



PRHI Executive Summary

January/February 2007

Nurse Navigator Program

Nurse-led improvement—times 9

No one disputes this nation's nursing shortage. Nationally, nursing is one of the top professions undergoing attrition due to baby boom retirements. Fewer nurses are entering the profession at a time when more are needed than ever. Locally, the turnover rate in nursing and allied professions hovers stubbornly around 5%. Policy makers search for ways to retain and attract nurses.

One of the most hopeful experiments in improving job satisfaction among nurses just concluded in Pittsburgh. The year-long Nurse Navigator Fellowship program, a joint venture of the PRHI's parent organization, the Jewish Healthcare Foundation (JHF) and Robert Wood Johnson Foundation (RWJF), relied on quality as its cornerstone. The program's hypothesis was simple: when nurses are given the scientific data-gathering skills, and permission to improve care at the bedside, they'll feel more satisfied with their work, and patients will receive measurably better care. Nurses win. Patients win.

The quality cornerstone of the Nurse Navigator program supports the Magnet Program of the American Nurses Credentialing Center. A 2004 JHF survey showed 15 of 38 hospitals in the Pittsburgh

region pursuing Magnet status, and eight more considering it.

Program Structure

Teamwork between JHF and its supporting organizations helped the Nurse Navigator Program to succeed. Health Careers Futures (HCF) selected the participants and organized the work while PRHI supplied training in Perfecting Patient CareSM (PPC) and the services of on-site coach, Debra Thompson, MSN, RN.

Nine nurses were selected from dozens of applicants, based on their passion for learning and patient care, and on their proposed quality improvement projects. They completed the four-day PPC University and a specially designed curriculum on data collection. Thompson rounded on the project sites to teach the Navigators and their teams how to apply the PPC principles. The nurses also benefited from monthly meetings where they shared information on the triumphs and challenges of change.

For their part, host institutions agreed to release the Nurse Navigators for PPC training and give them eight hours each month for meetings. In return, JHF provided \$10,000 stipends for the nurses' time. Perhaps most important, the institutions agreed to put the

nurses in the driver's seat of their improvement efforts.

"It was one of the most rewarding events of my career," said Kathy McPherson, RN, a participant from Alle-Kiski Medical Center. "JHF thought enough of me to buy some of my time, and the hospital consented so that I could do some of the quality improvements I'd been dreaming of. They invested in me."

This edition of the PRHI Executive Summary provides snapshots of the nine demonstration projects.

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Maureen Saxon-Gioia

Better care for OB patients

Staff nurse Maureen Saxon-Gioia spent years meeting patients urgent needs as an intensive care nurse at Allegheny General Hospital. From there she transferred to



Saxon-Gioia’s project involved meeting the needs of obstetrical patients in crisis. Team members learned to call for help early, and timed practice runs for emergencies.

obstetrics, where every case encompasses two patients, mother and child, and soon noticed that responses to OB patients in distress didn’t go as smoothly as they might.

“Caring for the sick pregnant patient requires special, focused care in an emergency,” she said. “We knew we could

raise performance levels. We needed to find the road to change.”

Saxon-Gioia’s Nurse Navigator project involved mentoring others in applying the rapid response approach to OB emergencies, and employing ICU-like practices to stabilizing sick moms. She coordinated her efforts with the Medical Emergency Team (MET), and still serves on its committee.

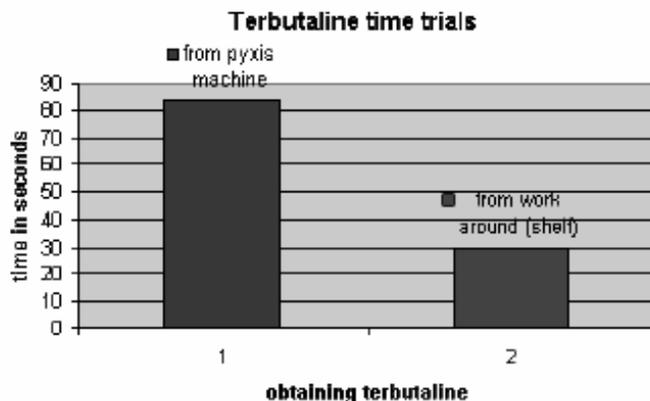
Applying the quality engineering principles of Perfecting Patient CareSM, Saxon-Gioia used visual aids to educate staff about the benefits of standardized work and use of the MET. She conducted drills and mock exercises, timing the team members, for example, on how long it took to get a defibrillator to the bedside or to obtain terbutaline, an emergency medicine, from the Pyxis automated dispensing machine.

One surprising finding was that it took nearly three times longer to retrieve terbutaline from the Pyxis machine than it did to go to another room and retrieve it from a shelf. Having the data (see chart) persuaded others that

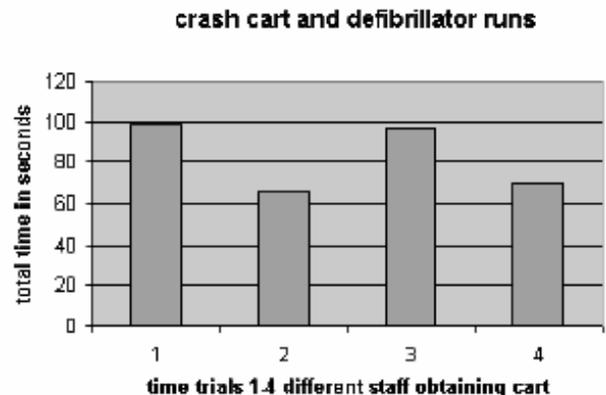
change was needed.

The team refined the technique for retrieving locked emergency medications, and each room now has its own supply. Many other seemingly small changes also have reduced response times. As the OB unit and others have grown more comfortable making earlier calls to the MET for patients who might be entering crisis, the rates of cardiac arrest have decreased significantly throughout the hospital.

“I was especially gratified,” said Saxon-Gioia, “when after one presentation, the Vice President of Corporate Contracting for the health system wanted to talk to me. He expressed a genuine interest and desire to involve me, a frontline caregiver, in process improvement with the Pyxis system using PPC. We had an open dialogue with everyone involved and came away eager to work it out. Pyxis may become a better system because of a simple time trial we did.”



Simple data point: it took longer to get the medicine from the machine than to run to another room and retrieve it.



Mapping progress: Saxon-Gioia timed emergency runs so staff could see their performance for themselves.



Kathleen McPherson

Emergency Dept. makeover

The Alle-Kiski Emergency Department, where Kathy McPherson has worked for 24 years, needed a makeover. As remodeling began, McPherson saw an opportunity to introduce process improvements in the unit. She concentrated on eliminating bottlenecks and improving work flow for nurses and throughput for patients.

“Originally, I wanted to re-do the whole ED,” said McPherson, “but I realized that was like aiming for World Peace today. I decided to narrow my focus to streamlining



When too much is too little: Over \$2000 in unused supplies were removed from patient care rooms. The fear of running out of supplies led to hoarding, which led to chaotic organization and time spent retrieving supplies.



After the 5-S process: rooms and supplies were standardized, and systems were put in place to prevent stock-outs.

whatever processes I could. That turned out to be streamlining supplies.”

Like many of the Nurse Navigators, McPherson said that learning how to observe the work of a unit was the most important skill she picked up during PPC training. It allowed her to see with new eyes just where the problems were, allowed her to know which changes were likely to be the right ones.

For example, McPherson observed and mapped out the way nurses actually started IVs, drew blood, and gave medication—processes repeated perhaps 50 times a day in the ED. She watched as nurses ran to one cabinet for a syringe, to the pharmacy dispensing machine for meds, to an IV basket for supplies, and so on. A nurse moving without interruption (an exceeding rarity) needed 20 minutes to complete the routine.

Together, the nursing team eliminated the IV baskets and created blood draw “kits” for every room, ensuring that materials and equipment are at hand each time medication is picked up. Completing the routine set-up now takes 10 minutes, saving eight hours of nursing time—one entire shift—per day.

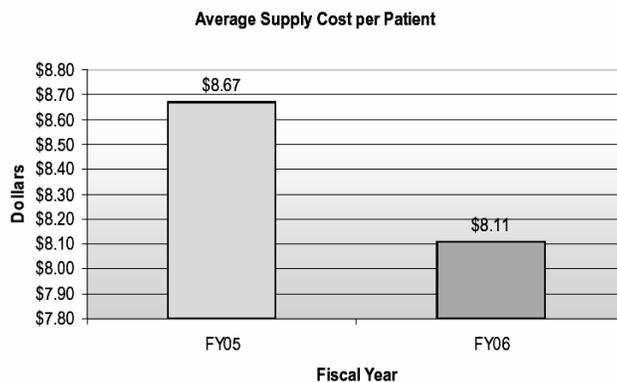
Construction in the ED provided a perfect opportunity to reconfigure supply

storage areas using a PPC practice known as 5S—shorthand for sort, straighten, shine, standardize and sustain. To the frustration of staff members, too much of the wrong kind of inventory was being stored, and shortages of needed supplies caused chaos and hoarding. Time and materials were being wasted.

The 5S discipline involves making sure people have all—and only—the supplies they need, available immediately, in perfect condition. As construction proceeded, all inventory was subject to the 5S’s.

In the end, more than \$2,000 in inventory was recovered for other uses, and several linen carts were freed for redeployment. Counter-intuitively, as regular inventory was reduced, supplies ran out less often.

“Maureen Saxon-Gioia and I were the two staff-level nurses among the Nurse Navigators,” said McPherson. “We’re not high in the nursing hierarchy. Being given the chance to improve quality has been personally and professionally rewarding.”



The bottom line: always having just the supplies needed saved money two ways. Staff saved 8 hours of nursing time per day, and supply cost was reduced.

Jacqueline O'Brien

Progress in hygiene measures



UPMC St. Margaret
A Hospital of University of Pittsburgh Medical Center

For decades, nurses and doctors in training have been taught to perform hand hygiene every time they leave a patient's room, when hands are visibly soiled, or after a dressing change.

But ever-escalating infection rates in the nation's hospitals—80 percent of which are caused by inadequate

clinician hand hygiene—led to updated guidelines: hand hygiene (either soap and water or alcohol hand rub) must be performed on entry and exit from each patient's room. In and out.

"It's primal. Nobody wants to ask or be asked, 'Did you wash your hands?' People want to believe that they wash their hands appropriately," says

Jacqueline O'Brien, Infection Control Practitioner at UPMC St. Margaret. "The guidelines say 'in and out,' and it's an enormous culture change to make that understood and make it happen."

O'Brien's Nurse Navigator project centered on lowering the rates of hospital-acquired, antibiotic-resistant infections (MRSA*) by improving hand hygiene and use of personal protective equipment (PPE),

such as gowns, gloves, masks and caps, during encounters with patients in isolation. She selected a telemetry unit and surgical unit for the intervention.

The stakes couldn't be higher. In 2004, patients across Pennsylvania spent 205,000 additional days in the hospital due to hospital-acquired infections, with billings exceeding \$2 billion. And 1,793 of the people contracting those infections died.

But perhaps most significant was the elevation of the Patient Care Technician or Nurse's Assistant to emergency responder. During emergencies, PCTs or NAs help the care team like members of a racecar's pit crew. They run to rooms, prepare the PPE and help clinicians put it on. It saves time and has raised compliance with isolation measures. Infection rates are down.



"It's primal. Nobody wants to ask or be asked, 'Did you wash your hands?' People want to believe that they wash their hands appropriately,"

—Jacqueline O'Brien

In 2004, patients across Pennsylvania spent 205,000 additional days in the hospital due to hospital-acquired infections. 1,793 people who contracted the infections died. Statewide, billings exceeding \$2 billion. Extrapolated nationwide, the cost would be \$20 billion.

Source: Pennsylvania Health Care Cost Containment Council

Using PPC methodology, the project began with observing the way things were being done. O'Brien created a staff survey to determine attitudes toward hand washing and PPE, and to assess "any sacred cows that remained."

The understanding levels of staff varied by training, specialty, and previous workplaces, making the introduction of standardized practice difficult. The survey revealed that fully one-third of workers were afraid that hand washing and PPE would cost precious time responding to patient emergencies. O'Brien and her team went to work addressing problems, selecting more comfortable gowns, and creating supply lines so they would always be available.

"An Institute of Medicine report in 2000 stated that 33 percent of hospital-acquired infections could be prevented with good infection control practices, said O'Brien. "I believe the number is far, far higher than that. We're aiming for zero."

Remember: Wash Your Hands



After Removing Gloves

Visual cues remind practitioners of the importance of isolation precautions.

*methicillin-resistant *Staphylococcus aureus*

Lynda Nester

Teamwork reduces falls

Lynda Nester still remembers when her great-grandmother fell, broke her hip, and began an inexorable decline that led to her death several years later. Preventing falls is a passion with Nester, because even today, 25 percent of patients with hip fractures die within a year and only 25 percent fully recover.

Fortunately, her commitment is shared by top leadership at Monongahela Valley Hospital, where CEO Louis J. Panza, Jr., recently declared “zero falls” a hospital-wide goal. Enlisting everyone in the cause, from the CEO to the vendors of slippers and beds, is Nester’s idea of teamwork, and formed the basis of her Nurse Navigator program on preventing falls.



Simple comfort measures—Nester calls them the 5 P’s—can keep patients from trying to get out of bed unassisted. The key is making just a little time.

Falls account for 70% to 80% of inpatient accidents in acute care hospitals. The average hospital cost for a patient who fractures a bone during a fall is \$10,000. Falls without injury cost about \$600, and there is always the potential for legal action.

In fact, for a 250-bed facility, the annual cost of falls exceeds \$250,000.

But cost was not the reason Nester decided to work on falls.

“Falls traumatize patients, and they traumatize healthcare workers, too,” said Nester. Nurses are devastated when harm comes to a patient. There is evidence that such events lead many to leave the profession.

Nester and her team evaluated various high- and low-tech options, from color-coded patient wrist bands to low beds to alarms, to slipper socks with treads all the way around—the socks may slip, but the patient won’t.

Vendors played a key role, along with non-clinical members of the care team. For example, when bed alarms constantly went off falsely, staff disarmed them. A visit from the vendor revealed the reason: the alarms were broken due to improper storage. The information was shared throughout the care team, and members of the maintenance department created hangers

for the bed alarms, which stored them properly and made them easier to find and use. Bed alarms are again in routine use.

Low beds are of particular value, said Nester, and buying enough of them meant a significant investment on the part of the hospital. But instead of resistance, she found kindred

spirits in the purchasing department who understood how devastating falls can be. The head of the department gave an impassioned plea for the low beds and the number available is still increasing.

Interdisciplinary communication of this kind propelled Nester’s work. The teams now have standardized “5 P’s” for patients at risk of falling:

- Protect (with alarms and low beds);
- Pain (make sure it’s managed);
- Potty (offer toileting);
- Position (ensure comfort); and
- Provide (phone, water, education).

Before leaving a room, staff members are trained to ask, “Is there anything else I can do for you?” and to assure patients that “I have the time.” With that kind of prompting, patients are more likely to ask for help and less likely to try to get out of bed unassisted.

Standardized forms to identify patients’ risks for falling are now discussed at every shift change. Nester realizes that’s when many falls occur and is looking for ways to further streamline that process.

Falls at Monongahela Valley Hospital are down overall since the Nurse Navigator program began. Five units have each celebrated a month or more with zero falls.

Deneen Sobota

Better intake means less waiting



It just didn't add up. Deneen Sobota knew that when patients came for their first appointments at Family Services of Western Pennsylvania, nurses routinely conducted a thorough mental health evaluation. And yet, physicians still had to spend time during initial consultations going over questions, clarifying answers and asking for more information.

"We were getting lots of good information in our evaluations," said Sobota. "But often, it wasn't the information the doctor needed."

At staff meetings, Sobota began to share what she was learning about process standardization in PPC training and how it might help improve the efficiency of the all-important initial evaluation. Once reassured that their jobs were safe, staff began to welcome opportunities to redesign work.

appointments ran as much as an hour behind, as physicians filled in gaps from the initial patient interviews.

The team discovered that nurses working with child psychiatrists used a standardized set of intake

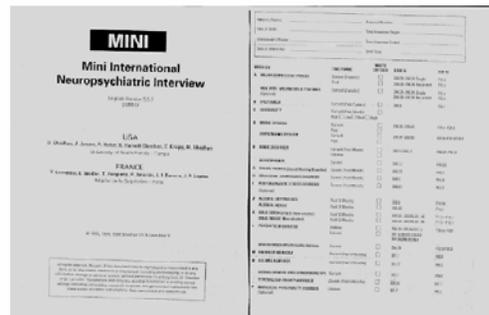
ahead of time by phone just increases the nurses' value as 'physician extenders' and reduces how long patients have to wait in the office."

Six evaluations can now be completed in the time it took to

Old Way



New Way

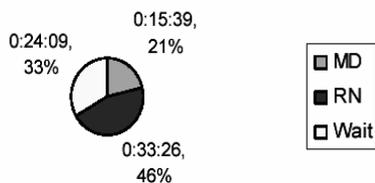


Making sure consistent information is taken from every patient during the initial contact is important to making best use of the office visit. Standardizing information with an agreed-upon form has saved time and re-work.

questions. As a result, those physicians generally had all the background information they needed during the first appointment. With some research, nurses working on the adult care team found a version

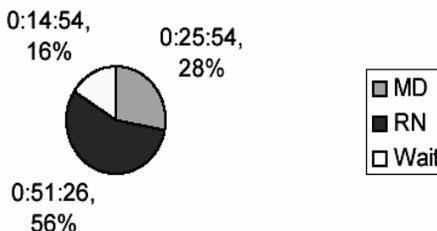
do four. Overtime has decreased. The time patients spend waiting for the doctor is down 17 percent; the time they spend with the doctor is up by 7 percent, and their time with the nurse is up 10 percent.

Before



Patients spend 17% less time waiting, 10% more time with nurses, and 7% more time with doctors.

After



In mapping the way work had always been done, Sobota discovered that nurses jotted down answers to questions they thought the physician needed to know. The lack of a standardized evaluation led to missed information, some of it crucial. Consequently,

of that tool to use on their own evaluations.

"The tool made it easier," said Sobota, "but once the nurses all got trained, they began making more refinements to it. Conducting the evaluations

Sobota will soon begin networking with counterparts from a PPC demonstration site at Children's Hospital's behavioral health unit, where a successful experiment to take all calls live, rather than from recorded messages, has yielded vastly shorter waits for appointments.

"I've got this new tool, Perfecting Patient Care. It's like a stick, and I'm going to keep stirring," said Sobota.

Albert Minjock

Giving nurses standardized protocols



“Reactive care isn’t going to work any more,” says Nurse Navigator Albert Minjock, a nurse administration unit director at UPMC Shadyside and Presbyterian Hospitals. “In the last 20 years, despite technological gains, overall patient outcomes have not improved.”

Minjock’s Nurse Navigator project is titled, “Nurse-driven, goal-directed therapy,” which is one way of saying it’s time to let the nurses take charge of immediate bedside care. PPC methods complemented Minjock’s approach, which gives nurses the wherewithal to research the sources of problems



Giving nurses the keys to the car: Nurses now have standardized emergency treatment protocols to begin critical therapies right away. By the time the physician calls back, the nurse has more information to share. Patients are safer and nurses more satisfied.

they encounter and fix them, one by one, according to the scientific method.

In the ICU, where time is of the essence, a few minutes can mean the difference between recovery, permanent damage, and death for the patient. In a timed trial, Minjock’s observation revealed that it takes an average of 33.8 minutes for a nurse to recognize

a problem, page a physician, receive a return call, and start an intervention. That half hour doesn’t account for “languish time”—the wait for the return call, the minutes spent looking for supplies and so forth. Research shows that the period of critical illness, when the most damage is done, usually lasts just an hour.

In Minjock’s words, what if the nurses had the keys to the car? Certain urgent therapies could be standardized, so that nurses could start treatment protocols as soon as they recognize problems. With critical therapies begun sooner, nurses also would be better equipped with information to present to physicians responding to calls.

“It’s real-time problem solving at the point of care,” said Minjock. “It’s PPC applied clinically, and it works.”

Creating flow charts and standardized protocols for commonly confronted conditions required teamwork, education, supplies and some start-up capital. The result: patients receive urgent care sooner, and, in line with additional research, certain practices that were found to be of little or no value are being eliminated.

“There is no evidence base for some of the things we do, like repeat CT scans after strokes, daily chest x-rays in intubated patients, or daily labs in patients without diagnosed metabolic disorders,” said Minjock. “So we stopped.”

Data on the first 100 patients following implementation of

The Critical Hour

Research shows that the period of critical illness, when most damage is done, usually lasts just an hour.

Problem: from the moment of recognition to the start of intervention took over half of that hour:

N=175

- Problem recognition till paged = 3.7 minutes
- Page till call is returned = 17.8 minutes
- Call return to intervention = 12.3 minutes

Average time = 33.8 minutes

nurse-driven, goal-directed therapy, were better than expected. The average ICU stay was reduced by a little more than two days. Ventilator usage decreased between 12 and 26 hours. Length of stay in the ICU was reduced by more than three days. In all, more than 292 ICU days were saved, reducing ICU bed costs alone by more than \$1.4 million.

“Nurses working on this project are being recruited to speak at physicians’ grand rounds across the community,” said Minjock. “It’s a gratifying acknowledgement that patient care starts at the bedside.”

Initial results after standardized nursing protocol

N = 100

- Average ICU reduction in stay **2.2 days**
- Decrease ventilator usage **12-26 hr**
- Average reduction in ICU LOS based on scoring against control group **-3.17 days**

Laura Mainarich

Better handoffs mean safer patients



Shift change. Patient transfer. One clinician "hands-off" the patient to another.

The information that accompanies a patient between caregivers, from place to place or from situation to situation is crucial to the continuity and safety of care. In fact, lack of



When the patients are children, the stakes are high. Communication during hand-offs between the recovery room and same-day surgery staff is crucial.

communication is cited as the root cause for 81 percent of medication errors and 75 percent of infection-associated events that take place in the hospital.

Of course, financial costs are a concern. For example, each medication error, estimates the Institute of Medicine, costs about \$8750.

But the driving motivation is patients. And when the patients are children, the stakes are high indeed. That's why Laura Mainarich, a Nurse Navigator from Children's Hospital selected the patient care "hand-offs" between the recovery room and same-day surgery staff as her improvement project.

Observing the way work was being done was the key to discovering the first layer of

improvements. The change-of-shift report, for example, took between two and four minutes. Because there was no standardized format for reporting, it was possible to overlook critical elements, such as medication information and isolation status. The observation revealed that during an eight hour shift, a nurse was likely to spend 20 minutes trying to obtain additional, clarifying information about a patient's condition.

Reducing "hunting and searching" by nurses, whether for equipment or information, is a key form of waste reduction. It also reduces nurses' frustration and improves the timeliness and safety of care. Mainarich worked with the staff to determine which critical pieces of information should be communicated among nursing staff. She is establishing a standardized report format that includes medication information and isolation status. As a result, every hand-off can be more thorough and clarifying questions fewer. The report will



Initial observation revealed that a nurse was likely to spend 20 minutes per 8-hour shift looking for information about a patient's condition.

be tested and refined according to staff needs.

Mainarich foresees the day when patient hand-offs will be computerized, with standardized forms to complement current work processes and improve work flow. In the future, she hopes to see the newly standardized report format implemented in the recovery room as well. With a computerized system, she believes, needed information will be much more accessible to everyone on the care team.

Hand-Off Communication: Critical Elements

When does "hand-off" communication occur?

- A nurse transferring a patient gives report to the nurse receiving the patient
- A physician signs-out to a covering physician
- Anesthesia gives report to the Recovery Room staff

What needs to be communicated?

- The patient's current condition
- Any ongoing treatment
- Any recent changes in the patient's condition
- Potential problems or complications to watch out for

Kimberle Barker

100% patient identification



“Why are you asking me whether I’m John Smith? I’ve known you since you were a kid!”

In a small-town like Grove City, served by a 95-bed hospital, employees and patients are neighbors and friends. In a place where everyone knows everyone, the common safety practice of checking wrist bands to confirm patients’ identities strikes some as absurd.

But it’s not.



In a small-town hospital, patients are neighbors and friends. Insisting on 100% patient identification through wrist bands involved the support of the entire hospital and community.

Nurse Navigator Kimberle Barker knew from an experience earlier in her career how easily mistakes in patient I.D. can happen—even in a larger community, at a bigger hospital and, one that used wrist bands to boot.

Mistaken identity is a major problem in hospitals—one that regulators, insurance companies and hospital boards want to see addressed—and Barker had seen how it can happen on a fluke: a patient scheduled for cardiac catheterization at an institution where she once worked almost ended up with cataract surgery because he’d hastily picked up registration and consent forms that were waiting for someone with a similar name, Ward, not Wood. When Barker looked at

his band and called him by name, they both realized there could have been a dreadful medical error.

It was the last thing she wanted to see happen again. “Nurses who commit medication errors” or play a role in other mishaps, “suffer terribly,” she said. “You can’t imagine how devastating it is when you go into a profession to help people, and end up potentially harming someone.”

Barker and others she trained made observations to determine how breakdowns happen. It came down to ID bands. Not every patient had one. Outpatients weren’t routinely given bands. A significant source of resistance was the patients themselves: in small-town America, “You know me,” equals ID.

Barker knew that communication would be critical to the effort. She gained support from hospital administration for ID banding of all patients, without exception.

The hospital’s communications department began encouraging stories and placing announcements in local newspapers, letting residents know the reason for the new rule, preparing them for the day a neighbor who’s the nurse on duty might enter their hospital room, check that band and ask, “Are you John Smith?”

Barker conducted 29 information sessions for the hospital’s 300 employees. The sessions, introduced by the CEO or Vice President, were mandatory.

Banding and active identification of all patients before medications and procedures began in late June. The latest observation showed compliance at 100 percent. Errors due to mistaken identity are down.

“Having support from all areas of the hospital—from the Board to the CEO to Communications—led to broad acceptance by the staff and community,” said Barker.

Compliance with the new banding procedures is running at 100%. Not coincidentally, errors due to mistaken identity are down.

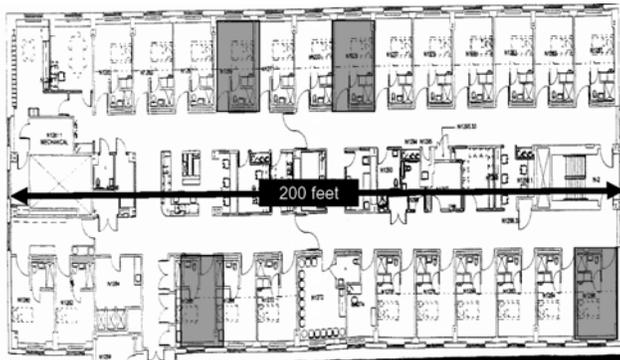
Christopher Saunders

Nursing turnover halted

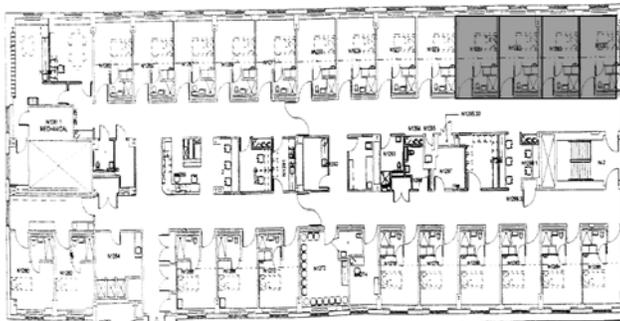


Ordinarily, nursing turnover in the UPMC system is lower than the national average—3% instead of 5%. Distressing data emerged, however, from the abdominal transplant unit during 2004 and 2005: nursing turnover had risen to a whopping 12%.

Christopher Saunders wanted to know why, and how to stop it. This inquiry formed the basis of his Nurse Navigator project to stop the revolving



Initial observation revealed nurses' patients geographically dispersed, necessitating a lot of running.



Centralizing nurses' assignments, and making sure no one nurse has the most acutely ill patients, saves time for nurses and creates a better work environment.

door on nurse turnover.

"The loss of intellectual capital is the worst part," said Saunders. "But the financial costs were staggering, too." Saunders determined that it costs the institution about \$40,000 for orientation of a new nurse on the transplant

unit, and that the loss of nurses had cost about \$880,000 over 2004-05.

Saunders' observations on the unit identified bottlenecks in the system and other forms of waste. The effort fanned out in many directions. For example, Professional Practice Councils and unit-based committees gave nurses a voice in managing patient care. The project piloted partnerships between nurse and aide, better coordinated discharge planning, divided the acutely ill patients more evenly, and modified the patient-to-nurse ratio. Health Unit Coordinators performed a "Clean Sweep" and reorganization of paper-flow at the unit station. To reduce the time nurses spent running from patient to patient in rooms on each end of the unit, they were assigned patients in the same proximity. Each patient room now has its own message board, and its own supply cart, linens and hampers, which are always stocked.

These process improvements on their own began to create a more orderly work environment. But it was in "drilling down" into the details of work that the most dramatic and fastest progress was made.

For example, Saunders discovered that the Abdominal Transplant Unit was not using Eclipsis, an electronic medical record in use at UPMC Intensive Care Units for over a decade. The reason: current staff needed training in its use. Following a brief pilot, the nurses discovered they were saving time and sharing more and better information with the physicians over the network. The nurses embraced Eclipsis, and its use quickly expanded from the 4-bed

pilot to the full 12-bed capacity.

Said Saunders, "One nurse estimated it was saving her an hour a day—an hour she used to catch up on charting or in some other aspect of patient care."

Another question arose: why weren't the nurses using Spectra Link wireless phones, which do not interfere with medical equipment? Using the discipline of asking "Why?" five times to reveal the root cause, Saunders discovered the reason.

"Batteries were missing and only one charger was working on the floor—2 wings, 54 beds," he said. "And some phones were just missing."

The administration replaced equipment and the staff developed a phone log to track the phones, posting the numbers on the assignment board. They devised a failsafe system for battery charging. "Communication among nurses, physicians and lab improved dramatically," said Saunders.

Saunders had learned a "distress call" technique as part of a national effort called Transforming Care by the Bedside (TCAB). Using that technique, a unit would post a red flag to signify that it could not receive admissions for an hour. However, Saunders knew the transplant unit could not stop receiving admissions. They would have to intercept problems before the entire unit was affected.

"One nurse has to become 'red' before the whole unit does," he said.



Hoisting the flag: this flag is green, indicating a nurse is within his or her working comfort zone. Nurses who raise yellow or red flags need help; those “in the green” quickly come to help.

What if individual nurses could hoist their own red flags when they were feeling overwhelmed, and have other nurses and even managers show up to help them out? Using children’s toys of

balls and sticks, nurses began putting out green, yellow and red balls at their locations to denote the status of their workload. Soon, nurses in the green would look for others posting yellow or red, and would go help out immediately. Nurses thrived on the ability to call out problem times with impunity, and have help arrive immediately. Teamwork, collegiality and mutual support thrived in the

atmosphere. The color-coding system has spread to other units.

Taken together, the measures made a large collective difference in work flow. Did it work?

Since the inception of Saunders’ Nurse Navigator Program in January 2006, turnover on the abdominal transplant unit has been zero.

Results

RN Turnover rates on Abdominal Transplant Unit

- 2003 – 3 RN resignations
- 2004 – 12 RN resignations (12%)
- 2005 (January to September) – 10 resignations
- Since January 2006 (start of PPC innovations)

0 resignations

Announcing PPC University for 2007

PRHI is pleased to announce the 2007 schedule for its popular Perfecting Patient CareSM University. To date, over 1100 people have taken this course, in Southwestern Pennsylvania and across the country. In 2006, the curriculum underwent streamlining and continues to earn praise from participants.

This year, in addition to regularly scheduled four-day workshops in Pittsburgh, the PRHI team is available for tailored, on-site instruction in healthcare institutions.

What is Perfecting Patient CareSM? Perfecting Patient CareSM (PPC) is an adaptation of the Toyota Production System developed for healthcare. PPC trains healthcare teams to recognize and eliminate waste, inefficiency and error in healthcare through a cycle of continuous improvement and standardization of work practices. PRHI is the only nonprofit, community organization in the country to develop and offer reasonably priced courses in the application of PPC to any interested clinician or clinical team.

PPC may begin in a single unit or department. But once the quality engineering process is set in motion, as problems are traced to practices outside that unit, a ripple effect extends improvements to other units. The result is *spreading quality*.

PPC University. PRHI teaches the principles of improvement in the four-day PPC University. This training provides clinical team members with the tools they need to dramatically improve patient safety and healthcare quality by adopting evidence-based practices and eliminating waste, inefficiency and error. The University is offered in two formats:

1. Participants can enroll in an intensive 4-day program in Pittsburgh.

2. PPC instructors take the program on-site to institutions wishing to train larger numbers of staff simultaneously. The advantages of an on-site University are that it enables staff members to be trained as teams and to do real-time observation and problem solving within their own institutions.

Curriculum. Participants learn PPC through a multi-media curriculum that includes readings, lectures, videos, case studies, hands-on exercises that teach the principles of work redesign and actual observations in healthcare settings.

Cost. Tuition for PPC University’s regularly scheduled four-day sessions is \$1,400 per participant and includes instruction, all background reading, workbooks and materials, continental breakfast, lunch and afternoon refreshments.

Tuition for customized, on-site Universities is \$40,000 for 20 participants and covers all training materials, a teaching toolkit, three to four instructors and their expenses for travel and accommodations. On-site hosts are responsible for providing a training site large enough to accommodate up to 30 enrollees, continental breakfast, lunch and afternoon refreshments.

Pittsburgh schedule for 2007. March 19-22; May 14-17; July 16-19; September 17-20; November 13-16. Information and registration online at www.prhi.org.

Expanded on-site programs for 2007. To schedule on-site programs contact Education Coordinator, Barbara Jennion at bjennion@prhi.org.

Calendar, Winter 2007

Pittsburgh Regional Health Initiative

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Day	Date	Time	Event	Place	Contact	CMEs offered?	Register?
Mon- Thurs	March 19- 22	8a-5p	Perfecting Patent Care SM University	Courtyard by Marriott Monroeville, PA	Barbe Jennion, 412-586-6711 bjennion@prhi.org	Yes	Online www.prhi.org
Thurs	March 29	8a-4p	Reimbursement Summit	Doubletree Hotel	Call 412-594-2550 for information		
Mon- Thurs	May 14-17	8a-5p	Perfecting Patent Care SM University	Courtyard by Marriott	Barbe Jennion, 412-586-6711	Yes	Online www.prhi.org

PRHI Executive Summary is also posted monthly at www.prhi.org
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