safety aspect and were more active in monitoring for compliance during the off-shifts.

The third change implemented was meant to enhance communication between units and house supervision. The team worked to heighten communication between units by direct communication HUC to HUC, and ICU nurse to floor nurse, and the role of the house supervisor.

The CNS, acting as the liaison between nursing units and ICU, spoke with staff and supervisors about the importance of communication and a timely response to remote telemetry alarm calls. The CNS also made follow-up contacts (e-mail or direct 1-to-1) with the house supervisor to support consistent ICU staff communication and medical/surgical unit staff response when remote telemetry monitoring transmission was lost (ie, off the floor for test, transmission problems, discharge, transfer change in code status).

Following the implementation of the interventions, the CNS reviewed remote telemetry patient charts for correct mounting, filing, and interpretation of rhythm strips Mondays, Wednesdays, and Fridays from February 13, 2008, to March 25, 2008.

The ICU nurses, HUCs, and unit RNs exhibited a heightened awareness of their accountability in reviewing the remote telemetry strips for accuracy of mounting, filing, and to assess the ICU nurses interpretation of the strips.

The Quality Toolbelt—What’s the Tool for the Job?
Mary Nickel, Saint Clare’s Hospital, Weston, Wis

Total Quality Management has 5 core values: methods and processes are designed to meet customers’ needs; every employee is trained in quality; quality is designed into systems and processes to prevent errors; the organization works with its customers, vendors, and suppliers to improve quality and control costs; and measuring the.

So where does one begin to design processes, train employees in quality methods, embed quality into sys-
tems and processes to prevent errors, improve quality for its customers, vendors, and suppliers, measure the progress? What’s the right tool for the job?

Quality improvement methodologies include Define, Measure, Analyze, Improve, and Control (DMAIC) and Plan, Do, Study, and Act (PDSA). These methodologies incorporate tools such as root cause analysis (RCA); failure mode, and effects analysis (FMEA); threats and opportunities matrix; process maps, simulations, and various graphs presenting data for analysis. Every tool does not need to be utilized; however, it is imperative to know what tool to use and how to use it for your quality improvement activity.

At Saint Clare’s Hospital, staff are provided “just in time” training at the initiation and during a quality improvement activity. The quality department provides facilitators, who are trained in the various methods and tools, for quality improvement initiatives. The facilitators provide “real time” training to various team members, thereby developing team members’ skills for future meetings and activities. It is an ongoing effort of embedding quality into daily work processes resulting in delivering safe, quality care to our patients.

Any time a new service or an improvement in a service line is needed, process maps are created by a multidisciplinary team as a means to solidify roles and responsibilities as well as identify when hand-offs of care are occurring within a process. Lean concepts are embedded in the process maps to prevent rework, standardize workflows, and promote efficiencies. A FMEA is completed to identify, mitigate, and prevent any risk points identified in the process map. Process simulations are conducted to validate process flow, identify strengths, and identify where further development/improvement is needed. Lastly, data is collected and displayed in graphic form to analyze the process and its outputs, once again identifying where we are doing well and where there are opportunities for improvement.

**SAFETY**

*An Innovative Approach to Falls Reduction: A Failure Modes and Effects Analysis*

Carrie Bennett, CNS; Meriter Hospital, Madison, Wis

Despite continuous work on fall prevention, patient falls and fall-related injuries continue to occur in hospitals across the nation. Most hospitals have adopted and implemented fall prevention programs grounded in evidence-based practice, yet continue to experience fall rates far above satisfactory levels. Gaps in fall prevention programs are usually only identified after a significant event occurs, through a Root Cause Analysis (RCA) format. The purpose of this project was to examine the nursing process of fall prevention, including performing a fall risk assessment, identifying a high-risk patient, and implementing fall prevention strategies, using a Failure Modes and Effects Analysis (FMEA) tool, to proactively identify process improvement needs.

This project is currently being conducted at Meriter Hospital, a 250-bed community hospital in South central Wisconsin. Between 2005 and early 2008, major revisions to Meriter’s fall prevention program were implemented. The changes were based on process gaps identified during review of significant incidents and recommendations from the hospital’s multidisciplinary falls team. Despite implementation of what were believed to be sound changes, grounded in evidence-based practice, to reduce patient falls and improve patient safety, the hospital’s fall rates have not decreased as expected. Scrutiny of several incident reports, and of the fall prevention program as a whole, has raised awareness of continued gaps within the process of placing patients on the fall prevention program. Motivated by the quest to provide safe, exemplary care, and the requirements of the Joint Commission to submit analysis of a high-risk process once per year, Meriter’s multidisciplinary falls team has undertaken the charge of completing a FMEA of the hospital’s fall prevention program.

FMEA was selected as the approach to examine the process of placing patients on the hospital’s fall prevention program because it has the capability to identify steps and sub-steps in the process that could fail. The hospital had already spent 3 years improving their fall prevention program based on retrospective review of trends and significant events, without acceptable improvement in fall rates. It was time to review the fall prevention program from a prospective, preventive approach, which FMEA is designed for. Using FMEA to review the process of placing patients on the fall prevention program is expected to identify gaps in the process that can be closed with further revisions to the fall prevention program and improved staff education.

In May, 2008, a subgroup of Meriter’s falls team met and began examining the nursing process of fall prevention. The subgroup identified the process flow as follows:

1. Patient is admitted to an inpatient unit
2. Registered Nurse completes fall risk assessment
3. Patient is determined to be at high risk for falling
4. Fall Prevention Program is implemented
5. Fall prevention interventions are implemented (optional)

The process flow was shared with the larger, multidisciplinary falls team in June 2008. The team began identifying sub-steps and corresponding failure modes. A total of 60 failure modes were identified. In early July 2008, the team met again to focus on identifying failure modes, adding an additional 20 to corresponding sub-steps. As failure modes have been identified, scoring has been completed by identifying probability of the failure mode occurring, severity of the failure mode occurring, and detectability of the failure mode. Hazard scores are automatically calculated by the FMEA tool.

Next steps in the project include:

6. Reviewing process flow and identifying potential missed failure modes
7. Ranking failure modes based on calculated hazard score (highest to lowest)
8. Implementing modifications to the current falls program to close gaps identified by the FMEA
9. Disseminating information to, and educating, end-users

To date, 80 failure modes have been identified and scored. The FMEA is a work in progress and the team will soon start to test modifications to the current falls program.

**Event Reporting**

*Sigried Johnson, Franciscan Skemp Healthcare, La Crosse, Wis*

In 2003, an on-line event reporting tool was implemented to collect risk events in several departments. However, by 2005, resources to conduct the necessary training to the remaining departments in the organization became unavailable. As a result, the number of events reported started to decrease. Staff working with the system were also voicing concerns over the complexity of the reports and the amount of time it took to complete them.

A multidisciplinary team was gathered to investigate the decrease in the number of events reported throughout the system. They were also charged with developing a way to increase communication and education surrounding event reporting. The goal of the project was to increase reporting of risk events that have the potential to cause harm by implementing specific measurable outcomes. These outcomes include the number of staff trained, the number of events reported, the amount of time between the event being reported and follow-up occurring.

The team started with focus groups to identify the major issues surrounding event reporting. These focus groups identified issues with training, complex reporting forms led to increased time to complete reports, database issues, lack of resources to assist staff, and a general misunderstanding of expectations. Additional feedback was solicited from both users and non-users of the system to ensure all background information was obtained.

Once the current state was established, the team began working on a well-defined policy and procedure for event reporting. This policy articulates the staff expectation for reporting an event within 24 hours of identification. The policy further addresses how follow-up should occur in each department, while allowing some flexibility. Supervisors are expected to review events that occur in their department within 10 days. Feedback regarding events can occur 1-on-1, in department meetings, or shared via charts and graphs posted in the department. The key message is to communicate events and action plans within the department so staff can be aware of areas for improvement.

Through focus groups and interviews, it was determined that multiple communication channels were necessary as staff have different needs. The team developed a variety of training methods and resources that are now available organization-wide. An intranet site has been established to provide staff with an entry portal for the on-line reporting tool. Additional education materials are available on the site including definitions, policies, flow diagrams, educational presentations, and tips and tricks. Further additions to the site will include stories about common events that can be shared throughout the organization. Paper manuals are provided for each department. Departments are encouraged to add to the manual so the content will reflect how their individual practice works.

Implementation began in May 2008. At this time supervisors in most of the patient care areas had been educated. Staff in clinical areas had been trained via an on-line education tool. Communication with individual departments that are new to event reporting has been occurring via department meetings and lunch or breakfast question-and-answer sessions. This is important as it has increased staff awareness and given them a venue for participation in the process. Feedback has been valuable for both the staff and the team.

**Implementing a Multifaceted Approach to Reducing Falls and the Injuries Sustained**

*Kim Weber-Chandler, BSN; Gundersen Lutheran, La Crosse, Wis*

The risk of falling increases with illness and aging. With increased acuity and shortened length of stay, patients are at considerable risk to fall during a hospitalization. At Gundersen Lutheran (GL), patients are assessed for risk to fall on admission and regular intervals. However, despite these efforts the patient fall rate has been gradually increasing.

Current efforts to reduce/eliminate falls have not been successful for various reasons, including problems with the fall risk assessment tool, an unclear fall occurs algorithm, incomplete fall reports, and unclear fall prevention strategies.

Decreasing harm from patient falls is 1 of the National Patient Safety Goals for 2008. The goal of GL was to not only decrease harm from patient falls, but to also decrease patient falls. Our goal is to implement a system-wide approach to reducing falls and injuries from falls by 30% in 2008.

In September 2007, a multidisciplinary group convened to assess the current patient falls situation and form a multifaceted falls reduction/approach. The multidisciplinary group considered what other steps could be taken to decrease both falls and harm from falls by examining the following: current data trends, setting-specific challenges, patient needs, staff input, literature review, expert opinions, research findings, evidence-based practices, and patient/family feedback.

There are many strategies for decreasing falls that have an impact for a short period but have not been successful in sustaining change. At GL we have taken these interventions and processes and “bundled” them together to try to achieve greater levels of change. The GL bundle consists of the following: patient education, signage in patient rooms, targeted accountable hourly rounding, and the call light within the patient’s reach, which is part of the safe room set up.

Patient education included informing the patient and/or family that there was an increase risk of falling while in the hospital due to procedures, treatment, unfamiliar environment, etc. “Call don’t fall” signage for the patient, was posted under the clock in each room and in the bathroom. This sign was in the shape of the road sign...
for “caution” yellow with black lettering for high visibility.

The targeted hourly rounding included asking the patient if he or she needed to go to the restroom, change in position and/or pain medication. This rounding was documented on a flow sheet that was posted in the patient’s room.

“Safe room set-up” was initially measured house-wide by Senior Western Campus nursing students and included the following: floor is free of clutter; floor is clean and dry; bedside table within reach; water within reach; furniture and equipment is sturdy and wheels are locked; all lights are working properly; commodes and seat lifts secure; door handles are secure; hand rails are secure; 4 side rails not up; gait belt in room; bed in low positions; 2 foot wide space path for patients to walk from door to bed, bed to commode, bed to chair, chair to commode; call light within reach; and patients demonstrated use of call light.

There was also education on low bed and floor mats for patients at risk for falling. The education for this was multi-layered, including newsletters, patient safety liaisons, tracer questions, mandatory learning and inservices.

Two medical surgical units participated in a pilot. Results have shown a decrease of 29% in the number of falls and a 36% decrease in injuries related to those falls.

Safety Huddles
Cheryl Uffelman, RN; Gunderson Lutheran, La Crosse, Wis

Our goal is to be a leader in providing safe care to our patients. We believe one key lever to achieving this goal is safety huddles. Through huddling, we have created a blame-free environment where teamwork is enhanced and harm is prevented. Having staff meet to openly discuss concerns and work together to fix system or process issues has led to more engaged staff, as well as increased learning across roles and departments.

Our strategic plan clearly sets our vision of demonstrating superior quality through the eyes of patients and caregivers by preventing deaths, infections, pain, suffering, waiting, or waste. Safety huddles have assisted us in providing safe, quality care to our patients by reducing the risk of system or process failures. A safety huddle notification process, tools, and resource list has been developed and taught to all leadership at our facility. All tools are located on our patient safety Web site for easy access to staff.

Safety huddles were formalized so that we have a standardized approach, across our inpatient and outpatient departments, of addressing issues quickly when events do occur. There are 3 types of huddles:

1. Immediate huddle: When an event has occurred and we want to meet to support the patient, family, and staff’s emotional and physical needs and assure no one else is harmed. We work together to address any system or process issues that may have led to the event. Many of these events did not lead to harm.

2. Concerning trend huddle: Where staff may have seen a safety issue more than once and we need to huddle in order to address these concerns before they cause harm.

3. Proactive huddle: Where an event occurred at another facility and we want to assure that same event does not occur at our organization. We meet to look our current process for care, assess for gaps, and fix any issues we find.

A summary of the huddles goes to executive leadership weekly. Also an overview of the safety huddle work is continually shared with our board and quality committee. The collaboration of this work has been due to efforts by organizational leadership, patient safety, risk management, quality improvement, continual readiness, and the commitment and passion of our many employees whom have made these huddles a priority.

Suicide Risk Assessment and Management
Heather Willner, Saint Joseph’s Hospital, Marshfield, Wis

Implementation of a standardized process for patients at risk for suicide in the non-psychiatric clinical areas was problematic, despite an available policy and procedure. A multidisciplinary team was formed to revise and enhance standardized processes for patients at risk for suicide throughout the organization. Information was collected from physicians, nursing staff, and ancillary staff to determine the “current reality” with the following concerns identified as opportunities:

- Suicide policy and procedure implementation inconsistent outside of the psychiatric setting.
- Need for implementation of a standardized process:
  - Identification of patients at risk for suicide upon admission in non-psychiatric clinical areas.
  - Reassessment of patients identified to be at risk for suicide in non-psychiatric clinical areas.
  - Initiating suicide precautions to mitigate risk.
- Patient placement issues: environmental issues for placement in non-psychiatric clinical areas.
- Problematic process for implementation of timely consultation with psychiatry department.
- Case management is not always aware of patient diagnosis and need for placement due to Chapter 51.
- Clarity of Chapter 51 initiation inconsistent.

Supported by an electronic documentation system, a standardized process was implemented to screen all patients admitted in the non-psychiatric clinical areas. Specific questions were generated to trigger implementation of suicide precautions and to facilitate more direct interventions for psychiatric consultation to determine level of risk and case management assistance for placement of detained patients. Additionally, an environmental survey of rooms used in non-psychiatric clinical areas was conducted with recommendations to reduce environmental risks.
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