

Proceedings from the 2006 Wisconsin Quality and Safety Forum

The Wisconsin Medical Society, the Wisconsin Hospital Association, and MetaStar partnered on the 2006 Wisconsin Quality and Safety Forum held October 16-17 in Stevens Point. A highlight of the forum was the showcase of quality and safety projects from health care organizations around the state. We are pleased to publish shortened versions of these projects in this issue of the *Wisconsin Medical Journal*.

Promoting Best Practices Supported through Concurrent Practice Support

Saint Clare's Hospital
Mary Nickel, Director, Clinical Quality

Description

Evidence-based best practices at Saint Clare's Hospital were incorporated into many processes including concurrent practice support. Concurrent practice support is provided by care coordinators and the infection prevention and control coordinator for best practices in congestive heart failure, pneumonia, and surgical infection prevention through "real time" intervention. To improve patient outcomes while the patient is still in the hospital, the coordinators participate in multidisciplinary rounds, discussing best practice interventions with medical and clinical care staff. It is a "team approach" to excellence in the delivery of patient care.

The goal is $\geq 90\%$ compliance with best practices for congestive heart failure, pneumonia, and surgical infection prevention.

Results

Results indicate that many best practices for congestive heart fail-

ure, pneumonia, and surgical infection prevention were at $\geq 90\%$. Rapid cycle Plan Do Study Act (PDSA) efforts focused on additional education for nursing staff on documenting patient education for congestive heart failure into an electronic education application. Early results indicate improved compliance with education documentation.

A PDSA approach was also used to improve timely administration of antibiotics prior to surgical incision. Early results indicate improved compliance.

Concurrent practice support has supported implementation of best practices and identified, early on, opportunities for improvement with specific indicators.

Effect of an Intensive Blood Glucose Management Protocol on Mortality of Patients with Hyperglycemia/Diabetes

Columbia St. Mary's
Maria Hill, Executive Director - Clinical Excellence

Description

This presentation highlighted contributing clinical, operational, and cultural factors that led to a mortality reduction through the imple-

mentation of a blood glucose management program across Columbia St. Mary's (CSM) general care and intensive care units.

Results

The presentation included a comparison of the 2003 blood glucose mortality study to 2004-2005 results. The 2003 results highlight a significant difference in the actual to expected mortality ($P=.006$, 95% CI, $N=2,034$) of the CSM medical/surgical patient population when the average BG level ≤ 200 mg/dL.

We shared tools and techniques used to change behavior of physician and nursing staff: management reporting, SBAR, improved subcutaneous and intravenous insulin order sets components, and the multidisciplinary team approach: endocrinologist, pharmacy, nursing, dietary.

Also included were notes on the process to achieve glucose targets following admission, specific to the "Process Improvement: Time to Target." The 2005 RALS Glucose Benchmarking Service reported CSM "time-to-target" as superior when benchmarked against 27 US hospitals.

Elective Inductions/ Newborn Outcomes

Fort HealthCare
Deb Schumacher, Manager of Obstetrics; Beverly Haferman, RN, IBCLC; Rebecca Nowodzelski, RN, Patient Care Coordinator

Description

In this day and age of patient satisfaction and birthing options, a trend was noticed regarding increased elective deliveries at 37-39 weeks, with a corresponding increase in breastfeeding difficulties and hyperbilirubinemia requiring outpatient follow-up, phototherapy, and readmission to the hospital in this gestational age group. Data was collected by the lactation nurses regarding specific breastfeeding difficulties and jaundice issues that showed a strong correlation between near term deliveries (37-39 weeks) and babies with breastfeeding and hyperbilirubinemia difficulties. The specific data collected included feeding difficulties, outpatient bilirubin lab draws, phototherapy, readmissions, early termination of breastfeeding, low birthweight (under 6 pounds), weight loss >10%, and number of outpatient lactation visits.

Results

Data supported initial observation of increased difficulties with earlier gestational age infants. After sharing this data with the physicians, a policy was developed to change our existing induction criteria. There are now no elective deliveries scheduled under 39 weeks. Exceptions for extraordinary circumstances may be granted if there is prospective discussion with the patient and consensus among the mother's physician, the baby's physician, and another physician with OB privileges. If there is agreement, the mother is required to have an amniocentesis to demonstrate lung maturity. Elective deliveries have reduced dramatically, improving breastfeeding outcomes and decreasing hyperbilirubinemia and resultant need for outpatient visits and treatment.

EMS Early Notification of Segment Evaluation Myocardial Infarction

Bellin Health

*Bonnie Parrott, Team Leader
Emergency Services*

Description

Bellin Health strives to not only meet, but to exceed the Joint Commission Core Measures for Acute Myocardial Infarction. After our recent Chest Pain Center Accreditation, a Chest Pain Committee was formed and the group chose, as its first project, to impact the outcome for the segment evaluation myocardial infarction (STEMI) patient population by driving down the door-to-cath lab and door-to-inflation time for patients arriving to our emergency department (ED). As we looked at patient flow, we recognized that delay occurred in prepping the cath lab for intervention once a STEMI was recognized. It was also evident from review that many times the STEMI was first evident on the emergency medical services (EMS) 12 lead. Our goal was to involve the local EMS and activate the cath lab based on their initial interpretation and ED notification of the 12 lead.

Initially, Bellin chose to work with 2 local EMS agencies: Green Bay Fire and Rescue, and County Rescue Services. Representatives from each agency were invited as members of the Chest Pain Committee. Through this committee, each agency agreed to promote the reporting of STEMI on the 12-lead to the ED prior to patient arrival. In turn, with cath lab and cardiology approval, the ED would activate the cath lab prior to patient arrival. Initial start date would be 1/1/06.

Results

Our first data collection timeframe

was 1/1/06 to 2/13/06. There were 3 "early activation of the cath lab" with an average door-to-cath lab time of 40 minutes (the lowest time since data collection started in Quarter 1 of 2003). However, a few opportunities for improvement also surfaced and the plan was revised.

The next data period was 2/14/06 to 5/10/06, during which 89% of the patients from Green Bay Fire appropriately received 12 lead EKGs in the field. County Rescue's remained at 63%. There were 2 inaccurate interpretations, but 1 was prior to the education. There were 3 appropriate early notifications with a door-to-cath lab time of 23 minutes. Door to inflation for the ED patients in Quarter 1 of 2006 was down to 59 minutes.

Ensuring Deep Vein Thrombosis Prophylaxis for High Risk Patients at a Large Medical Center

Aurora Health Care - Aurora St.

Luke's Medical Center

*Jacque Coons/Al Klewin, Quality/
Pharmacy*

Description

Ensuring deep vein thrombosis (DVT) prophylaxis for high-risk patients at a large medical center.

Results

Data was evaluated housewide after a 3-month implementation period beginning September 2005. The data analysis showed that:

1. 12/19 = 63% nursing units had met the Leap Frog Safety goal (>80%) of making sure physicians are addressing DVT prophylaxis within 48 hours of admission.
2. Comparing this data to baseline data, 14/19 (74%) units had improved. Five units had stayed the same but were greater than the 80% goal.

We requested current DVT rates

from the quality statistician. For a non-ICU stay, our rate went from 0.98% DVT/PE pre-implementation to 0.75% DVT/PE rate post-implementation. For an ICU stay of 3-4 days, the pre-rate of 4.32% went to 2.97% rate post-implementation. Our rates have shown a definite decrease in our DVT rate.

SLMC Deep Vein Thrombosis Prophylaxis CHARTER

Aurora Health Care – Metro Region

Description

To roll out an education program on deep vein thrombosis (DVT) prophylaxis at SLMC that will ensure all inpatients, upon admission, are evaluated for risk of developing a DVT and treated appropriately.

Expected Outcomes

1. Improve patient outcomes, through DVT/PE prevention.
2. Improve DVT/PE rate within the hospital, which will decrease costs.
3. Documentation to show that all inpatients have been assessed for DVT prophylaxis within 48 hours of admission.

Barriers/Constraints

1. Physicians not wanting to use pre-printed orders.
2. Documentation of evaluation of DVT/PE risk in the medical record.

Primary Percutaneous Coronary Intervention for ST Elevated Myocardial Infarction

*Aspirus Wausau Hospital
Audrey Schlund, RN, BSN,
Quality Improvement
Coordinator*

Description

This performance initiative (PI) was undertaken in an effort to posi-

tively impact patient safety through an improvement in the time to reperfusion for the ST elevated myocardial infarction (STEMI) patient population. A potential patient safety issue was identified during routine monitoring of the core measures for AMI. For Quarter 4 Fiscal Year (FY) 2005 (March-June 2005), the Aspirus Wausau Hospital average time from patient arrival to reperfusion for STEMI was reported to be 116.3 minutes as compared to the newly revised American College of Cardiology (ACC) Guideline recommendation of within 90 minutes.

Education of the medical and hospital staff relative to the Primary PCI for STEMI occurred through newsletters, poster boards, presentations, and 1-on-1 counseling.

Results

Improved patient safety/outcomes are evidenced by a steady decline in the average time from patient arrival to reperfusion for STEMI:

- Qtr 4 FY 2005: 116.3 minutes
- Qtr 1 FY 2006: 87.5 minutes
- Qtr 2 FY 2006: 78.4 minutes
- Qtr 3 FY 2006: 69.2 minutes

This PI effort, both initiated and supported by the medical staff, has improved patient safety at Aspirus Wausau Hospital as seen by a substantial decrease in the timing from patient arrival to reperfusion for STEMI.

Skin Integrity

*Saint Joseph's Hospital
Kathryn Olson, Director Patient
Care Services*

Description

Saint Joseph's Hospital Nursing Shared Leadership Quality Council took on skin integrity as a housewide project in an effort to meet the JCAHO 2006 National Patient Safety Goal:

- #14—Prevent health care associated pressure (decubitus) ulcers.

- #14A—Assess and periodically reassess each patient's risk for developing a pressure (decubitus) ulcer and take action to address any identified risks.

Two evidence-based plan-of-care templates for skin integrity were developed and a computerized version of the Braden Scale was incorporated into the on-line patient care documentation system.

Staff education was completed at the annual competency skills fair with a poster board presentation with the following information: assessing patient skin integrity, completing a Braden Scale, interventions to prevent hospital acquired pressure (decubitus) ulcers, and skin integrity quiz. All nursing staff, as well as CNAs, were required to attend this station.

The Ministry Health Care/St. Joseph's Hospital Skin and Wound Care Manual was placed on-line for real time availability for all staff as a reference. This manual featured evidence-based protocols, revised policies and procedures, documentation suggestions, and photos of products supplied on the nursing units for use with patients. The frequency of Braden scoring was recommended to be performed daily in critical care, every Sunday/Monday/Wednesday/Friday in medical/surgical, and weekly in the rehabilitation unit. New hospital beds with special mattresses were also purchased, and staff education was provided to support their use to promote skin integrity for patients.

Results

National benchmark report findings:

- Patients with facility acquired pressure ulcers—Hill-Rom: nationally 7.3%, Saint Joseph Hospital 4.7%; NDNQI: na-

tionally 6.7%, Saint Joseph Hospital 5.35%

- Patients with facility acquired pressure ulcers excluding Stage 1—Hill-Rom: nationally 3.9%; Saint Joseph Hospital 2.3%

The goal was to raise awareness of the nursing staff on the importance of skin integrity. System support with the on-line documentation enabled the nurses to complete their admission and daily assessments and Braden Scores in an accurate and timely manner. There is continual evaluation of wound care and skin integrity products, protocols, and outcomes at Saint Joseph's Hospital/Ministry Health Care.

Using During Treatment

*Memorial Medical Center
Nancy Dufek, Medical Staff
Performance Improvement
Coordinator*

Description

Ashland Memorial Medical Center's Behavioral Health Service offers an integrated program consisting of inpatient, outpatient, and alcohol and other drug (AODA) treatment in 1 physical building. Many patients utilizing behavioral health services present with dual diagnoses. Our goal is to make available the services each individual patient requires to increase the likelihood of successful treatment.

The purpose of the "Using During Treatment" team was to improve patient safety without compromising the services required for patient needs. Although a few incidents had been identified in which patients were found to be using substances while undergoing treatment, this was designed primarily as a proactive safety effort.

Utilizing traditional performance improvement tools and the failure modes and effects analysis

technique, processes related to the admission and treatment of behavioral health patients were reviewed and evaluated to minimize the likelihood that patients would have an opportunity to "use" during treatment.

The admission-to-discharge time line was reviewed and brainstorming was used to identify areas of risk. Process controls were discussed for each risk area. Severity, frequency, and detectability scores were assigned to determine criticality scores. A modified root cause analysis was performed for each of the top 4 failure modes.

Results

The team identified measures to monitor whether the solutions are effective and positively impacting patient care and safety from June 1, 2005–May 31, 2006:

- Number of patient grievances: 0
- Patient discharged at staff request due to using during treatment: 0
- Violation of treatment expectations: 0
- Degree to which patients feel safe on unit: improving from 75% to 93%

Comments from repeater AODA patients specifically cite the benefits of a separate lounge area and minimizing of comingling with mental health patients.

The improvements made to the program cost very little. Communication is the underlying theme to each failure mode, and direct communication between staff, providers, and patients has facilitated improvements. Clarification of traffic patterns and consistent staff and patient education regarding access to the building, especially for outpatient groups and meetings, has minimized confusion and improved confidentiality.

Senior Care Resource Program

*Aurora Medical Group
Patti Pagel, RN, Senior Care
Connection*

Description

The Senior Care Resource Program was designed to help over-burdened primary care physicians with the increasing needs of their older adult patient population. We wanted to design a program that would increase physician satisfaction and productivity while assisting the older adult with finding community resources to help them maintain independence and transition to alternative living environments if appropriate.

We did a "Go and See" in Walworth and went into patients' homes to ask them their perspective about how we, as health care professionals, were doing providing care to their generation. Consensus was that we provided quality care but simple questions patients had were not able to be answered in our system. Patients felt they were falling through the cracks.

This program eased the burden of the physician and clinic staff, improved patient and provider satisfaction, and has proven to be a trusted resource in the Walworth County community. With an intervention from the senior care nurse, repeat emergency department admits for some of our fragile elderly have decreased. We can also show a decrease in length of stay if the senior care nurse is involved with the patient by helping with the transition back to home.

Results

The Senior Care Connection program has improved physician satisfaction as evidenced by yearly surveys and has improved the

lives of the elderly population in Walworth County as evidenced by decreased emergency department admits, decreased length of stay, and positive patient feedback.

The program has improved the safety of this population by having a registered nurse—free of charge—do medication checks and home safety assessments, assist with completing Power-of-Attorney for health care forms, and act as a resource for physicians.

What we learned most is to listen and ask the patient what is working and what is not. It is no longer acceptable to identify a problem that affects the patient without collaborating with the patient on a solution. Our program also was successful because of the level of administration support and barrier busting they did during the start of the program. A physician was required to champion the program. The physician was well respected by his peers and helped garner collegial support. With each site that has replicated the program, the physician champion is an integral part of the program.

The Senior Care program has been in place for 4 years and it averages 100 referrals per month. We have replicated it in various sites across our health care system and it's been successful in each of those areas.

Starting an IV Doesn't Have to Hurt

St. Mary's Hospital Medical Center

Nancy Whitfield, RN, MSN, CNS

Goals

1. Improve Press Ganey patient satisfaction scores with IV insertion.
2. Utilize research to help identify appropriate steps to de-

crease IV procedural pain and improve venous cannulation success.

Results

180 registered nurses across all departments completed an IV insertion questionnaire. Barriers that affect IV cannulation success, along with a list of techniques to improve patient comfort and IV success rate, were generated. A review of research articles comparing anesthetic agents, usage, and limitations was undertaken. Based on research recommendations, buffered lidocaine was identified as the agent of choice.

Method of anesthetic delivery was studied through a venous cannulation trial comparing 70 OPNC patients receiving either intradermal buffered lidocaine using a 30-gauge needle/syringe or buffered lidocaine using a needleless cartridge with CO₂ pressure. The needleless cartridge provided less pain with the insertion of the local, no difference in pain on catheter advancement, and worsened vein visibility in 31% of cases. Based on results, it was recommended to utilize intradermal buffered lidocaine using a 30-gauge needle/syringe.

A process to make buffered lidocaine more readily accessible for staff was identified. We then developed facts and tips for venous cannulation, and addressed barriers identified in the IV insertion questionnaire using research-based evidence and specific findings from the venous cannulation trial to support change in practice.

We're Listening...

*Black River Memorial Hospital
Jackie Ellingson, Respiratory Care Manager*

Description

We wanted to give our employees,

patients, and visitors a method to make suggestions on how we could improve our service and protect the safety of our patients, staff, and visitors. In the fall of 2003 we placed suggestion boxes in the dining room and by all time clocks.

We are looking for suggestions that will affect the hospital as a whole, not the employee's specific department. We have received ideas for improvements, from food suggestions to safety measures that we could implement.

Each suggestion is directed to the appropriate manager and followed up with a letter from the PI Council on the status of their suggestion. They indicate if it is something that can be implemented and if not, why not? The individual is then rewarded with a free meal ticket that can be used in our cafeteria. Employees are encouraged to keep a copy of the response letter to bring to their employee evaluations. We want to acknowledge the employees who take the time to go above and beyond.

Results

We have received numerous ideas that have brought about positive changes, and we continue to receive new suggestions. The most important aspect about this project is letting the individuals know that they are being listened to. The greatest challenge is getting the managers to agree to respond to the suggestions, making it possible for the PI Council to respond back to the individuals in a timely manner.

The PI Council members are given a list bimonthly of all suggestions received. We also include the suggestions in the employee newsletter. A PI Council sub-committee is responsible for maintaining the program. Individual recognition keeps the program alive.

The PI Council feels that the

project has been a success and we are open to seeing changes that need to be made through the eyes of others. This has been a great avenue to accomplish that.

Enhancing Patient Safety: Implementation of the Ventilator Bundle

*Columbia St. Mary's
Salah Quitasbat, Epidemiologist*

Description

Columbia St. Mary's (CSM) strives to provide the highest quality patient care possible. Included in this mission is reducing the number of hospital-acquired infections in order to provide better patient outcomes. Ventilator associated pneumonia (VAP) is an important source of preventable morbidity and mortality in hospitals. Historically, 15% of patients on ventilators develop VAP, with a mortality rate of 46%. VAP leads to increased hospital stays and increased costs.

CSM implemented into its standard of care the ventilator "bundle" from the recommendations of the Institute for Healthcare Improvement 100,000 Lives campaign. A bundle is a set of evidence based measures that, when applied together, help to improve clinical outcomes. CSM has several intensive care units (ICUs). The patients in these ICUs on ventilators were all monitored for development of pneumonia.

The 4 components of the ventilator bundle include patient positioning and ventilator weaning, which help reduce VAP. The patients positioning aspect includes keeping the head elevated between 30° to 45° to help reduce the risk of aspirating gastric contents. The 2 other components of the bundle are peptic ulcer disease prophylaxis and deep vein thrombosis prophylaxis, which are not related

to preventing VAP, but do reduce other adverse outcomes due to mechanical ventilation.

Results

Several elements of the VAP bundle were implemented early in 2002. A concerted effort to implement all 4 elements of the bundle was started in November of 2004. Significant improvements in patient outcomes were detected on implementation of this bundle and these improvements were sustained. More importantly, there have been no VAPs through the first quarter of 2006 in the 3 CSM hospitals, with many of the ICUs going nearly a year without a VAP case. Also, the days between VAP events have increased, which helps keep morale high and staff can strive to continue doing a good job. These results were posted on all nursing units.

Even with these encouraging results, some measures that still need to be done include having orientation packets about the bundle for new RNs and involving physicians more with the assessment of the patients. Also, respiratory care will soon be involved with the elevation of the head and oral care. Hopefully, adding these measures will help us to further improve our high quality of care.

Meeting the Standard for Prophylactic Antibiotic Administration Prior to Surgery

*Sacred Heart Hospital
Judy Pielhop, Director, Critical Care*

Description

The administration time for surgical prophylactic antibiotics was not consistently delivered within 1 hour of incision.

This was addressed by utilizing the Six Sigma Process and a multidisciplinary team. The goal was to

achieve 95% compliance of receiving prophylactic antibiotics within 60 minutes of incision.

Results

Sacred Heart Hospital selected leadership members throughout the organization to receive training in Six Sigma as part of professional development.

This project looked at both the quality of care and safety to patients having surgery at Sacred Heart Hospital. Studies show that receiving an antibiotic within 60 minutes of surgical incision reduces the potential of infections in this population.

In August 2005, only 71% of antibiotics were administered within 60 minutes of the incision time. A multidisciplinary team was assembled. Every other week team meetings yielded identification of the problem statement, metrics, and potential benefits.

Use of Six Sigma tools, such as a flow chart and cause-and-effect diagram, assisted in measuring the data collected. Data was analyzed using probability plot lines and individual moving range (I-MR) charts. An improvement process was developed by team members from the short stay care unit, surgical services, and anesthesia. Education on the rationale for the improvement and the new process was presented to the units involved.

After 4 months of using the improved process, the goal of 98% was reached, followed by 100% compliance in delivering antibiotics within 60 minutes of incision time.

Best Practice with Process Mapping for Medication Reconciliation

*Saint Clare's Hospital
Mary Nickel, Director, Clinical Quality and Medical Staff Support*

Description

To assist in defining the flow of patient care and services, identifying potential risk points and gaps, and determining any interdependencies on other processes, a best practice approach known as process mapping was undertaken. Process mapping displays the sequence of steps in a process to achieve a desired outcome. Interdepartmental teams participated in process mapping to create the ideal steps in each process. Best practices supported by evidence-based medicine were incorporated into many of the steps within the process maps. The maps were used to define structures, facilitate the development of policies and procedures, and educate staff as to the various processes for the provision of quality and safe patient care and services.

One opportunity that arose for process mapping was medication reconciliation, which involves 3 steps:

- Verification (collecting the medication history—prescriptions, vitamins, over-the-counters, supplements, herbals, and allergies) through review of patient's current medication through access of our electronic database and patient interview.
- Clarification (ensuring that the medications and doses are appropriate).
- Reconciliation (documenting changes in the orders).

The following data elements should be included for each medication: name, dose, frequency, and route.

Within 24 hours of inpatient admission, the medication reconciliation process is completed. The process starts with the nurse interviewing the patient and documenting the patient's medications including any over-the-counter medications in the medical record.

The patient's physician reviews the medications and proceeds with order entry. The pharmacist reviews the medications, including the physician's orders, and seeks any clarification. The medication reconciliation is also completed whenever there is a change in patient status resulting in a transfer from 1 unit to another unit and at time of patient discharge. At time of patient discharge, the physician reviews the patient's medications and initiates orders based on the review. The patient and next provider receive a copy of the electronic medication list.

Results

Each month, results were shared with the stakeholders to determine what was learned about the process. It was learned that staff needed additional education on how to create an electronic medication reconciliation at a specific point in time. The re-education involved reinforcing printing of the electronic medication list, signing the printed copy, and scanning the medication list back into the electronic medical record.

The initial plan was revised to incorporate additional education for nurses on medication reconciliation. In addition, the process map was reviewed and revised to reflect the 3 distinct steps of clarification, verification, and reconciliation with detail within each of these steps to improve staff's understanding and promote excellence in patient care and a culture of safety. The newer results indicate that we have improved over time.

Inpatient Medication Reconciliation

*Franciscan Skemp Healthcare
John Johnson, Director of
Pharmacy*

Description

Medication reconciliation is an evidence-based safe practice that requires evaluation and documentation by health care professionals that all medications across the continuum of care are appropriately and consciously continued, discontinued, or modified, insuring that patients receive all intended medications and no unintended medications. It is important because medications have become more numerous and complicated, there are more physicians prescribing different medications to the same patient, and patients are no longer going to a single pharmacy to fill their prescriptions. An up-to-date and accurate medication list is essential to ensure safe prescribing in any setting.

Franciscan Skemp Healthcare agreed to participate in the Institute for Healthcare Improvement (IHI) 100,000 Lives Campaign to make health care safer and more effective and to ensure that hospitals achieve the best possible outcomes for all patients. We developed a standardized process to accurately and completely reconcile medications for all patients who are admitted as inpatients in the hospital.

Results

Implementation of a standardized process and use of both paper and electronic tools for inpatient medication reconciliation has improved our ability to ensure that we:

- Identify to the best of our ability an accurate and complete current medication list for all patients on admission to the hospital.
- Identify all discrepancies and/or omissions between the patients' current medication list and the physicians' admission orders, and obtain clarification when necessary.

- Consciously either continue, change, or discontinue all active medications on transfer and/or discharge.

This project was successful in large part due to a very multidisciplinary team with heavy involvement from our information systems department.

Medication Error Reduction Project

*Good Samaritan Health Center
Danny Loosemore, Director
of Quality Improvement/Risk
Management*

Description

Medication error reduction is one of many projects being addressed by Good Samaritan Health Center. As part of the continuous quality improvement for our facility, data on medication error is collected through pharmacy and is reviewed at the medical staff committee level. In trying to reduce medication error, 3 initiatives, led by the Director of Pharmacy, have had an overwhelming effect on medication error levels. These include the expansion of pharmacy hours, the introduction of a computerized medication administration record, and the medication reconciliation project.

A form was created to act as the tool for medication reconciliation and was implemented in February 2006. The form itself went through a multitude of incarnations as issues were brought to the attention of the medication reconciliation committee. The final forms are separated into 1 for inpatient and 1 for outpatient, since each area has differing needs and processes for medication reconciliation.

Change is measured through medication error data as well as through quality improvement data to ensure form completion and use. Results are shared with the medi-

cation reconciliation committee as well as departmental and medical staff committees to help support this change in order to meet 100% compliance with all elements of this process.

Results

The indicator to measure medication use in the facility is medication error, with 2 major subcategories of cause of error and error outcome. Each of the subcategories has in it a multitude of sections under which causes and outcomes follow. This information has been measured in this manner since fall 2004. The data tracking showed that, during any given time period, the medication error rate was anywhere from 6 to 8 per 100 patient days. The continuous quality process had been attempting to find the root cause of the problem for many months. During September 2005, using the data analysis, the pharmacy hours were extended from 5 PM to 8 PM. The next month's data showed an extreme drop in medication errors, having fallen approximately 66% for the next 2 months.

The next hurdle was an attempt to intervene in another issue derived from the medication error data, which stemmed the development of a computerized MAR to be used in the inpatient setting. Since this new process required the interactions of multiple groups (pharmacy, physicians, nursing staff), the post-implementation data showed an increase in medication errors, which is expected whenever a new process is instituted.

The last hurdle was implementing medication reconciliation, which occurred in February 2006. Post implementation numbers for this project showed an approximate 50% drop in medication errors 1 month after starting to use

the forms. The subset data from the cause of error subcategory shows shifts in cause after each implementation, helping the team determine which issue to address next.

Gastrointestinal Center Patient Flow and Physician Templates

*Aspirus Wausau Hospital
Denise Ertl, RN, CGRN, Director
Gastrointestinal Center*

Description

This project was initiated because of delays in the scheduling of gastrointestinal (GI) procedures for patients, due to an increase in volume. It was noted that some patients had to schedule their procedures more than 30 days after their GI consultation, which was causing patient and physician dissatisfaction.

Goals identified at the beginning of the project included 1) patient ability to schedule their procedure within 30 days of their consult, 2) increase throughput volume to meet individual physician practice style, 3) decrease physician downtime, 4) decrease patient procedural delays.

Results

Improved patient safety:

1. Improved hand-off communication and continuity of care for patients, by having a core group of staff for each physician every day. Previously, 1 nurse would be interacting with 4 physicians; now 1 nurse is interacting with 1 physician on a daily basis.
2. Established routines for each physician's patients, causing less confusion.
3. Less opportunity for staff error related to staff working 8-hour shifts, instead of overtime.

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4. Less opportunity for physician error related to consistent workflow, including break time.

Improved patient satisfaction:

1. Patients now have the ability to schedule their procedure within 30 days of having their GI consultation.
2. Recovery times have decreased from 1.5 hours to 1 hour. This is due to more focused efforts of 1 of the physician's schedule by keeping the patient flow moving. Patients and families have commented on how nice it is to be able to leave earlier.

Improved physician satisfaction:

1. Physicians are happy that they can work without downtime and at a pace that works best for them. One of the physicians submitted a letter of acknowledgement to the President/CEO of Aspirus praising the GI Center staff for improving his personal practice and thinking "outside the box," and breaking tradition to enhance patient care and provider satisfaction.
2. Increased procedure volume: in the first month that the templates were initiated (May 2006), there was a procedure increase in volume above the highest month's history. A physician can now do 23 procedures in 8 hours versus 16, and take a lunch.

Improved staffing efficiency:

1. Scheduling more patients within operating hours without requiring more staff.
2. Staff has less down time while they are at work, and are getting out on time, with fewer extended days.

Innovations in Patient Flow

Bellin Health Hospital Center

Andrea Werner, Officer of

Innovation

Description

Over the past several years, Bellin Health System has recognized the need to focus on the reduction of waits and delays as the key methodology to achieve the targeted results that were set under the customer side of our performance plan.

One opportunity we have seen is the need to coordinate the entire patient flow and experience. There have been times when the surgical patient has had to wait for an inpatient bed, or an inpatient discharge is delayed due to a diagnostic procedure. Our overall length of stay has increased and our Press Ganey Top Box scores have room to improve. We need to connect the dots throughout the continuum of the hospital experience. We will decrease delays while improving patient satisfaction and maintaining quality of care.

Results

Currently, our average length of stay has dropped from 4.2 in January, down to 3.8 in May. We have been able to successfully mitigate mismatches in demand capacity in a way that not only eliminates waits and delays for patients, but has contributed directly to efficient use of salary expenses in nursing.

Our Top Box Scores in Press Ganey have improved as they relate to "speed of the discharge process" and "wait time to see MD." Our readmissions have held steady at around 1%-2%, which was our balancing measure for care.

We have successfully implemented our capacity demand tool in the 5 identified pilot nursing units, and spread the tool to 4

other areas. We have successfully implemented discharge appointments in 4 nursing areas, with the Orthopediac Unit and the General Surgical Unit scheduling discharges close to 90% of the time.

Our hospital overall flow scorecard has gotten a lot of attention internally and externally, as it establishes key flow metrics for all major microsystems in the hospital. These areas now have input, throughput, and output measures, which they monitor monthly to assess whether there is a demand capacity mismatch at the department level.

Enhancing Risk Reporting through Automation

Aurora Medical Center

Stacey Maloney, RN, Midas

Support Coordinator

Description

As a quality process, the reporting of risk and service improvement incidents at Aurora Medical Center had been paper-focused until the advent of Midas+ database software in the Quality Enhancement department. A powerful care management tool with connected modules for infection control, quality, utilization management and risk, Midas+ offered the opportunity to enhance the reporting of incidents through automation.

Desiring a streamlined process that would reduce errors, we implemented the Midas+ capability of utilizing remote data entry to send alerts to the risk manager and location-specific manager. Working within the software modalities, we programmed individually focused risk reports that would assist the user in choosing a major category for their incident, thereby simplifying the reporting process at a later date. Several examples of major categories include falls, IV incidents, medication errors, and

laboratory incidents. Within each primary category, specific risk incidents were chosen to assist with identification.

Once all major and minor categories were decided and linked together, we created user-friendly forms so that all hospital staff would feel comfortable both accessing and using the report. While the first step in the risk process is reporting the incident, the second step is focusing on how the process alerts the appropriate unit manager and risk manager so collaboration of process improvement can begin. Considering this link, we utilized the Midas+ system to create internal alerts, both via e-mail and access to the Midas+ system, for each incident that occurred in relation to a manager's location.

With the risk manager and unit manager having instant access to the automated incident report, communication between them could begin on event significance, resolution, and final incident status as well as any subsequent educational opportunities. Having the information stored within the Midas+ system also allowed instant reporting of the number of incidents, status, and incident types specific to location, thereby facilitating a knowledgeable partnership between the unit managers and risk manager.

All managers were given an overview of the process, training handbooks, and individual sessions for learning as required. A timeframe for expectation of training of their employees was communicated. Within a 30-day timeframe, the transition from paper risk and service improvement incident reporting to an automated version was complete.

Results

With the ability to better obtain information on risk categories, we

are able to provide training to prevent risk incidents, thereby ensuring quality outcomes for patients.

The reduction of variability also encompasses responding in a timely manner, which an automated risk system facilitates, thereby further ensuring quality care and patient satisfaction.

From our project, others can learn to increase timely approaches to risk incidents, methods for increasing staff involvement, the opportunity for more meaningful reporting capabilities, as well as thinking proactively versus reactively. Future enhancements to this process include alerts to the clinical managers when a patient who had a previous risk incident is re-admitted to their unit.

Improving the Safety of Intravenous Patient Controlled Analgesia

Saint Joseph's Hospital

Peggy Lutz, Pain Coordinator

Description

A significant number of patients receive self-administered intravenous opioids to manage their pain. Patient controlled analgesia (PCA) is a safe and effective way to manage pain when guidelines for use are established. PCA is a high-risk modality. Factors characteristic of PCA risk include improper patient selection, prescribing errors, potential for pump programming errors, and unauthorized use of PCA by family, caregivers, and clinicians.

The project began in November 2004 with a goal of identifying patients at risk for opioid-induced sedation and respiratory depression. The project concluded in November 2005, resulting in the following practice changes:

- Revision of the preprinted IV PCA order to include a screening tool to identify patients at

risk for opioid induced sedation and respiratory depression, standardized dosing parameters for adults with and without risk factors, standardized orders for clinician bolus dosing for poorly controlled pain, and addition of medication orders to manage opioid induced side effects.

- A separate order for pediatric IV PCA has been drafted.
- Clinical guidelines for management of IV PCA were written and distributed to medical staff.
- Implementation of family controlled analgesia, restricted to use on the Palliative Care unit and Hematology/Oncology unit. Guidelines were established to provide consistent education to family members.
- Warning sign placed on all PCA pumps to alert family members of the potential danger of activating the PCA dose button for the patient.
- Revision of the PCA policy to minimize the risk of pump programming errors.
- Development of patient education materials.

Results

We are currently collecting data to look at the safety of IV PCA as well as compliance with the required screening process on the PCA orders. Initial results reveal:

- 60% compliance with the screening tool.
- A shift in the prescribing practices of physicians. Morphine sulfate use has decreased while fentanyl use has increased. This is significant as fentanyl is the safest drug for patients with renal and hepatic disease and an excellent option for the elderly patient.
- Appropriate reduction in the use of basal infusion rates.
- Naloxone administration required to reverse sedation and respiratory depression related

to opioids has decreased for patients receiving IV PCA.

The initial focus for clinical outcomes has been safety. Follow-up is needed to improve compliance with the screening process on the PCA orders. Ongoing education is crucial to the safety of PCA. The frequent use of this modality cannot diminish our appreciation for the potential adverse effects that can occur with the use of PCA. When used properly, PCA is a safe and effective method of providing opioids, offering patients a level of control of their analgesia. This ultimately leads to greater patient satisfaction. The next phase of the project will look at impact on pain control, function, and quality of life.

Inpatient Falls Reduction

*Riverview Hospital Association
Joe Jicha, Director of Quality
Improvement*

Description

The inpatient falls performance improvement team was chartered in February 2005 at Riverview Hospital in Wisconsin Rapids. Literature suggested that significant improvement in hospital fall rates is possible if a coordinated initiative took place. "Organic" fall rates can generally be improved through concerted effort and focus. Our hospital in 2004 had a fall rate of 4.625/1000 days. So there was room for improvement. The team spent about 3 months assessing many factors associated with the patient falls including relationship to census, shift, staff, equipment, awareness, subject knowledge, and appropriate risk assessment.

The potential causes were then ranked based on causal frequency, i.e., causes that were most often associated with a fall got a higher rank. Causes with the highest ranks were attacked first and so-

lutions were put into place. Staff fall risk awareness was heightened and education on the 4 different types of inpatient beds and their individual features was provided. Fall risk signs were placed next to patient beds and made obvious enough that all staff were aware, not just nursing. Preventative maintenance was modified on the beds to remediate slippery casters that accumulate floor wax to stop unexpected bed movement during ingress and egress. Finally, a formalized method to assign patient attendants or sitters was developed, rather than waiting for a first fall to prevent a second. This has ultimately manifested in the "patient attendant" position being created at Riverview, preventing other skilled and expensive staff from sitting with patients.

Results

Improvement in the fall rate appeared within a month of instituting some of the changes. After 1 year, the fall rate is down 19.5% over the baseline year of 2004. That's an improvement of 4.625 to 3.74 falls per 1000 patient days. Many of the approaches have been replicated to other areas of the facility.

Patient Falls Prevention

*Saint Joseph's Hospital
Kathryn Olson, Director Patient
Care Services*

Description

Saint Joseph's Hospital Nursing Shared Leadership Quality Council began a patient falls prevention initiative in 2006. After evaluating numerous fall assessment tools, the Quality Council agreed that the Morse Fall Scale, which is research based, would be most appropriate for use at our hospital. The expectation is set for the Morse Fall Scale to be

completed on admission for every patient age 12 years and older. Following admission, the Morse Fall Scale is to be completed every day, preferably in the evening. Every patient is to be reassessed using the Morse Fall Scale with a change in condition, upon transfer to a new unit or level of care, following a fall, and/or after a near fall episode.

Education materials were developed and posted in every patient room to help patients/families/visitors understand their part in preventing a fall. The education materials were written at the reading level so all patients could understand and comprehend. Also, the materials were translated into several languages (Spanish and Hmong).

All Saint Joseph's Hospital nurses attended training sessions to learn about the patient falls prevention initiative, which included the specifics on how to use the Morse Fall Scale, and when to initiate a plan of care to prevent a patient fall. A research based plan of care template was developed to support the implementation of the patient falls prevention initiative. This template included interventions and how nurses could assist in preventing patient falls.

Results

National benchmark report findings:

- National Database of Nursing Quality Indicators (NDNQI):
- First Quarter 2006 – Patient Falls
- Nationally: 4.13%, Saint Joseph's Hospital: 2.99%
- Hill-Rom 2005:
 - Nationally: 4.4%, Saint Joseph's Hospital: 1.0%

Patient Transfer and Handling—Implementing Low Lift Practices

St. Vincent Hospital

*Kitty Burbey-Reed, RN, BSN,
MBA, Assistant Director, Cardiac/
Medical Unit*

Description

St. Vincent Hospital is currently in the process of implementing its "Safe Lift" program. The program will train all patient care employees on the appropriate use of various types of safe lifting equipment. As a result, lost employee workdays and workers compensation claims due to patient lifting injuries will decrease. The project will employ the "train the trainer" approach. An ergonomics professional will train 60 "super users" who will in turn become trainers. The super users will conduct 1.5 hour training sessions consisting of hands-on safe lift training including a written exam and skills evaluation at the end of the session for all designated staff. All training will be completed by June 2007. Employee lost workdays and workers compensation claims due to patient lifting injuries will be tracked and compared to previous years to measure program success.

Results

The ongoing development of a safe lift program has had a positive effect on the staff members of the cardiac/medical unit that work with a wide variety of patients, many of whom are not mobile. Staff discovered there is equipment that can assist them in providing quality patient care in a manner that maintains the dignity of the patient (no longer do they need the "6-man" lift). They are able to leave at the end of the day without feeling the aches and pains of constant 2-man transfers. The ceiling lift and the newly acquired sit-to-stand device enable them to make many of their transfers with only 1 person. No longer do they need to wait for transfer assistance. Patients report less fear of falling

when assistive lift devices are utilized, even if it is only a gait belt.

Rapid Response Team

Franciscan Skemp

*Jackie Abiers, RN, Director, ICU/
CCU*

Description

As Franciscan Skemp continuously works with new initiatives in providing quality and safer care to our patients, we participated in the IHI 100,000 Lives Campaign. We focused on the Rapid Response Team.

A rapid response team (RRT), known by some as the medical emergency response team (MERT), is a team of clinicians who bring critical care expertise to the patient's bedside or wherever it is needed with the goal of addressing physiological changes before the patient's condition deteriorates.

Potentially preventable deaths occur daily in hospitals. The goal is to respond to a "spark" before it becomes a forest fire. The patient often shows signs of deterioration up to 8 hours prior to a cardiopulmonary arrest.

Results

The RRT effort has been broken down into 3 phases: Phase 1—Acute inpatient for patients 15 and older. Phase 2—Spread to clinic and hospital-based ambulatory sites while developing Phase 3—developing a pediatric protocol for patients 14 and under.

For Phase 1, it was determined that the RRT would be comprised of a respiratory care practitioner and an ICU nurse who has at least 2 years of critical care nursing. This team would intervene with patients utilizing a medical staff-approved protocol. Activation of the team needed to be easy and staff wanted to make very few calls or pages. The project team was able to allow

this with a 1-page activation by paging "0-RRT" (0778). The pager that the ICU nurse carries is interlinked with that of the respiratory care practitioners. When the team responds, the ICU carries a multi-pocket (each labeled) backpack with supplies ranging from IV tubing, specimen collection supplies to limited medications. When the event ends, the bag is sent to SPD and pharmacy to have the used supplies replenished.

The documentation form has the protocol built into it, with the form being structured around the situation background assessment recommendation format.

During the initial implementation days, each team member responding also received an evaluation form of what went well and what could have been better. Many replied that it helped to build better collegiality between the different levels of nurses.

St. Francis Hospital's Good Catch Program

*Wheaton Franciscan Healthcare-
St. Francis*

*Denise Block, Patient Safety
Coordinator*

Description

A Culture of Patient Safety Survey, used to help prioritize the focus of patient safety at St. Francis, demonstrated that work could be done around the occurrence reporting system. After looking at occurrence report trending, it was noted that the smallest amount of reports fell into the "near miss" category. A near miss is an error that is noticed prior to reaching the patient. It is also known as a "close call," or as we like to call it, a "good catch." The workgroup decided the best chance of affecting change would be to work on increasing near miss reporting, and also making the report very easy to use.

A Good Catch Hotline was established, as well as a small Good Catch report. When the small workgroup was finished, the larger patient safety team took the education and posters back to their respective department meetings.

The Good Catch Hotline is an internal phone line that goes directly to a voice mailbox. The Good Catch Report is a 4X6 note card combined with an envelope (for privacy) that is placed in a pocket on the Good Catch posters. These posters are located in “staff only” areas of the hospital. To help encourage staff to participate in the Good Catch program, a monthly drawing is offered to staff that leave their name on the Hotline or on the Report. Full implementation of the program started March 5, 2006, in conjunction with National Patient Safety Awareness week.

Results

After each good catch is made, a report is sent to the quality improvement department, where they are trended to determine the biggest areas of need. Only some reports need further follow-up. At the beginning of each committee meeting at Wheaton Franciscan Healthcare – St. Francis (WFH-SF) a “patient safety moment” is shared. High-quality good catches are mentioned at this time. These catches are also printed in the monthly patient safety newsletter available for all staff to read. Eventually, the good catches will also be placed on the hospital’s intranet for staff to read. Good catches are effective means of education.

The good catch program also helped increase the culture of patient safety at WFH-SF. The hospital’s Patient Safety Coordinator is well known because she sends thank you cards to every staff member who fills out a Good

Catch Report or calls the Hotline. Follow up is critical in establishing a culture of safety. Also, educating staff on the importance of near misses and the part they play in patient safety also helped change the culture at the hospital.

Pediatric Clinic Advanced Access

*Door County Memorial Hospital
Christa VanPay, Director of
Quality*

Description

To implement an advanced access team approach for pediatric patient appointments; to do today’s work, today. Objectives include offering 100% of patients an appointment today for any problem with their primary care professional (PCP), or with a teammate in the absence of the PCP; a reduction of at least 30% total cycle time for patient visits (time from patient check in to check out); an increase in customer satisfaction by 20%; greater than 90% of providers and staff will rate their satisfaction as superior; and improvement to 80% of continuity between patients and their PCP for any primary care visit.

Results

Balance Supply and Demand Daily: Our Pediatric Department has been able to balance the capacity and demand as much as possible with 2 providers. When there is 1 provider in the office, we make sure that “good backlog” is not scheduled on those days, if possible. We continue to monitor our visit cycle data and plan to drill down into specific timeframes between stops to see where we can gain efficiencies and reduce patient delays.

Reduce the Backlog: We had very little backlog to reduce and have been able to see all acutes

or any routine appointments who want to be seen on the same day, so far.

Reduce Appointment Types and Times: We have 2 appointment types and have eliminated any “rules” that apply to 1 physician and not the other. This has made scheduling much easier.

Reduce Demand for Visits: We are working on trying to incorporate a physical with a sick visit, if appropriate, as well as assure the physical falls within the insurance guidelines or “rules” for how often patients can have physicals (in particular Medicaid timeframes).

Optimize the Care Team: We have 2 registered nurses and 1 medical assistant. We are working on a team-oriented approach for rooming patients and handling phone calls and paperwork. It has increased the efficiency of getting patients roomed in a timely manner and the physicians have noticed a great improvement. We are also trying to make sure chart preparation for the visit is standardized to make it easier for anyone to room the patient.

Medication Reconciliation

*Aurora Medical Center
Manitowoc County
Carol Durocher, PI Coordinator*

Description

The purpose of this project was to comply with the JCAHO National Patient Safety Goal regarding medication reconciliation. The team utilized the FMEA steps as outlined in “Failure Mode and Effects Analysis - An Advisor’s Guide” version 1.0, June 2004 compiled by the Department of Defense Patient Safety Center. The team was first educated on the FMEA process, then we narrowed the scope of the process and began flowcharting. Our next step was to identify fail-points in the process and determine

their severity, probability of occurrence, and detectability. These 3 areas were scored, giving us a risk priority number (RPN). Our total RPN score was calculated and the team decided on a goal of a 50% reduction in our total RPN. The team examined the root causes for the failures and from there created an action plan to improve.

Results

Project is not yet completed.

Medication Reconciliation at Discharge

Madison Patient Safety

Collaborative

Kendra Jacobsen, Administrator

Description

The MPSC was interested in learning more about issues related to medication reconciliation at discharge from the hospital. The team was created in November 2004 and started with an internal review of the current discharge process. The team included community pharmacists, hospital pharmacists, quality improvement and long term care personnel, and physician leaders. Community pharmacists were interviewed to get a sense of the issues they encounter when filling prescriptions for discharge patients. An ideal discharge form was created for implementation at the hospitals and further data collection was done with 14 community pharmacies. The pharmacies completed a data collection form for each patient who was discharged from a Madison area hospital. The data collection form was designed to teach us about the types and frequency of medication errors that occur and also the tasks that the community pharmacist must do in order to completely reconcile the patient's medication list.

Results

The results from the data collec-

tion indicated room for improvement. Of all patients being discharged, 50% needed some sort of clinician follow up in order for the community pharmacist to fill the patient's prescriptions. A significant amount of patients requiring follow-up either missed their next dose of medication or waited longer than 30 minutes at the pharmacy because of the follow-up that needed to occur.

Two of the 14 participating pharmacies were those in long term care facilities. Analysis of this data has focused the team to work on improving the process of discharge to skilled nursing facilities (SNFs). The team is now conducting focus groups with hospital and SNF personnel to identify barriers in the discharge process. Next, the team will design and pilot new discharge processes and test the impact of these changes.

Promoting Best Practices of Infection Prevention for Excellence in Patient Outcomes

Saint Clare's Hospital

Mary Nickel, Director, Clinical

Quality

Description

Saint Clare's Hospital is a new 86-bed hospital that opened its doors in October 2005. It is a state-of-the-art, all-digital hospital providing comprehensive health care services to the people of Weston and its surrounding communities. Evidence-based medicine was incorporated into many of Saint Clare's Hospital processes to promote excellence in patient outcomes. Specifically, Saint Clare's Hospital implemented the Institute for Healthcare Improvement (IHI) interventions to achieve the best patient outcomes. Our infection prevention and control coordinator provides concurrent practice

support and participates in daily multidisciplinary rounds to promote and ensure best practice interventions for patient care in "real time." In addition, best practices were incorporated in computerized physician order entry (CPOE) and clinical pathways to support excellence in patient care.

Our goal was to implement the interventions to achieve less than the national average for any type of infections (lower is better) and to have greater than 90% compliance with the interventions to prevent infections.

Results

Our results indicate that we have achieved and sustained our results in preventing ventilator-associated pneumonia, central line infections, and surgical site infections. We continue to improve our practices for excellence in patient outcomes. It is through our concurrent practice support and "real time" interventions, daily multidisciplinary rounds, evidence-based best practices incorporated into computerized physician order entry, and clinical pathways that we are successful.

The Impact of an Educational Intervention on Hand Hygiene Compliance in a Community Hospital

Stoughton Hospital

*Nancy Moskal, Infection Control/
Occupational Health Nurse*

Description

The purpose of this project was to identify barriers that may exist related to hand hygiene compliance at Stoughton Hospital and to remove those barriers. The outcomes of the study helped meet the National Patient Safety Goal to "reduce the risk of health care associated infections" and JCAHO requirement to

monitor hand hygiene compliance.

A joint project between Edgewood College (Madison) Nursing Program and Stoughton Hospital was developed in January 2006. Senior nursing students are required to complete a capstone research and teaching project that is presented to their peers and hospital staff at the end of the semester. The hospital's goals to assess barriers, monitor hand hygiene, and implement multiple interventions to improve compliance closely matched the students' learning objectives. Two students were selected to work on this project along with the hospital's infection control nurse and performance improvement coordinator. The objectives were accomplished through surveys of clinical staff, surreptitious observations by the students,

and educational interventions such as PowerPoint, quizzes, and small group discussions.

This research-based project benefited both Stoughton Hospital and the Edgewood students. Assessments at the beginning of the project demonstrated there was room for improvement in compliance. Through multiple educational interventions spearheaded by the students, compliance awareness was raised and hand hygiene compliance doubled.

Results

Safety and quality benefits to Stoughton Hospital were:

- Identification of hand hygiene barriers from an unbiased source.
- Re-enforcement of our current hand hygiene guidelines.
- Removal of barriers to proper hand hygiene within our control.
- Use of PDCA rapid cycle improvement, which can be transferred to other projects.
- Use of research methods in a patient care project.
- Significant improvement in hand hygiene compliance by clinical staff.
- Empowerment of nursing councils to sustain compliance improvements.

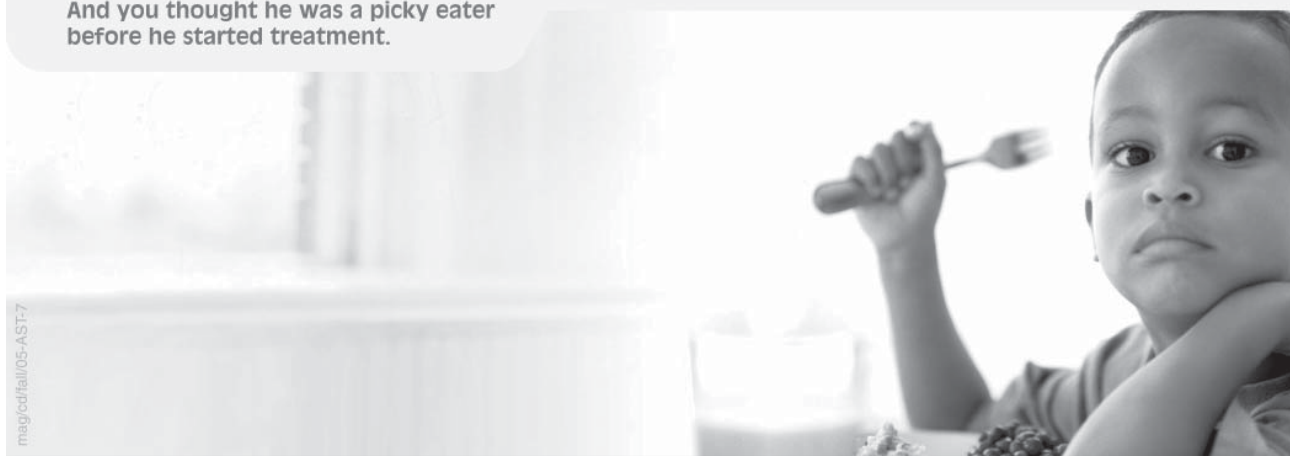
Applied research projects between an educational facility and hospital can benefit both parties. Expertise from hospital staff coupled with the educational resources and expertise may result in a project with substantial positive outcomes.

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