



Pinnacle Award Nominations for Quality and Patient Safety 2014



Healthcare Association
of New York State



■ Introduction

The Healthcare Association of New York State (HANYS) is pleased to present this compendium of submissions for the 2014 HANYS' Pinnacle Award for Quality and Patient Safety.

Hospitals, nursing homes, and home care agencies across the state are in the midst of perhaps the most rapid and comprehensive healthcare transformation in modern history. The pace continues to accelerate as government and providers alike seek to achieve the "Triple Aim" of improving health, enhancing care quality, and lowering costs.

As these submissions show, HANYS' members are committed to continuously improving quality, safety, and efficacy of care, and have made tremendous advances in redesigning the way care is delivered in their communities to meet these goals. The results have been dramatic and will be sustained through "hard-wired" system changes and the transformation of organizational culture.

Many of the submissions featured in this document point to the positive impact that a statewide collaborative can have on improving care across New York. Through shared learning and consensus on specific goals, many of the hospitals included in this publication have demonstrated real improvements in patient safety and reducing readmissions.

HANYS thanks its members for their willingness to share their ideas, experiences, and successes through their Pinnacle Award submissions. We encourage all members to take advantage of the information in this publication as a means to inform and accelerate ongoing efforts to improve quality and patient safety.

Sincerely,



Dennis P. Whalen
President
HANYS



Kathleen Ciccone
Executive Director
HANYS Quality Institute

Pinnacle Award for Quality and Patient Safety 2014 Awardees



■ Individual Hospital Unit

New York University Langone Medical Center/Tisch Neonatal Intensive Care Unit

Joe Lhota, Senior Vice President, Vice Dean, and Chief of Staff, accepts the award on behalf of New York University Langone Medical Center/Tisch Hospital from HANYS' Board Chair Linda Brady, M.D.



■ Small Hospital

F. F. Thompson Health System

F. F. Thompson Health System President and Chief Executive Officer, Mike Stapleton (far right) and staff accept the award from HANYS' Board Chair Linda Brady, M.D.



■ Large Hospital or Hospital System

North Shore-Long Island Jewish Health System

Maureen White, Senior Vice President and Chief Nurse Executive (second from right) and staff accept the award on behalf of North Shore-Long Island Jewish Health System from HANYS' Board Chair Linda Brady, M.D.



■ Post Acute/Outpatient Provider

Our Lady of Consolation Nursing and Rehabilitative Care Center, Catholic Health System of Long Island

Patrick O'Shaughnessy, D.O., (right) Senior Vice President, Medical Affairs and Chief Medical Officer, and Dennis Verzi (left), Chief Operating Officer, accept the award on behalf of Catholic Health System of Long Island's Our Lady of Consolation Nursing and Rehabilitation Care Center from HANYS' Board Chair Linda Brady, M.D.

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Enhancing Culture and Leadership

Quality Excellence Council

Brookhaven Memorial Hospital Medical Center, Patchogue

■ Lessons Learned

There was an opportunity for standardizing performance improvement reporting and for aligning the goals and performance in every area of the organization.

Data presentations have evolved to focus on opportunities to celebrate and areas for improvement.

■ Contact

Christopher S. Banks
Vice President, Development
and External Relations
(631) 654-7350
cbanks@bmhmc.org

■ Project Description

Brookhaven Memorial Hospital Medical Center established the Quality Excellence Council at the beginning of 2013 to provide a forum for sharing the results of performance improvement reports among the organization's leadership. This provides transparency and promotes teamwork, communication between functional areas and teams, learning, and pride in the organization.

The Quality Excellence Council reviews the organization's performance improvement activities regularly and requests corrective action when improvement efforts are not proceeding at an acceptable level or rate. Brookhaven's Quality Management Review provides management oversight and decision making for all organization quality activities.

Quality Excellence Council members include the executive team, each department head, nurse managers for each area of patient care, and any team leaders who report on performance improvement. Each month, 56 departments and patient care units report their progress toward attainment of established goals.

The overarching goal of the Quality Excellence Council is to improve patient outcomes as indicated by the core measures, improve patient satisfaction as demonstrated through increased Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores, and improve efficiencies as reflected by the enhanced financial strength of the organization.

■ Outcomes

The Quality Excellence Council has:

- increased transparency within the organization;
- created uniformity in reporting on five defined categories: safety/harm, core measures, regulatory, unit-specific metrics, and HCAHPS;
- aligned activities with organization-wide goals;
- improved quality outcomes; and
- improved the organization's financial strength.

Increasing Nursing Certification

Burke Rehabilitation and Research Hospital, White Plains

■ Lessons Learned

Engage the staff to achieve patient safety goals.

Can outcomes be attributed to certification? This is uncertain; further studies and monitoring of patient outcomes are needed. What is certain is that the certified staff feel good about themselves and the patient care they deliver. If a positive outlook and professional growth have any bearing on better patient outcomes, then Burke can make a correlation between certification and its results.

Support the staff in new endeavors. Lead by example (all nurse managers are CRRN certified).

■ Contact

Marie Spencer, Ph.D., R.N.,
C.R.R.N., C.N.O.
(914) 597-2385
mspencer@burke.org

■ Project Description

Each year, Burke Rehabilitation and Research Hospital's registered nurses participate in a confidential satisfaction survey offered through the National Database of Nursing Quality Indicators. Overall, the hospital continues to rank extremely high in staff satisfaction. When sharing the results with nursing staff, many expressed a desire for "growth" in the institution.

A committee of staff nurses and nurse managers was formed to develop a clinical ladder. However, due to the institution's size, it would be difficult to have various levels of nursing. A better approach would be to encourage certifications in the institution's specialty and field of expertise. Money that would be designated for a clinical ladder was instead put into an annual differential for staff who successfully pass the Certified Rehabilitation Registered Nurse exam. This certification helps in recruiting and retaining highly qualified nurses, while also allowing Burke to differentiate its facility from the competition. Nursing staff met the idea with delight, but also some trepidation. Many of the nurses, especially those who were on staff for more than 15 years, were apprehensive about taking the exam.

■ Outcomes

The institution looked at the number of adverse events and errors before and after the nurses were certified. To date:

- the number of acquired pressure ulcers decreased to 0.0% in the third quarter of 2013;
- the voluntary turnover rate for RNs decreased to 0.0%; and
- the falls rate (moderate to greater injury) is 0.0%.

“I Pass the Baton”: Communication Strategy at Time of Admission from Emergency Department to Inpatient Units

Erie County Medical Center, Buffalo

■ Lessons Learned

A team approach to finding a solution to communication issues has resulted in improved employee engagement, satisfaction, and decreased complaints.

Using the structure of the tool provided a template that became a regular part of communication between all departments and fostered inclusion of the patient in the transfer communication.

Staff developed an understanding of barriers faced in different departments, which decreased complaints based on understanding of patient care responsibilities.

■ Contact

Charlene Ludlow, R.N., M.S., C.I.C.
Chief Safety Officer
(716) 898-3435
cludlow@ecmc.edu

■ Project Description

Erie County Medical Center developed a patient safety initiative focused on communication. The project objectives were to:

- define standards of effective communication;
- recognize the importance of communication to prevent medical errors;
- utilize a team approach to improve effective communication and sustain the initiative; and
- identify tools, strategies, and outcomes to enhance communication.

Staff had expressed concerns and lodged complaints related to transfer event communication and processes. The emergency department and inpatient unit staff did a “deep dive” to define specific concerns and allowed frontline staff to develop a process that met communication needs while enhancing patient care and the patient experience at the time of admission.

■ Outcomes

- A one-page tool was developed to structure and enhance quality of communication between departments.
- Charge nurses were provided portable telephones on each unit to promote communication between the departments, which eliminated waiting for return calls.
- Patient safety was enhanced with person-to-person communication at time of admission, which provided an opportunity for staff to ask questions and meet the patient with an informed handoff of care.

Beehive Strategy: Transforming a Culture of Safety through Staff Engagement

Highland Hospital of Rochester

■ Lessons Learned

Staff engagement improved peer-to-peer accountability.

The wisdom of the frontline staff cannot be underestimated.

Improving morale and motivating staff through fun and engaging activities not only improved outcomes, but staff satisfaction as well.

■ Contact

Janet LaBarge, R.N., B.S.N., C.C.R.N.
Nurse Manager, Intensive Care Unit

Sharon Johnson,
M.B.A., C.P.H.Q., C.C.D.S.
Director of Quality Management
(585) 341-8399
sharon_johnson@urmc.rochester.edu

■ Project Description

Eighteen months ago, Highland Hospital of Rochester's intensive care unit launched a patient safety initiative using the Comprehensive Unit Safety Program methodology. This program focused on empowering the frontline staff to become actively involved in patient safety initiatives. Because the hospital's infection rates were above U.S. Centers for Disease Control and Prevention means, the first goal was to reduce infection rates.

After the staff completed a cultural assessment, they identified barriers to creating a culture of safety. It was clear there was a need for accountability and involvement of bedside nurses and patient care technicians. Realizing that frontline staff engagement was key to success, the hospital solicited staff input, resulting in the development of a unique structure called the Beehive Strategy—a process designed to meet patient safety goals while increasing staff engagement. Rather than using one or two staff members to drive an entire nursing unit's quality improvement activities, the Beehive Strategy identifies staff nurse "Champions" for each patient safety initiative, focused on reducing avoidable harm to patients.

Subject matter Champion names and the corresponding areas of responsibility are depicted on paper in a honeycomb format, hence the initiative's moniker. Additionally, the "Beehive" concept meant that there would be cross-pollination of important safety and infection prevention initiatives.

Champions volunteered to lead initiatives, excited by the opportunity to contribute to this important safety challenge. Each Champion developed an audit tool to monitor compliance with care bundles and adherence to documentation standards. Central to this theme was the value of peer-to-peer feedback and education.

■ Outcomes

Since the inception of this initiative in June 2013:

- Intensive care unit catheter-associated urinary tract infection rates have been reduced by 40%.
- *Clostridium difficile* infection rates were reduced by 60%.
- A zero rate of central line-associated bloodstream infection has been maintained for the last 11 months. (This decrease was statistically significant compared to the previous time period.)

Nurse Peer Review as a Vehicle for Patient Safety

Hudson Valley Hospital Center, Cortlandt Manor

■ Lessons Learned

Nursing peer review provides a forum to address patient care issues and improve outcomes.

The staff nurse perspective is invaluable when making changes in the care provided.

Obstacles to care are identified and action plans are developed with the insight of the bedside nurse.

■ Contact

Margaret Adler, R.N., M.S.N.
Associate Director of Standards
and Quality
(914) 734-3779
madler@hvhc.org

■ Project Description

Hudson Valley Hospital Center developed a nursing peer review structure supported by evidence from the medical literature to expose the critical role of point-of-care nurses. Nursing peer review is the medium for transformation of the work environment and was established as a quality improvement initiative.

Nursing leaders nominated to the nurse peer review committee a group of bedside nurses who possessed clinical expertise in their area of practice and had experience with performance improvement processes. Educational support was provided. A member of the medical peer review committee and a quality management expert serve on this committee to enhance interdisciplinary collaboration and provide a multi-focused perspective. The committee reviews cases related to the standard of nursing care. Based on the outcome of case reviews, recommendations for practice changes are forwarded to the appropriate inter-professional committee. Adoption of these recommendations has resulted in improvements in the care delivery model.

■ Outcomes

This initiative resulted in:

- development of geriatric-friendly narcotic dosing guidelines;
- policy changes related to care of obstetric observation patients, screening criteria for patients at risk for falls, and monitoring of vital signs;
- changes to the time-out procedure in the operating room;
- revision of nursing documentation to capture vital patient information; and
- changes in the process for daily checking of code carts.

Vision and Viability: Successful Implementation of an Organizational Strategic Plan

Lewis County General Hospital, Lowville

■ Lessons Learned

The community wishes to have its healthcare needs met within the community.

Continued viability requires investment of multiple resources and engagement at all levels.

Keeping goals and objectives at the forefront assures alignment and commonality of multiple agendas.

■ Contact

The Administrative Team
c/o Jennifer Shaver
Director of Nursing
(315) 376-5157
jshaver@lcgh.net

■ Project Description

Faced with multiple operational and financial challenges in 2012, Lewis County General Hospital's board and administrative team approached 2013 with the development of a strategic plan. Armed with collective input from the board, medical staff, employees, and community, the administrative team developed "the workout plan," which listed opportunities with associated financial, operational, and quality goals.

Strategies and tactics were developed to achieve these goals and help guide the implementation process. Because it was updated at least monthly, the plan remained a fluid document, reflecting both achievements and identified needs. The plan was routinely shared on the agendas of regularly-scheduled meetings (e.g., board, administrative, medical, leadership, and staff).

■ Outcomes

The development and deployment of the organizational strategic plan resulted in:

- yearly net gain of \$4,240,700 toward a goal of \$4,000,000;
- improved third-party contracts or reimbursement rates from insurance companies;
- expanded/maximized 340B prescription reimbursement program;
- restoration of key services (orthopedic), with enhancement of primary care and women's health services, and addition of an on-site radiologist;
- enhanced outpatient services, including cardio-pulmonary services, diagnostic imaging, laboratory, physical therapy, rehabilitation, and restorative therapy;
- optimization of resources, including medical practice management;
- evaluation of multiple provider contracts to align with organizational values and objectives; and
- deployment of hospitalist and emergency services medical practice models that enhance inpatient care delivery, relieve the burden on primary care providers, and stabilize/enhance recruitment efforts.

“It’s Not My Job”: Taking 15 Minutes a Day to Promote Resident and Staff Satisfaction and Meaningful Culture Change

Mountainside Residential Care Center, Margaretville

■ Lessons Learned

Walk the talk. As it may be easy to “forget” the mission of “It’s Not My Job” as work gets hectic, it is important to transition to a common good rather than an individual or departmental goal.

Having refreshing, motivational stories about residents and staff reactions to “It’s Not My Job” can re-energize the initiative and keep all staff on track.

All staff bring ideas and gifts to the caregiving experience.

■ Contact

Christina Jones, R.N., F.N.P.-B.C.
Director of Nursing
(845) 586-1800, ext. 3318
cjones@hahv.org

■ Project Description

Over the past two years, Mountainside Residential Care Center has strived to improve the quality of care provided, while enhancing resident and staff satisfaction by aggressively implementing a new facility culture, mission, and vision. Through consistent leadership with a defined objective, the facility has:

- maintained a five-star rating;
- improved resident satisfaction scores;
- enhanced the quality of care provided to the residents;
- reduced employee injuries and slips, trips, and falls;
- reduced the number of incident and accident reports; and
- reduced the nursing staff turnover and nursing call-in rates.

The facility identified that a greater culture change initiative was necessary to achieve positive outcomes. This involved leadership engagement, redefining job expectations, looking at staffing patterns and work hours, and redefining the mission and vision of the facility.

This overall culture change improved facility quality and satisfaction, reducing resident incidents and accidents, and reducing employee injuries. The scheduling flexibility and supervisory education decreased staff absences and employee turnover.

■ Outcomes

- Resident satisfaction improved by 21%.
- Incident and accident reports decreased by 43%.
- Eighty-five percent of staff say the facility is moving in the right direction.
- Certified nurse aide staff turnover was reduced by 54%.
- Nursing staff absences declined 52%.
- There were 78% fewer employee injuries.
- Staff slips/trips/falls decreased 78%.

Thinking BIG: How to Improve Quality Patient Care

Nyack Hospital, Nyack

■ Lessons Learned

A stratospheric view enables the hospital to see the entire spectrum of patient care, not look at just numbers.

Board of trustees, administrative leadership, physician, and staff engagement are key to always providing safe, quality care to patients.

Always strive for excellence in delivering quality patient care.

■ Contact

Colleen Beirne, R.N.
Director, Performance Improvement
(845) 348-2677
beirnec@nyackhospital.org

■ Project Description

Historically, evaluation of quality and performance improvement initiatives was mostly conducted retrospectively. Success was determined if the “target or benchmark” numbers were achieved. That thought process can be very limiting. Nyack Hospital challenged itself to expand that view. By looking at processes and structures, the hospital was able to make a positive impact on patient care.

■ Outcomes

2012: Nyack Hospital is one of only 182 hospitals nationwide (of 3,000 hospitals that submit accountability measure data to The Joint Commission) to have achieved status as a Top Performer on Key Quality Measures® by The Joint Commission for the third consecutive year.

2011: Of the 3,376 eligible hospitals submitting accountability measure data to The Joint Commission, Nyack Hospital was one of 620 hospitals awarded “Top Performer on Key Quality Measures®.”

2010: Of the more than 3,000 eligible hospitals submitting accountability measure data to The Joint Commission, Nyack Hospital was one of 405 hospitals awarded “Top Performer on Key Quality Measures®.”

For at least 36 consecutive months, the hospital:

- achieved a cumulative performance of 95% or above across all reported accountability measures;
- achieved performance of 95% or above on every reported accountability measure where there were at least 30 denominator cases; and
- achieved at least one core measure set that had a composite rate of 95% or above.

Nursing Congress: Shared Decision-Making Leads to Better Outcomes

Orange Regional Medical Center, Middletown

■ Lessons Learned

The scheduling of all meetings on one day enhanced coordination and innovation.

The advisory board toolkits allowed for more innovation and synergy among the councils and committees.

Innovation without a framework leads to cacophony.

■ Contact

Joanne Ritter-Teitel,
Ph.D., R.N., C.E.A.-B.C.
Vice President and
Chief Nurse Officer
(845) 333-2304
jrtitel@ormc.org

■ Project Description

In August 2011, Orange Regional Medical Center moved into a brand new facility, creating the platform to revitalize its nursing shared governance model. While innovation abounded, the existing model lacked coordination and consequently, there was little impact on outcomes. The hospital revitalized the model to maximize coordination and synergy. Three tiers of meetings (councils, committees, and a coordinating committee) were moved to one monthly meeting day. Another action, the required implementation of four advisory board toolkits on rounding, bedside handovers, enhancing empathy, and peer-to-peer communication, created the framework wherein innovation could flourish. Orange Regional Medical Center calls it “freedom within structure.”

On “Congress days,” service line councils work together in the morning to implement the four toolkits for their units/departments. In the afternoon, council members join one of the eight committees (standards, professional affairs, resource, patient education, nursing education, informatics, research, quality, and safety). This approach ensures representation from all nursing service lines on all committees. The committees work on a variety of issues and support implementation of the toolkits by councils. The day culminates with a coordinating meeting chaired by the chief nursing officer. Chairs and co-chairs of the councils and committees are members of “Nursing Senate” with a reporting structure for councils and committees to share their work and seek advice from other councils and committees—thus enhancing synergy.

Nursing Congress members take information back to their units/department. To enhance the relationship with the nurses’ union and to coordinate any work taking place within labor management committees, Nursing Congress meetings are linked with union meetings through liaisons. The results have been amazing.

■ Outcomes

- Patient satisfaction scores increased.
- Fall rates decreased 18%.
- Hospital-acquired pressure ulcers decreased 77%.
- Nursing engagement scores increased up to ten times more than other departments.
- The culture of safety improved.

Improving Resident Safety Culture in a Large Teaching Hospital

Richmond University Medical Center, Staten Island

■ Lessons Learned

Resident-sponsored initiatives can be powerful vehicles for culture change and performance improvement.

Culture of safety is a measurable phenomenon and can be affected by innovation and revised work flow.

Diverse teaching programs require tailored approaches to address the system errors and safety barriers.

Things “fall between the cracks” when transferring patients from one unit to another.

Shift changes are problematic for patients in this hospital.

Problems often occur in the exchange of information across hospital units.

Important patient care information is often lost during shift changes.

■ Contact

Joseph Conte, Ph.D., C.P.H.Q.
Senior Vice President
(718) 818-2402
jconte@rumcsi.org

■ Project Description

This initiative at Richmond University Medical Center (RUMC) was aimed at implementing improved hand-off communication models. RUMC’s resident safety council prioritized this issue and developed service-specific process changes and instruments to improve this high-risk system. To measure effectiveness of the initiative, the Agency for Healthcare Research and Quality (AHRQ) *Hospital Survey on Patient Safety Culture* was administered pre- and post-intervention.

A recent Joint Commission focus on defective hand-offs found that for 70% of respondents, the following question was found to be a root cause of defective hand-offs: “Culture does not promote successful hand-off, e.g., lack of teamwork and respect.”

RUMC’s resident safety council endorsed the concept of administering a safety climate survey in September 2012 to assess areas for improvement in the safety culture.

RUMC’s major teaching services conducted literature searches and developed new resident-designed systems and processes for hand-offs and transitions. Weekends, in particular, received focus to address a perceived risk point in the process. The methods adopted by the services were shared and innovation and “out of the box” thinking were encouraged. After implementing the changes, the residents were resurveyed.

■ Outcomes

- All four questions in the AHRQ *Hospital Survey on Patient Safety Culture* associated with hand-offs improved in the post-intervention period.

Patient Safety Hour

Samaritan Medical Center, Watertown

■ Lessons Learned

A recap of the safety issues reported during the previous day's call and the resolutions for each were added to close the loop with staff.

To encourage transparency, a brief synopsis of the previous day's incident reports was added to the process.

Ancillary departments and long-term care facilities were added to better improve coordination of care and communication.

■ Contact

Lauren E. Stevens,
R.N., M.P.H., C.P.H.Q.
Manager of Quality Improvement
(315) 785-4296
lstevens@shsny.com

■ Project Description

Samaritan Medical Center's goal is to become a highly reliable organization with a safety culture that relies on transparency to prevent error. To improve transparency and empower staff to share their safety concerns, the medical center decided to devote one hour each day solely to patient safety: Patient Safety Hour.

The hour begins with a 15-minute daily safety call in which specific areas in the organization are given the opportunity to share past, present, and future patient safety concerns. The charge nurse on a nursing unit or equivalent in the ancillary departments provides a brief report on census, staffing, and safety concerns each day while a group of leaders in the organization, called the Core Team, listens to identify needs and determine how to provide just-in-time support.

To encourage house-wide transparency, everyone in the organization is invited to listen to the call. Following the daily safety call, the Core Team discusses the issues that were presented and determines if immediate support and resolution are appropriate, or if the concern requires more long-term intervention. For those issues that require immediate attention, Core Team members are assigned to round in areas most in need to resolve issues. A representative from the staffing office is present to prioritize and address any staffing issues that were presented on the call. After all immediate issues are resolved, there is a 15-minute post-rounds huddle, when the Core Team discusses the issues that were resolved. Learning opportunities are also discussed in an effort to prevent these concerns from happening again or to ease resolution in the future. There is also discussion around issues that are left unresolved and determination of a plan for short-term and long-term resolution. To close the loop on issues that were identified, all resolutions or plans for resolution are discussed at the beginning of the next day's call.

■ Outcomes

- Transparency has improved throughout the organization.
- Trust has been enhanced between frontline staff and the leadership team.
- Adverse outcomes have been prevented among specific patient concerns.
- There was immediate resolution of information technology-related issues that directly impact patient care.

Our Journey to Improving Our Patient Safety Culture

Winthrop-University Hospital, Mineola

■ Lessons Learned

There is value in complete immersion of the entire organization to achieve success in a process improvement priority.

Engage leadership and frontline staff in planning and execution, including development of a communication plan.

Implement ongoing development of leaders and managers in use of the Just Culture Algorithm™ and in skills for coaching staff.

■ Contacts

Monica Santoro,
M.S., B.S.N., R.N., C.P.H.Q.
Vice President and
Chief Quality Officer
mssantoro@winthrop.org

Joseph Greco, M.D.
Chairman of Anesthesia and
Patient Safety Officer

Stacey Pfeffer
Senior Vice President,
Human Resources and
Organizational Development
(516) 663-8462
spfeffer@winthrop.org

■ Project Description

A culture of safety is characterized by values, attitudes, and behaviors that demonstrate a commitment to safety. It encourages and supports reporting of any situation that may threaten the safety of patients, caregivers, or visitors, and views errors, near misses, and identified risks as opportunities for learning and improvement (Source: *National Quality Forum*).

Perceptions of Winthrop-University Hospital staff related to patient safety using the Agency for Healthcare Research and Quality (AHRQ) *Hospital Survey on Patient Safety Culture* indicated opportunities for improvement, particularly related to the non-punitive response to error domain.

Under the leadership of an executive-level steering committee, the hospital developed a comprehensive plan to improve staff perceptions related to the response to error. The plan involved hospital-wide immersion, which included adopting the safety culture within corporate goals, increasing the frequency of executive leadership patient safety rounds, engaging medical staff, and formulation of a performance improvement team that includes frontline staff. Tactics included training, from the Board of Trustees to the frontline staff; consistent use of the Just Culture Algorithm™; adoption of a Just Culture Statement of Principles; and improved feedback on incidents/near misses to share lessons learned and demonstrate an emphasis on process, not people.

■ Outcomes

- AHRQ *Hospital Survey on Patient Safety Culture* results from 2012 to 2013 improved in all domains.
- The non-punitive response to error domain improved 8%.
- The feedback and communication about error domain improved 9%.
- The management support for patient safety domain improved 6%.
- The AHRQ national average for domains that improve is between 4% and 5%.

Improving Organizational Efficiencies

Reducing Operating Room Cancellations that Occur Within 24 Hours of a Procedure Due to Lack of Medical Clearance

Catholic Health Services of Long Island, Rockville Centre

■ Lessons Learned

Communication: The system learned that communication was a primary cause of OR cancellations. This includes communication (1) between the patients and their physicians; (2) from the OR department to patients and their physicians; (3) between the OR booking and pre-surgical testing; (4) between primary care physicians, anesthesiologists, and surgeons regarding patients' required pre-operative work; and (5) with other facilities in securing necessary outside records and reports.

Staff: Engaging all staff in continual performance improvement activities ensures successful implementation and sustainability of gains.

Change in Patients' Conditions: Improving communication between all four departments involved with patients allows staff to identify earlier changes in patients' conditions that could prevent surgery or cause a cancellation.

■ Contact

Patrick M. O'Shaughnessy,
D.O., M.B.A., F.A.C.E.P.
Senior Vice President, Medical Affairs,
and Chief Medical Officer
(516) 705-3806
patrickm.o'shaughnessy@chsli.org

■ Project Description

Recognizing an issue with operating room (OR) cancellations within 24 hours of surgery across the system's five acute care hospitals, Catholic Health Services of Long Island engaged staff, physicians, hospital administrators, and system leadership in a Six Sigma project. Based on an initial review of system-wide OR booking data from 2009 to 2010, the OR cancellation rate was between 7% and 25% (the national benchmark is from 7% to 8%). A goal was set to reduce the total number of OR cancellations by 10%.

Reducing OR cancellations improves patient safety and quality of care as delays can be stressful for patients and can present a potential medical risk. Cancellations have a negative impact on patient satisfaction and on physicians and staff, creating duplicative work and causing an inefficient use of the OR and resources across the system. Also, the system recognized that OR cancellations increase the cost to deliver care.

■ Outcomes

- The baseline for the five-hospital composite was 2009-2010, compared to 2011-2013, after project implementation. The analysis showed that there was a 60% reduction in OR cancellations due to lack of medical clearance. Four hospitals were initially part of the Six Sigma project. After the improvements were validated, the fifth hospital incorporated the improvement strategies in the fourth quarter of 2011 and demonstrated a 50% reduction in OR cancellations due to lack of medical clearance.
- Currently, and for the past two years, all five hospitals continue to either maintain or exceed the goals.

Improving Medication Processes by Implementing CPOE Electronic Verification Process

Richmond University Medical Center, Staten Island

■ Lessons Learned

Health information technology can offer significant patient safety advantages when addressing the human factor in error reduction.

Checklists and paper forms are not durable solutions to control error in complex processes.

The cost of technology can be offset by reduction in claims, recapture of clinicians' time, and reduction in length of stay and readmissions.

■ Contact

Joseph Conte, Ph.D., C.P.H.Q.
Senior Vice President
(718) 818-2402
jconte@rumcsi.org

■ Project Description

On a monthly basis, between 800 and 1,000 physician orders at Richmond University Medical Center (RUMC) required pharmacists' intervention. This delayed therapy for patients and was time-consuming for the ordering physician and pharmacists. The next step in RUMC's improvement journey was to develop a durable technology solution to address the root causes of these illegible orders, orders written for non-formulary medications, orders with drug/drug interaction potential, orders with illegal abbreviations, incomplete orders, and duplicate therapy and allergy contra-indications.

In 2012, when computerized physician order entry (CPOE) was implemented, custom-defined internal "rules" were created to perform checks on vital patient data like laboratory results, patient medication profiles, and the hospital formulary. The system is customized so that orders with improper abbreviations; incomplete orders; drug/drug interaction potential; and orders that do not select a formulary drug or an appropriate dose, rate, or route will be flagged and prevented from order entry for the ordering physician. Any overrides require comment and justification. When CPOE was introduced, the root cause issues surrounding these issues were directly impacted.

■ Outcomes

Following implementation:

- illegible orders decreased by 82%;
- non-formulary orders decreased by 87%;
- wrong orders decreased by 52%;
- incomplete orders decreased by 69%;
- drug/drug interactions decreased by 80%;
- illegal abbreviations decreased by 95%; and
- length of stay and liability claims have declined.

Systematically Improving Patient Care Through Safety Event Reporting in a Busy Urban Emergency Department

Rochester General Health System, Rochester

■ Lessons Learned

Reporting systems are not replacements for good quality data, but the results suggest that such systems need to be given a greater degree of importance.

A reporting system that collects data that leadership responds to sends a powerful message to frontline users and enhances continued and expanded reporting.

An efficient safety reporting process has allowed staff to report events in a timely manner while the events are still fresh in their memory.

■ Contact

Heidi Mix, R.N., M.S.
 Director of Clinical Excellence and Performance Improvement
 (585) 922-4195
heidi.mix@rochestergeneral.org

■ Project Description

A good spontaneous reporting system uncovers both existing and potential problems to be analyzed more carefully and is essential for promoting and sustaining a culture of safety and quality patient care. Different clinical domains generate their own communication challenges and thus may require different types of event reporting systems. For a reporting system to be successful in a complex medical care environment, it is essential to remove non value-added processes for the end user, have leadership support, and include a strong mechanism for feedback.

In 2012, embracing its mission to do no harm, the emergency department worked collaboratively with the clinical excellence team to improve event reporting in the emergency department, especially during peak capacity timeframes. The initiative leveraged quality improvement methodologies including: brainstorming, surveying of frontline staff, flow charting of processes, data collection, gap analysis, and the “Plan-Do-Study-Act” process. Rochester General Health System developed and implemented an event reporting hotline and a robust feedback loop including open discussions around errors and improvement plans. Successful outcomes have been sustained and the process changes were spread to a rural acute care hospital within the health system with positive results.

■ Outcomes

- Medical staff participation in event reporting process increased 125%.
- Actual and near miss reporting increased in the emergency department 238%.
- Patient satisfaction scores improved in four major areas: safety climate, job satisfaction, working conditions, and perception of management.
- Actual and near-miss reporting increased by 84% in the rural acute care hospital.

Throughput: Teamwork Makes It All Happen!

South Nassau Communities Hospital, Oceanside

■ Lessons Learned

Consistent attention, from arrival to discharge, at every juncture and by all departments is key to creating patient throughput efficiencies.

Respectful and clear communication, ownership, accountability, and constant oversight are imperative for the successful implementation of initiatives.

Staff involvement and buy-in is achieved with transparency, immediate feedback, and timely sharing of data.

■ Contact

Joanne Newcombe,
M.A., R.N., B.C.-N.E.
Vice President, Patient Care Services
(516) 632-4045
joanne.newcombe@snch.org

■ Project Description

The closing of a local hospital had a dramatic impact on patient volume at South Nassau Communities Hospital, with a deleterious impact on throughput and length of stay. An operations task force was convened to collaboratively drill down and review current processes and throughput efficacy. It was co-led by the chief medical officer and vice president of patient care services, and encompassed all levels of care givers. Major tasks included:

- management of emergency department (ED) volume;
- defining ED dashboard patient attributes;
- logistics coordinators, using “Teletracking” technology, facilitated patient placement;
- multidisciplinary plan of care rounds were conducted, including a nurse manager, case manager, physician, direct care nurses/home care, and support services as needed;
- case manager and social work coverage was increased;
- radiology/lab/physical therapy evaluations required for discharge were given priority;
- “escalation phone” was instituted: dedicated unit-specific phones for hand-off reporting from the ED;
- environmental services staff were reallocated to peak discharge times;
- transportation was streamlined; and
- TeamSTEPS™ briefs, debriefs, and huddles were initiated.

■ Outcomes

- Despite a surge in volume, throughput times in the ED were decreased by 50% and “left without being seen” decreased by 68%.
- Overall length of stay for acute care decreased by 0.48 days.
- Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores for “Overall Hospital Rating” increased from the 25th to 59th percentile.
- HCAHPS “ED Likelihood to Recommend” increased from the 44th to the 90th percentile.
- Technology and enhanced teamwork were fully utilized in all aspects of the patient journey, from arrival to discharge.

Patient Flow Redesign—Emergency Center Entry Through Inpatient Discharge

Unity Health System, Rochester

■ Lessons Learned

Make the case; engage and empower those involved in the change process; and assure interdisciplinary, intradepartmental coordination as change affects all areas in some way.

Partner with patients and families when possible; they are the voice of the customer.

Timely and ongoing assessment must be shared at all levels to help assure sustainability and identify and address process problems early on.

■ Contact

Katie O'Leary, R.N., B.S.N., C.P.H.Q.
Director, Clinical Quality
and Patient Safety
(585) 723-7133
koleary@unityhealth.org

■ Project Description

Unity Health System undertook a 26-week project involving 37 Emergency Center (EC) staff in two work teams. Project goals included efforts to remove front-end barriers that reduced the time between patient arrivals and receiving provider services. Another project focused on improving EC patient throughput by decreasing patient length of stay. By the completion of the multidisciplinary project, the front-end work team had implemented “rapid triage,” a process where patients, upon entering the EC, were greeted by a nurse rather than a registration specialist. Unity also implemented “immediate bedding,” where patients were moved immediately to a bed (when beds are available) rather than returning to the waiting room after check-in.

The EC throughput work team created efficiencies that include the development and implementation of care teams, reinforcement of nurse-initiated protocols, and the use of boards in patient rooms to enhance communication.

Concurrent with the EC project, Unity redesigned care in the inpatient units to optimize patient flow. Improvements included daily interdisciplinary care team rounds, expanding the role of care facilitators, establishing a full-time physician advisor role, implementing an electronic bed board, and standardizing care for targeted high-volume and high-cost Diagnosis-Related Groups (DRGs).

■ Outcomes

- The time patients spent in the waiting room before being assigned to a room decreased.
- The time patients waited to see the provider decreased.
- Overall length of stay in the EC decreased.
- The percentage of patients who left the facility without receiving treatment decreased.
- Communication among departments and overall work flow improved.
- Average length of stay for each of the targeted DRGs and for all patients decreased.

The Battering RAM Project: How Hospitalists Improved Emergency Department Throughput— A Community Hospital Experience

White Plains Hospital, White Plains

■ Lessons Learned

Re-allocation of physician/provider resources focusing on the busiest ED times proved successful in improving ED throughput.

Collaboration between hospitalists and ED physicians made a huge impact in overall throughput.

Shift in the cultural paradigm among hospitalists to include an admitting function in their rounding days contributed to this project's success.

■ Contact

Kathryn Siao, M.D., F.A.C.P., and
Rodney Ashir, M.D.
Co-Directors, Hospitalist Program
(914) 681-2560
ksiao@wphospital.org
rashir@wphospital.org

■ Project Description

This project focused on hospitalists minimizing the time from decision-to-admit to time of admission orders. The project entailed these steps:

- 1. Rounding Physicians to Admit Patients:** White Plains Hospital reconfigured its rounding physicians' workflow, lowering patient caps and including them in the admitting sequence. This allowed more "hands on deck," improving wait times for patients to get admitted.
- 2. Admitting Orders Expedited:** Once there was a decision to admit/place in observation, the emergency department (ED) physician/provider hands the patient off to a hospitalist. The latter, upon reviewing the patient's story, laboratory, imaging, and other test details, made a decision to place preliminary admit/observation orders. This prompted the admitting department to appropriately procure a bed, thus streamlining bed assignment.
- 3. Medical Admitting Doctor (MAD) Role:** White Plains Hospital created this role to act as an admitting facilitator. Adding the MAD role allowed admitting physicians to have a more meaningful, safer, and uninterrupted patient encounter. The MAD physician also facilitated movement of patients to other out-of-hospital resources, like the Infusion Center for transfusions, thus unclogging the ED to concentrate on more appropriate ED patients.

■ Outcomes

- Decreased time from decision-to-admit to time of admit orders from 148 minutes pre-RAM project (January-April 2013) to 72 minutes post RAM project (May-November 2013).
- Decreased overall ED throughput time from 479 minutes pre-RAM project (January-April 2013) to 380 minutes post RAM project (May-November 2013).

Vascular Instrument Tray Streamlining

White Plains Hospital, White Plains

■ Lessons Learned

Frontline staff members are crucial in making effective changes.

Leadership is still needed to support change and assist in the change process.

The preparation work is crucial for a successful Kaizen event and will decrease time wasted during the project.

■ Contact

Samantha Silverstein, B.S.N., R.N.,
C.N.O.R.
Surgical Services Quality Analyst
(914) 681-1271
ssilverstein@wphospital.org

■ Project Description

White Plains Hospital took an inventory of all of the vascular trays and instruments, and vascular instrument tray and procedure matrices were created to help identify duplication of instruments, number of trays opened per case, and how frequently each tray type was used.

Operating room and central sterile processing department staff came together and evaluated every individual instrument on each of the vascular trays, identifying what should be added and removed, how to better name the trays, and which trays should be combined since they were always opened together. A large focus was placed on streamlining the trays so that only what was necessary was opened for cases, and the number of instruments that had to be counted when applicable, washed, and re-sterilized was minimized while still meeting the needs of the vascular surgeons during each case.

All changes that were made were presented to the vascular surgeons for final approval. Once approved, education was provided to all staff members, and laminated signs were posted in the central sterile processing department and in the surgical services center core instrument area identifying the names of the new trays and which instruments were added or removed.

■ Outcomes

- Seven different vascular tray types (total of 16 trays) were streamlined.
- The content of trays decreased anywhere from 9% to 40% (12 to 30 instruments were removed from each tray).
- Total number of instruments removed from all 16 trays: 290.
- Another major vascular tray was created from extra instruments removed—saving the hospital \$7,600.
- This has contributed to a decrease in immediate use of steam sterilization.

Clinical Improvements

Antibiotic Stewardship: Leading the Way to Quality Patient Care

Adirondack Medical Center, Saranac Lake

■ Lessons Learned

All staff are stakeholders in quality assurance and performance improvement.

Changing a prescribing habit requires time and buy-in from all team members. Once decided, processes need to be “hard wired” to ensure compliance.

■ Contact

Mim Millar, R.N., B.S.N., C.I.C.
Infection Preventionist

Gail Woodruff, R.N., C.G.R.N.
Clinical Documentation Coordinator

Hillary Guadagno, Pharm.D, B.C.P.S.
Clinical Pharmacist
(518) 897-2319
hguadagno@adirondackhealth.org

■ Project Description

The Surgical Care Improvement Project (SCIP) is a national quality initiative aimed at significantly reducing complications following surgery. There are three core measures related to the prophylactic use of antibiotics. Attaining compliance with these measures has the potential to decrease the rate of complications associated with hospital-acquired infections while providing a mechanism to address the overuse of antibiotics. Using a multidisciplinary approach, Adirondack Medical Center engaged key stakeholders to develop a process to address all concerns.

The team created electronic order sets, embedded with evidence-based medicine and the appropriate antibiotic selection as the mechanisms to assure compliance with SCIP measures. The pharmacy staff was instrumental in providing the “3 Ds” of antibiotic stewardship—the right drug, dose, and duration—and encouraged antimicrobial stewardship by educating providers and surgeons on the concept of judicious antibiotic use with limited duration. Additionally, they were tasked with monitoring antibiotic use by ensuring the last dose was scheduled for administration within 24 hours of the anesthesia end time. The clinical documentation coordinator served as the final check in the process, ensuring that the indication for continued antibiotic use was documented.

The judicious use of antibiotics may be a contributing factor to not only a low surgical site infection rate but also hospital-wide infection rates, with *Clostridium difficile* and multi-drug resistant organisms that have remained below national benchmarks.

The team will continue to refine these efforts and will include other surgical procedures. Antibiotic stewardship will remain a key focus area for improving patient care and providing the best possible outcomes for all patients.

■ Outcomes

- Improved Surgical Care Improvement Project–Infection 3: Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time, from 97.1% in 2011 to 98.6% in 2013.
- Surgical site infection rates have declined from 1.05% to 0.79% for the same period.
- Decline in *C. difficile* infections from 1.10 per 1,000 patient days in 2011 to 0.88 per 1,000 patient days in 2013.

Reducing Patient Harm: One Organization's Success in Achieving Pressure Ulcer Reduction

Bassett Medical Center, Cooperstown

■ Lessons Learned

Analysis of operating room device-related events led to using soft silicone dressing to relieve pressure on the skin intra-operatively.

Analysis of heel events led to (1) use of new “boot” for improved skin protection and wound healing, and (2) placing small mirrors in each patient room to help assess/inspect heels.

“Support surface” algorithm education improved efficacy in using of pulsate (pressure relieving) surfaces.

■ Contact

Ronette Wiley,
R.N., B.S.N., M.H.A., C.P.P.S.
Vice President, Performance
Improvement
(607) 547-6690
ronette.wiley@bassett.org

■ Project Description

The organization's hospital-acquired pressure ulcer rate exceeded both state and national benchmarks and was trending negatively. A multidisciplinary team was assembled and developed a systematic approach leveraging best practices around skin assessment/surveillance, implementing preventive measures for nutritionally compromised patients, and improving interdisciplinary staff communication. Targeted interventions included:

- hardwired processes for “head-to-toe” skin assessment on admitted patients with daily re-assessments;
- daily staff huddles to discuss at-risk patients and plans of care of those with staged pressure ulcers;
- development of unit-based registered nurse (RN) “Skin Champions” who educate staff on pressure ulcer prevention strategies, review trends, and assist in detailed analyses when a hospital-acquired pressure ulcer develops;
- development of a pressure ulcer workgroup that reviews all pressure ulcer events monthly, analyzing root cause, and developing system improvements;
- creation of an online RN competency module focusing on nutritional assessment and pressure ulcer prevention strategies for nutritionally compromised patients; and
- development of a process for registered dietitians and Skin Wound Assessment Team members to order consults reciprocally on malnourished patients at risk for skin breakdown.

The addition of department-specific nursing station signage noting “X days since last pressure ulcer” helps instill pride and intradepartmental competition.

■ Outcomes

Significant improvement in the pressure ulcer rate was achieved in 2013:

- the hospital-acquired pressure ulcer rate decreased by 62%; and
- the incidence of hospital-acquired pressure ulcer events decreased by 62%.

Pressure Ulcer Reduction

Burke Rehabilitation and Research Hospital, White Plains

■ Lessons Learned

Pressure ulcer prevention requires a multidisciplinary effort and administrative support.

Early identification of patients at risk with rapid implementation of preventive measures is key to success.

All clinical staff need initial and ongoing education.

■ Contact

Stephanie Campbell, B.S.N., C.R.R.N.
Chief Nursing Officer
(914) 597-2385
scampbel@burke.org

■ Project Description

Burke Rehabilitation and Research Hospital's goal in this initiative is decreasing the number of hospital-acquired pressure ulcers. Through organizational assessment and the development of policies, procedures, and algorithms, Burke experienced continuous and sustained improvement.

To achieve its goal, Burke developed a computerized risk assessment and daily risk re-assessment. Patient/family education and engagement continues to be instrumental in the initiative's success.

Formation of an interdisciplinary team that makes weekly and as-needed rounds has allowed Burke to achieve its goals and assist in disseminating the information to other staff members.

■ Outcomes

- This initiative has led to accurate staging and data collection.
- Staff are able to distinguish between community-acquired and hospital-acquired pressure ulcers.
- There was a decrease in the number of hospital-acquired pressure ulcers and an increase in the number of healed or improved ulcers.

Reducing Catheter-Associated Urinary Tract Infections by Implementing Evidence-Based Practices

Calvary Hospital, Bronx

■ Lessons Learned

CAUTIs can be significantly reduced by developing and implementing an evidence-based protocol, and instructing all appropriate inpatient and home hospice caregivers at the onset of the new protocol and ongoing.

Analyzing and sharing data with staff and monitoring committees is key so that staff know if the problem has been resolved and can troubleshoot, if necessary.

Significant cost reductions are associated with this clinical outcome.

■ Contact

Frank A. Calamari, F.A.C.H.E.
President and Chief Executive Officer
(718) 518-2249
fcalamari@calvaryhospital.org

■ Project Description

According to the Association for Professionals in Infection Control and Epidemiology (APIC), catheter-associated urinary tract infections (CAUTIs) account for 36% of all hospital-acquired infections in the United States. At 18 hours, colonization with microorganisms occurs and these can become resistant to antimicrobials and host defenses. These UTIs are nearly impossible to eradicate without removing the catheter. Risk factors are: duration of catheterization, catheter care violations, absence of systemic antibiotics, females, and older age.

Calvary Hospital developed a protocol for prevention of CAUTIs following the hospital's quality process. An interdisciplinary team including physicians, nurses, infection control specialists, and support staff participated in analysis and redesign of the process.

Redesigned care protocols include:

- determine criteria for indwelling Foley catheters;
- change of catheters and insertion kits based on literature review and evidence-based practices;
- develop proper insertion techniques; and
- proper catheter maintenance.

Staff in both inpatient and home hospice settings were educated regarding care processes and the program was implemented.

■ Outcomes

- The baseline CAUTI rate was 8.0 per 1,000 Foley catheter days (first quarter 2010).
- Upon implementation, the rate immediately decreased to 1.8 infections per 1,000 Foley catheter days.
- Since implementation, the CAUTI rate has been sustained at or below the national benchmark of 2.2 infections per 1,000 Foley catheter days.
- Based on reduction of infections of 194 patients in 2010 to the 2013 total of 29 CAUTIs, at an APIC-estimated cost of \$3,803 per patient, cost avoidance is \$627,495 per year.

Reducing Sepsis Mortality through Early Identification Screening Methods and Implementation of Resuscitation Bundles

Cayuga Medical Center at Ithaca

■ Lessons Learned

Data do not have to be complicated or highly technical to drive practice changes; however, it is critical to have a framework/methodology to evaluate, analyze, and act on your current process.

Accept and act on feedback from frontline staff to improve the screening process/forms.

Timely review and follow up with individual staff in a mentoring manner.

■ Contact

Karen A. Ames, R.R.T., B.S., M.A.
 Director of Quality and Patient Safety,
 Chief Patient Safety Officer
 (607) 274-4040
kames@cayugamed.org

■ Project Description

The goal for this initiative was to ensure early identification of patients at risk for sepsis and provide timely intervention of the resuscitation bundles according to best practice.

Strategies included:

- education about early identification risk factors at bi-weekly staff meetings, posting of risk factors at computers in nursing stations, a pre-quiz to identify knowledge gaps, and a formal presentation on early identification of patients at risk for staff and providers;
- standardize electronic screening for all patients at time of triage in the emergency department (ED), at the time of admission to the medical/surgical and intensive care unit (ICU), and during each shift assessment;
- hardwire a positive screen for sepsis requiring immediate provider notification and completion of the Severe Sepsis Screening Tool;
- consistent use of three-hour and six-hour bundles based on evidence-based practice;
- develop a database to capture compliance with screening and bundle elements; and
- provide real-time feedback to providers for cases that did not meet bundle compliance.

The outcomes of the project were presented to the Quality and Patient Safety Committee, which includes administration and members of the board.

■ Outcomes

- All adult patients in the ED, medical/surgical unit, and ICU are screened for sepsis.
- The sepsis mortality rate decreased from 14.09% in 2012 to 10.98% in 2013, a 22% reduction.
- A process was established to collect 2013 bundle compliance baseline data.

Surgical Site Infection Reductions

Columbia Memorial Hospital, Hudson

■ Lessons Learned

Interdisciplinary participation fostered the safety culture focusing on the same goal.

Including the patient and the family was key to success.

Care transition from clinic to operating room was essential.

■ Contact

Barbara C. Brady,
R.N., M.S., B.C.-N.E.
Director of Performance Improvement
(518) 828-8396
bbrady@cmh-net.org

■ Project Description

Columbia Memorial Hospital's surgical team has undertaken several steps to reduce surgical site infections (SSIs). An interdisciplinary team investigated every SSI that occurred in 2012 and 2013, looking to identify commonalities such as room, time of day, day of week, pre-surgical surveillance, discharge location, staffing, organism, patient's Body Mass Index, room orientation, and traffic patterns.

The team previously adopted most of the Institute for Healthcare Improvement evidence-based prevention practices. These included using an alcohol-containing antiseptic agent for preoperative skin preparation; screening orthopedic patients for Methicillin-Resistant *Staphylococcus aureus* (MRSA); and decolonizing carriers with five days of intranasal mupirocin, appropriate use of prophylactic antibiotics, and appropriate hair removal.

Improvements instituted included education provided to surgical staff and antibiotic selection reminder signs posted in the clinic, ambulatory surgery unit, and operating room. The surgical team worked with the surgeons' office practices to educate their staff and to distribute chlorhexidine gluconate (CHG), with bathing instructions, to the higher-risk patients at the office visit. The team engaged patients and families to help prevent infections at the preadmission testing visit as well.

The team developed and implemented the surgical bundle, which includes antibiotic management, glucose control, normothermia, enhanced surgical checklist, debriefing, preadmission test for MRSA, the preadmission education (bathing), and enhanced focus on other hospital-acquired infection protocols.

■ Outcomes

- All Surgical Care Improvement Project scores rose to 100% for the last five months.
- Patients are better prepared for surgery.
- The transition of care from the office to the operating room improved.
- There have been zero SSIs since June 2013.

Reduction of Early Elective Deliveries, Without a Medical Reason, Between 36 0/7 and 38 6/7 Weeks Gestation

Columbia Memorial Hospital, Hudson

■ Lessons Learned

Gestational dating by use of ultrasound is an evidence-based practice.

Deliveries prior to 40 weeks increase complications such as temperature instability, hypoglycemia, respiratory distress, apnea, jaundice, and feeding difficulties.

Change of practice can occur, especially with the use of a model for change; i.e., “Plan, Do, Study, Act.”

■ Contacts

Deborah Rugen, R.N., W.H.N.P., M.S.N.
Manager, The Family Birth Place
drugen@cmh-net.org

Amy Clark, R.N.
Charge Nurse, The Family Birth Place
(518) 697-3377
aclark@cmh-net.org

■ Project Description

Babies need at least a full 40 weeks of pregnancy to grow and develop. Inducing labor is associated with increased risks, including prematurity, cesarean surgery, and infection. Labor should only be induced for medical reasons and not for convenience or scheduling concerns, according to the Association of Women’s Health, Obstetric, and Neonatal Nurses (AWHONN).

■ Outcomes

- Columbia Memorial Hospital decreased the rate of elective inductions prior to 39 weeks.
- The hospital uses evidence-based practice-confirmation of the most accurate due date based on early ultrasound.
- Providers, nursing staff, patients, and families are educated in the importance of maintaining the pregnancy for at least 40 weeks.
- Display of AWHONN’s 40 Reasons to Go the 40 poster, in both English and Spanish, in the labor and delivery triage room.
- The hospital developed and instituted both a hard and soft stop for early elective deliveries.
- Nurses and schedulers are empowered to review and confirm all the criteria for induction of labor have been met.
- Data were used to enhance the change process.
- This initiative was presented to employees of Columbia Memorial Hospital during National Patient Safety Week 2013.

CLABSI Initiative Utilizing the Define, Measure, Analyze, Improve, and Control Methodology

Crouse Hospital, Syracuse

■ Lessons Learned

Choose a systematic approach to identify project opportunities and barriers.

Involve frontline staff.

Provide frontline staff the tools and education to effect change.

■ Contact

Karen Sigona
Quality Improvement Analyst
(315) 470-7219
karensigona@crouse.org

■ Project Description

Crouse Hospital established a multidisciplinary team in mid-2012 to examine the current central line-associated bloodstream infection (CLABSI) rate and the process of central line implementation, maintenance, and removal. The team reviewed the U.S. Centers for Disease Control and Prevention definition of CLABSI, and data revealed the incidence of CLABSI to be related to central line maintenance. Individual unit CLABSI data were collected and the results presented.

To determine improvement opportunities and barriers to prevent CLABSI, a Theory of Inventive Problem Solving process was conducted with frontline staff from all areas. Results were organized into an affinity diagram with categories being: Education, Supplies/Equipment, Policy/Procedure, and Culture/Communication.

The Team developed a project scheduling chart to address each opportunity and barrier removal. A focused medical-surgical (M/S) unit was selected based on the baseline data. A coach was involved with the selected unit to introduce “positive deviance” and “liberating structures.” The unit underwent education, exercises, and regular site visits with the coach. Through the exercises and coaching visits, the selected unit realized opportunities and incorporated improvements into their individual unit workflow. This also involved collaboration with the peripherally-inserted central catheter team and increased communication with patients regarding central line care and discussion of central line necessity in interdisciplinary rounds.

■ Outcomes

- Baseline CLABSI rate 2011: hospital-wide 1.6; selected M/S unit 1.8.
- Post-intervention CLABSI rate 2013: hospital-wide 0.9; selected M/S unit 0.6.
- From 2011 to 2013: \$335,000 savings due to CLABSI reduction.

Pain Management Improvement Initiative

Crouse Hospital, Syracuse

■ Lessons Learned

Promoting a team approach and empowering medical staff with the tools for improvement were important to achieve success and gain buy-in.

Prescriber education in pharmacology/pharmacokinetics of opioid drugs proved to be very beneficial in improving pain management.

Use of Narcan in dilution has helped to prevent complete withdrawal and induced pain crisis in chronic pain patients.

■ Contact

Derrick Suehs
Chief Quality Officer
(315) 470-5776
derricksuehs@crouse.org

■ Project Description

Pain is one of the most common reasons patients seek healthcare, and improving pain management is the right thing to do for patients. Patient satisfaction ratings for pain management are linked to incentive payments through the Medicare Value-Based Purchasing Program as part of the Affordable Care Act. Crouse Hospital developed a multidisciplinary team using Six Sigma methodology to improve pain management for medical inpatients. Following a comprehensive review of baseline data, internal and external customer feedback, and best practice recommendations, various elements were implemented:

- A pain pledge was developed to communicate Crouse's institutional commitment to treating pain.
- Crouse created a pain pathway to organize drug recommendations based on type of pain, pain level, and co-morbidities. The pathway also encourages providers to anticipate a patient's need for breakthrough pain relief.
- A formalized list of additional pain resources was compiled, including consults with contact information and availability, and made available to staff and providers.
- Educational materials were created for patients and families, including pamphlets, posters, and a narrated educational video available via YouTube and/or patient dial-up channel. Education focused on the pain scale, pain assessment, and options for pain relief.
- A closer collaboration was established with a nearby facility's outpatient pain clinic.

■ Outcomes

- Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) ratings around pain management increased from 65% to 73% of inpatients reporting they were "always" satisfied with how their pain was controlled.
- HCAHPS performance increased from the 22nd percentile nationally to the 59th percentile nationally.
- Statistically significant improvement in patient satisfaction ratings related to pain was achieved and sustained.

Reduction in Nosocomial Infection Markers: Stool, Urine, Blood

Faxton St. Luke's Healthcare, Utica

■ Lessons Learned

Cascading goals to all stakeholders improves accountability.

Integrating the focus of all departments toward the same strategic goals improves the ability to achieve those goals.

■ Contact

Heather Bernard, R.N., B.S., C.I.C.
Director of Infection Prevention
(315) 624-6334
hbernard@mvnhealth.com

■ Project Description

Faxton St. Luke's Healthcare adopted the Nosocomial Infection Marker (NIM) from the MedMined Data Mining Surveillance System for measuring hospital-acquired infections in 2008. During 2013, the organization incorporated the reduction of overall NIMs into the corporate goals.

Infection prevention staff worked closely with leadership and staff from all areas of the facility during the year. Key stakeholders from areas of the facility that could impact NIMs were integrated into teams in an effort to reduce NIMs and ultimately improve quality and patient safety. The infection prevention team developed a "Back to Basics 2" program that included mandatory education for all inpatient staff. The program outlined the key components of infection prevention in all categories and hospital policies and procedures.

Key changes that impacted Faxton St. Luke's Healthcare's outcomes in the NIM categories included:

- **Stool NIMs:** The purchase of a three-tower ultra-violet disinfection system to use for all *C. difficile* and other multidrug-resistant organism room discharges, use of disposable thermometers house-wide, bleach cleaning, high-touch enhanced cleaning, hand hygiene with soap and water, prolonged isolation guidelines, antibiotic stewardship, and improved personal protective equipment availability.
- **Blood NIMs:** Purchase of neutral clear end caps for vascular access lines, new line blood draw collection guidelines, central line maintenance by the vascular access team, and more accurate central line placement using electrocardiogram placement confirmation resulted in reduced complication rates.
- **Urine NIMs:** Integration into patient progress rounds, specimen collection guidelines, and education; and emergency department catheter usage.

■ Outcomes

- **Overall NIM Reduction:** 2012 December rolling rate 5.39/100 patient admissions; December 2013 rolling rate 4.42/100 admissions (18% reduction).
- **Stool NIMs:** 2012 December rolling rate 2.22/1,000 patient days; 2013 rolling rate 0.99/1,000 patient days (10.4% reduction).
- **Blood NIMs:** 2012 December rolling rate 1.19/1,000 patient days; 2013 rolling rate 0.88/1,000 patient days (26.1% reduction).
- **Urine NIMs:** 2012 December rolling rate 3.57/1,000 patient days; 2013 rolling rate 2.84/1,000 patient days (20.5% reduction).

Falls Reduction Action Team

Faxton St. Luke's Healthcare, Utica

■ Lessons Learned

Staff engagement in the improvement process is the foundation of the BOZ Collaborative.

Recognizing the knowledge experts at the bedside and embracing the improvement ideas generated through liberating structures creates a culture for change.

No single solution will put an end to patient falls, but the culmination of multiple solutions generated by an engaged staff have impacted the overall fall rate.

■ Contact

Kathryn Ward,
M.S., M.A., R.N., C.P.H.Q.
Director of Quality Management/
Clinical Quality Value Analysis
(315) 624-6163
kward1@mvnhealth.com

■ Project Description

Since September 2012, employees on a medical surgical/stroke unit have been participating in the “Bordering on Zero (BOZ) Collaborative,” an initiative to improve patient safety. The unit staff have been learning a variety of “liberating structures,” which has changed the way they interact (with patients, families and each other), address issues, solve problems, and identify opportunities and solutions. Employee engagement in the improvement process is the foundation of this project. Recognizing the knowledge experts at the bedside and embracing the improvement ideas generated through liberating structures helps create a culture for change. No single solution will put an end to patient falls, but the culmination of multiple solutions generated by an engaged staff have positively impacted the overall fall rate.

■ Outcomes

- Staff engagement and awareness of patient falls increased.
- Year-to-date, the rate of falls decreased from 6.81 (October 2012) to 4.35 (December 2013), a significant 36% reduction.
- The rate of falls with injury decreased from 1.55 to 0.89 during the same period, a significant 43% reduction.

Use of Visual Management to Eliminate Hospital-Acquired Conditions

F. F. Thompson Health System, Inc., Canandaigua

■ Lessons Learned

Greater transparency moves quality to the frontline.

Encourage engagement and empowerment of frontline staff, which is crucial to achieving results.

Addition of executive rounding helps to sustain results and maintain a continuous, daily focus.

■ Contact

Kiera Champlin-Kuhn,
R.N., M.S.-H.Q.S.
Director of Quality, Safety and
Utilization Management, and
Patient Safety Officer
(585) 396-6786
kiera.champlin-kuhn@
thompsonhealth.org

■ Project Description

Following a 2011 employee contest to generate infection prevention ideas, F. F. Thompson Hospital began tracking the number of infection-free days in each department, rewarding successful departments.

To broaden this program and achieve its strategic aims—which dovetail with the Centers for Medicare and Medicaid Services “pay for performance” initiatives—the health system began employing visual management tools. These serve as a means of tracking progress toward the goal of eliminating all hospital-acquired conditions (HACs).

White boards were added to each patient room to provide up-to-date information and encourage communication. Display boards went up in public areas throughout the hospital, tracking daily progress with regard to eliminating HACs and listing best practices for each one. The boards serve as a continual reminder to drive outcomes and are a frequent reference point during executive rounding.

Data from these public boards are shared in a weekly *Transparency Harm Report* distributed to the board of directors, executive team, medical staff, nursing staff, system leaders, and others.

In 2013, the initiative expanded further as public boards displaying patient satisfaction scores with priority indexes and best practices went up throughout the hospital and outpatient areas, including family practice locations.

■ Outcomes

- All falls, including falls with injury, decreased.
- All pressure ulcers decreased and Stage 2 or greater were eliminated.
- There was a significant decrease in central line-associated bloodstream infections in general medical areas, and these infections were eliminated in the intensive care unit.
- Ventilator-associated pneumonia was eliminated.

Reducing Transfusion Requirements in Elective Total Hip and Knee Arthroplasty

Finger Lakes Health, Geneva

■ Lessons Learned

Compared with the 2012 baseline, in 2013 Finger Lakes realized a 17% reduction in PRBCs/joint, and a 27% reduction in patients requiring transfusion.

Compared with the 2012 baseline, in 2013 patients treated with tranexamic acid had a 74% reduction in PRBCs/joint, and a 75% reduction in patients requiring transfusion.

No safety or adverse reactions were noted after applying evidence-based transfusion guidelines and using tranexamic acid.

■ Contact

Jason Scott Feinberg, M.D.
Chief Medical Officer/Vice President
of Medical Affairs
(315) 787-4175
jason.feinberg@flhealth.org

■ Project Description

Transfusion of packed red blood cells (PRBCs) is associated with potential negative clinical outcomes and significant costs. In 2012, Finger Lakes Health incorporated an evidence-based transfusion approach for patients undergoing elective total hip and knee arthroplasty with a goal of reducing PRBCs by 25%. The two keys of success were establishment of an evidence-based transfusion trigger of hemoglobin (<8g/dL vs. <10g/dL), and provider education. There is growing evidence in the literature that tranexamic acid can safely reduce PRBC transfusion requirements in patients undergoing elective joint replacement. A proposal to Finger Lakes' Investigational Review Board was accepted to utilize tranexamic acid (off-label use) for patients undergoing elective total hip and knee arthroplasty beginning in January 2013.

■ Outcomes

- Adherence to evidence-based transfusion guidelines reduced blood utilization and established the 2012 baseline of 0.54 units PRBCs/joint and 30% of patients requiring transfusion.
- The 2013 overall blood utilization data demonstrate 0.45 units PRBCs/joint (141 units PRBCs/315 joints), and 22% of patients requiring transfusion (68 patients/315 joints).
- Tranexemic Group 2013: 0.14 units/joint (15 units PRBCs transfused/106 joints) and 7.5 % patients requiring transfusion (eight patients/106 joints).
- Tranexamic Group Hips (43): 0.23 units PRBCs/hip (10 units PRBCs), and 12% (five patients) requiring transfusion.
- Tranexamic Group Knees (63): 0.08 units PRBCs/knee (five units PRBCs), and 4.7% (three patients) requiring transfusion.
- Number of patients needed to treat with tranexamic acid: 2.2 patients saved one unit of PRBCs, 4.6 patients to prevent transfusion of patient.

Reduction in Urinary Catheter Use— Ultimately Reducing Infections

Jones Memorial Hospital, Wellsville

■ Lessons Learned

Training is the key to compliance.

To maintain awareness, the ticketing process reinforced the importance of the requirements.

The hospital identified the importance of ancillary services awareness of catheter use. Education centered around emptying of bag prior to patient transport, which decreases the potential for infection.

■ Contact

Cheryl Macafee,
M.B.A., C.P.H.Q., R.H.I.A.
Director of Quality Management
(585) 596-4020
macafeec@jmhny.org

■ Project Description

Catheter-associated urinary tract infections (CAUTIs) are the most frequent type of infection in acute care hospitals. An estimated 65% to 75% of CAUTIs may be preventable with recommended infection prevention measures. Jones Memorial Hospital's goal was to decrease utilization of indwelling catheters to under 0.2% and ultimately decrease urinary tract infections to one per quarter.

A team of individuals was assembled to review the problem and determine corrective actions:

- The hospital developed a urinary care bundle for all nurses in 2012.
- A bladder scanner is used to aid in the assessment for the need of the catheter.
- A Foley catheter is only placed when specific criteria are met.
- A soft and hard remove protocol was approved.
- Foley insertion policies are easily accessible.
- Documentation in the electronic medical record system is now designed for Foley insertion, which prompts for the required information.
- Patients with Foley catheters are discussed in the daily morning huddle for possible removal. Foley numbers are shared with the care providers as a reminder of the patient's Foley status.
- Education improvements included continued annual staff education related to policies, coupled with a ticket system for staff who are non-compliant with urinary care protocols.
- Along with Florastor, new probiotic Florinex was added to the formulary for use in current patients with an indwelling Foley catheter to prevent CAUTI related to yeast, and for those who already have a urinary tract infection.

■ Outcomes

- Awareness increased among the entire medical and nursing staff.
- Catheter utilization decreased from 0.40 to 0.15 catheter/patient days.
- Urinary tract infections remain under one per quarter.
- Once everyone was trained, catheter use decreased 80% on the medical/surgical unit, 25% in the intensive care unit, and 80% in the emergency room.

Reduction in Central Line Use— Ultimately Reducing Infections

Jones Memorial Hospital, Wellsville

■ Lessons Learned

Compliance has continued with electronic documentation that prompts the user.

Once hospital-wide education was completed, utilization, dropped throughout the year from a high of 0.22 to a low of 0.07.

■ Contact

Cheryl Macafee,
M.B.A., C.P.H.Q., R.H.I.A.
Director of Quality Management
(585) 596-4020
macafeec@jmhny.org

■ Project Description

Jones Memorial Hospital's goal in this initiative is to maintain a 0% central line-associated bloodstream infection rate and keep utilization under 0.25%. Current efforts include:

- A team representing infection prevention, nursing, and medical staff developed a central line care bundle of interventions for all nurses to follow during 2013.
- They also developed a central line insertion practice form to be completed on each insertion; this prompts for the indications of use.
- Central line policies are now easily accessible electronically and in paper form.
- Electronic documentation has been designed for central line care, which prompts for the required documentation.
- Patients with a central line are discussed in morning huddles for possible removal, and central line day totals are posted by the provider's desk.
- Jones Memorial Hospital expanded staff education related to policies with orientation and annual competencies.
- On August 1, 2013, the team began issuing tickets for non-compliance with central line care. As of December, no tickets were issued and staff have remained compliant.

■ Outcomes

- CLIP data show that the hospital is maintaining a sterile field at time of insertion.
- The care bundle is used for anyone inserting a line.
- The real focus was the appropriate care being achieved and documented.
- Jones has maintained its goal of zero central line infections.
- The hospital has surpassed its utilization goal of 0.25.

A Team Approach to Reduction in Central Line Infections

Kenmore Mercy Hospital/Catholic Health System, Kenmore

■ Lessons Learned

Focused, detailed review (root cause analysis) of the problem is necessary to identify the required actions within the organization.

A team approach with feedback from direct caregivers is essential.

Ongoing monitoring with data to support the change and identifying additional opportunities are key to success.

■ Contact

Denise Bartosz, R.R.T., B.S.
Director of Patient Safety
(716) 923-2943
db4071@chsbuffalo.org

■ Project Description

Central line infection rates had not shown the improvement that the organization had intended over the past two years, despite initiatives put in place to address this issue. The infection control medical director and quality leadership completed a focused review of 100% of all hospital-acquired central line infections from the prior year. Data analysis and researched, evidence-based best practice were presented to a multidisciplinary team for input on next steps. The team developed a comprehensive strategy to address the challenge, which included education, process changes, utilization of information technology, and supply enhancements.

The team also established a process for ongoing monitoring of the implemented changes. This monitoring included real-time feedback and educating the medical and patient care services staff. Discussion with the providers included positive reinforcement of a job well done, as well as issues such as why a line was still left in, and review of proper bio-patch placement.

■ Outcomes

- The total number of hospital-acquired central line infections decreased from 39 in 2012 to 16 in 2013.
- This decrease in hospital-acquired central line infections was a 60% improvement.
- Central line days decreased from 2,945 line days in January 2013 to 2,127 in December 2013, a 28% reduction in line days.

Implementation of an Antimicrobial Stewardship Program in a Community Hospital

Kenmore Mercy Hospital/Catholic Health System, Kenmore

■ Lessons Learned

It is important to review pharmacist recommendations not accepted by a provider, disease state, etc., to identify opportunities for education.

Executive physician leadership intervention was needed to reduce barriers to acceptance.

Effective communication and mentoring was crucial for rollout to the entire pharmacy staff.

■ Contact

James Bartlett, Pharm.D,
Clinical Pharmacist
(716) 447-6004
jbartlet@chsbuffalo.org

■ Project Description

An interdisciplinary team was developed including multiple pharmacists, the infectious disease physician, vice president of medical affairs (VPMA), chief operating officer, nursing, infection control, and care management.

A literature search was completed, but unlike most antimicrobial stewardship programs that rely on one or two pharmacists exclusively, Catholic Health System/Kenmore Mercy Hospital took a unique approach. The program was designed so that each pharmacist shares responsibility on a weekly rotating basis. The pharmacists review all patients on antibiotics five days a week and provide either written or verbal recommendations to the providers. This approach has created a very robust program that is not dependent on any one pharmacist. As a consequence, each pharmacist is better able to identify opportunities for improvement in antimicrobial prescribing at each point along the continuum.

Once the program was developed and education for all the pharmacists was completed, the VPMA sent a communication to all physicians regarding the goals of the program and solicited their support and participation.

Data were gathered daily about the antibiotic cost and the providers' acceptance rate of the pharmacists' recommendations. Pharmacists spoke with providers whose prescribing patterns deviated from their recommendations and gave evidence-based literature guidelines to support their recommendations. If this approach failed to achieve the goals, the VPMA would then review any concerns with that provider. As a result of this unique approach, Catholic Health System/Kenmore Mercy Hospital has seen dramatic changes in prescriber practice patterns.

■ Outcomes

- There was a 25.5% decrease in expenditures from 2011 to 2012, with a savings of \$145,353.
- There was a savings of \$21,744 from 2012 to 2013.
- Defined daily doses decreased 17.8% from 2011 to 2012.
- There was a 74% recommendation provider acceptance rate in 2012 and 76% in 2013.
- Pharmacist-initiated intravenous-to-oral conversion increased.

Reducing Patient Falls— Purposeful Rounding

Mount St. Mary's Hospital and Health Center, Lewiston

■ Lessons Learned

Collecting data from patient falls allows the hospital to determine areas for improvement.

Teamwork and staff buy-in are necessary for a successful program.

Preventing falls and improving patient safety is a multi-tiered problem requiring a multi-tiered solution.

■ Contact

Mark E. Carl, R.N., B.A.
Nursing Supervisor/Quality
Improvement Coordinator
(716) 298-2300
mark.carl@msmh.org

■ Project Description

In 2011, 72 patients fell while under the care of Mount St. Mary's Hospital. The reduction of patient falls and falls with injury became a core focus moving forward.

The collection of data surrounding these falls became extremely important to guide the hospital in creating a safe environment for patients: patients were identified as being at risk early, staff compliance with the "Red Sky Fall Program" was high, and bed and chair alarms were used.

One important piece of data that became apparent was the timing of falls. Groupings of falls could be seen at certain times of the day. Thirty-percent of falls in 2012 occurred between 11:30 p.m. and 3:30 a.m. Eighteen percent of falls occurred between both 8 a.m. and 10 a.m. and 2 p.m. and 3:30 p.m. It was postulated that this could correlate with elimination needs. Further data showed that 61% of falls were related to an elimination need.

There needed to be a conscious effort to provide patients with improved monitoring at these times. While patient rounding is not new, a tool to focus on precise, patient-centered rounding was needed and developed. Nurses and nurse aides shared rounding responsibilities targeting key times when a patient's elimination needs may be greatest. The tool is laminated and in each patient room, which improves patient engagement and staff compliance.

The number of falls decreased to 59 in 2012 and to 44 in 2013. Data collection continues to determine further contributing factors and focused improvements.

■ Outcomes

- Falls decreased from 72 in 2011 to 44 in 2013.
- Fall rate was 1.63 per 1,000 patient days in 2013.
- Falls with injury decreased from four in 2012 to two in 2013.

Reduce Adverse Outcomes and Increase Patient Satisfaction in Obstetrical Units

Mount Sinai Medical Center, Manhattan

■ Lessons Learned

It takes a team.

Patients must be at the center of any conversation.

Standardization of variance takes time to accomplish.

■ Contact

Michael Brodman, M.D.
Professor and the Ellen and Howard C. Katz Chairman's Chair, Department of Obstetrics, Gynecology and Reproductive Science
Icahn School of Medicine
(212) 241-7495
michael.brodman@mssm.edu

■ Project Description

Three initiatives with a multidisciplinary team were initiated:

- The management and documentation of shoulder dystocia, postpartum hemorrhage, and electronic fetal monitoring interpretation were standardized by use of simulation workshops. Physicians, nurses, and midwives attended; teamwork was stressed.
- To improve patients' post-delivery experience, pain management variance was removed by standardizing order sets. Focus groups, which included anesthesiologists, nurse managers, and providers, contributed to the new protocol.
- TeamSTEPS™ was embedded into both workshops and documentation, establishing teamwork in the structure of daily care and communication.

■ Outcomes

- The Weighted Adverse Outcome Index was reduced from 4.8 in 2009 to 2.3 in 2013, and, included a reduction in birth trauma from 5.2% in 2009 to less than 1% in 2012.
- The rate of documented shoulder dystocia improved (1.61% vs. 2.37% of vaginal deliveries, $p=0.0275$), as did the number of obstetricians who documented an SD (32.35% vs. 60.29% of delivering obstetricians, $p=0.0020$). See *The Journal of Maternal-Fetal and Neonatal Medicine*, November 2011; 24(11): 1357–1361.
- There was a reduction in New York Patient Occurrence Reporting and Tracking System-reportable events, from ten in 2007-2009 to five in 2010-2012.
- Patient satisfaction scores increased: the Hospital Consumer Assessment of Healthcare Providers and Systems Pain Score Composite for “always controlled pain” increased to 79%.

Reducing Harm Across the Board

Nathan Littauer Hospital, Gloversville

■ Lessons Learned

Performance improvement work requires constant vigilance.

Engaging staff through cultural transformation is a non-negotiable precursor to a successful patient safety initiative.

The availability of real-time data greatly facilitates success.

■ Contact

Frederick Goldberg,
M.D., M.S. H.C.M., F.A.A.P.
Vice President, Medical Affairs/
Chief Medical Officer
(518) 773-5532
fgoldberg@nlh.org

■ Project Description

In early 2012, Nathan Littauer Hospital joined the New York State Partnership for Patients (NYSPFP) initiative to reduce patient harm by 40% within 18 months. The hospital established multidisciplinary teams to address surgical site, catheter-associated urinary tract, and *Clostridium difficile* infections; ventilator-associated events; early elective deliveries; venous thromboembolisms; and adverse drug events.

Using tools and resources provided by NYSPFP, hospital teams designed and implemented action plans that mirror evidence-based practices and tailored them as appropriate to local resources and scope of services. Methodologies included bundles of care, checklists, hard stops, evidence-based order sets, multidisciplinary rounds, computerized order entry, workflow redesign, recruitment of physician and nurse champions, and ongoing education. Timely feedback on process and outcomes measures facilitated rapid tests of change in processes and kept staff informed and motivated. Managers were trained on the use of an engagement model with staff to sustain desired performance.

Concurrently, the hospital promoted a culture of safety with leadership patient safety rounds, a multidisciplinary medication safety task force, team huddles, briefs and debriefs, and participation in the AHRQ *Hospital Culture of Safety Survey*.

Transparency and accountability were fostered by reporting hospital performance on quality and safety measures to the board of directors, medical staff, and employees every quarter.

■ Outcomes

- Total harm events per 1,000 discharges (“harm across the board”) was reduced from 6.5 to 1.0 over 18 months.

Reducing C-Section Surgical Site Infection Rates With a Bundle Checklist

Nassau University Medical Center/NuHealth, East Meadow

■ Lessons Learned

Checklists serve as a valuable tool to promote communication and teamwork that leads to positive patient clinical outcomes.

SSI reduction is most effective with departmental collaboration and horizontal, rather than vertical, workforce engagement (i.e., housekeeping, environmental services, labor and delivery).

Sustainability requires an organizational culture based on excellence.

■ Contact

Chaur-Dong Hsu, M.D., M.P.H.
Chairman, OB/GYN
(516) 572-6255
chsu@numc.edu

■ Project Description

A 2010 organizational and strategic performance improvement priority called for a reduction in organization-wide surgical site infections (SSIs). Analysis of baseline National Healthcare Safety Network SSI criteria showed a large percentage were attributable to the department of obstetrics/gynecology, with many occurring in the cesarean section population. Determined to aggressively reduce these rates, Nassau University Medical Center utilized a “FOCUS” Plan-Do-Study-Act cycle to assess current practices, identify opportunities for improvement, and implement strategy changes.

Early improvement efforts focused on implementation of and compliance with evidence-based infection control strategies (including jewelry restriction among the labor and delivery staff, hand hygiene compliance, and placement of alcohol dispensers in patient bathrooms) and implementation of two evidence-based Core Measure data elements from the Centers for Medicare and Medicaid Services Surgical Care Improvement Project (administration of antibiotics within one hour of surgery and the use of Chlorhexidine for skin preparation). Later efforts involved implementing a simple bundle checklist, addressing such components as use of clippers to remove hair at the site, removal of placenta by cord traction, closure of deep subcutaneous layers greater than 2 cm, and skin closure with subcuticular suture.

■ Outcomes

- Phase I statistical outcomes showed a resultant 40% reduction in SSIs and a statistical shift below the baseline mean, reducing cesarean section SSIs from a baseline of 6.2% to 3.7% (February 2010 to July 2011).
- Phase II statistical outcomes showed a 52% reduction in SSIs and a statistical shift below the baseline mean, reducing cesarean section SSIs an additional 46% and lowering the incidence to 2% (April 2011 to September 2012).
- Sustained process change has shown a continuous 0% cesarean section SSI rate for 12 consecutive months (year 2013).

Skin Care Management Program

New York Community Hospital of Brooklyn

■ Lessons Learned

Early skin and risk assessment is essential in reducing the occurrence of hospital-acquired pressure ulcers.

Annual education and competency assessment of nursing staff is necessary to ensure a successful skin care program.

The interdisciplinary team (physicians, nurses, dietitians, social workers, physical therapists, physician assistants, and pharmacists) is essential.

■ Contact

Ruby Devine, R.N.
Assistant Director of Nursing
(718) 692-5359
rdevine@nyp.org

■ Project Description

New York Community Hospital of Brooklyn's Skin Care Management Program consists of three major components:

- A risk assessment is performed on all patients at the time of admission and/or emergency department arrival.
- A skin breakdown prevention protocol is implemented for identified high-risk patients.
- Skin and wound care protocols are initiated specific to individualized clinical skin and wound assessment.

The program also includes:

- program oversight by a dedicated full-time skin care nurse;
- weekly physician-led multidisciplinary skin care rounds;
- purchase of new beds, hospital-wide, equipped with a "pressure relief mode" that automatically adjusts air pressure according to specific patient dimensions;
- nurse-driven hourly rounds;
- an electronic documentation tool for daily skin and wound reassessment and care;
- elimination of the use of diapers for incontinent patients; and
- standardization and annual evaluation of skin care products.

■ Outcomes

- Hospital-acquired pressure ulcers were reduced from a rate of 1.60 hospital-acquired pressure ulcers per 1,000 patient days in 2010 to 0.97 in 2013.

Reducing Excessive Blood Loss and Post-Operative Complications for Elective Primary Hip and Knee Joint Replacement Patients

Northern Dutchess Hospital, Rhinebeck

■ Lessons Learned

Use of tranexemic acid can decrease the number of required blood transfusions following a primary hip or knee replacement surgery.

Reducing the number of transfusions and associated risks (transfusion reactions, infection, and falls) increased patient safety and decreased length of stay.

Decreased blood loss leads to earlier ambulation and greater participation in physical and occupational therapy.

■ Contact

Lori Armstrong, R.N., O.N.C.
Bone and Joint Coordinator
(845) 871-4101
larmstrong@health-quest.org

■ Project Description

During an annual review of hip and knee replacement surgeries at Northern Dutchess Hospital in 2012, it was noted that 10% of these patients required a blood transfusion post-operatively. The hospital's goal for 2013 was to reduce the number of blood transfusions, thereby improving patient safety, decreasing the risks associated with blood transfusions, and decreasing length of stay.

In January 2013, the use of tranexemic acid was initiated for all primary hip and knee replacement surgeries. The first dose of tranexemic acid is given intra-operatively and a second is given post-operatively in the post-anesthesia care unit. Patients are monitored intra-operatively for blood loss by direct observation. Patients are monitored post-operatively for blood loss by daily complete blood counts. Surgical dressings are monitored each shift for post-operative incision drainage. Verbal education on the use of tranexemic acid, side effects, and efficacy of the drug is provided to nurses and surgeons by a member of the anesthesia team. Patients were educated on the potential for blood loss that may occur during surgery and the use of tranexemic acid during a pre-operative joint replacement class.

Expected patient outcomes were monitored during chart reviews for 2013 and it was noted that there was a 7% decrease in the number of required transfusions after a hip or knee replacement surgery, along with a decrease in length of stay for this population.

■ Outcomes

- 2012: total surgeries 503; total transfusions 50 (10%); average length of stay 2.90 days.
- 2013: total surgeries 436; total transfusions 12 (3%); average length of stay 2.75 days.

A System-Wide Approach to Reducing Healthcare-Acquired Pressure Ulcers

North Shore-Long Island Jewish Health System, Great Neck

■ Lessons Learned

Senior executive leadership commitment to a collaborative, patient-centric care model, teamwork, and a culture of patient safety are critical.

Engaging teams on the frontline and providing them with the resources and tools to succeed is vital for improving patient outcomes.

Patients and families must be actively engaged in their care.

■ Contact

Maureen T. White, R.N., M.B.A.,
N.E.A.-B.C., F.A.A.N.
Senior Vice President, Chief Nurse
Executive
(718) 470-7817
mwhite@nshs.edu

■ Project Description

Healthcare-acquired pressure ulcers are a key quality indicator for North Shore-Long Island Jewish Health System (NS-LIJ). A system-wide pressure ulcer task force with representatives from NS-LIJ hospitals, skilled nursing facilities, home care agencies, hospice, and comprehensive wound healing centers promotes a common approach to skin care across the continuum to ensure that care is consistent as patients move from one setting of care to another.

Two certified wound specialist physicians are active members of the task force, in addition to quality professionals, data analysts, and a procurement specialist. The task force established uniform guidelines to prevent and treat pressure ulcers across all levels of care, a skin care product formulary, and performance metrics that are tracked throughout the organization by executive leadership and all levels of staff. The task force also provides guidance to the local skin care teams that have been established in each facility to ensure that patients receive evidence-based care.

Interacting with families to actively participate in their care supports NS-LIJ's vision to improve patient satisfaction and provide transparent, quality care. A collaborative care model is in place throughout the health system, providing an infrastructure for shared governance, team engagement, and frontline participation in quality and patient safety activities. Team Strategies and Tools to Enhance Performance and Patient Safety (TeamSTEPPS™) has been embedded in the care model and promotes effective communication among all members of the team. Team oversight in managing the patient through discharge aids in a seamless transition to outpatient facilities to continue care as needed.

■ Outcomes

- Hospital-acquired pressure ulcers were reduced 47% over the past three years (2011 vs. 2013).
- The total number of hospital-acquired pressure ulcers decreased as follows: 1,774 (2011), 1,372 (2012), 940 (2013) across all NS-LIJ hospitals.
- Cost avoidance estimate for hospital-acquired pressure ulcers: nearly \$35 million (2011 vs. 2013).

Ongoing Assessment and Building of Best Practices to Reduce Hospital-Acquired Bloodstream Infections Toward Zero

North Shore-Long Island Jewish Health System, Great Neck

■ Lessons Learned

Senior leadership commitment, engagement, and accountability are necessary to promote a culture of safety.

Engage and motivate staff by setting a clear and ambitious goal, keeping them informed of progress, and celebrating success.

Achieving high reliability and sustaining zero CLABSIs is possible.

■ Contact

Mark Jarrett, M.D., M.B.A.
Senior Vice President,
Chief Quality Officer, Associate
Chief Medical Officer
(516) 465-3214
mjarrett@nshs.edu

■ Project Description

Infection prevention is a priority for North Shore-Long Island Jewish Health System (NS-LIJ), which is striving to achieve a goal of zero hospital-acquired infections. NS-LIJ continually monitors progress toward this goal and seeks new and innovative approaches to promote patient safety. As far back as 2005, the system has been working to reduce central line-associated bloodstream infections (CLABSI) in partnership with HANYS, Greater New York Hospital Association, Institute for Healthcare Improvement (IHI), IPRO, The Joint Commission, New York State Partnership for Patients, and United Hospital Fund.

The initial focus was implementing evidence-based practices in NS-LIJ's intensive care units (ICUs), namely the IHI central line insertion bundle and documentation of daily goals of care. In 2011, NS-LIJ's focus expanded to the non-ICU settings and central line maintenance. Senior leadership made a commitment to eliminate CLABSIs and the medical and nursing leadership are held accountable for achieving and sustaining this goal. An executive dashboard was created to inform leadership of progress toward goals, and executive compensation is tied directly to quality outcomes, specifically achieving pre-defined thresholds and goals toward eliminating CLABSIs.

■ Outcomes

- ICU CLABSI was reduced by 53.7% (2011 vs. 2013).
- Non-ICU CLABSI was reduced 69.1% (2011 vs. 2013).
- Sixty-one percent of adult and pediatric ICUs have been CLABSI-free for six or more months.
- National Healthcare Safety Network Standardized Infection Ratio decreased from 1.01 in 2011 to 0.55 in 2012 and to 0.39 in 2013.
- Cost avoidance: \$1,846,560 (2012 vs. 2013) (includes adult, pediatric, and neonatal ICUs).

Improving Care for Patients Presenting with Signs and Symptoms of Acute Coronary Syndrome

Olean General Hospital

■ Lessons Learned

A continuous change environment with consistent monitoring and reporting has been a key factor in sustaining improvements.

The order in which tasks are completed can profoundly impact outcomes. Therefore, it is important to have a clear understanding of workflow.

Observation of work and feedback from frontline workers is essential to understanding current workflow and identifying opportunities.

Working together can accomplish more than any one entity working alone.

■ Contact

Denise O'Neil, R.N., B.S.N.
Chest Pain Center Coordinator,
Director of Patient Care Services,
Director of Interventional Cardiology
(716) 375-6988
doneil@ogh.org

■ Project Description

In April 2011, Olean General Hospital began an initiative to improve care for patients presenting with signs and symptoms of acute coronary syndrome, with a focus on early recognition and diagnosis. Improvement initiatives initially focused in the hospital emergency department.

Data collection revealed a median time from patient arrival to first electrocardiogram (EKG) of 15 minutes in April 2011, and a median time from patient arrival to Troponin result of 91 minutes in July 2012. As a result, ad hoc teams were developed, consisting of emergency medical services (EMS) providers, hospital emergency department staff, Chest Pain Center coordinators, and emergency department physicians.

Through a series of continuous improvements and the use of Lean A-3 Problem Solving, opportunities were identified that led to development of processes to facilitate simultaneous triage and EKG obtainment, enhanced transmission capability for EMS providers, improved knowledge of acute coronary syndrome signs and symptoms, equipment upgrades, implementation of point-of-care Troponin testing, audible queues to alert emergency room staff of pre-hospital EKG transmission, and improved processes to facilitate EKG physician reads within ten minutes and Troponin result within 60 minutes of patient arrival.

After processes were hardwired in the emergency department, they were mirrored on inpatient units to ensure consistent care for all patients experiencing acute coronary syndrome signs and symptoms.

■ Outcomes

- Olean General Hospital achieved a greater than 50% reduction in patient arrival to first EKG read time, with median times below ten minutes and sustained to date (median time of 15 minutes in April 2011, to median time of six minutes in December 2013).
- There was a 72% reduction in patient arrival to Troponin result time (91 minutes in July 2012 to 35 minutes in December 2013).

Pressure Ulcer Reduction Initiative

Olean General Hospital

■ Lessons Learned

This initiative proved the value of teamwork.

Clearly identifying the current state through group value stream mapping allows each participant to understand how they impact the overall process.

Creative group problem-solving can result in increased buy-in.

Clear role definition through implementation of the nursing model of care “hardwires” process improvements.

Implementation of “turn teams” directly impacts pressure ulcer occurrence.

■ Contact

Julie Kenyon, R.N.
 Certified Wound Care Registered Nurse/Patient Education Nurse
 (716) 375-6412
jkenyon@ogh.org

■ Project Description

In 2008, Olean General Hospital initiated a pressure ulcer prevention and treatment program, and successfully reduced pressure ulcer rates from 8.97 ulcers/1,000 patient days to 2.71 ulcers/1,000 patient days in 2009. With continued improvements, pressure ulcers were further decreased to a hospital mean of 1.5 ulcers/1,000 patient days in 2011.

However, as part of a Plan-Do-Study-Act cycle, Olean General Hospital continually reviews monthly pressure ulcer rates and noted an increase in pressure ulcers during the first six months of 2012. Thus, the Pressure Ulcer Reduction Initiative was undertaken. A Lean Improvement team was developed with members of nursing staff, nurse managers, and the wound nurse. After developing a current state “value stream map,” the team identified several opportunities. In response, improvements included development of the nursing model of care with implementation of “turn teams,” reminder turning clocks, digital photography of wounds for assessment, a visual tool to assist registered nurses with skin assessment, and quality rounds by nurse managers. As a result of these improvements, the hospital realized a significant decrease in hospital-acquired pressure ulcers.

■ Outcomes

- Hospital-wide pressure ulcer occurrence was reduced 67.3%.
- Countermeasures were implemented in December 2012, with a steady decrease in pressure ulcers and sustained improvement.
- Evidence that implementation of turn teams directly impacted pressure ulcer occurrence was apparent in July 2013. An increase in pressure ulcers prompted case review, revealing limited use of turn teams. Implementing nursing participation in turn teams ensured adherence with scheduled turn times. No pressure ulcers occurred during the following four months.

Improving Performance on SCIP Inf-1a: Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision

Oneida Healthcare, Oneida

■ Lessons Learned

Staff/physician engagement and education are key to success.

Staff/physician ownership of the measure led to success of the initiative.

This success could be duplicated with other measures by following the same methodology.

■ Contact

William Griffiths, R.N., M.S.H.S.,
C.P.H.Q.

Director, Patient Safety and Quality
(315) 361-2283
wgriffiths@oneidahealthcare.org

■ Project Description

Oneida Healthcare has historically struggled to reach top decile scores in the Centers for Medicare and Medicaid Services Surgical Care Improvement Project (SCIP) measure Inf-1a: Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision. Though scores were always in the 90th percentile, with this initiative Oneida sought to achieve and sustain 99% compliance. This improvement would positively impact surgical patient safety and the organization's competitive and financial standings. To achieve this, ownership of the process was needed.

After reviewing patient flow to the operating room, the patient safety and quality department chose the nurses in the holding room as partners for the initiative. The nurses were educated on the measure, took ownership of the process, and implemented changes to ensure antibiotic timing compliance. As a result, the organization achieved and sustained 100% compliance since the fourth quarter of 2012.

■ Outcomes

- Education regarding the core measures with the frontline staff and physicians increased.
- Staff/physician engagement in the process was significant.
- Oneida Healthcare sustained 100% compliance with the measure since the fourth quarter of 2012.

Glycemic Improvement Project

Orange Regional Medical Center, Middletown

■ Lessons Learned

Professionalism: Know your subject matter, include others in your planning and strategies, be prepared not only to teach but to listen and learn—learning is a lifelong experience.

Patience: Changing an organization's beliefs and practices is not an overnight event. Be prepared for setbacks and stalls.

Perseverance: A cultural change is never easy. Success is measured by how we overcome obstacles. We are resolved to succeed, as our patients count on us to provide excellence in care.

■ Contact

Lorraine Porcaro, R.N., C.D.E.
Diabetes Clinical Coordinator
(845) 333-2495
lporcaro@ormc.org

■ Project Description

Hyperglycemia (high blood glucose) in the hospitalized patient is associated with significant adverse outcomes including increased mortality and longer length of stay. A study including data from nearly 700 hospitals showed that they achieved an average glucose level of about 167 mg/dl without significant hypoglycemia (low blood sugar). Orange Regional Medical Center's average glucose in 2012 was nearly 200 mg/dl; as an organization dedicated to the provision of excellence in patient care, the medical center established a glycemic improvement team (GIT) comprised of doctors, dietitians, case managers, pharmacists, and nurses, with the support of hospital administration. The team identified multiple opportunities for process improvement.

The GIT efforts have included increasing hospital-wide diabetes awareness and medical and nursing staff education, including an interdisciplinary "Diabetes Champions" training program. GIT has completed many projects including: review and revision of current policies, creation of new policies, incorporation of new insulin "smart" order sets into the electronic records, and new pilot projects to improve coordination of insulin with meals. Guidelines for glycemic management were distributed to clinical staff and posted on the hospital intranet for easy access. A system for tracking and reporting hospital-wide and individual unit blood glucose levels—the Glucometric Dashboard—was developed and is published monthly. In addition, watch list reports were built that allow for daily oversight of patients with glucose levels out of range.

■ Outcomes

- A 2013 mean glucose target of <180 mg/dl was achieved and maintained.
- The percent of glucose in the target range of 70 to 180 mg/dl increased from 55.8% to 61.8% at year-end 2013.
- There was incidental reduction in length of stay and inpatient mortality for people with diabetes.

Unit-Based Hospital-Acquired *C. Difficile* Reduction Initiative

Rochester General Healthcare, Rochester

■ Lessons Learned

Following the CUSP model can increase frontline team member engagement and decrease safety hazards.

A multidisciplinary team approach is vital to the success of patient safety initiatives.

Hospital-acquired infections can be reduced through CUSP.

■ Contact

Ann Freer, R.N., B.S.N.
Patient Safety Specialist
(585) 922-5145
ann.freer@rochestergeneral.org

■ Project Description

Through the work of a Comprehensive Unit-based Safety Program (CUSP), a general surgical unit identified improvement opportunities related to hospital-acquired *Clostridium difficile* rates, and succeeded in decreasing these rates by half.

Following the CUSP model of engaging frontline team members in collaborative problem-solving efforts, the team used the “Learning from Defects” concept and made flow and process improvement changes. These include standardizing isolation equipment and placement in patients' rooms, changing the gel dispenser color to enhance visibility, providing individual sanitizers at the patient's bedside for personal use, creating a *C. difficile* communication binder that includes a checklist for proper care of *C. difficile* patients, and partnering with the environmental services team to standardize the process of cleaning patient rooms and equipment.

Additionally, this team trialed and implemented wireless scanning and developed a system for sanitizing the workstation-on-wheels (WOWs). Food and nutrition staff were also a part of the process, as they began educating patients on hand hygiene before meals.

This effort included interdisciplinary collaboration by nursing, provider, care management, infection prevention, quality, environmental services, food and nutrition, support, and clerical staff. They embraced the “Wisdom through Diversity” concept and showed how successful it can be.

An initiative that started two years ago still proves successful today. This unit has maintained a 50% reduction in hospital-acquired *C. difficile* rates over the last two years.

■ Outcomes

- Within two months of conducting Science of Safety training, *C. difficile* rates decreased from 23.3 per 10,000 patient days to 9.4 per 10,000 patient days.
- The organization maintained a 50% *C. difficile* reduction over the last two years.
- In January 2014, the unit celebrated 14 months without a central line-associated bloodstream infection.

Time is Brain: Reducing the Time from Door-to-CT for Code Stroke

Saint Francis Hospital, Poughkeepsie

■ Lessons Learned

Think about care as patterns, not steps.

Include everyone—everyone—in the changes.

Pursue perfection.

Have courage.

■ Contacts

Nona Cooper, R.N.
Stroke Coordinator, Quality Improvement Nurse
(845) 431-8281
ncooper@sfhhc.org

Margaret A. Greenly, M.S., M.P.A., C.P.H.Q.
Chief Quality Officer
(845) 431-8106
mgreenly@sfhhc.org

■ Project Description

With full support and engagement from hospital leadership, Saint Francis Hospital (now MidHudson Regional Hospital of Westchester Medical Center) formed a multidisciplinary team that included everyone involved in the arrival and initial processing of a presumptive stroke patient: physicians, nurses, patient care techs, computerized tomography (CT) technicians, laboratory, clerical staff, registration clerks, and emergency medical services (EMS) from key community areas.

After analyzing, testing, revising, and re-testing the processes flow chart three times, the hospital's fourth and final revision resembles a race-track "pit" in that multiple processes now occur simultaneously:

- The presumptive stroke patient is brought directly to the physician's station in the emergency department, where the physician focuses on the safety of the airway, possibility of malignant hypertension, and a brief history of current symptoms and onset.
- A "quick registration" is done and an ID band placed.
- The unit secretary enters an order for the CT and notifies radiology and the on-call neurologist.
- A patient care technician (PCT) gathers a bed, oxygen, a hospital monitor, and a gown to bring to radiology.
- EMS, nurse, and PCT personnel bring the patient to CT on the EMS stretcher.
- Upon completion of the scan, EMS and staff transfer the patient to an emergency department room. The phlebotomist meets them there for the Code Stroke Panel blood work.
- Appropriate care ensues.

At all times during this process, the patient and family are educated and reassured regarding what is happening and what to expect.

■ Outcomes

- Door-to-CT mean time was reduced from 28 minutes in the second quarter of 2012 to 3.8 minutes in the fourth quarter of 2013.
- Door-to-CT range was reduced from five to 146 minutes in the second quarter of 2012 to one to nine minutes in the fourth quarter of 2013.

Reducing Catheter-Associated Urinary Tract Infections: One Organization's Journey to Better Outcomes

St. Luke's Cornwall Hospital, Newburgh

■ Lessons Learned

Communicate the mission and goals of the initiative using a message that is brief and understandable for the key stakeholders.

Provide feedback about progress at regular intervals.

Celebrate successes.

■ Contact

Mary Kelley
Vice President, Quality Management
(845) 568-2334
mkelley@slchospital.org

Margaret Deyo-Allers
Assistant Vice President, Clinical Practice and Cardiac Services
(845) 568-2665
mdeyo@slchospital.org

■ Project Description

In 2011, St. Luke's Cornwall Hospital incurred 56 catheter-associated infections, 20 of which were attributable to an intensive care unit (ICU) stay. The rates of infection exceeded the National Healthcare Safety Network (NHSN) benchmarks for both ICU and medical-surgical areas, and addressing this patient safety concern became an organizational priority.

In 2012, the organization modeled the Institute for Healthcare Improvement and recommendations of the New York State Partnership for Patients by implementing key elements:

- a policy that defined appropriate indication;
- a protocol that framed removal procedure;
- daily assessment of catheter need embedded in the electronic medical record;
- weekly prevalence studies for monitoring;
- education for best practice care and maintenance;
- awareness campaigns to bring this patient safety focus to the forefront of all clinical staff; and
- recognition (and appreciation) of success.

■ Outcomes

- From 2011 to 2013, the organization achieved a 73% reduction in catheter-associated infections.
- One high-volume telemetry patient care unit boasts an entire year (2013) without an infection.
- The observation unit had only one infection for the entire year of 2013.
- Once the source of most urinary catheter insertions, the emergency department (ED) has decreased the number of catheters that are inserted during ED visits as a matter of course.
- A paradigm shift has occurred with respect to the way staff members view the utilization of urinary catheters.

Hospital Engagement Network Fall Reduction Project

St. Mary's Healthcare, Amsterdam

■ Lessons Learned

Include all disciplines in process improvement.

The increase in assisted falls due to the Safety Trumps Privacy program is related to the observed decrease in the number of falls with injury.

Debriefing is an essential process improvement tool.

■ Contact

William J. Cameron, M.S.H.C.A., R.N.,
C.P.S.O.
Patient Safety Officer/Director,
Clinical Risk Management
(518) 770-7592
cameronw@smha.org

■ Project Description

This project involved the implementation of the following strategies:

- Safety Trumps Privacy program requiring staff to keep the at-risk patient in direct physical contact when toileting and ambulation;
- gait belts distributed and education on their use for all certified nurse aides;
- staff identified the use of non-skid shelf liner to assist in prevention of sliding chair injuries;
- visual identification of patients at high risk: signage for high risk for falls, bed/chair alarm, and Safety Trumps Privacy;
- communication of patient fall risk status added to unit/shift huddles and to all hand-off reports;
- monthly newsletters dedicated to fall risk and prevention;
- education for patients and families: letter and Safety Trumps Privacy given to all identified patients/families;
- evaluate bed exit alarm technology identified as often not reset by non-nursing staff due to lack of knowledge of bed alarm activation—interventions included bed alarm signage and device use re-education;
- implementation of a simplified chair exit alarm;
- monitor progress monthly: unit-specific fall rates tracked;
- all order sets prescribing of hypnotics/benzodiazepines: influences on falls directed medical staff to endorse prescribing lowest doses for patients > 65; developed a hard stop of administering all sleep medications after 10 p.m.; and
- adoption and spread of a fall debriefing tool introduced with the expectation debriefs be completed immediately after all falls to review for quality improvement, ongoing debrief review and classification as to preventability of the event, definition of preventable: “the element missed that could have prevented the occurrence.”

■ Outcomes

- The facility exceeded the goal of 40% reduction by December 2013 with a 100% reduction in falls with serious injury.
- There have been no falls with serious injury for 13 months.
- Preventable falls decreased from 45% to 30% of all falls.
- A debriefing has been conducted for 75% of all falls.

Flu Vaccine Challenge

Schuyler Hospital, Montour Falls

■ Lessons Learned

Using a team is critical, versus a single champion, for successful implementation of the action plan.

Education is important.

Regular updates are important and should include feedback from department heads.

■ Contact

Jill Gaylord, R.N.
Outcomes Manager/
Employee Health Nurse
(607) 535-8639, ext. 2118
gaylordj@schuylerhospital.org

■ Project Description

To reach improved influenza vaccine participation, Schuyler Hospital enlisted a team of three enthusiastic nurses. They began by sending out an influenza questionnaire to assess current participation with the flu vaccine program. The 40 responses allowed the hospital to target educational needs and develop an action plan, which was presented and approved by the administration, medical, and infection prevention committees.

Multiple flu clinics were set up at varying times and places to increase access to staff. The team developed a traveling flu clinic and visited all departments on and off campus. A competition between units created interest and awareness. Thermometer graphs were posted in a centrally located area showing the progress of the challengers. The team stuffed paychecks with educational information and posted educational information in all departments. The team met employees in groups and one-on-one. All employees that refused vaccination had to complete and sign a declination form. Weekly updates were sent to all participants as well as one-on-one education for personnel who declined the vaccine. The employee monthly newsletter contained flu facts during the flu season. To celebrate the success of both teams, the hospital entered all participants in a drawing for a grand prize.

■ Outcomes

- Overall risk was decreased by increasing vaccination compliance, improving patient safety.
- Employee understanding and awareness of influenza and the vaccine increased.
- Participation improved from 75% in 2011 to 98.5% in 2013.
- Vaccination improved from 56.5% in 2011 to 93% in 2013.

Heart Failure Readmission Reduction Initiative

South Nassau Communities Hospital, Oceanside

■ Lessons Learned

Early identification of heart failure patients is essential.

Erase “non-compliant” from provider vocabulary.

Engage a multidisciplinary team by relating patient stories and outcomes, not just charts and numbers.

■ Contact

Peter Fromm,
M.P.H., R.N., F.A.H.A., F.A.C.H.E.
Service Line Administrator,
Cardiology Services
(516) 632-3695
pfromm@snch.org

■ Project Description

The goal of this project is to reduce preventable hospital admissions for heart failure through improved patient self-management reducing frequency, intensity, and sequela of disease.

Objectives include:

- Convince patients to weigh themselves daily, record weight, and interpret results using red, yellow, and green zone chart through forced practice in the hospital.
- Influence dietary decisions to avoid sodium and choose healthy foods.
- Ensure that patients understand the importance of taking medication as prescribed.
- Ensure that patients see a provider within seven days of discharge from the hospital.
- Identify eligible patients who may benefit from cardiac resynchronization therapy.
- Determine that a patient has heart failure earlier in the inpatient stay.

South Nassau Communities Hospital:

- created a heart failure surveillance program, including a full-time registered nurse;
- implemented a best practice heart failure bundle;
- created a partnership with area skilled nursing facilities to improve heart failure care;
- created patient education tools and implemented “teachback”;
- partnered with community physicians to ensure patients are seen within seven days; and
- implemented a call-back program to ensure patients are able to self-manage.

■ Outcomes

- Overall 30-day readmissions for heart failure decreased from 25.9% to 15.2% in less than two years.
- Improved patient self-management of weight, medications, and diet as evidenced by patient callback data.

Supporting Patient Outcomes Through a Redesign of Adult Emergency Response Services

Strong Memorial Hospital, Rochester

■ Lessons Learned

Multidisciplinary coordination of emergency response programs is critical in improving patient outcomes.

The rapid response team is crucial in impacting patient outcomes.

Effective detection of at-risk patients is facilitated through using rapid responses as a teaching opportunity on an ongoing basis.

■ Contact

Mark Ott, M.S., R.N., N.E.A.-B.C.
Senior Nurse Manager for Quality and
Safety, Adult Critical Care
(585) 275-5924
mark_ott@urmc.rochester.edu

■ Project Description

As part of an ongoing effort to improve patient safety, Strong Memorial Hospital undertook an initiative to review the current adult emergency response system. Based upon an initial evaluation, Strong determined opportunities existed to improve the design/coordination of emergency response and to improve the identification of at-risk patients and provide focused interventions that could entirely prevent the arrest situation.

The program began with an assessment of rapid response utilization and outcomes and identified significant opportunities for growth. The rapid response system had been based out of the intensive care units and responses based on patient type (medical vs. surgical). It was determined that creation of a true team could allow for greater standardization of responses and improve utilization rates. Under the new model implemented in August 2011, utilization of the rapid response team grew quickly with general care staff expressing increased satisfaction. Efforts to focus on improved cardiac/respiratory arrest care were multidisciplinary. Mock code training was enhanced to concur with American Heart Association guidelines, improve team communication, and better define role expectations for team members. Rapid response was identified as having a consistent role in arrest responses: they facilitated efforts such as family presence in the arrest situation. Partnering with in-house emergency response training classes provided an opportunity to provide a greater number of frontline staff with information regarding actual arrest practices and improved identification of potential barriers and possible solutions.

■ Outcomes

- There was a 1,175% increase in rapid response team calls: 3.09 calls/1,000 patient discharges to 39.03 calls/1,000 patient discharges.
- Cardiac/respiratory arrests were reduced 24.83% house-wide.
- Cardiac/respiratory arrests on general care floors were reduced 21.08%.
- Strong Memorial Hospital received the American Heart Association Get with the Guidelines®—Resuscitation Gold Quality Achievement Award in 2013.

Catheter-Associated Urinary Tract Infection Prevention

United Memorial Medical Center, Batavia

■ Lessons Learned

There is a direct correlation between Foley catheters being removed and the rate of infection.

This is a collaborative effort between physicians and nurses.

It is important to keep track of monitoring.

■ Contact

Jennie Beverly
Community and Patient Relations
Coordinator
(585) 344-5411
jbeverly@ummc.org

■ Project Description

Nursing staff and healthcare providers evaluated the process and documentation involving Foley catheters and the rate of infection. Staff members and providers developed an automatic removal protocol for Foley catheters being removed by post-operation, day two.

The surgical committee focused on implementing core measures for removal criteria.

Tracking in the electronic medical record was also developed to provide consistent reporting.

■ Outcomes

- Compliance with Surgical Care Improvement Project core measures increased to 100% by March 2013.

Implementing Nurse-Led Interdisciplinary Team Rounds to Improve Outcomes for Hospitalized Patients

Unity Health System, Rochester

■ Lessons Learned

Once team members understand and buy into the process, adoption and replication are feasible; however, training and reinforcement for all participants cannot be overstated.

Equally important is administrative support, including identifying where and when meetings will be held, identifying nurse team leaders, and providing clarity regarding follow-up.

Positive reinforcement is imperative.

■ Contact

Katie O'Leary, R.N., B.S.N., C.P.H.Q.
Director, Clinical Quality
and Patient Safety
(585) 723-7133
koleary@unityhealth.org

■ Project Description

Nurses were empowered to lead interdisciplinary care team rounds and charged with ensuring follow-up on initiatives identified during those rounds. This project was initially promoted by leadership personnel from nursing, medicine, and allied health team members, and subsequently widely supported. Nurses were designated as team leaders in recognition of their existing role in fostering communication, collaboration, and coordination, and by their omnipresence on hospital units. More importantly, their selection was guided by the hypothesis that explicit leadership by nurses would improve patient outcomes.

In addition to designating nurse team leaders, this project entailed daily 30-minute unit-based rounds that were held at appointed times. Patient-specific goals were adopted, reviewed, and revised. Barriers to achieving these goals were identified and resolved in a timely manner. In this setting, team members acquired a broader venue for sharing their expertise, which presented teaching and learning opportunities previously not available. Patients were involved in the team discussions after the rounds, which not only promoted quality care, but satisfaction with that care.

■ Outcomes

- Overall length of stay decreased by 0.7 day.
- Achieved 100% compliance with congestive heart failure education and 90th percentile for Hospital Consumer Assessment of Healthcare Providers and Systems discharge instructions.
- Immunization compliance improved (pneumococcal 93%; influenza 92%).
- There were lower rates of certain hospital-acquired conditions, including pressure ulcers (e.g., 1.1/1,000 vs. 2/1,000 patient days), and *C. difficile* infections (e.g., 9.7/10,000 vs. 13.9/10,000 patient days).
- Care variation was reduced through utilization of pathways for chronic obstructive pulmonary disease, pneumonia, congestive heart failure, and sepsis.

Nurse-Driven Initiatives to Reduce Hospital-Acquired Pressure Ulcers

Winthrop-University Hospital, Mineola

■ Lessons Learned

Incorporate best practices for prevention of HAPUs.

Contributions associated with the committee membership by frontline staff were invaluable in terms of discussing successes, opportunities for improvement, and recommendations.

Incorporate unit-based SWAT to evaluate, standardize, and educate regarding best practices.

Review of all HAPUs at Stage 3 or greater using mini root cause analysis tool to assist in future prevention.

■ Contact

Eve S. Dorfman,
M.A., R.N., N.E.A.-B.C.
Administrator for Nursing Systems
(516) 663-2798
edorfman@winthrop.org

■ Project Description

Winthrop-University Hospital leadership named the reduction and prevention of hospital-acquired pressure ulcers (HAPUs) as a top performance improvement initiative. This initiative has included participation in all clinical areas including inpatient nursing, the emergency department, and perioperative services. Nurses at this facility have implemented multiple nursing-centered initiatives in an effort to successfully reduce the incidence and prevalence of HAPUs to improve quality of care and reduce costs. Initiatives include the creation of unit-based skin and wound assessment teams that perform weekly prevalence studies. A mini root cause analysis tool was created with input from frontline staff to assist in further prevention. All tools for HAPU prevention are easily accessible to all frontline staff via the hospital intranet. A hospital-wide committee with physicians, registered nurses, physician assistants, nurse practitioners, medical coders, physical therapists, and administrators was formed at the start of the initiative. There has been tremendous administrative support regarding this initiative, including a one-time, house-wide replacement of all existing beds with new state-of-the-art beds with surfaces that have evidence-based outcomes in the prevention of pressure ulcers.

■ Outcomes

- A downward trend in the HAPU prevalence was achieved.
- The percentage of HAPUs at Stage 2 or greater has decreased from 3.05% in the third quarter of 2011 to 0.49% in the third quarter of 2013.

Providing Specialty Care

Suicide Prevention, Education, and Awareness

Adirondack Medical Center, Saranac Lake

■ Lessons Learned

The need to provide care for the mental health of a patient is as important as providing for the physical health.

It is important to maintain awareness of the potential for suicide in a patient with a history of mental health issues and use evidence-based suicide severity scale beginning in the emergency department.

Increase opportunities to educate the family and community members about suicide awareness and prevention.

■ Contacts

Kristina Hybicki, L.C.S.W.
Social Worker,
Inpatient Psychiatric Center

Linda McClarigan,
R.N., B.S.N., M.S.H.A.
Chief Nursing Officer
(518) 897-2256
lmccclarigan@adirondackhealth.org

■ Project Description

In fall 2012, Adirondack Medical Center's inpatient psychiatric unit experienced a tragic event; less than 24 hours after discharge, a patient committed suicide at home. Recognized as a sentinel event, an investigation and root cause analysis was completed immediately. The result of the investigation led to the implementation of multiple best practices that included:

- use of the Columbia Suicide Severity Rating Scale;
- revised discharge policies and procedures to include a patient safety plan; and
- the patient handbook was revised and used as an educational tool for patients upon admission.

Training and re-education programs were conducted for the staff of the psychiatric unit and special community awareness programs were conducted.

As a result of this incident, hospital nursing leadership became more involved with the American Foundation for Suicide Prevention (AFSP), New York State Office of Mental Health, and the Psychiatric Services and Clinical Knowledge Enhancement System (PSYCKES) initiative for reducing readmissions and best practices for discharging patients. The hospital also joined the New York State Regional and Franklin County Suicide coalition to collaboratively increase awareness of the mental health population and work toward removing the stigma that currently exists around suicide in the community. Lastly, the inpatient unit participated in the local AFSP "Out of the Darkness" suicide awareness walk. Their efforts raised more than \$1,800 to be used to promote suicide awareness and prevention.

■ Outcomes

- There was one suicide post-discharge in 2012; zero suicides post-discharge in 2013.
- The hospital participated in the New York State PSYCKES project to reduce readmissions and improve quality outcomes following discharge. The average re-admission rate for 2013 was 1.5%.
- The Columbia Suicide Severity Rating scale policy and procedure was implemented with an emphasis on patients admitted through the emergency department.
- A safety planning process for the discharge of patients was developed and implemented.

Managing Behaviors Without Medication: Providing Care to Special Populations

Our Lady of Consolation Nursing and Rehabilitative
Care Center, West Islip

■ Lessons Learned

The culture of the facility regarding the use of antipsychotic medication had to change. Staff were educated and learned that these types of medications should only be used for the management of psychotic-related episodes.

Dementia-related behaviors can be managed through the use of non-pharmacological interventions.

The interdisciplinary team approach included physicians, psychologists, psychiatrists, and staff from all levels, from clinical to housekeeping. It also depended upon the input from the resident and family on the resident's history, lifestyle, culture, and other variables that impact behavior. This information allowed for interventions to be customized and centered around the resident's individual needs and proved more successful than the use of medication.

■ Contact

Patrick M. O'Shaughnessy,
D.O., M.B.A., F.A.C.E.P.
Senior Vice President of Medical
Affairs and Chief Medical Officer
(516) 705-3806
patrickm.o'shaughnessy@chsli.org

■ Project Description

In early 2012, the nursing home's clinical team initiated a Lean Six Sigma project to reduce the use of antipsychotic medication, with a special emphasis on residents with a dementia diagnosis. A multidisciplinary approach was implemented, which included all staff from clinicians to housekeepers, physicians, psychologists and psychiatrists, and included the input of the resident and family. Policies and procedures were updated to align with the Centers for Medicare and Medicaid Services (CMS) and New York State Department of Health regulations and to reinforce how antipsychotic medications should be used.

The nursing home adopted the CMS directive to decrease antipsychotic medication use rate to 12%. A multidisciplinary team was assembled to identify non-pharmacological interventions, update the policies and procedures, upgrade behavioral documentation requirements, and educate physicians and staff. The culture of the facility was transformed over the year through extensive training across all staff levels, and is still ongoing. The nursing home was successful in not only discontinuing antipsychotic medications but also performing gradual dose reductions of drugs for residents. The goal was met by reaching an antipsychotic medication use rate of 11.7% in 2013.

■ Outcomes

- At the initiation of this project in 2012, the nursing home's antipsychotic usage rate was at 14.4%, below the national benchmark of 21.5%.
- The nursing home's antipsychotic medication use decreased from 15.2% in 2011 to 11.7% in 2013.
- The decrease from 2011 to 2013 represents a 23.5% overall improvement of decreased antipsychotic medication usage.
- At 11.7%, the nursing home remains below the CMS directive to decrease antipsychotic medication to equal or less than 12%.

Reducing Unnecessary Antipsychotic Medications in the Management of Dementia-Related Behaviors in the Long-Term Care Setting

Coler Goldwater Specialty Hospital and Nursing Facility,
Manhattan

■ Lessons Learned

At higher rates of antipsychotic use, facility factors played a greater role compared to the patient factors as determinants of antipsychotic medication use.

Even when the recurrence of BPSD is high after the medication discontinuation (33%), by using objective parameters to start and to discontinue the medication, it is possible to achieve a sustained low prevalence of antipsychotic use.

Empathic support and education to the frontline staff provided by the psychiatrists regarding the daunting nature of BPSD and the limits of medication benefits correlated highly with reduction in antipsychotic use.

■ Contact

Ravindra Amin, M.D.
Chief of Psychiatry
(718) 319-6852/(646) 686-1008
ravindra.amin@nychhc.org

■ Project Description

An opportunity was realized in 2009 to improve safety and the quality of care of nursing home residents with dementia by reducing unnecessary antipsychotic medications in the management of behavioral and psychological symptoms of dementia (BPSD). More than 50% of cases with dementia present with severe BPSD, with consequent distress to the patient and the caregivers. There are no approved medications to treat BPSD, but literature supports cautious, targeted, symptoms-oriented, short duration use of antipsychotic medications. The efficacy of these medications is modest at best and adverse effects and increased mortality offset advantages.

Launched as a facility-wide initiative in January 2011 after a successful pilot project over preceding two years, the project realized significant and stable gains over three years in the primary outcome measures of antipsychotic medication use in dementia residents.

■ Outcomes

- The percent of the facility's long-stay residents who received an antipsychotic medication was 11.6%, compared to the national and New York State rates of 21.8% and 19.4%, respectively, in September 2013 as reported by the Centers for Medicare and Medicaid Services.
- Prevalence of antipsychotic medication use in dementia residents steadily decreased from 38% in January 2011 to 13% in June 2013.
- An 18-month retrospective review of the antipsychotic use in dementia residents revealed that discontinuation was attempted for 94.7% (161/170) of the residents who received it. Of these, 85.7% (138/161) of discontinuations were successful, i.e., the target BPSD symptom did not recur for a minimum of two months.

The Program to Address Substance Abuse, Dependence, Withdrawal, and Trauma Injury Prevention

Lincoln Medical and Mental Health Center, Bronx

■ Lessons Learned

Leadership support and commitment is of paramount importance for effective implementation.

Implementing a comprehensive program requires interdisciplinary commitment, collaboration, and ongoing education.

Developing and tracking process and outcomes measures is important to address successes and opportunities for improvement.

■ Contact

Abdul Mondul, M.D.
Assistant Professor of Clinical
Medicine and Associate Medical
Director, Patient Safety Officer
(718) 579-5280
abdul.mondul@nychhc.org

■ Project Description

A one-year baseline data review (2010-2011) at Lincoln Medical and Mental Health Center revealed that 2,172 patients were admitted with substance abuse-related problems or complications; of these, 1,760 were admitted to medicine service and 433 required management in the intensive care unit. The majority of these involve alcohol dependence, especially acute withdrawal syndromes. In this same period, 2,379 patients were treated and released from the emergency room for drug abuse. The facility identified opportunities to improve the early diagnosis, monitoring, and treatment of alcohol withdrawal as well as offering specialized counseling and linkage to substance abuse programs through transitions of care. In addition, the program provides staff education and established community links, outreach activities, and injury prevention for trauma cases; and collaboration with care management program to reduce readmissions.

■ Outcomes

- Patient volume: exponential increase in referral volume and visibility of the program > 800 patients per quarter.
- Admissions to intensive care unit due to withdrawal syndromes: Early identification and treatment of withdrawal has decreased the need/volume for intensive care admissions by 45% comparing 2010 to 2012 and 2013.
- Counseling was accepted by 98% of patients.
- Rehabilitation acceptance: increased referral, access, and acceptance to rehabilitation programs by patients with substance use disorders, with up to 59% accepting rehabilitation.
- In 2013, 340 patients were admitted to detoxification units, 40 to residential programs, and 960 to other rehabilitation modalities.
- Outreach campaigns for the community (180 participants in two events in 2013).
- Trauma risk reduction counseling conducted for 167 patients admitted for trauma in 2013.

Improving Very Low Birth Weight Infant Outcomes By Standardizing Early Nutrition

New York University Langone Medical Center, Manhattan

■ Lessons Learned

Use of NIA increased nutrition awareness in the NICU; nutrition outcomes became a regular discussion on rounds.

NIA improved feeding tolerance through the use of trophic feeds and long bolus feeds. This helped reduce TPN, central line days, and TPN complications.

NIA improved calorie and protein delivery by reducing days on TPN, concentrating TPN when feeds were advancing, earlier fortification of breast milk, and longer use of fortifier. This all helped reduce the incidence of growth failure after birth.

■ Contacts

Martha Catherine Caprio
Associate Professor of Pediatrics,
Medical Director, Tisch NICU
martha.caprio@nyumc.org

Karen Ronan, R.N., N.M.
Neonatal Nurse Manager, NICU
karen.ronan@nyumc.org

Pradeep Mally
Associate Professor of Pediatrics,
Chief Division of Neonatology
pradeep.mally@nyumc.org

Priscilla Barr, R.D.N.
Nutritionist/Dietitian, NICU
priscilla.barr@nyumc.org
(212) 263-7477

■ Project Description

In 2010, New York University Langone Medical Center's neonatal intensive care unit (NICU) participated in a quality collaborative improvement project in association with other NICUs in the state with a goal to improve nutrition outcomes in neonatal infants. Following analysis of nutrition practices and outcomes, the medical center found the unit lacked standardization in how infants are fed. Many infants were on intravenous total parenteral nutrition (TPN) long term and many experienced growth failure after birth.

With this knowledge, the medical center reviewed the literature and developed an evidence-based nutrition protocol: Nutrition Initiative Algorithm (NIA). It detailed how and what to feed premature infants based on weight, and how to adjust TPN while feeds were advancing. Data were collected over two years and the following outcome measures were compared: TPN days, central line days, TPN complications, and growth parameters. Rates of necrotizing enterocolitis (NEC), a devastating neonatal gastrointestinal complication, were also examined to make sure feeding changes did not increase these rates. Nutritional products (TPN formulations, infant formulas, or human milk fortifiers) and our clinical practices for TPN initiating and discontinuing TPN remained unchanged during this time to see if this initiative had an impact on infant outcomes.

■ Outcomes

- TPN days and central line days decreased.
- The number of infants born appropriate for gestational age who are discharged small for gestational age decreased.
- Incidence of NEC decreased to 0% in 2012, 2013, and 2014.
- Incidence of central line infection decreased.

Palliative Care— A Mind, Body, Spirit Approach

Southampton Hospital

■ Lessons Learned

The hospital underestimated the value and contribution of daily visits from the certified hospital chaplain, and the impact of spiritual considerations in influencing the patient's journey.

To be effective, you must demonstrate value to the patient's primary care physician.

Education is essential, as palliative care is not fully understood among all caregivers.

■ Contact

Patricia A. Darcey,
R.N., M.S., N.E.-B.C.
Chief Nursing Officer,
Vice President, Patient Services
(631) 726-8323
pdarcey@southamptonhospital.org

■ Project Description

In 2010, three nurses questioned the meaning of “comfort care” and, deciding to explore the world of palliative care, started Southampton Hospital on a journey that would change the way the facility delivers care. The program, supported by administration and the board of directors, and assimilated into the graduate medical education program, was built around a core team of professionals with the patient at the center. Complementary therapies such as massage, Reiki, acupuncture, meditation, guided imagery, and neuromuscular manipulation are offered and accepted by many patients.

Any hospital employee, physician, or patient/family member may request palliative care. The registered nurse coordinator obtains an order from the patient's physician and the patient is seen within 24 hours. Patient rounding occurs daily, with weekly clinical meetings and monthly team meetings. In addition, patient/family meetings are routinely held, providing a forum for communication and support. Medical residents rotate through the service on a monthly basis and are overseen by one of Southampton Hospital's five palliative care board-certified attending physicians. The resident works closely with the palliative care registered nurse certified by the Oncology Nursing Society and board certified integrated nurse coach.

Building the program involved creating documentation tools, algorithms, policies, performance improvement indicators, and audit tools. In August 2013, the program was awarded certification by The Joint Commission and recognized as a best practice.

■ Outcomes

- Enhanced coordination of care through patient participation in the palliative care program doubled from 2011 to 2013.
- Symptom management focused special attention on pain control.
- Integration of complimentary therapies (holistic approach) increased from 23 in 2011 to 254 in 2013.
- A positive patient experience increased 12%.

Selection Committee

■ **Nancee Bender, R.N., Ph.D.**, is a Continuous Service Readiness (CSR) and domestic consultant for Joint Commission Resources, Inc. She previously served as a professor in an academic faculty appointment at the University of Rochester School of Nursing. While pursuing her research interest in the coordination of healthcare and performance improvement for quality, cost, and patient safety outcomes, she taught leadership, patient safety in health systems, population health, ethics, public policy, and evidence-based quality improvement practices in healthcare. Dr. Bender served in several leadership roles before her faculty appointment at the University of Rochester, including emergency department clinical specialist and administrator of a hospital-based ambulatory care center. She has been a liaison to national professional, provider, and advocacy associations and a convener of advisory panels drawn from these groups. She is experienced in the creation and implementation of organization-wide strategic project plans, as well as budget development and accountability. She has extensive experience as a healthcare administrator and strong financial, organizational, interpersonal, and team management skills, all based on a philosophy of continuous improvement. Dr. Bender received her Bachelor's and Master's degrees in nursing from the University of Michigan and her Doctorate in Philosophy from the University of Rochester.

■ **Barbara Crawford, R.N., M.S.**, is the Vice President for Quality and Regulatory Services, Behavioral Health Services and Performance Excellence for Kaiser Foundation Hospitals and Health Plan, northern California. She is responsible for coordinating the overarching strategic direction for the behavioral health, quality, patient safety, risk management, licensing, and regulatory agency programs for the approximately 3.5 million members of Kaiser Foundation Health Plan and 21 Kaiser Foundation hospitals. She has authored or coauthored numerous articles on clinical performance improvement and has represented the Kaiser Permanente performance improvement journey in a variety of venues both nationally and internationally. Ms. Crawford has worked in a variety of staff and management positions within Kaiser Permanente, including Staff Registered Nurse, Assistant Director of Inpatient Nursing, Quality Leader, and Chief Operating Officer. Before working with Kaiser Permanente, she worked as a cardiac surgery/ cardiac transplant nurse and has experience in non-profit as well as university-based medical centers. She received her Bachelor of Science degree in Nursing from California State University, Fullerton, and her Master of Science degree in Nursing Administration from the University of California, San Francisco. Ms. Crawford is Board Certified as a Nurse Executive, Advanced, by the American Nurses Credentialing Center.

■ **Andrea Kabcenell, R.N., M.P.H.**, is Vice President at the Institute for Healthcare Improvement (IHI), where she serves on the research and demonstration team and leads a portfolio of programs to improve performance in hospitals. Since 1995, she has directed Breakthrough Series Collaboratives and other quality improvement programs, including Pursuing Perfection, a national demonstration funded by the Robert Wood Johnson Foundation, designed to show that near perfect, leading-edge performance is possible in healthcare. Before joining IHI, Ms. Kabcenell was a senior research associate in Cornell University's Department of Policy, Analysis, and Management, focusing on chronic illness care, quality, and diffusion of innovation. She also served for four years as Program Officer at the Robert Wood Johnson Foundation. Ms. Kabcenell received her undergraduate degree and graduate degree in public health from the University of Michigan.

■ **Carol Levine** is the Director of the Families and Healthcare Project at the United Hospital Fund, which focuses on developing partnerships between healthcare professionals and family caregivers, especially during transitions in healthcare settings. Before joining the Fund in 1996, she directed the Citizens Commission on AIDS in New York City from 1987 to 1991, and The Orphan Project, which she founded, from 1991 to 1996. As a senior staff associate of the Hastings Center, she edited the *Hastings Center Report*. Ms. Levine is the editor of *Always on Call: When Illness Turns Families into Caregivers* (2nd ed., Vanderbilt University Press, 2004); co-editor, with Thomas H. Murray, of *The Cultures of Caregiving: Conflict and Common Ground Among Families, Health Professionals, and Policy Makers* (Johns Hopkins University Press, 2004); and editor of *Living in the Land of Limbo: Fiction and Poetry about Family Caregiving* (Vanderbilt University Press, 2014). In 1993, Ms. Levine was awarded a MacArthur Foundation Fellowship for her work in AIDS policy and ethics. She was named a *WebMD* Health Hero in 2007. In 2009, Ms. Levine was named a Purpose Prize fellow, an honor for social entrepreneurs over age 60 who are using their experience and passion to take on society's biggest challenges. She received her undergraduate degree from Cornell University, and a Master of Arts degree from Columbia University in public law and government.

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