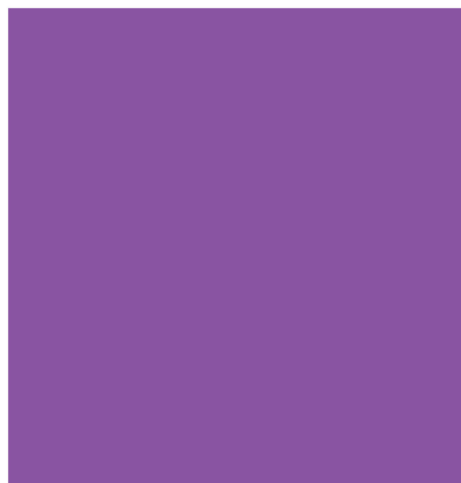
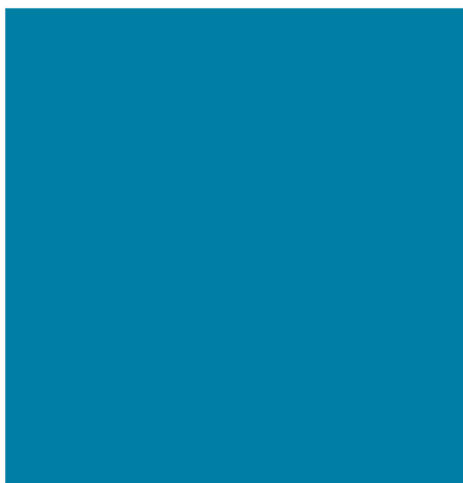


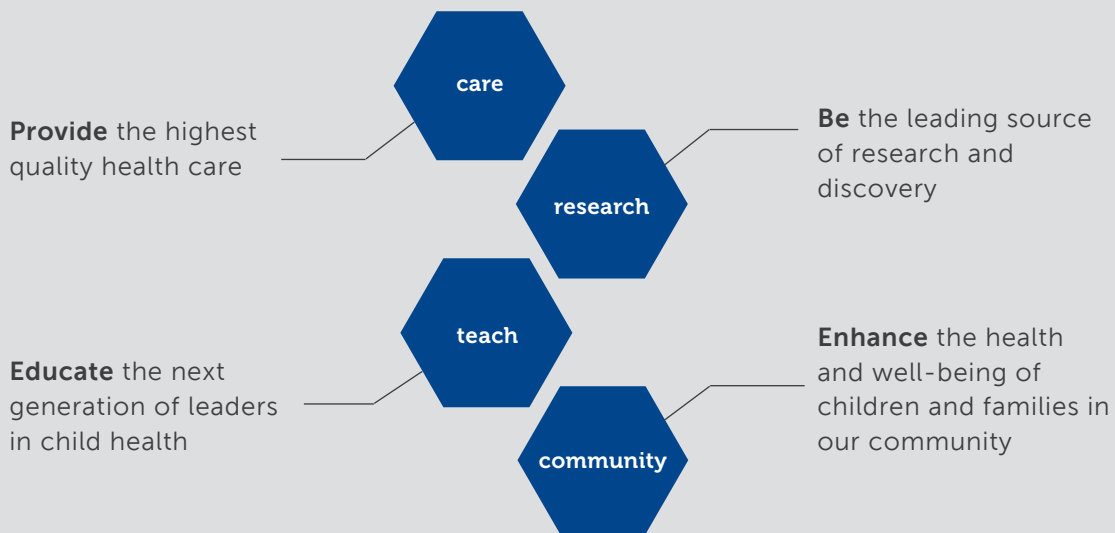
BOSTON CHILDREN'S HOSPITAL

NURSING / PATIENT CARE BIENNIAL REPORT 2014 - 2015



BOSTON CHILDREN'S HOSPITAL

OUR MISSION



OUR VALUES

Excellence: We are committed to achieving and maintaining a standard of excellence in all that we do. We strive to make the patient experience a model of quality care.

Sensitivity: We believe that sensitivity means a compassionate awareness of the stress experienced by our patients and families. We aim to provide solutions to complex situations, and to provide the support that can contribute to the best possible outcome for the child and family.

Leadership: We foster an environment of innovation and discovery, and of individual and team contributions to advancing pediatrics in all areas of our mission.

Community: We are dedicated to fostering community, both within the hospital and in the neighborhoods around us. We welcome and treat many children whose families can't afford health care.

PROFESSIONAL NURSING PRACTICE

OUR VISION

Nurses and interprofessional team members, in partnership with patients, families and colleagues, will serve as global leaders to shape the science and delivery of safe and high quality children’s health care. This will be achieved through the advancement of relationship-based practices in the context of health-focused and healing environments.

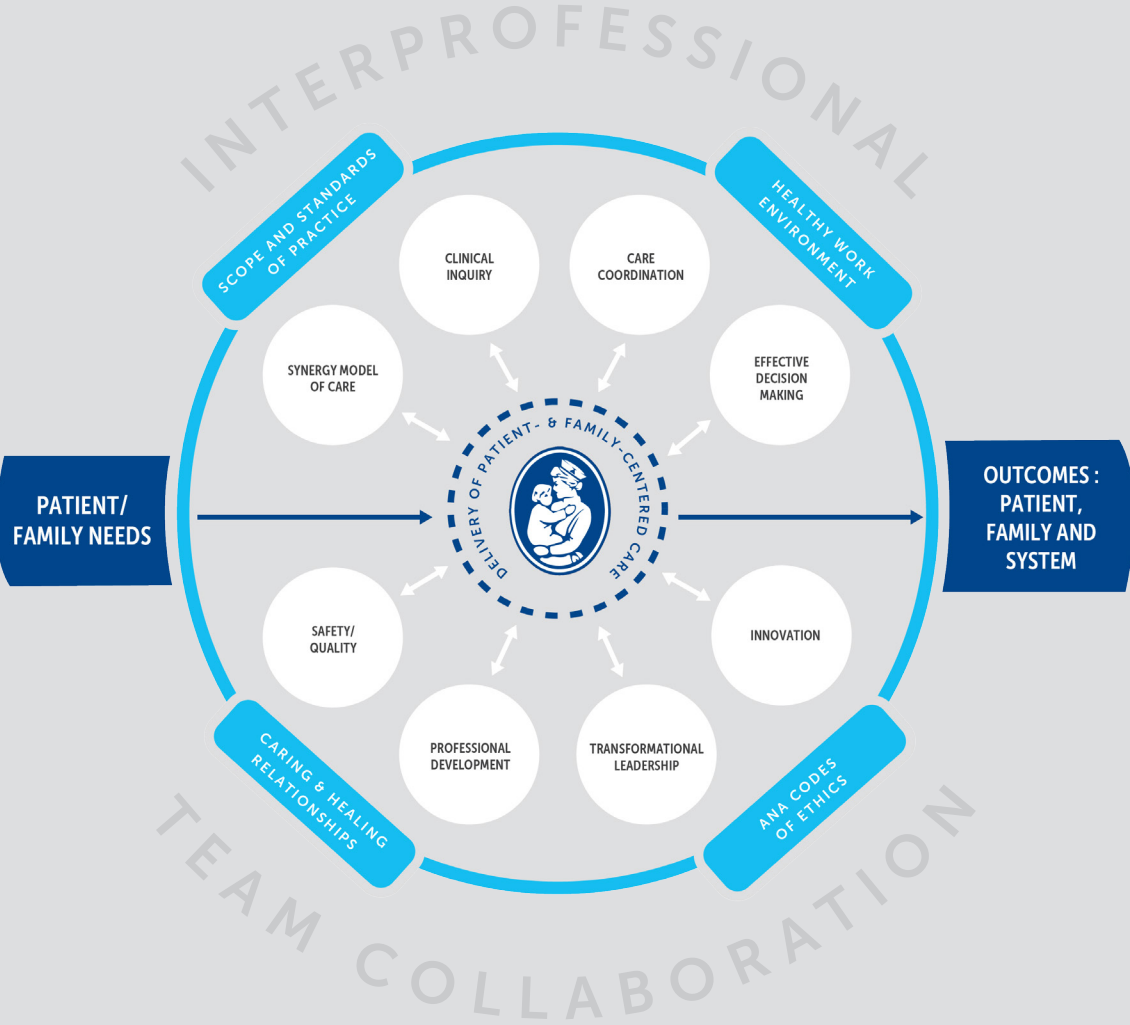


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- Amplify patient/family voice
- Communicate for clarity and civility
- Reduce system complexity and risk via reliability science

- Measure and advance empirical impact
- Apply discovery and evidence to practice
- Care safely and empathetically

- Reshape professional practice models
- Extend frontline staff leadership of self/others
- Promote competency management and career planning

- Design new care environments
- Foster employee safety
- Refine scheduling, staffing and care management

- Inspire and spread nursing/interprofessional collaboration
- Improve outcomes via peer-led processes
- Translate ethical standards



NURSING/PATIENT CARE 2014-2015 GOALS

INTRODUCTION

FROM THE CHIEF NURSING OFFICER



Dear Friends and Colleagues,

Upon Boston Children's Hospital's formation in 1869, the organization's founders noted the imperative to meld advanced medical science with compassionate care. Almost 150 years later, nurses and caregivers in all settings continue to integrate science, innovation and quality with caring

and healing relationships as the foundation for all we do.

Boston Children's Hospital's 2014-2015 Nursing/Patient Care Goals were aligned with the organization's vision and strategic imperatives during 2014. Hospital goals are italicized below with Nursing/Patient Care key initiatives paired to follow:

- *Improving access to services, clinical integration, and care-at-a-distance capabilities*—streamlining appointment scheduling & registration/billing services while delivering care in new ways.
- *Strengthening research, innovation and support of education*—advancing translational research, care delivery innovation & clinical education.
- *Advancing reliability science to eliminate preventable harm to all*—the pursuit of patient and employee safety as a core operating principle.
- *Elevate the voices of patients, families and employees*—measuring and translating patient, family, and employee experience via data.
- *Improving operational effectiveness*—applying both cost and quality value perspectives to enhance operations.
- *Implementing the largest master facilities initiative in the history of the organization*—engaging nurses and colleagues to guide facilities planning in four distinct locations.
- *Strengthening our culture, communication, and transparency*—enhancing how we communicate, learn and work together.

The hospital's strategic planning process created focus and alignment of purpose. Very importantly, our Nursing/Patient Care Goals were also translated through the five American Nurses Credentialing Center (ANCC) model components within the Magnet Recognition Program® to advance key changes (page 4). The articles

and clinical narratives showcase each of the five model components through stories that share how nurses and teams are improving outcomes including: the design of electronic and human systems to measurably improve medication administration safety (page 20); advancing the science of skin integrity through measurement and learning collaboratives (page 29); and, the development of evidence-based weaning protocols to reduce the potential risks associated with the routine use of sedation while intubated (page 33).

Boston Children's Hospital is proud to have first achieved ANCC Magnet designation in 2008 and to have been awarded re-designation in 2012. Our ongoing Magnet journey and focus on "empirical outcomes" points us to measure the impact of our practice to confirm that meaningful change has actually occurred. This report describes our progress in connecting structure and process priorities with outcomes. This work keeps us striving.

Over the prior two years, our extraordinary and committed team of nurses and caregivers has demonstrated strong resolve and a sense of purpose no matter the challenge at hand. This strong body of work has been accomplished with external change and challenges seemingly ever present: Boston Marathon Monday two years ago, a global Ebola epidemic, and Boston's historic and crippling winter of 2015. I am privileged to experience their many contributions each day and inspired as we take on new challenges together. I trust you will be as well.

We also draw inspiration from the outcomes achieved by nurses and healthcare delivery organizations around us each day. I invite you to contact us to propose future points of collaboration to improve the health of children, families and communities near and far.

With appreciation to all,

Laura J. Wood

Laura J. Wood, DNP, MS, RN

*Chief Nursing Officer &
Senior Vice President, Patient Care Operations
Sporing Carpenter Chair for Nursing
Boston Children's Hospital*

INNOVATIONS IN CARE DELIVERY





ANGELICA
SMART N GO



Hospital Security 617-338-0124

BUILDING BRIDGES

Nurses and Social Workers Collaborate to Empower Young Adults

When a patient with a lifelong chronic health challenge steps out of the relatively safe and passive role of being a child into the grown-up “real world,” it is often a complex transition. Taking on adult responsibilities can mean experiencing fear and frustration as well as facing uncertainty—all at a time in life when new horizons loom large.

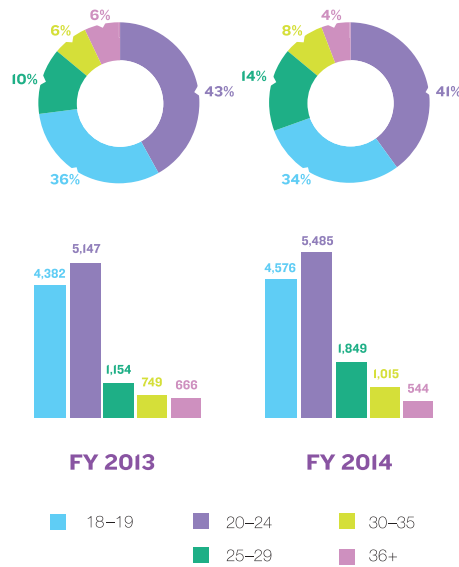
“At pediatric hospitals like Boston Children’s Hospital, our expertise is working closely with parents to ensure that all of their child’s medical, behavioral and educational needs are met,” says Allison Scobie-Carroll, MBA, LICSW, director of Social Work. “We also recognize the importance of promoting independence and effective self-care as adolescents transition to adulthood.”

Young adult transitions represent a growing phenomenon in health care. Thanks to advances in care delivery, the vast majority of children diagnosed with chronic and congenital conditions are surviving into adulthood. As a result, more patients seek care at children’s hospitals well past the age of 18. It is not unusual for someone with a complex congenital heart condition or other conditions requiring multi-specialty care to be seen by their Boston Children’s care team into their 30s.

Challenges Above and Beyond the Illness

While medical treatments have advanced tremendously, interprofessional care teams within a pediatric hospital that treat young adult and adult patients are still evolving. These teams help address key life milestones their patients face, including ensuring success in school, finding a meaningful career and establishing a romantic relationship. Frequently, young adults with chronic health challenges are also

Patient Days by Age 18–36+ Years



The overall number of patient days among Boston Children’s patients ages 18+ increased by 11% from FY13 to FY14.

dealing with mental health issues including depression and anxiety, all of which can impact their ability to take ownership of their care.

“An especially important time is when young adult patients reach the turning point in their lives when they begin to take on a host of responsibilities, such as medical decision-making, managing a

Measuring Empirical Outcomes

“The use of the Transition Readiness Assessment Questionnaire (TRAQ) provides data to design an evidence-based and patient-centric plan of care to improve transitions.”

—Patricia Mantell, MSN, RN, CPHQ, NE-BC

healthy lifestyle, selecting adult health care providers and communicating about what they need,” says Patricia Mantell, MSN, RN, CPHQ, NE-BC, nurse manager in Medicine Patient Services.

These insights led Mantell and Ahmet Uluer, DO, director of Boston Children’s Adult Cystic Fibrosis Program, to launch an innovative program to support the health and transitional care needs of young adults with pediatric-onset chronic diseases, including cystic fibrosis. Known as the Weitzman Fam-

ily Bridges Adult Transition Program, it consists of three components: care coordination to lend support for specific medical and surgical inpatients; a consult service staffed by internal medicine-trained clinicians; and development of services within adult transitional ambulatory care settings.

"A unique aspect of the Bridges program is that it is led by family nurse practitioners (FNPs) who combine experience working within pediatric hospital settings with additional preparation in adult medicine," says Mantell. The program brings together the expertise of bedside nurses, social workers, care managers, respiratory therapists, physical therapists, pharmacists and nutritionists to address the full scope of patients' needs. This interprofessional team meets each week to discuss how to help patients navigate a cascade of ripple effects associated with living with a chronic health challenge, including their ability to meet stated goals, insurance coverage, relationship strains, medication adherence and managing time away from work or school because of a hospital admission or illness.

A Quality of Life Tracking Tool

Along with helping young adults shift their care gradually to an adult care setting, the Bridges program aims to have an immediate impact by partnering with patients to improve their day-to-day quality of life. The team is using a tool called the Transition Readiness Assessment Questionnaire (TRAQ), a validated, patient-centered questionnaire that providers can use to assess a young adult's ability to make appointments, understand their medications and develop other skills needed for a transition to adult care. The tool was co-created by Greg Sawicki, MD, MPH, a Boston Children's pediatric pulmonologist and health services researcher.

In about five minutes, the self-administered questionnaire prompts patients with simple phrases they can use to rate their own skill levels. By completing statements like, "I'm learning to do this: ___," the young adult can identify areas of strength and weakness, which, in turn, helps the Bridges team develop a transitional care assessment and plan.

Another major component of adult care is mental health screening. "The long-term strain of having a chronic illness can create a risk for anxiety and depression," says Danielle Sandage, MSW, LICSW,

a social worker for the Bridges program. Patients are screened on admission for levels of depression and anxiety using validated survey tools such as the Patient Health Questionnaire (PHQ-9) and the Generalized Anxiety Disorder 7-Item Scale (GAD-7). The results from these tools guide interventions for the young adult. The team is investigating the impact of mental health on transition readiness. Early findings suggest male patients may have greater difficulties compared to females with the transition process.

Leveraging Resources

By taking into account patients' psychosocial needs, health status and transition readiness, the team can help young adults tap into resources. This help can include short-term disability and government assistance programs, managing budgets, and connecting patients to charitable foundations that loan medical equipment. The team is also focusing on ways to help patients become better self-advocates. "If they fail to become effectively invested in their health care, they may ultimately face a serious deterioration in their health," says Mantell.

As the Bridges team gathers data, preliminary findings are revealing nuances among patients' needs and abilities that will shape the way the program expands. Mantell is satisfied that their goals in launching Bridges will be met, pointing to patient satisfaction expressed by young adult participants. "My hospital stays have been completely different since the launch of this new service," says a patient in the program. According to another patient, "I'm learning more about my disease — the good and the bad — which is what I want. I have a much better understanding of what it will be like to live with this chronic disease. The Bridges team shares their knowledge and knowledge gives me hope."

Teen Advisory Committee Publishes Guide to Adult Care

The Weitzman Family Bridges Adult Transition Program draws on the input and insights of those who are most invested: young adult patients themselves. Boston Children's Teen Advisory Committee just published a guide called "One Step at a Time: Your Guide to Making the Move from Pediatric to Adult Care" to help teens as they transition to adult care providers. This nursing and interprofessional committee worked on the project for two years and brings together evidence-based lessons they learned through qualitative analysis of interviews with clinicians in both pediatric and adult care settings.

COMMUNITY-FOCUSED CARE COORDINATION

Reducing System Complexity by Closing Primary Health Care Gaps

"Continuity of clinical care is critical, especially for children with complex conditions," says Tami Chase, RN, nurse manager of Primary Care at Boston Children's Hospital's Martha Eliot Health Center (MEHC).

As patients are discharged with more complex health needs than ever before, they require more frequent care between visits and risk gaps in care coordination. The logistics to organize this care can be daunting. It involves connecting specialists employed with different hospitals, organizing visiting nurses, contacting community agencies and school nurses, and bringing the team together with families to create a support system.

Catching Care Gaps

"Nurses oversee complex care coordination elements that can fall through the cracks. Examples include obtaining insurance authorization for medications, making sure parents are educated about treatments, ordering supplies, and confirming follow-up appointments," says Maurice Melchiono, MS, RN, FNP-BC, NE-BC, director of Ambulatory Medicine Programs and MEHC at Boston Children's.

At Boston Children's, that's no small feat: The hospital has 174 outpatient clinics that see more than 650,000 patients a year. Nurses throughout these clinics are involved in numerous initiatives connected to the hospital's Integrated Care Program which aims to make care coordination more systematic, tailor the program to patient and family needs, and to guide care delivery to the most appropriate setting.

Registered nurses in Primary Care at MEHC often face a set of key challenges. These challenges include coordinating care for local families in a wide range of settings, such

as neighboring low-income housing developments and for children in traditionally underserved areas of Boston. "Our patients have complex medical and mental health condi-

tions, see many specialists and need our leadership to design effective systems," says Chase.

Teaming Up for Effective Follow-up

Like many primary health care centers, MEHC noted organizational and resource needs. It has now formed an interprofessional care coordination team to address these gaps while enhancing family's caregiving capabilities.

Consisting of nurses, physicians, social workers, a "patient navigator," a newborn coordinator and a nutritionist, the team aims to improve care coordination services to address the interrelated medical, social, developmental, behavioral and educational needs of their most complex patients. By doing so, the team's efforts have also significantly highlighted nursing's role in care coordination and health care transformation.

MEHC adapted the hospital's Primary Care Coordination Measurement Tool (CCMT) to reflect the unique services and processes performed within the clinic. Developed by Richard Antonelli, MD, MS, FAAP, medical director of Integrated Care at Boston Children's, the initial tool measures the aspects of care coordination, the necessary resources to implement those activities and the resulting outcomes. It specifically allows members of the care team to track care coordination activity they are currently managing but are not being captured and reimbursed for. It

Measuring Empirical Outcomes

"The field testing of the Primary Care Coordination Measurement Tool (CCMT) will inform future estimates of the cost and value of care."

—Jennifer McCrave, BSN, RN, CNRN



also captures targeted outcomes and risk-mitigation achieved through these care coordination activities.

Several clinical departments and interprofessional teams throughout Boston Children's have adapted the tool, including Neurology. "The tool informs both the true cost and value of care and allows us to show how successful care coordination leads to better outcomes," says Jennifer McCrave, BSN, RN, CNRN, clinical coordinator in the Neurology Clinic. Her workgroup has led a trial to conduct usability and feasibility testing of the tool and is currently collecting data.

Helping Hand-Off

McCrave's team is spearheading other care coordination efforts, such as a new process for "hand-off" to a child's pediatrician. "Inpatient hand-offs happen at the change of shift or when a patient changes units, but until now there's been an absence of a process in outpatient settings," she explains. She's also involved in a quality assurance and performance improvement (QAPI) project examining specific components of nursing care delivered to children seen in Neurology and Gastroenterology services through patient-initiated telephone encounters.

All too often, a patient is referred to Neurology without sufficient information from the referring provider. "It's unclear if the child is there for a one-time consult, a second opinion or if we're assuming the child's care coordination going forward," McCrave says. Her team is kicking off a project with primary care providers to test hand-off strategies. A second set of measures will be completed in a year to see if there are improvements, particularly in the patient experience.

Resourceful Coordination

Neurology is also evaluating the creation of a new role dedicated to coordination, similar to one recently added at MEHC. "Our population has an especially hard time tapping into resources, so we have to find ways to put them in touch with local partners who can help them in between their primary care visits," Chase notes.

A common goal of care coordination workgroups throughout Boston Children's ambulatory care settings is to apply the data collected to inform future contracts with insurance payers. In general, care coordination activities, independent of clinical evaluation and management services, are not typically reimbursed, keeping them from being seamlessly integrated into the system of care. "We're especially interested in associating a value in relationship to our inter-visit work," says Chase. "We're showing how checking in with complex patients saves money by reducing ED visits and readmissions, reducing redundancy in diagnostic testing, and improving other health outcomes."

Chase, Melchiono and McCrave's integration work is helping to answer crucial questions in health care, such as, "Who is in charge of a child's care once families get home?" And, "How can we help medically complex children and their families become established and active participants in 'health homes' of the future?"

"Boston Children's nurses are leading the design and evaluation of pediatric care coordination models and primary health care delivery innovation," says Melchiono.



FILLING A VOID IN COMMUNITY-BASED BEHAVIORAL HEALTH CARE

Bringing Services Closer to Area Families

In recent years, demand for intensive behavioral health services for high-acuity patients has outstripped supply, leading to a strain within both the hospital and region. At Boston Children's Hospital, the unit with the highest occupancy rate is consistently the 16-bed Behavioral Health Unit.

"There is often a lag time to admit a patient for inpatient behavioral health care, so patients

part of Boston Children's system of care, accounting for 38 percent of clinic visits and 45 percent of day surgery cases.

"We're always trying to improve access to specialty care and have learned how much children and families benefit by receiving care closer to home and their community," says Julee Bolg, MS, MBA, RN,

Improving Care Processes

"To meet the community's growing demand for intense, inpatient pediatric behavioral health services, Boston Children's Hospital nurses applied systematic methods to optimize quality outcomes and mitigate risk."

—Cynthia Gardell, MSN, MBA, RN, NE-BC

have to wait—sometimes for extended periods of time—in our Emergency Department or begin treatment within another inpatient setting," says Martha Butler, MSN, RN, nurse director of the Inpatient Behavioral Health Unit. This has the domino effect of displacing other children who need emergency care or non-behavioral health inpatient care.

Patience in Practice

"It's hard for families to be unable to access the specialized behavioral health care right away," says Butler. It's also challenging for nurses, who are highly specialized in caring for children in their department; they are less comfortable in the management of patients who have both medical and emotional problems.

Boston Children's leadership recognized the demand for pediatric behavioral health inpatient beds and related community services. Satellite settings are increasingly a core

executive director of Satellite Clinical Operations. With more than 450 staff members, Boston Children's at Waltham is the largest satellite setting and is evolving into a Boston Children's Hospital community hospital campus. Over a period of several years, nurses, physicians and behavioral health team members studied this challenge. The team proposed the creation of a 12-bed intensive, community-based treatment facility at Waltham that could respond to the increased need for intensive, short-term behavioral health care in the community.

Feasibility and Implementation Planning

The feasibility of creating the Community-Based Acute Treatment unit needed to be determined, and many questions needed to be answered. For example, what processes should be in place in order for a new facility to operate in tandem with the main campus' unit? Butler and Bolg co-led an interprofes-



sional, multi-site team from both campuses to find answers, bringing together social workers, nursing informatics specialists, nurse recruitment, physicians, Facilities, Safety, Security, nutritionists, psychologists, architects, Patient Care Services team members and others.

The team examined how the Waltham facility could serve as a transitional care setting for patients on the main campus awaiting placement in a less intensive environment. Another angle they looked at was how the process could relieve pressure throughout the Boston Metro area where patients often experience extended stays in emergency departments.

They conducted a Failure Mode and Effects Analysis (FMEA). This systematic method allowed them to evaluate the proposed process to identify risks and points of potential failure, as well as their impact.

"We worked to understand every facet of the process, focusing first on safety as well as the experience for patients and families," says Cynthia Gardell, MSN, MBA, RN, NE-BC, who manages an existing inpatient care unit at Waltham. "That's what FMEA is all about—taking a process from beginning to end to find both the big risks and the small things that could go wrong every step of the way."

Nursing Knowhow

In the end, the group found that the risks in the

proposed process could be safely mitigated, paving the way for plans for the proposed unit to move forward and open in January 2016. As policies and guidelines are being developed by nurses and clinical team members, the team continues to work on the unit's design. "It's good to have nursing input early on in the design phase to be a voice in care delivery," says Bolg. "They can tell if a room is too small or not set up the right way, and how to design the room to enhance safety for patients and caregivers."

The effort underscores the importance of Boston Children's satellites in optimizing the hospital's capacity to efficiently treat patients in the right setting. "It is a great way we can provide Boston Children's quality of care closer to people's homes," says Butler. "Mostly, it's about helping families through a challenging time and getting children in crisis the behavioral health care they seek—when and where they need it."

Nursing/Patient Care Leadership Across Settings of Care

In 2014, Boston Children's Hospital's satellites accounted for:

- 34% of Outpatient Specialty Visits
- 33% of Surgical Cases
- 43% of Outpatient Surgical Cases
- 33% of Outpatient Radiology Relative Value Units







**EXCELLENCE
IN PRACTICE**

HIGH RELIABILITY

Eliminating Preventable Harm to Patients, Caregivers and Staff

This fall, Boston Children’s Hospital rolled out error prevention behavior training for all employees and clinical staff. The training introduces and educates our team on core safety behaviors and error prevention tools, while building on past successes. The sessions focus on topics such as patient, personal and team member safety, clear communications and paying attention to detail.

The training is the latest step that Boston Children’s has taken to meet a bold goal: to become a High Reliability Organization (HRO)—a place where no preventable harm comes to any patient or Boston Children’s team member. President and CEO Sandra Fenwick has established an ambitious agenda for each member of the Boston Children’s community to apply reliability principles to strengthen all aspects of teamwork and communication. It’s built on a foundation that applies reliability science in equal measures to patient and staff safety and effective work processes.

Just 15 Minutes a Day

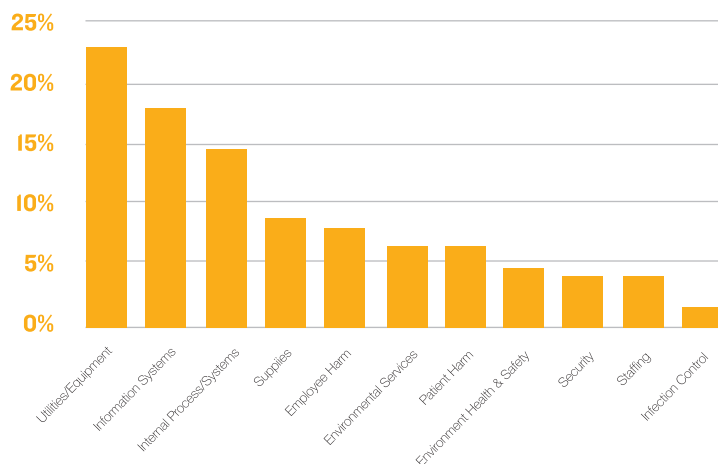
This improvement initiative has been so pervasive that it has fundamentally changed Boston Children’s daily operations. After commissioning a comprehensive self-review, the hospital implemented the Daily Operations Brief (DOB), led by executive leaders Laura Wood, DNP, MS, RN, chief nursing officer and senior vice president of Patient Care Operation, and Kevin Churchwell, MD, executive vice president of Health Affairs and chief operating officer. This focused, 15-minute gathering brings together clinical and administrative leaders across 40 disciplines daily to share updates, identify concerns and assign ownership. “Among key areas we focus on are safety risks,” says Wood. “Sometimes this involves a look back at the past 24 hours to see what unexpectedly arose. Or it could be a look ahead at things that pose a risk to patients and team members.”



Many issues discussed at the DOB are raised as a result of newly formalized local huddles. These huddles operate similarly and provide area-specific situational awareness around issues that impact safety, quality and experience for patients and staff, while serving as a tool for identifying which topics should be raised at the DOB.

Having established that the high reliability framework could work within Boston Children’s unique environment, Yolanda Milliman-Richard, MSN, RN, NEA-BC, vice president and associate chief nurse of Surgical and Procedural Patient Services and Monica Kleinman, MD, clinical director of the Medical/Surgical Intensive Care Unit (MSICU) and medical director of the Transport Program, led the core team during the rollout. “It’s taking us from a place where we’re already delivering excellent care toward our goal of zero preventable harm—a lofty goal but

Types of Issues Logged from March-September 2015 (n=122)



one that's necessary," says Milliman-Richard.

Preparing for the Unpredictable

The Perioperative Unit has been relying on these local huddles for several years as a forum to discuss patient care concerns, legal guardian issues or special precautions. "We'll go over unusual situations like siblings having procedures," says Lori Arsenault, MSN, RN, CNOR, NE-BC, nursing director of Perioperative Programs. The DOB has become a platform for raising issues identified during the team's huddle that could affect other areas, like Anesthesia, Security or the Intensive Care Unit (ICU).

"During one DOB, we talked about a patient having a very unusual procedure," Arsenault says. "The mom was delivering a baby with a complex congenital condition in our operating room and we wanted to be ready given this procedure is performed infrequently. We used the DOB as a way for everyone to confirm team member roles and responsibilities."

Encouraging Input

The Neonatal Intensive Care Unit (NICU) refined its approach to its local huddles through a series of small tests of change. During this time, staff identified best timing, key stakeholders and which staff should participate. Cheryl Toole, MS, RN, CCRN, NEA-BC, director of Nursing Patient Services in the NICU, said local huddles bring her team together in a whole new way. "The DOB can reinforce to every person that they are the critical link to mitigate human and system errors," she says. "Their input is of the highest value in protecting our patients and ensuring we all share both the credit, but, more importantly, the accountability toward meeting our goals."

NICU staff are seeing the benefits of the local huddle. In just a month, the NICU has spurred a hospital-wide patient identification change in pharmacy medication delivery. They've also improved diagnostics and identification of discharge prescriptions.

Every Moment Matters

In just a few months, the hospital-wide DOB has proved to be of critical value. It provides executive leadership with a daily assessment of every corner of the enterprise and gets potential challenges and problems on the table for immediate resolution.

"We're able to create deep situational awareness and connect people, process and technology in a focused way. We are solving problems in real time," says Wood.

Wood also sees clear benefits in how this new communication process is fostering a culture of effectiveness and respectful interaction. For example, listening attentively conveys respect for the person speaking. It also enhances listeners' understanding of detail and their ability to notice subtle, contextual and crucial differences between seemingly similar situations. The heightened awareness supports the ability of team members to analyze and act more quickly. Milliman-Richard also finds the DOB to have proven to be a useful tool to bring together clinical and non-clinical staff who otherwise might not routinely connect.

"Everyone from the Lab Director and a Finance representative to the Director of Pathology and the direct care teams come armed with information from their own huddles, giving us the opportunity to solve problems instantly, face-to-face," she says. "It's creating a new level of transparency and accountability."

Watch our Daily Operations Brief at
<https://bch.wistia.com/medias/vqmq4dycf1>

Evidence-Based Practice

Moving the Dial Toward Zero Harm

As a high reliability organization, Boston Children's is focused on both patient and employee safety. A suite of programs, projects and interventions for reducing employee injuries have been developed. This initiative involves a range of interprofessional relationships, trainings, process improvements and equipment changes, including:

- Sponsoring an interprofessional committee for employee risk priorities of falls, overexertion, sharps and patient agitation
- Creating an injury risk communication campaign
- Standardizing processes for tracking, investigating and correcting hazards
- Identification of data and metrics that can be used to advance comparative external benchmarks

POWERFUL PARTNERSHIPS FOR MEDICATION SAFETY

An Interprofessional Team Creates an Innovative Tool to Conduct High-Risk Medication Safety Checks Remotely Via Video Consultation

When a Boston Children's Hospital nurse gives a high-risk medication at the bedside, hospital policy requires that a second nurse witnesses and verifies the dose. But finding a readily available nurse on a busy hospital floor or outpatient setting can be

challenging, especially when the nurse has to don personal protective equipment because of infection control requirements.

During monthly Nursing Morbidity and Mortality (M&M) rounds at Boston Children's, a group of four nurses expressed concern that this challenge could potentially jeopardize safety. "We thought we

Measuring Empirical Outcomes

"We are testing the use of digital technology to verify high-risk medications and to measure both nursing productivity and patient safety impacts."

—Sara Gibbons, MSN, RN-BC, CPN

should be able to do better," says Jennifer Taylor, M.Ed, BSN, RN-BC, CPN, Clinical Operations, Digital Health and Innovation.

Taylor and other nursing informatics specialists—Stephanie Altavilla, MSMI, RN, Sara Gibbons,

MSN, RN-BC, CPN, and Jowell Sabino, MSN, RN, CPNP—drew upon their informatics backgrounds to come up with a technological solution. "We thought, 'Wouldn't it be great if we could use telehealth concepts to have a nurse verify medication data and conduct the second check remotely,'" says Gibbons. Using a grant from the hospital's Innovation Acceleration Program, the team prototyped an innovative mobile system called RNSafe.



Using Digital Devices to Support Safety

Here's how it works: Bedside nurses connect with a nurse working remotely using a video chat application on a mobile device, such as the FaceTime application on the iPhone. Once connected, the bedside nurse points the mobile camera at the label of the medication he or she is giving. The remote nurse then verifies the medication and dose and documents the verification process in the electronic health record. The remote nurse is also able to verify positive patient identification, intravenous pump set-up and programming, tracing the IV lines to the patient, and has access to the original order via the electronic health record.

Preliminary tests have shown that the video is clear enough to verify doses in syringes despite different

medications, colors and lighting conditions. “The resolution is extremely clear,” says Taylor.

The RNSafe project team is now consulting with various units throughout the hospital to understand the potential obstacles to seamless second checks and to determine how this new technology can help. For example, in the Intensive Care Unit (ICU), nurses often have to stay at the patient’s bedside. “In the ICU, there aren’t a lot of nurses available to witness and verify medications,” says Gibbons. “And it’s crucial to find someone who is not distracted.”

Minimizing distraction is a top consideration for the RNSafe team. Says Gibbons: “Everyone has another assignment they are thinking of and they are worried about any delay in care for their own patient. We wanted a way for a nurse to be completely dedicated to the second verification check, without feeling rushed or knowing there’s the possibility of being pulled away mid-check.”

Rolling Out (with Refinements)

Currently, RNSafe is in the beta testing phase. Four team members are themselves conducting the virtual double checks. The future vision for RNSafe is to dedicate experienced nurses to the remote medication verification process—similar to the remote intensive care model, in which remote intensive care specialists at a distance act as a second set of eyes in monitoring patient data.

If the nursing team gets the results they are hoping for, they will scale the project and implement it throughout the hospital, ambulatory and satellite settings, one care team at a time. They’ve just finished walking through workflows and testing cameras and connectivity. As the pilot launches, they will measure whether the tool leads to a decrease in errors and evaluate staff satisfaction and utilization practices associated with the new method. They will also soon be testing features like an “urgent” option, which bumps time-sensitive requests for double checks to the top of the queue.

Units are eager to participate in this program. “Everyone wants to be the pilot unit,” says Gibbons. “Anything that improves safety for patients and provides nurses with both assurance and additional efficiency to advance patient- and family-centered work is a huge win.”



Distraction-Free Zones

Another major nurse-led effort to reduce the occurrence of medication errors started in the spring of 2010. Known as the Red Zone Medication Safety Initiative, this model was piloted in the Cardiac Intensive Care Unit (CICU) based on an improvement science framework using distraction-free principles.

Under the leadership of Jean Connor, PhD, RN, CPNP, director of Nursing Research Cardiovascular & Critical Care in Patient Services and Patricia Hickey, PhD, MBA, RN, NEA-BC, FAAN, vice president and associate chief nurse of Cardiovascular and Critical Care Patient Services, implementation started by establishing a nursing Red Zone ambassador group for each inpatient unit. These groups participated in unit-level assessments and identified opportunities to promote a distraction-free environment. As part of this initiative, Red Zone ID badges were created for staff to wear and Red Zone posters were hung in patient rooms and in medication rooms. The ID badges and posters ultimately serve as reminder to not disturb staff when they are preparing medications. This initiative has now been implemented across all inpatient areas.

Key Outcome

The use of Red Zone in the CICU is associated with an overall reduction of 25% in the medication error event rate.

The application of Red Zone is expanding to procedural, ambulatory and home settings to include the administration of blood products, re-taping of endotracheal tubes and IV line placement.

MEASURING THE FULL SCOPE OF PEDIATRIC NURSING PRACTICE

Building a Foundation to Define, Capture and Manage Care Complexity

Nurses often refer to their day as “busy” and express feelings of significant physical and emotional effort. Historically, they have lacked a formal meth-

bedside nurses. Complex, indirect care activities, such as care coordination, patient transport, guiding new staff, as well as family teaching and an-

Measuring Empirical Outcomes

“The CAMEO tool validation process will soon inform staffing models that connect nursing care and patient needs on a daily basis.”

—Jean Anne Connor, PhD, RN, CPNP, FAAN

od of communicating the true complexity of their practice. Until now.

“We realized that nurses and health care delivery organizations didn’t have tools that really captured the work they were doing,” says Jean Anne Connor, PhD, RN, CPNP, FAAN, director of Nursing Research for Cardiovascular and Critical Care Patient Services at Boston Children’s Hospital. “When nurses described what they did during a shift, it wasn’t easily translatable to all of the stakeholders. We are at a time in health care when it’s very important to say precisely what we all do and quantify the impact of our work.”

Specialized Skill Sets

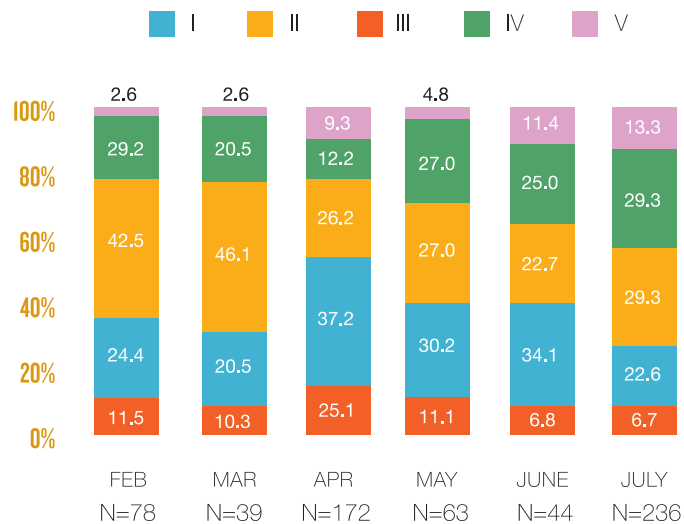
Boston Children’s has long taken a leadership role in creating models to translate activity associated with professional pediatric nursing practice. Most national efforts to capture nursing workload and productivity have taken place in adult intensive care settings. And other traditional measures were based on criteria such as time, intensity and resource allocation. However, pediatric nursing requires a unique knowledge base and skill set in order to integrate care of children and families in a holistic fashion.

Moreover, existing tools did not account for many of the “invisible” activities required of pediatric

participatory guidance, are not easily documented or reflected within a patient’s electronic health record.

“We quickly realized that it wasn’t just hands-on care that we needed to measure, but also what was unseen, because nursing has become much more than physical actions,” says Connor. “You

2014 Medicine ICU CAMEO Classifications by Month



Medicine ICU CAMEO Classifications: Nursing Productivity Measurement: Complexity Assessment and Monitoring to Ensure Optimal Outcomes (CAMEO). CAMEOs classified as III, IV, V for July 2014—70.1% of patient volume.

can easily see a bandage being changed but it's not as easy to capture care coordination or other aspects of family care delivery." This leads to an incomplete assessment of the complexity of the nurses' actual workload.

A Specialized Information-Gathering Tool

One main goal was for the tool to inform staffing models that connect nurse competencies and patient/family requirements. With that in mind, an interprofessional group of Boston Children's investigators set out to develop a standardized language that could be used to describe nurses' work and quantify requirements central to the core of children and their families.

Starting in the Cardiac Intensive Care Unit (CICU), the team worked directly with bedside nurses to understand their unique practice and develop an innovative tool called CAMEO: Complexity Assessment & Monitoring to Ensure Optimal Outcomes. CAMEO measures both the cognitive workload (critical thinking) and complexity (level of surveillance) of nursing care in the pediatric setting.

The tool is especially timely, coming on the heels of new Massachusetts' staffing legislation that limits the number of patients that can be assigned to an intensive care unit (ICU) nurse based on the patient's acuity. Over the past year, the hospital's Legislative Action Interest Group (see page 49) worked closely with Massachusetts' Health Policy Commission to ensure that the regulations developed to implement this law were consistent with our professional practice model and values.

With the ICU staffing law slated for implementation in 2016, work will continue with the Massachusetts Department of Public Health (DPH) to certify CAMEO as the hospital's acuity tool. Through CAMEO, nurses can measure both the complexity and acuity of patients, which will inform evidence-based staffing decisions and budgetary planning in our ICU settings.

To test CAMEO, investigators tracked nursing activities, such as vital signs, interventions/procedures, patient and family education, family guidance, and coordination of complex post-acute care services



in concert with interprofessional team members. The team also identified how precepting new staff, quality assurance and performance improvement (QAPI) monitoring, research-related data collection, clinical management plans and other regulatory documentation affected workload.

Standardized language emerged to articulate the complexity of the nursing care. Soon, the CAMEO tool will be used on a daily basis to inform staffing models that connect nursing care and patient needs. “We practice the synergy model of care, aligning patients’ needs with nurse competencies,” says Connor. “For example, it helps us understand what additional resources may be required to support a newer nurse taking care of a more complex patient to ensure appropriate support for the nurse and safe care of the patient.”

Informing and Empowering

In addition to giving the team important data to design staffing models, Connor sees CAMEO benefiting bedside nurses directly. “It’s incredibly valuable to see what really goes on when caring for patients,” says Courtney Porter, MPH, program coordinator in Cardiovascular and Critical Care Patient Services. It really captures the indirect care and work associated with talking to a family, discharge planning, psychosocial planning considerations, and the education provided.”

Having incorporated the tool in the CICU, the CAMEO implementation team has since adapted it to measure nursing workloads across all of the critical care areas, as well as several medical and surgical inpatient units. Currently, the investigators are working with partners in Boston Children’s Clinical Education and Informatics department to automate the CAMEO scoring via an electronic algorithm within the electronic health record. This step will allow real-time assessment to capture the constantly changing patient needs and to inform staff adaptations and budget planning.

In the meantime, the tool has increased nurses’ satisfaction, according to Christine LaGrasta, MS, RN, CPNP-PC/AC, nurse practitioner in the Heart Center. “It’s empowering, recognizes our work and gives floor nurses a voice,” she says.

Rapid Results Initiative: Evolving a New Staffing Resource Model

In the fall of 2014, a team of nurses and a physical therapist led a Rapid Results Initiative (RRI) project to identify and address opportunities to more effectively meet fluctuating staffing needs across the organization.

The team’s goal was to draw upon “hidden opportunity” and reduce unmet nurse staffing needs by 50 percent across four units. They identified hidden opportunities of isolated-, program- and department-specific per-diem pools that were not fully integrated across care settings. They also examined the opportunity to create a nursing labor resource pool, which could move resources from one area of the hospital to another and facilitate patient placement based upon the competencies of the nurse, the needs of the patient, and available resources.

Before starting the pilot, the team completed a comprehensive literature review and undertook extensive external benchmarking of leading pediatric and adult hospitals. The team created staffing algorithms for use with a common resource pool. By the end of the allotted 100 days, the team drafted a proposal that included recommendations to scale and implement the program throughout the hospital.

This project is contributing to a multi-phase work effort to link four key initiatives:

- 1 Evidence-based staffing and complexity measurement and automation (CAMEO) (2011-2015)
- 2 Automated scheduling and time attendance system (STAARS) (2014-2015) and automated capacity management for patient flow (2015)
- 3 Capacity management analytics (2014-2015)
- 4 Centralized staffing office and resource management (2014-2015)

The launch of the Centralized Resource Pool will occur in late 1Q16 and 2Q16.

NEW BIOCONTAINMENT UNIT LAUNCHES

Nurses and Interprofessional Team Members Volunteer for Specialized Training Via an Innovative Virtual Team Model

"When the Ebola crisis hit West Africa last summer, we viewed this as an opportunity to expand our own preparedness," says Jon Whiting, BSN, RN, CCRN, director of Nursing Patient Services, who oversees the Medicine Intensive Care Unit (MICU), Biocontainment Unit (BCU) and Life Support Programs at Boston Children's Hospital. "We wanted to be well prepared."

As the country was reminded last year, caring for a highly infectious patient while keeping staff and other patients safe requires a special set of skills.

Improving Care Outcomes

"The design and preparation of a virtual biocontainment unit team provides opportunities to assess nursing and team psychological and skill readiness."

—Jon Whiting, BSN, RN, CCRN

In response, Boston Children's has created a new BCU and is recruiting a dedicated team of nurses and physicians to train in specialized methods of caring for patients on the unit drawn from the ranks of existing clinicians throughout the hospital.

The BCU will enhance Boston Children's existing response framework to certain infectious diseases of epidemiologic significance. "We will have a close-knit, specialized and trained interprofessional team of clinicians who are educated about particular infectious diseases and who are highly skilled in the use of personal protective equipment and other strategies needed to contain infection in a hospital setting," says Thomas Sandora, MD, MPH, hospital epidemiologist and medical director, Infection Control and Prevention.

The BCU will only be open when needed, operating on a "virtual schedule" so that the BCU team is ready to drop what they're doing and staff the unit. "What was previously a 'virtual schedule' then becomes a real schedule," says Whiting. "The team would be called away from their home units and report to the BCU to care for the patient for however long they may need our care."

The BCU team continues to grow and includes 30 to 40 nurses with diverse professional backgrounds, including nurses from the inpatient floors, intensive care units (ICU) and the Emergency Department (ED). Many see it as a unique professional development and service opportunity. Nurses who become a part of the team must undergo special training in a variety of topics, including the latest care plan recommendations from the Centers for Disease Control and Prevention as well as hospital protocols on caring for infectious patients. Presently, all of the hospital's ICU nurses, as well as several

ED nurses, have received this training. And they are prepared to respond should an outbreak occur.

As part of the training, the team participates in drills that often involve staff from the ED, transport team and partners at nearby hospitals. "Through rigorous rehearsal and multidisciplinary review, we have arrived at a competency that we are confident in," says Stephen Monteiro, MS, EMT-P, former director of Emergency and Capacity Management.

Clinical staff, including nurses and physicians, are currently being recruited to join the BCU team.



QUALITY OF CARE





PEDIATRIC FALLS WITH INJURY AND PRESSURE ULCER PREVENTION

Learning Collaboratives Speed Adoption of Nurse-Sensitive Quality Initiatives and Outcome Measures

Pediatric Fall Prevention

At Boston Children's Hospital, fall prevention requires continual screening of all children with any risk for falls. Nurses, physical therapists and all care team members actively collaborate with family members to ensure their child's safety and apply fall prevention initiatives broadly. Utilizing an extensive database of prior patient falls, Nursing Fall Subject Matter Experts and additional divisions and departments routinely come together to assess fall events and strengthen evidence-based fall prevention strategies. These strategies can include:

Key Outcome

"We aim to eliminate all patient falls as a source of preventable harm."

—Marcie Brostoff, MS, RN, NE-BC

- Re-educating patients, families and team members about safety risks
- Validating that the parent/caregiver can demonstrate how to operate the hospital bed/crib
- Confirming side rail use on cribs, beds and stretchers
- Keeping the nurse call button within reach, if age-appropriate
- Wearing nonskid, correct fitting shoes and footwear when out of bed
- Proactively offering age-appropriate toileting protocols and ambulation as needed

Through the American Nurses Association's National Database of Nursing Quality Indicators (ANA-NDNQI), Boston Children's routinely compares its fall and injury rates to other hospitals. Between July

2013 and July 2015, Boston Children's inpatient fall rate with moderate injury or higher was zero for 20 out of the last 24 months. There were no falls with moderate injury or higher over the last eight consecutive months.

Nursing quality improvement leaders in several units are now instituting new interventions to implement additional precautions for children at heightened risk. "In Oncology, stem cell transplant patients are at a higher risk of falling because they are often in a weakened state," says Brenda Dodson, PharmD, a Medical Intensive Care Unit (MICU) clinical pharmacist. "They require medications for nau-

sea and pain that can often make them drowsy and slightly confused. Likewise, teenage patients want their independence and so they are less likely to ask for help," adds Dodson.

Nurses have started a new communication process throughout the hospital to raise more awareness among staff about fall risks. Nurses post a sign on the child's door flagging him or her as a fall risk. "By being aware of which patients are at higher risk, bedside nurses now provide education on how staff or caregivers can reduce the risk of that child falling," says Dodson.

The Orthopedic and Surgical Unit is utilizing a simple but effective way to communicate about fall risk. They trialed the use of stickers on patients' ID bracelets to make the heightened risk for falls more visible to the patient and family. The process is now utilized hospital-wide.

Eliminating Pressure Ulcers: Nurse-Led Initiatives

If you want something done well, don't do it yourself. Do it with a great team.

At Boston Children's Hospital, nurses have made this their mantra. Just ask Sandy Quigley, MSN, RN, CWOON, CPNP-PC, clinical specialist in Wound, Ostomy and Continence Care, who began researching pediatric pressure ulcers more than 20 years ago. According to Quigley, there was historically a lack of clinical knowledge and limited research specific to skin integrity management in pediatrics. "There was a long-standing national misconception that pressure ulcers didn't occur in infants and children," says Quigley. "It was felt that there was no reliable or valid way to assess risk or prevent them."

Now, of course, nurses and other clinicians know that's far from the truth. Pressure ulcers rank near the top of the list of hospital-acquired conditions (HACs) and are a well-established quality indicator associated directly with the nursing care provided. Pediatric patients of all ages may develop hospital-acquired pressure ulcers from risk factors including immobility, decreased activity, impaired sensory perception, incontinence and compromised perfusion. Furthermore, each of these risks leave children further susceptible to infections and contribute to pain, increased intensity of care and may prolong length of stay.

"The management, cost and physical and emotional suffering associated with pressure ulcers all have a significant impact on the health of patients—especially vulnerable infants and children," says Quigley. "Effective prevention protocols require early identification of at-risk patients."

A Pediatric Pressure Ulcer Assessment

Once Quigley noticed that nursing research related to pediatric pressure ulcers was desperately needed back in the early '90s, she set out to fill the void, passionate to show that children managed with consistent skin care practices developed fewer pressure ulcers. As part of a comprehensive pressure ulcer prevention initiative at the hospital, Quigley partnered with Boston

Children's collaborating Nurse Scientist Martha Curley, PhD, RN, FAAN, to develop the Braden Q Scale for Predicting Pediatric Pressure Ulcer Risk by adapting the adult-based Braden Scale.

Quigley and Curley found that preventing pressure ulcers requires more than diligence. It requires expert clinical judgment and skill to translate subtle assessment findings. That means there is an expected difference in the translation of findings by newly graduated nurses compared to nurses with 20 years or more of experience. "Creating and using a valid risk assessment scale was necessary so it could take as much inherent subjectivity as possible out of the equation and to support effective patient skin integrity assessments by nurses with varying experience levels," says Quigley. In 1996, Quigley and Curley published their work in the *Journal of the Society of Pediatric Nurses* and made the risk assessment scale—and the methodology behind their research—available for other institutions to use.

An Accomplished Legacy

Fast-forward 15 years. Quigley, Curley, Cathy Noonan Caillouette, MS, RN, CPNP, CWON, an advanced practice nurse in Plastic and Oral Surgery, and other Boston Children's colleagues have steadily led the conversation about pressure ulcer prevention, detection and management by publishing nine articles and chapters, presenting their work and participating in national pressure ulcer collaboratives. Today, due to the growing number of chronically and critically ill children, the rate of skin compromise and pressure ulcers is again increasing. Much has changed since they developed the Braden Q Risk Assessment Scale, now widely used throughout the country. It has been translated into nine languages and is considered the most reliable risk assessment scale for pediatric pressure ulcers. Most importantly, technology and monitoring equipment have advanced substantially.

"We didn't realize the impact of medical devices on pressure ulcers since many of today's monitoring or therapeutic devices were non-existent or fairly new back then," says Quigley. "We're light years ahead of where we were technologically, and today we fully appreciate the impact of medical devices such as monitoring equipment and orthotics." Other changes are the much improved mattresses and

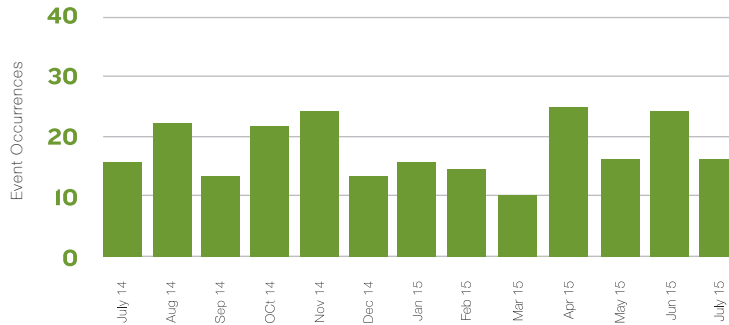
specialty support surfaces that critically ill patients lie on 24 hours a day.

Sharing Success

Quigley thought that in the many years since she and Curley published the pediatric Braden Q Scale, another institution would replicate the original study and possibly identify new risk factors. But no one ever has. So the “If you want something done...” adage came back into play. “We felt it was incumbent on us to revalidate our tool to take into account today’s health care environment,” Quigley says. “With this study, pediatric clinicians across the country have a great opportunity to uncover new methods for addressing this important challenge, inform practice and advance the state of the science in this evolving area.”

Quigley, Curley, Noonan Caillouette and Margaret McCabe, PhD, RN, PNP, director of Nursing Re-

**Safety Event Reporting System Total Pressure Ulcer Events
January 2014–January 2015**



Nurses Throughout the Hospital Drive the Data Set

At the hub of this study are nurses working in every part of Boston Children’s, including Lindyce Kulik, MS, RN, CWON, CPNP, CCRN, clinical nurse specialist in the Cardiovascular Intensive Care Unit (CICU), who is Boston Children’s lead site investigator. Kulik and Susan Hamilton-Bruno, MS, RN, CCRN, a clinical nurse specialist in

Measuring Empirical Outcomes

“Nurses are collecting patients’ demographic data and measuring established risk factors for every device that comes in contact with patients’ skin.”

—Sandy Quigley, MSN, RN, CWOCN, CPNP-PC

search, Medicine Patient Services, collaborated again in 2013 to create a major multi-year, eight-center, IRB-approved study to test the predictive validity of a newly developed Braden Q+D (Device) Scale for the development of medical device-related pressure ulcers (MDPU) and the Braden Q Scale for the development of immobility-related pressure ulcers in pediatric patients in the acute care environment. Importantly, two previously unstudied sub-populations—neonatal and cardiovascular—are included in the multi-center study.

Each of the eight pediatric hospitals has support from their nursing leadership teams and their own site investigators. This study is enrolling a sample of at least 600 pediatric patients on bed rest with a medical device from all inpatient areas. In addition to testing the assessment tools, it will also identify actions that, when performed together, may decrease pressure ulcer risk. These interventions include repositioning patients every two hours, changing their head elevation level and alternating sites where medical devices are attached to the skin.

the Medical/Surgical Intensive Care Unit (MSICU), along with a core group of nurses, assess patient eligibility, obtain informed consent and collect data on preemies, infants, toddlers and older children. All the while, they’re working with many bedside nurses throughout the institution to examine patients’ skin. In addition to collecting demographic data and measuring the established risk factors, they document every device that a patient’s skin comes in contact with. Some complex or critically ill patients can have more than 30 medical devices attached to their body.

As two years’ worth of data collection drew to a close during the summer of 2015, the research team is now focusing on analyzing institutions’ data. “The beauty of this effort is that it is the first nurse-led research initiative to take place in every unit and in all services, from the NICU to Oncology, and to include patients in all age groups,” Quigley says. “And by partnering with groups around the country, we’re truly advancing the science of nursing and patient outcomes as a team.”



IMPROVING PAIN MANAGEMENT OUTCOMES

A New Interprofessional Approach Applies 'Big Data' to Quantify and Reduce Chronic Pain

A nurse enters a patient's room and asks a young boy to assess his pain level. It's the same question she asked him four hours ago and the same question she'll ask him four hours from now. The child furrows his brow, concentrating on the pain.

At Boston Children's Hospital, nurses routinely assess and document patients' pain intensity scores at least every four hours as well as before and after the administration of pain medications. These self-reported scores guide the child's plan of care and inform how the care team manages the pain. Boston Children's Nursing staff increasingly use

electronic health record. The team reviewed the distribution of these pain scores (see Figure 1) and then analyzed the clinical characteristics of outliers with persistently high pain scores. The hospital's Interprofessional Pain Committee (IPC), who played a key role in this study, discovered that many of these outliers consisted of children who experience long-term chronic pain.

"These children regularly ranked their pain at greater or equal to 7," says Jean Solodiuk, PhD, RN, manager of the Pain Treatment Service and co-chair of the IPC. "This helped us see that while we've done

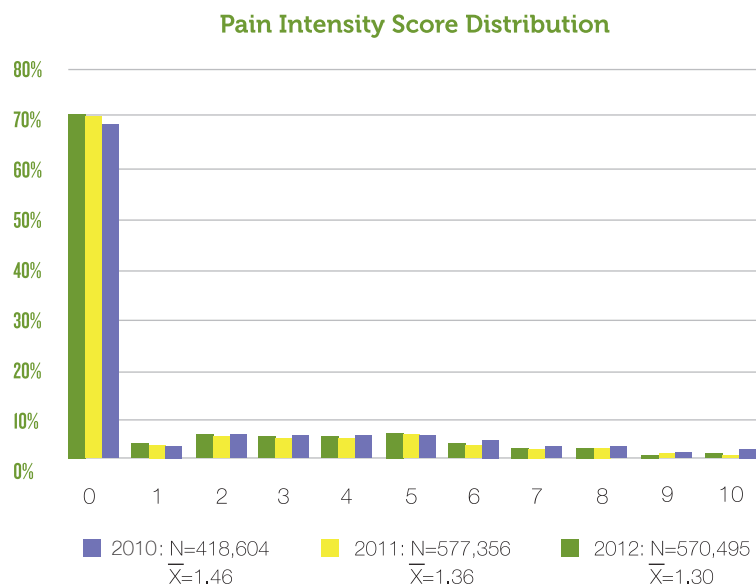
Evidence-Based Practice

Using pain score study data, a tailored algorithm to reduce pain intensity was developed and refined over a five year period.

this pain score data as a basis for quality assurance and performance improvement (QAPI) efforts as part of a focused effort to reduce and eliminate pain to the greatest degree possible. Prior to 2010, the distribution of historical pain scores had never been studied. The need for this work drove the inception of a major pain-related quality improvement initiative at Boston Children's: the first comprehensive nurse-directed analysis of pain scores of hospitalized children.

Analyzing 1.5 Million Pain Scores

After rigorous data collection, the study team had an unprecedented amount of data, collected over a three-year period from a cohort analysis of more than 1.5 million pain scores documented in Boston Children's patients'



Distribution of pain intensity scores among 1.5 million scores from 2010-2012. The figure depicts level of pain among inpatients, showing that although most pain scores collected describe a pain-free state, 30-33% of pain scores assessments captured unresolved pain. This data informed translation work by nurses between 2013-2015 to assess and treat chronic pain.

really well managing pain in children with acute pain from surgery, injuries, and trauma, we need to focus on this large population of children with conditions such as uncontrolled migraines, chronic abdominal pain, or pain seemingly out of proportion to a specific injury.”

The number of children affected by chronic pain is staggering. Admissions at Boston Children's for chronic pain have increased dramatically — by 831 percent — over the past six years, says Solodiuk. “Conducting a scientific study using a large data set provides a remarkable opportunity to understand this kind of pain,” she adds.

Alternative Ways to Assess and Treat Chronic Pain

The team created a treatment plan algorithm to optimize the care for children with chronic pain. It includes discussing opioid use at the beginning of the stay as well as hosting an introductory team

meeting with important care providers, such as the patient's family, nurses, physicians, physical therapists, child life specialists, psychologists, pharmacists and social workers.

Early conversations between key care team members are crucial not only because it ensures everyone is on the same page, but also because chronic pain management relies on a combination of pharmacologic and non-pharmacologic components. A blend of exercise, cognitive behavioral therapy and neuromodulating drugs may all be used to mitigate the neurotransmission of pain signals. These strategies help the care team to limit the use of narcotics and other medications to the shortest possible duration.

Study data is also broadening how nurses assess children's level of discomfort. “If you use the standard pain scale and ask a child with chronic pain to rate his pain from 0-10, it's counterproductive.



The child starts to focus on it, which changes their perception of the pain,” says Michael Felber, RN, CPN, a staff nurse on Boston Children’s Surgical Unit.

Now, some nurses, like Felber, are also focusing on what the child can do comfortably. “I’ll ask general questions, like ‘Are you OK?’ or ‘What have you been able to do in the past hour?’” says Felber. “Testing out this method helps the patient focus on something positive. I have been impressed with the outcomes I’ve seen,” notes Felber.

Integrated Care Strategies

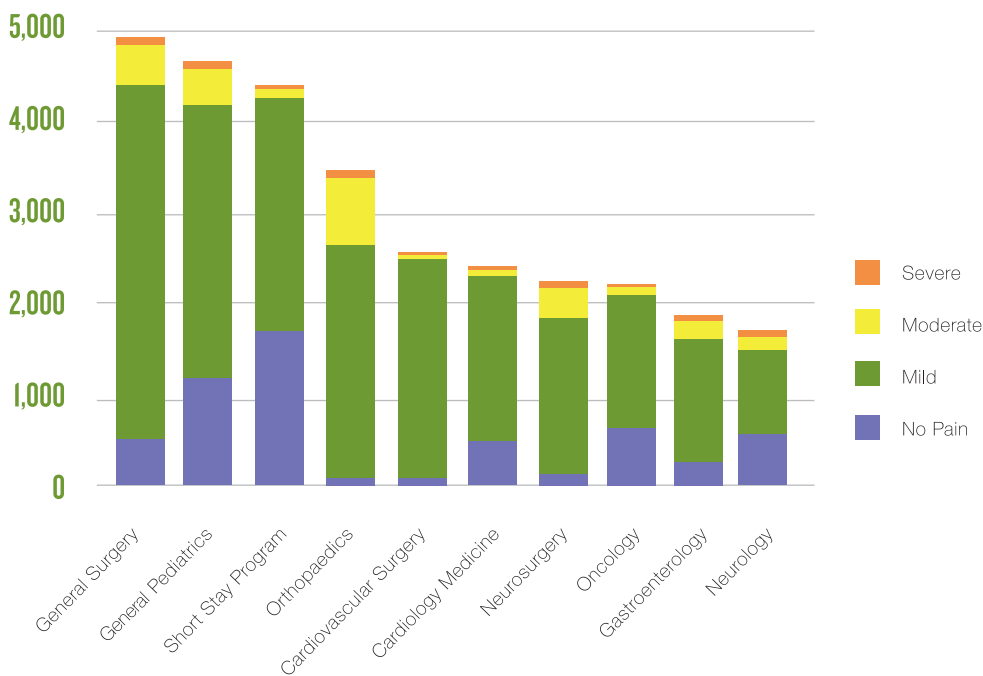
Often, chronic pain has a substantial psychological component—which doesn’t make it any less real. “Because chronic pain is almost always caused by a combination of factors, we use a combination approach,” Felber says. Felber has taught children relaxation techniques to use to augment medica-

tion use and to promote greater self-efficacy.

He’s also come up with some creative ways to get children moving. “One of my patients needed to do a stretching exercise,” he says. “Since she was a huge hockey fan, I named spots on floor after players and had her move her foot to each player.” The focus, he says, is on getting children to focus on something other than their pain so they can engage in activities like playing, homework, showering and moving.

The team published the early results of their study in the November 2014 Journal of Pain and Symptom Management and shared findings with colleagues across the country. “We are changing the conversation about pain,” says Solodiuk. “This goes straight to providing nurses and care teams with the resources they need to deliver excellent care.”

2010–2012 Pain Intensity Levels by Clinical Specialty



Mean level of pain intensity for all pain scores documented upon admission. Only 1% of admission pain assessments had a mean score within the severe range; ~ 9% had mean scores within the moderate-to-severe range. Nearly 80% of admission pain assessments noting severe pain (scores 7+) involved chronic pain.



WHEN TO WEAN

A Pilot Program Applies Evidence-Based Standards to Reduce the Duration and Impact of Sedative Use by Intubated Patients

“Weaning infants and young children from sedative medications has been an art for many years,” says Jean Solodiuk, PhD, RN, manager of the Pain Treatment Service and co-chair of the Interprofessional Pain Committee (IPC) at Boston Children’s Hospital. “We’re now able to get to the science behind it too and that’s incredibly exciting.”

Critically ill children and infants in the intensive care unit are often intubated for days, weeks and even months, depending on how sick they are. Often,

exposure with effects on a child’s developing brain.

Weaning post-discharge also adds to the risk of medication errors given parents wean children with complex medical conditions at home. Until now, there hasn’t been a consistent approach to manage and measure the hospital’s weaning protocols on an organizational level.

“Weaning may be delayed because of scheduled tests, like an X-ray,” Solodiuk says. “But we now know that every day we don’t wean, the child’s

Evidence-Based Practice

Grounded in empirical research, we are testing new evidence-based guidelines to taper sedative use by intubated patients.

they require protracted use of medications, both for pain management and for sedation. When they are well enough to come off the ventilator, clinicians have to slowly wean these children from medications. This process requires a delicate balancing act. It requires keeping a child comfortable and breathing effectively while preventing withdrawal symptoms if they have become dependent upon specific medications.

Ensuring Consistency Across the Board

With no consensus on national guidelines currently available for weaning from sedatives, intensive care units and individual prescribers have adopted their own approaches to weaning. As part of Boston Children’s Institutional Pain Management Initiative, a task force of physicians, nurses, pharmacists and other interprofessional colleagues is conducting a major patient safety effort to create evidence-based guidelines and establish consistent practices throughout the hospital.

“Changing how we taper children off sedatives is important for patient safety,” says Solodiuk, citing emerging research connecting prolonged

tolerance to that drug increases, making it more difficult to wean down the road.”

Given the opportunity to improve patient outcomes, a Weaning Task Force was launched to implement changes via a three-pronged approach. The first is creating a standardized approach to assess a child’s risk of sedative dependence and withdrawal. The second is developing a plan to manage the child once he or she is transferred to another care team in the hospital. The third component is improving parent education.

Setting New Standards

In order to develop a standard, the Weaning Task Force is examining the full spectrum of weaning—everything from how nurses assess subtle signs of withdrawal to working with a researcher to study the effects of sedation on children’s brains. “Nobody really knows the full picture of how children are affected yet, but we do know that critically ill children managed with these new, goal-directed sedation protocols have less exposure to medications,” says Solodiuk. “It’s the first time this has been established. Nurse leadership has been central to

the design and evaluation of these protocols.”

In May 2015, hospital-wide policy changes were implemented, including guidelines based on the child’s risk of withdrawal complications. If a patient is deemed to be high-risk, the child will wean more slowly. Standardized dosing and weaning tools have been integrated into the electronic health record to facilitate a cohesive recommendation. The tools were designed to rapidly generate a plan for collaborative team discussion and agreement; accommodate for patient differences and variability in response to treatment; and remain at the bedside as a reference.

“It’s truly an interprofessional effort,” says Solodiuk. “We have nurses, doctors, surgeons, respiratory therapists, social workers, pharmacists, child life specialists, and basic scientists all contributing.”

Brenda Dodson, PharmD, a clinical pharmacist in the Medical Intensive Care Unit (MICU), is engaging with other clinicians on medication management to advance a cohesive care plan. “We achieve optimal outcomes through just this sort of interprofessional approach,” she says.

Hospital-wide education is also in progress. Child Life is creating a video for parents on how to comfort infants experiencing mild withdrawal symptoms. The Pain Service nurse practitioners are currently trialing a workbook to use with patients and families as a teaching tool. And families will be prepared to continue to use this workbook as a resource once they’re at home as well.

“We want to work with families to get them home as quickly as possible, while making sure they know how to give medications safely,” says Solodiuk. Infants are frequently sent home with weaning instructions. Some parents struggle with a medication regimen that changes every day or every few days. “Weaning at home can have negative outcomes and add to family stress when families don’t fully understand each step. Developing systems to make sure we tailor education to the needs of each parent and child is a necessary part of compassionate, safe care.”

Lee Ranstrom, RN, CPNP, a nurse practitioner in General Surgery has experienced profound changes in the care of her patients. “Having a uniform ap-

proach makes it clear when to wean and not wean,” she says. Starting the process as soon as it’s safe to do so is helping this team to get children home more quickly. “Parents are so thankful to bring their child back home. It’s had a big impact on patient satisfaction. And when families experience less stress, we know our focus on family-centered care is working.”

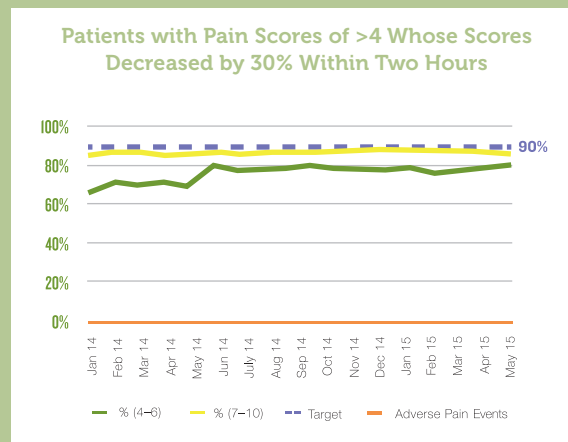
Pain Management: Quality Assurance Performance Improvement (QAPI)

The Pain Task Force and the Institutional Pain Management Initiative are implementing a hospital-wide pain metric bundle to measure:

- Pain intensity
- Time interval from assessment to pain resolution
- Adverse event trend analysis

The data to date indicates improvement in the areas of pain prevalence, reassessment and effectiveness.

Each month, all pain records by unit are extracted from the electronic health record. Clinical teams use this to assess their effectiveness in managing pain and to establish ongoing QAPI targets.



Measuring Empirical Outcomes

81% of total patients who have experienced severe pain reported a decrease in their pain by 30% within two hours.

TRANSFORMATIONAL LEADERSHIP





TRANSITIONING TO ADULTHOOD

A New Approach to Promoting Health and Effective Care Management

It's the job of pediatric care providers—nurses, physicians, social workers—to help patients through some of the most challenging times in their lives. But when a patient has a chronic illness, the strategy is no longer about helping them navigate an episode of illness; it shifts to helping them integrate ongoing health care into their life.

A big part of this is preparing young adults to take responsibility for their own health care. But caregivers of chronically ill patients often struggle to help patients get ready to take ownership of their care: What to teach patients, when to teach it and which member of the care team should do it.

An Early Start

It's been shown that educating chronically ill children and adolescents about their immediate and future medical needs should start well before they reach adulthood—focusing on individualized planning and ongoing skill development.

A quality initiative, led by a team of Boston Children's Hospital social workers affiliated with chronic illness programs, is starting to determine just that. Through a grant from Boston Children's Program for Patient Safety and Quality (PPSQ), these social workers embarked on a Quality Assessment Performance Improvement (QAPI) study to pilot an educational and assessment tool for use by clinical team members, including physicians, nurses, nurse practitioners and social workers to understand how chronically ill patients' skill mastery needs develop over time.



The goal was to identify what chronically ill patients need to know at every stage of their lives. "We want to help health care providers understand how they

Care Process Improvement

"The design and testing of a new tool will support clinicians, parents and children of all ages to navigate present and future health care needs with confidence and independence."

—Judy Bond, LICSW

can foster independence for children and adolescents," explains Judy Bond, LICSW, and project lead. Bond helped launch the study with her social work colleagues Susan Shanske, LICSW, and Roberta Hoffman, LICSW, in partnership with patients. She feels strongly that providers want guidance about what messages are appropriate to convey to patients as they grow into adulthood.

Their study is based on the understanding that it's never too soon to reinforce the patient empowerment process. "You can't just pass the 'self care reins' over to a patient when he turns 16," says Bond. "We felt it was important to start at birth by conveying an

important message to parents: We expect their child to live a long and productive life. They can help enormously by preparing their child/adolescent to function with increasing independence.”

Covering all the Bases

The study assesses a tool that providers use to determine what skills a child needs at every age in order to eventually become independent and effective in self-care management. For the pilot, 28 providers—nurses, nurse practitioners, social workers and physicians—are working with chronically ill children with conditions like diabetes that require diligent home care management.

“Unless you look at all the factors that contribute to someone’s ability to become independent, it’s hard to take action in a meaningful way,” says Bond. “We look at how a patient’s condition affects every aspect of his life so we can put everything into context and have an accurate gauge of their health management skills.”

By building a holistic picture of a patients’ status and needs, this innovative tool will help care providers identify opportunities to educate patients and create ways to track their progress. “Providers feel empowered by knowing what to expect at patients’ various developmental stages,” says Bond. For

example, when they see a 6 year old in clinic, they’ll be confidently familiar with what specific skills their patient could—and should—master.

“We have such a great opportunity at Boston Children’s to see how kids develop over time and to assess what care teams need to know in order to help children with chronic illness become fully functioning adults,” says Bond. “We need to be able to anticipate what a patient will need to know next month, next year, five years from now to effectively engage in their own health and care management.”

Study results have focused on the tool’s feasibility in a clinic setting and its usefulness to care providers. The next step is convening an interprofessional team to refine the tool.

From the caregiver’s perspective, there’s a distinctly bittersweet aspect to the initiative. “Our attachment to patients is incredibly strong, since we care for them from birth through adulthood”, says Bond. “Emotionally, we really understand how hard it is for these patients and their parents to ‘launch’ and to feel confident that they’ll be OK. By assuring that we’ve done our part in determining that this patient has the skills to be more medically independent, we can let go too.”



ADVANCING CARE OF CHILDREN AROUND THE WORLD

Launch of First-Ever Global Health Nursing Fellowships

"Many children throughout the world suffer from conditions that are treatable and often curable, yet experience poor outcomes due to lack of access to adequate care," says Lisa Morrissey, MSN, MPH, RN, CPHON, CNE-BC, Boston Children's Hospital nurse manager in Inpatient Hematology/Oncology/Research. "Boston Children's is positioned to lead the way in improving pediatric health care worldwide through clinical excellence, education, research and advocacy, especially in resource-limited settings."

This year, Boston Children's made major inroads in supporting nurses like Morrissey in their efforts to make an international impact. Earlier this year, Morrissey was selected as the first Nursing Program Director for Global Health, where she will serve in a dual capacity with her nurse manager responsibilities. Through her leadership, she's guiding nurses and clinical teams toward meeting the World Health Organization's ambitious goal of reducing child mortality through decreasing the burden of non-communicable diseases.

Morrissey is also mentoring the three Boston Children's nurses who were selected to join the first Global Pediatric Nursing Fellowship cohort in Health Service and Delivery (see sidebar). These nursing fellows have chosen their global field sites and are hard at work planning their clinical and academic work for the year ahead.

Boston Children's nurses have been involved in global health for years, often through volunteering their own time and energy. "I'm thrilled that Boston Children's is formalizing nursing outreach efforts," Morrissey says. "I'm honored to lead the inaugural team of nursing fellows, who have the opportunity to promote excellence in pediatric nursing and participate in laying the ground work for international nursing projects and collaborations of the future." Morrissey's goals for the year ahead include creating a forum to foster collaboration of Boston

Children's nurses interested in global health, developing a formalized orientation program, establishing relationships with global health nurse leaders at neighboring hospitals and universities, and developing a framework for measuring nursing outcomes at international partner sites.

And, of course, there's lots of hands-on work. Morrissey recently accompanied Marilyn Moonan, MSN, RN, CPN, global health nursing fellow, on a trip to Yangon Children's Hospital (YCH) in Myanmar. Moonan facilitated a two-day pediatric nursing conference for the YCH nurses. The project will continue throughout the year. Morrissey is also working with a team of nurses to develop a Pediatric Intensive Care Unit (PICU) nursing curriculum for Mirebalais Hospital in Haiti, and to implement a Pediatric Early Warning Scoring Tool in resource-limited hospitals.

Meet Boston Children's 2015–2016 Global Pediatric Nursing Fellows

ALEXIS SCHMID, MS, RN, CPNP-PC/AC, CPEN, CCRN, staff nurse II in the Emergency Department, has actively pursued her interest in global health since being deployed to Haiti to help with the aftermath of the 2010 earthquake. She is currently in a Doctor of Nursing Practice program.

MARILYN MOONAN, MSN, RN, CPN, education coordinator in Surgical Program, has been on the hospital's international transplant organizations, educational and scientific advisory committees. Her goal is to use her master's in Nursing Education to provide nursing care and education at a global level.

BEVERLY SMALL, RN, CCRN, staff nurse III in the Cardiac Intensive Care Unit, continues to lead the nursing education program in Ghana. She is helping Komfo Anokye Teaching Hospital to perform its first independent pediatric cardiovascular surgical procedure in Kumasi.







EMPOWERMENT & PROFESSIONAL DEVELOPMENT

CAREER LATTICE PROGRAM

Supporting Diverse Nurses' Careers to Transform Care

When Sabina Bien-Aime, BSN, RN, was answering phones as a part-time operator at Boston Children's Hospital, she was excited to learn about the communication between different departments and how to best connect families with the right services. But she also knew it wasn't her long-term career goal. "I love to advance myself and learn new things, so it was a great way to start out here," says Bien-Aime, who had studied criminology before coming to Boston Children's. "It was a stepping stone."

Bien-Aime soon became involved with the Nursing Career Lattice Program, which proved to be a fortuitous step in her career. The Lattice Program expands the racial and ethnic diversity of the hospital's nursing team by providing employees with mentoring, educational and financial assistance as they begin or advance their nursing careers. The program has come to exemplify how a workforce diversity initiative can lead to outcomes that support and sustain an inclusive culture while embodying a fundamental commitment to excellence in nursing.

Bien-Aime was eager to join such a program. She grew up in a large Haitian family with lots of brothers and sisters, which allowed her motherly nature to blossom. "I felt like I could be a good role model for children in my career," she says. She was inspired by her mother's career as a nurse and was eager to explore a career path that would also let her contribute to the nursing workforce. Upon joining the Lattice Program, Bien-Aime received financial and academic support throughout an accelerated 16-month second degree nursing program at Massachusetts College of Pharmacy and Health Sciences.



She also spent a great deal of one-on-one time with a Lattice Program nurse mentor. "I had such a great mentor, whom I continue to love," she says. "She introduced me to every aspect of the hospital and to opportunities in the field." The two formed a close connection, and her mentor often drove to Bien-Aime's home to lend her career support, encourage her to take on leadership roles and

Program Success

The Lattice Program provides nurses with one-on-one mentoring, counseling and financial support so they can successfully complete nursing school. Each participant receives:

- An individualized plan to support and guide each employee through the college experience
- Access to Boston Children's nursing staff and faculty who serve as role models and mentors
- Financial assistance, if applicable
- Opportunities to connect with other people in the program

figure out how to balance school and work with home life.

Bien-Aime appreciated the program's mission to enhance the hospital's ability to provide culturally sensitive patient care—a major contributor to

number of applications to date. Its success stories are also reaching the community beyond Boston Children's. Now in a position to apply the lessons

from the Lattice program to further her own career, and to contribute further, Bien-Aime

Supporting Nursing Workforce

A strong, multicultural workforce will enhance family-centered care provided to our increasingly diverse patients and community.

institutional excellence. "As a hospital, we've prioritized a focus on nursing workforce," says Laura J. Wood, DNP, MS, RN, chief nursing officer and senior vice president of Patient Care Operations. "We know that to deliver culturally competent, sensitive care we need a workforce that represents the children and families we serve. A wider range of voices and perspectives strengthens the care nurses provide."

The Lattice Program started in 2009 by offering employees the mentoring, academic and financial support essential to completing their nursing degree programs. Since its creation, it has provided support to 28 nurses, two-thirds of whom have either finished their nursing education or are in the process of doing so. In 2014, six participants graduated from nursing programs—the second largest cohort of graduates to date. From an impressive pool of 41 applicants, the program has accepted another three to begin the program in September 2015, with two more to enter the program to bridge associate to bachelor's degree preparation.

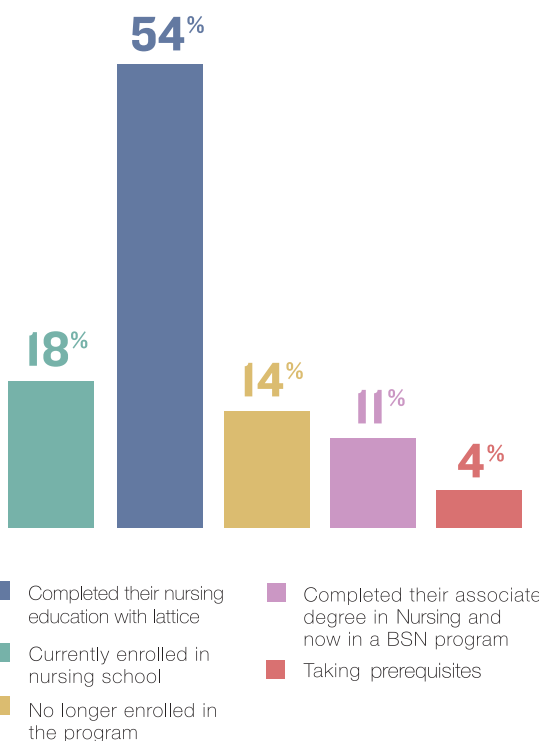
Three years later after joining the program, Bien-Aime is in a completely different role, working as a staff nurse in the Emergency Department. In this environment, she feels that her Haitian background lets her really connect with a wide range of patients and families. "Having a diverse background myself helps me to understand our international patients and families from a variety of local communities," she says. "The Career Lattice Program supports these kinds of connections."

The program's reputation continues to grow throughout the hospital. This year saw the highest

recently attended the 2015 national Magnet conference. Her goal is to step into a leadership role to create more programs at Boston Children's that support the Magnet domains. "Attending the conference offered me still another opportunity to grow professionally and consider how to improve outcomes for all of the families we serve," says Bien-Aime.

Watch a video about our Career Lattice Program
<https://youtu.be/HKdDg9lCobY>

**Nursing Career Lattice Program Statistics
 2010–Present (n=28)**



INFLUENCING HEALTH CARE LEGISLATION

Nurses Take Advocacy Directly to Policymakers

At Boston Children's Hospital, dozens of nurses regularly step outside their clinical roles to take on children's advocacy efforts through the hospital's Legislative Action Interest Group (LAIG). This group, a collaborative effort between the hospital's Department of Nursing/Patient Care and the Office of Government Relations, was created to leverage the clinical expertise of nurses in the policymaking arena.

The LAIG started as a facilitated monthly forum, where members explored state and federal policy issues and discuss advocacy strategies, with the goal of better understanding—and influencing—health policy. Its interprofessional structure supports nurses in engaging in health policy and provides the opportunity for Government Relations staff to better understand clinical implications for pending policies. This uniquely positions the hospital to communicate real-world implications of developing health policy to those in decision-making roles at the local, state and national levels.

Ashley Waddell, MS, RN, professional development specialist in Clinical Education and Informatics, is a coleader of the group. "From a professional standpoint, it's important that nurses are aware of the policy conversations taking place and share their

experiences with lawmakers," she says. "Good health policy should reflect the reality of patient care."

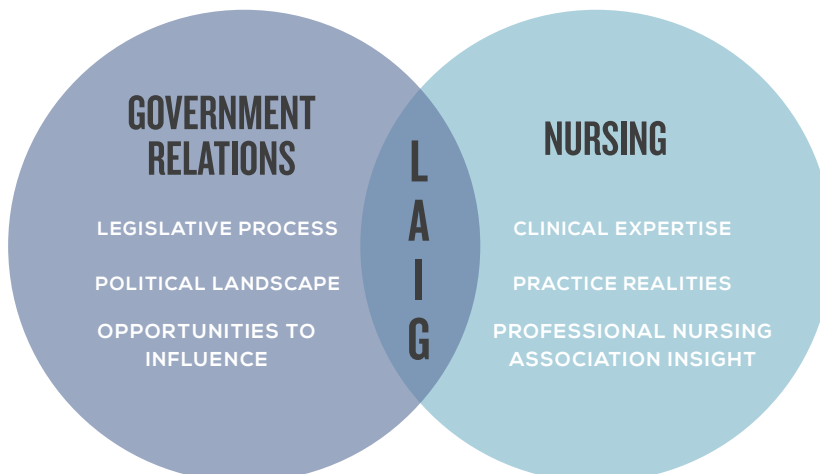
While the LAIG originally formed to address an intensifying conversation between nursing groups around the issue of mandated nurse-patient ratios, it has now expanded well beyond the monthly meetings. Over the past two years, members have testified at public hearings, met with state and federal legislators and participated in educational programs at the State House. Nurses have written and delivered testimony at hearings, including those about mandated nurse staffing ratios.

Most recently, with the passage of Chapter 155, An Act Relative to Patient Limits in all Hospital Intensive Care Units, Neonatal Intensive Care Unit Nursing Director Cheryl Toole, MS, RN, CCRN, NEA-BC, and Clinical Coordinator Keri Kucharski, BSN, RN, CCRN, engaged with regulatory decision-makers regarding the role of nurse leaders in assessing complexity and variability in the NICU environment.

Toole and Kucharski were influential contributors on advocacy panels assembled for the regulatory hearings, and they skillfully hosted regulators on tours of Boston Children's NICU. "It's been impor-

LEGISLATIVE ACTION INTEREST GROUP (LAIG)

Advancing Nursing Leadership in Health Policy Formation





Boston Children's Hospital's nurses regularly speak at the Massachusetts State House.

tant for me, as an expert clinician in critical care, to influence the regulations around this law as they developed,” says Kucharski. “My goal was to educate the committee on the critical care environment, how we use critical thinking when caring for our patients, and how nurses ensure that patient needs match with nursing characteristics when making patient assignments.”

Supporting the Nursing Workforce

“It’s been important for me, as an expert clinician in critical care, to influence the regulations around this law [Chapter 155: Act Relative to Patient Limits in all Hospital Intensive Care Units] as they developed.”

—Keri Kucharski, BSN, RN, CCRN,

The LAIG forum not only elevates Nursing’s voice as a whole in the hospital’s legislative positions, it also gives individual nurses a chance to direct their passion to drive health care change. Amy Delaney, MSN, RN, CPNP-AC/P, nurse practitioner in Cardiac Surgery, finds LAIG to be an effective way to bridge her advocacy work inside and outside of the hospital. She says, “When caring for patients, I am consistently thinking, ‘What are barriers to care? What works best? How can we do things better?’ Activism is the primary way of making change.”

Right now, the group is reviewing telehealth barriers that are affecting patient care and is working to influence pressing licensure issues that currently don’t allow Massachusetts clinicians to fully take advantage of emerging and existing virtual technologies. Several nurse-led teams are taking on the challenge of delivering evidence-based research to prove the value of clinical interactions via phone, video and mobile applications.

The group is also focused on ways to create a “culture of health” that takes into account a family’s social determinants of health, such as their income, education level, nutrition, exercise routines and where they live. “There is significant stress on these families who struggle to attend medical appointments while they are living with great uncertainty in their lives,” says Cheryl Mullan, RN, CPNP, a nurse practitioner in Primary Care at Longwood. Through LAIG, Mullan shared case stories that have become the foundation for testimony to

Support for HB429/ SB94, an act intended to ensure the well-being of children in the Commonwealth.

If successful, the legislation will impact range of child health issues: It will improve access to food; ensure families at risk of homelessness are eligible for emergency shelter; and provide children in emergency shelters transportation to medical appointments.

“The LAIG allows us to step outside what may not be the normal comfort level for clinicians,” says Delaney, “and recognize the opportunity to improve the health of the community and nation through effective legislative action.”

Practice Outcomes Through Policy Leadership

Nurses Drive Legislative Change

- Nurses in a variety of roles and areas have participated in more than 20 state legislative hearings and regulatory sessions.
- Nurses have delivered testimony at high-profile public hearings. Policies they have addressed include:
 - Mandatory nurse staffing ratios
 - Nurse licensure compact
 - Mandatory nurse overtime
 - Telehealth and scope of practice
 - Advanced Practice Registered Nurse scope of practice
- Nurses travel to Washington, D.C., to participate in patient advocacy events and have met with more than 40 U.S. Congressional staffers and legislators.
- Nurses collaborate with members of the Boston Children’s Government Relations team to embed Nursing perspectives into health policy conversations
- Nurses suggest ways to best align policy initiatives with the day-to-day needs and experiences of direct care providers.

HEALTHY CAREGIVERS = HEALTHY WORK ENVIRONMENT

Aligning with AACN Standards for an Optimal Work Environment

A healthy, satisfying work environment has been shown to play a critical role in health care, resulting in engaged staff, strong communication among disciplines and better patient outcomes.

To this end, the American Association of Critical-Care Nurses (AACN) and the American College of Chest Physicians created an assessment tool in 2009 for organizations, departments and units to measure progress on achieving six standards they identified as forming the basis of a healthy work environment. An electronic survey assessment tool, developed for critical care areas, provided a way to gather anonymous information about the health of the work environment. The resulting data was meant to guide strategies for improvement of an individual area.

The six, evidence-based AACN standards that make up a healthy work environment are: skilled communication, true collaboration, effective decision-making, appropriate staffing, meaningful recognition, and authentic leadership.

Some departments at Boston Children's Hospital have used the AACN survey assessment tool since it became available, including the Cardiovascular and Critical Care Patient Services Programs, where staff care for more than 4,000 medical, surgical and transplant patients and their families annually. As the largest caring discipline, these

nurses are major stakeholders in terms of the health of the work environment.

After conducting the survey, leadership in these programs found that the environment was "good." However, they were not satisfied with "good" and felt they could do better. While the tool provided a numeric score that reflected staff's appraisal of the work environment, it did not provide insight into how or why staff members answered each question.

And another, larger question loomed: Was the AACN tool, in fact, the best way to assess how an environment fosters interprofessional patient-focused nursing care in a pediatric setting?

Studying the Studies

Patricia Hickey, PhD, MBA, RN, FAAN, vice president and associate chief nurse of Cardiovascular and Critical Care Patient Services, examined years of survey results. In a way, this area was a microcosm of Boston Children's: an environment with many highly complex, high-acuity patients, fast-paced care delivery and high stress levels among clinicians. She wanted to do a deeper dive and see if the tool could capture the culture of quality, patient family-centered care and staff satisfaction as an institution, rather than as a department. "After all, it's a team—not just nurses—who are accountable for a work environment," Hickey says.

Evidence-Based Practice

The Relative Environment Assessment Lens (REAL) Indicator has become a valuable tool in assessing the specific issues of the clinical area and identifying opportunities for improvement:

–Identified areas of improvement (communication, teamwork and mutual respect) directly align with the six standards of the AACN Healthy Work Environment Assessment Survey.

–Targeted initiatives implemented:

- Effective Decision-Making: Capacity initiative utilizing length of stay data and predictive modeling to address challenges with census and scheduling*
- Meaningful Recognition: Provision of increased learning opportunities and staff education*
- Authentic Leadership: New leadership structure implemented, including the addition of a clinical coordinator*

Laura Wood, DNP, MS, RN, chief nursing officer and senior vice president of Patient Care Operations, was also excited to support the spread and scale of Hickey's work and to test how the tool could be applied in a broader context within Boston Children's.

In order to evaluate the AACN tool across the organization to better inform its use, Hickey worked in collaboration with AACN to get permission to administer it hospital-wide to all staff—a first-of-its-kind endeavor. Soon, Boston Children's became the first pediatric hospital to conduct an official validation survey of the AACN survey in all inpatient and procedure areas.

"We wanted to help the AACN understand how the survey worked beyond the discipline of nursing and beyond critical care," says Jean Connor, PhD, RN, CPNP, FAAN, director of the Nursing Research Cardiovascular and Critical Care Patient Services Programs, who studies the link between a healthy work environment, excellent nursing practice and patient outcomes. "We wanted to see if it could be a lens into the health of the whole care team and to understand what all frontline staff needed."

At the time, Dennis Doherty, BSN, RN, was working as a staff nurse in the Medical Surgical Intensive Care Unit (MSICU). "When I'm at the bedside, I'm focusing on patients and families," he says. "The environment can seem out of our control. That's what creating a healthy work environment is all about. The AACN framework is familiar to us now and has provided staff nurses with fresh insight into how we can make change at the bedside level."

Passing the Test

Boston Children's evaluation of the survey's performance suggests that the AACN tool does not need modification: Evidence shows that it is a valid measure of not just critical care work environments, but of other kinds of patient care areas. "The AACN needed that information and is pleased to have been able to expand the tool's offerings," says Connor.

Going forward, teams can develop initiatives to address specific ways to optimize the work environment using scores from their unit. They'll also be able to track progress from one year's survey to the next.

Connor is also leading a major research collaborative that allows benchmarking between hospitals. She's leading a study of 28 free-standing children's hospitals' cardiac and critical care programs and will compare the health of each program's work environment—the first time this kind of data will be collected.

For nurses across the hospital, like Doherty, conducting these assessments and working together on improvement initiatives in and of itself creates a healthier work environment. "It brings people together so we have a voice as a group—and we know it's heard," he says. "It's empowering to know you can strive for excellence as a team. It spills over to who you are as a nurse."

Tool Created to Foster Real-Time Assessment

While the AACN survey has proved to be a useful way to generate a snapshot of the hospital's work environment, it wasn't created to be used constantly. So nurse leaders, knowing that they didn't want to wait a whole year for an update, developed a real-time indicator to get feedback on how people are feeling about the work environment.

Launched in the Cardiac Catheterization Lab, the indicator is simple and highly effective. Any staff member can quickly fill out an anonymous form that ranks how they feel, and leadership reads them each day. The form uses faces similar to the Wong-Baker FACES Pain Rating Scale (see below), which helps patients rate their pain.



The results create a quality dashboard that translates to a healthy work environment score. The unit discusses the results at staff meetings and operations committees, taking into account the factors—like staffing and patient volume—that could have affected the day's overall scores.

"Staff want an in-the-moment way of capturing their perceptions and to communicate immediately," says Connor. "People know they're being heard." The tool was so successful in 2014–2015 that Boston Children's Hospital awarded an interprofessional team a grant to implement it across the hospital next year.

EXCELLENCE IN THE OPERATING ROOM

One Nurse's Clinical Practice Exemplar from the Boston Marathon Response

Written by Kathleen M. Corrigan, MS, RN, CPN, staff nurse II, Main Operating Room (shown second from left at 2015 Nurses Week Exemplar Award Presentation)

Growing up in Natick, Mass., I can remember the runners of the Boston Marathon passing right by the end of my street on their way to the finish line. It was a springtime ritual that all of the kids in my neighborhood looked forward to each year — cutting bags of oranges into quarters, and waiting, filled with excitement each time one of the runners grabbed a slice, hoping that we made a difference with a small contribution. I loved Marathon Monday.

Imagine my excitement 15 years later, when I was invited to volunteer in the medical tent, in a professional capacity.

In April 1985, I was a relatively new perioperative staff nurse in the operating room of a community teaching hospital, about 20 miles west of Boston. One of my colleagues was the original nurse coordinator of medical volunteers at the finish line. Her name is Joan Casey, and at the time she was a nurse in the hospital where I worked and had attended nursing school. I had met her years before when she had cared for my mother in the Intensive

Care Unit (ICU), and she had quickly become one of my earliest mentors in nursing. I was eager to see her in action.

At the end of my day in the tent, she asked me if I wanted to come back the following year. I was too embarrassed to tell her that I did not enjoy managing such a large volume of various,

anonymous bodily secretions in an era before the now common practice of universal precautions. I did, however, mention that I had gotten to talk with a sports medicine doctor from Boston Children's, who had joined forces with the team from Framingham, to collaborate and build a growing medical response and sweep team for the athlete runners. I told her that after talking with him, I thought I might like to interview for a job at Children's. Three weeks later I joined the staff of the Main Operating Room (OR) and never looked back.

Imagine my angst 28 years later, when I would once again be directly caring for children and families who were at finish line, under such different and unimaginable circumstances.

I was one of a handful of nurses staffing the OR on April 15, 2013, when we received a call letting us know that there had been a catastrophic event on Boylston Street, and that we should expect multiple casualties. I ran to my room in the OR, stopping only



briefly to call my local YMCA, and tell them to get my children who were on a field trip, outside Boston. Then, I began to prepare for anything and everything.

From my perspective, the OR team that day was a well-oiled machine. The five of us were veteran practitioners and barely needed to speak as we sprang into action. The charge nurse for the day became our event manager, and the other four nurses prepared for arrivals. Within 15 minutes of the call, the first patient, whom I would care for, was being rushed into room 17 by an enormous contingent of clinicians from multiple disciplines. The sense of urgency, combined with fear, was palpable. The patient had a makeshift tourniquet that had been placed on his thigh in the field, and the emergency blood transfusion protocol had been put into place. The competent chaos was unavoidable, but there was one thing that really struck me. The patient was conscious, but to that point in time, no one had been able to identify him – understandable given the circumstances. I was horrified to think about him being anesthetized, not knowing his name, and unsure of what the surgical outcome might be. I did my best to see if he would tell me his name, and where he was from, but he shouted back that he “just didn’t want to talk right now.”

The urgency continued, followed by a move from the stretcher to the bed. Time was of the essence. In the midst of the appropriately rapid pace in the room, and overwhelming background noise of emergent care, I stopped for a moment to take it in. In that pause, I remembered something that proved quite valuable. In surgical simulations for crisis resource management, we teach the value of the 30,000-foot view. It is an intentional pause in an urgent situation, a chance to not fixate and see the big picture. In thinking about that, I looked around the room, but this time, I was not thinking about things from a clinical perspective. Instead, I tried to imagine how frightening the last 20 minutes must have been for this child and that in the midst of our efforts and attention to medical tasks, I might take another approach to identifying him.

At that point, I got right down next to his ear, and quietly told him that he was safe, and that we would be taking excellent care of him. Then I told him that I was a mom, and I felt certain that his parents would be really worried about him, and would very much

want to know that he was with us, and was safe, and that we were taking really good care of him.

In that moment between us, I was able to coax him to tell me his name, where he was from, an antibiotic that he was allergic to, and that his mother was one of the runners. I also managed to get a phone number from him, although cell service was down. Something clicked, as he went on to tell me that “this just must be his year for injuries,” describing to me a Little League injury he had recently, as he went off to sleep. His surgery began, and ultimately his family was able to be reunited with him, and support him during a long, but successful recovery.

Many years ago, I heard a former surgical fellow say there was a reason why the iconic symbol of Boston Children’s Hospital is a nurse holding a child. At the time, I was filled with pride but never has that comment been more evident to me than when witnessing the response my colleagues were so quickly and expertly able to mount on that day, including those who were volunteering at the finish line and found it within themselves to come to the hospital immediately to offer their assistance. That is an example of Boston Children’s Strong.

Someday I will love Marathon Monday again, but for now, I’m just hoping that last year, as one of hundreds of responders, I may have once again—many years since my childhood days—made a difference with a small contribution.

Empowerment Through Reflection

Nurses have a wide range of experiences throughout their clinical career—exemplars articulate the breadth of their practice. At Boston Children’s Hospital, exemplars inform the clinical ladder and professional advancement. They also serve as a foundation to understand the impact of each nurse’s contribution to the delivery of care.

“Nursing exemplars are an essential part of professional development and a wonderful opportunity to share the ways nurses apply their skills and judgment,” says Marcie Brostoff, MS, RN, NE-BC, associate chief nurse, vice president of Clinical Education/Informatics, Professional Practice and Quality. “The ‘narrative method’ can uncover knowledge embedded in clinical nursing practice that is missed by other formal models to distill nursing professional practice.”





- The American Nurses Credentialing Center Magnet Recognition® is considered the most prestigious institutional distinction a health care organization or hospital can receive for patient care, nursing excellence and innovations in professional nursing.
- Boston Children's Hospital first achieved Magnet designation in 2008 and was awarded redesignation in 2012. Only 7 percent of hospitals in the U.S. are Magnet designated.
- Magnet designation means that the voices of the frontline staff—who are governing and directing work at the point of practice—guide clinical decision-making.



- Boston Children's Hospital first earned this award in 2010, when the Medical Surgical Intensive Care Unit (MICU) and Neonatal Intensive Care Unit (NICU) became the first in the country to earn gold-level status.
- Our NICU was redesignated in 2015 with a gold-level Beacon Award. The award reflects evidence of a positive and supportive work environment with associated leadership structures, evidence-based practice and processes, and outcome measurement.
- Boston Children's is the first and only hospital to receive six Beacon awards.





- Boston Children's Hospital ranked first in eight of 10 pediatric specialties in U.S. News and World Report Children's Hospital 2015-16 rankings.
- Exceptional nursing practice outcomes contribute to hospital rankings in areas including, falls, blood stream infection rates and pressure ulcers.



- Boston Children's Hospital's Emergency Department first received Lantern Award designation in 2012 in recognition of exceptional practice and innovative performance in leadership, practice, education, advocacy, and research.
- The award is a symbol of an emergency department's commitment to quality, leadership, cultivation of a healthy work environment and evidence-based practice.
- Boston Children's received Lantern redesignation in 2015, one of only four hospitals in the country so recognized.



- The award is given monthly to an outstanding nurse in more than 1,900 hospitals, including Boston Children's.
- DAISY Award recipients are nominated by grateful patients and families, physicians, and fellow employees.
- Since the program's inception, more than 100 Boston Children's Hospital nurses have been awarded this national honor recognizing extraordinary nurses for their individual contributions.

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