Everything Matters In

Patient Care

Quality and Safety
at Nationwide Children's Hospital
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The previous two years have been some of the most difficult times ever experienced in health care. Our interdisciplinary teams faced the stress and impact of a marathon that included the COVID-19 pandemic, global unrest, social justice issues and ongoing workforce challenges. If we are feeling tired, we have earned it.

Words cannot express my gratitude at your constant efforts to take care of our patients and families during this marathon of extraordinary events. But one thing I’ve come to know about our Nationwide Children’s family is that we are an organization driven by its vision to create Best Outcomes for children everywhere and we do that by providing the highest quality patient care in the safest possible environment.

The challenges of the previous two very difficult years united us all to work harder, reach higher and be innovative in our quest to lead the Journey for Best Outcomes. Quality and safety are foundational to the Nationwide Children’s five-year strategic plan. We have always been leaders in pediatric quality and safety thanks to all of your efforts, but there is more to achieve.

Preeminent Best Outcomes will be attained through our efforts to strengthen and re-focus the quality and safety program. This will be accomplished through the collaboration and efforts of interdisciplinary teams across all areas: inpatient, ambulatory, behavioral health and in our communities and schools. In this publication, we are highlighting a few of the many programs and initiatives that are a part of that plan.

While the road has been long and challenging, we know the future is bright. As we emerge from the impact of the pandemic, we look forward to continuing our work to deliver the highest-quality, safest care for our patients and families.

And, again, thank you all for everything you do to create a safe day, every day for our patients and families.
As nationally recognized leaders in health care quality improvement, the Nationwide Children's Hospital team can celebrate many achievements within our quality and safety program:

We were the first pediatric hospital to declare zero harm as a vision.

We launched our Zero Hero safety program in 2009, the first branded safety program in pediatrics.

We reimagined the traditional quality framework established through the Institute of Medicine (IOM) by rebranding their standard domains of safe, effective, patient-centered, timely, efficient and equitable care into: do me no harm, cure me, treat me with respect, navigate my care and keep us well. At the time, this framework was inspiring to others in safety and quality well beyond the Livingston-Parsons corridor.

We conceptualized the preventable harm index, which was adopted by more than 140 pediatric member hospitals through the Solutions for Patient Safety collaborative.

We raised the bar nationally with the Pediatric Vital Signs initiatives, partnering with the local community to improve meaningful, long-term child health outcomes which will eventually have impacts felt in communities well beyond Franklin County.

We continue to teach future leaders through the Quality Improvement Essentials (QIE) course.

We launched the first pediatric-specific quality and safety journal, “Pediatric Quality & Safety,” which is now indexed through PubMed.

We also achieved never imagined outcomes including having recently gone an interval of 531 days, nearly a year and a half, between serious safety events (i.e. events that result in significant patient harm).

This is the longest serious harm-free interval Nationwide Children's has reached in our more than 10-year-long year safety journey! While we are immensely proud of these past accomplishments, it’s time to look forward setting the vision for success over the next decade.

Nationwide Children's has long been on the Journey to Best Outcomes. With a new strategic plan spanning 2021-2026, we are leading that journey. Quality and safety will always be core values for everyone at Nationwide Children's - whether you are a front-line clinical staff member, a supportive allied health member, a member in operations behind the scenes or a researcher. Our updated vision for quality and safety calls for reinvigorating, reframing and restructuring the core quality and safety principles with which you are all familiar.

First, our Zero Hero program, which began in 2009 and is now entering its teen years, needs a new wardrobe. As we continue to create a safe day every day, we will refresh and reinvigorate our basic training and discussions around safety. We will expand our work thinking proactively about safety opportunities, and we will use simulation in earnest to improve interdisciplinary group performance. A small team has already been formed to review content and instructional design to describe, frame and introduce new colleagues to our Zero Hero culture, behavioral expectations, and high reliability tools for performance. Megan Hysell from Organizational Development is a member of that working team and describes their mission perfectly in her line of sight statement for the strategic plan:

"In my role, I take ownership for ensuring that I’m exhausting and researching as many resources as I can bring to the table to make the Zero Hero redesign as effective and meaningful as possible for all team members. That it’s relevant and accessible to each person, regardless of their position is of paramount importance. And as a result, safety continues to permeate our culture so deeply that you wouldn’t know how to separate it from what we do day-to-day."

Secondly, we will reinvigorate our safety work learning from harm that is avoided. In our past framework, we conceptualized safety as “Do Me No Harm.” We will always continue to investigate past harm cataloging lessons learned so we can make system-level improvements reducing the likelihood of recurrent, similar events. And, moving forward, we will take more opportunity to explore care that goes well – from harm that is avoided, a proactive approach to safety. An analogy would be airbags going off in our vehicle – after an accident occurs; we hope the airbags deploy and help prevent harm. A more proactive approach to car safety is lane departure warnings in vehicles which alert drivers of lane drift and allow for course-correction to prevent a harm event. We want to find and learn from safety opportunities to be more aligned with the ‘lane departure warning’ concept.

Now, let’s turn to reframing of our quality and safety work under the new SCOPE framework. This is an opportunity to improve the way we deliver care to achieve Best Outcomes.

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delivering best outcomes. Under its umbrella, the Center and programs under shared leadership to integrate teams. The Center for Clinical Excellence brings together staff of Nationwide Children’s created the Center for Clinical Excellence. Finally, let’s consider the restructuring of our quality and safety work. With the new strategic plan, Nationwide Children’s should be a preferred destination for clinical care. Examples of clinical outcomes are metrics such as the leukemia five-year survival rate or the percent of diabetic patients demonstrating good glucose control over time measured by HbA1c. Population health is an opportunity for programs to think broadly about both the small and large populations they serve in care and work to elevate the clinical outcomes for the entire population. Rounding out the framework is equity and experience. We need to better understand and address variations in outcomes and other performance measures across individual differences like skin color, gender, sex, language, insurance status, zip code and other social determinants of health to ensure equitable care across populations. We must remind ourselves to always put the patient and family at the center of our decisions, partnering with them, to understand and optimize what is most important to them.

Unplanned extubations (UEs), a common adverse event in the NICU, may result in airway trauma, cardiopulmonary resuscitation, and, in extreme cases, death. Historically, unplanned extubations were considered unpreventable, particularly among our extremely premature infants. In our 72 level IV NICU beds, the care provided is family-centered, encourages skin-to-skin care, avoids routine sedation to prevent UEs and provides neurodevelopmentally focused care. These practices, while in the best interest of the infant, create additional risk for UE. We utilize unique approaches via simulation, behavioral use of economic principles and nurse-respiratory therapy dyads to elicit culture change. Our UE mitigation strategies include leadership rounds, utilization of Kamishibai cards to reinforce best practices, event huddles, real-time feedback, use of airway guardians, RT-RT airway securement, simulation and interactive learning modules to optimize airway management.

Our baseline UE rate was 1.6 per 100 vent days, or one UE every 90 days. As we implemented interventions, we noted a steady decline in UEs beginning in 2021. As we implemented interventions, we noted a steady decline in UEs beginning in 2021. As we implemented interventions, we noted a steady decline in UEs beginning in Q4 2021 through the first quarter of 2022. Present rate is 0.9 UEs per 100 vent days, or one event every nine to 10 days. Sustainability will be achieved through continuing our current intervention bundle and educational efforts. UE prevention is now integrated into the annual curriculum for RNs and RTs. We will continue to routinely share UE data along with event reviews.

Several gaps and opportunities were identified using failure mode analysis. The leadership team learned the importance of assessing team readiness, thorough education and ensuring adequate time between interventions. Identification of unit-level champions were key to buy-in, change in practice, and ultimately a change in culture.

The future direction of this project includes a commitment to fostering collaboration while evaluating new interventions. We will work to better understand any racial/ethnic disparities in UEs designing strategies to eradicate inequities. Additionally, we will use proactive safety tools to enhance X-ray quality so that film features used to ensure appropriate ETT depth are optimized. This project cultivates collaboration among all members of the health care team to achieve our goals. This collaboration elicited intentional discussion surrounding the risk for UE events, enhancing preventability, and promoting proactive safety awareness. Routine observation of these discussions, coupled with decreased UEs, highlights a paradigm shift in culture.
The Clinical Outcomes team within Nationwide Children’s Hospital’s Center for Clinical Excellence is a diverse group of individuals with varying areas of expertise and focus on best outcomes for patients. This includes the director, managers, quality improvement specialists, data analysts, data specialists and program coordinators. Overall responsibilities of the team include defining, measuring, benchmarking and improving clinical outcomes by partnering with clinicians around the institution. The managers on our team provide both leadership and expertise in healthcare administration, quality improvement methodology such as the Institute of Healthcare Improvement and lean six sigma, data analytics and project management. Our data analyst team specializes in clinical data and works closely with members of the Center for Clinical Excellence to provide data to track key metrics, make informed decisions about improvement opportunities and assure we are measuring outcomes appropriately. In addition, they support data needs for regional and national collaboratives, the Joint Commission on Accreditation (JCAHO), Press Ganey and other regional and national collaboratives, the Joint Commission for leading and coordinating efforts around the design and implementation of pathways or care process models. These pathways allow clinicians to do the right thing and focus on reducing clinically unwarranted or unnecessary variation in practice in Nationwide Children’s care delivery.

While quality starts with safety, it is much more than preventing things from going wrong and eliminating harm. Safety is a “given,” from a parent perspective. Parents should come to Nationwide Children’s for their child’s care because we achieve and lead best outcomes, not just because we do not make mistakes. While it continues to be very important to be able to tell parents that we provide exceptionally safe care, it is also equally as important to articulate our clinical outcomes.

Clinical outcomes are changes in health that can be both measured and followed. They can take the form of many different aspects of health care. Traditionally, evaluating outcomes around utilization such as emergency department visits, hospitalizations and readmissions have been measured and collected as these data points have been easier to collect. Clinical outcomes, however, should focus on what is important to the person with an illness and their caregivers. These areas may include days with symptoms of illness, cancer freedom, quality of life or missed days from school. Recently, an emphasis on the collection of these data points has been occurring in health care. When striving to achieve the best outcomes in children seen at Nationwide Children’s, it is important that we truly understand what can and should be collected to inform treatment decisions. Ultimately, improving important patient outcomes drives quality patient care.

At Nationwide Children’s, we lead an ambitious effort and journey to achieving best outcomes. In 2021, Nationwide Children’s hospital released a new strategic plan. Advancing child health outcomes will focus on unique clinical expertise areas within our organization. Specifically, we will continue to lead in quality improvement and safety. Under the leadership of Rustin Morse, MD, Chief Medical Officer, the hospital has created the Center for Clinical Excellence. The center’s focus is on important outcomes, how to measure them and how to improve performance. The center will achieve best outcomes by reducing care variations and improving communication.

For more information on the Clinical Outcomes Team and Quality Improvement at Nationwide Children’s, visit ANCHOR.
Ever Heard of QIE? What is it and Why is it Important?
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Simulation, A Catalyst for Education
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Establishing a robust quality improvement program

Implementing an education program for staff

Creating a non-punitive culture of safety

Health care reform has shifted payment incentives from volume to value of services and health outcomes, including fewer hospitalizations (Sherman & Bishop, 2015). The Institute for Healthcare Improvement (IHI) quadruple aims to improve health and health care worldwide by focusing on improving care, improving the population’s health, reducing per capita cost and improving clinician experience (Bachinsky, 2020). Patient safety priorities, quality outcome initiatives and financial accountability are more imperative than ever. (Talley et al., 2013).

Nationwide Children’s Hospital aligns with IHI’s quadruple aim through the organization’s strategic plan. Quality has been a foundational element in the strategic plan since 2009, when Nationwide Children’s Hospital began a journey to eliminate preventable patient harm by implementing an education program for staff, establishing a robust quality improvement program and creating a non-punitive culture of safety. The current strategic plan focuses on a new framework for quality and safety in establishing The Center for Clinical Excellence. Quality Improvement Essentials (QIE) is part of a series of educational opportunities ranging from novice to expert, including quality tool school and quality boot camps. QIE is an education program geared toward clinical staff where participants learn quality improvement methodology and tools to tackle a clinical problem. Participants apply what they have learned by completing a quality improvement project throughout the course. The goal of QIE is to create micro-system quality leaders where participants in the course will lead quality improvement efforts in their department after the course.

The course is comprised of nine four-hour sessions across five months. At the end of the course, participants present their QI project to a group of senior leaders across Nationwide Children’s. QIE is offered twice a year, and we enroll approximately 20 individuals per course. The course is interprofessional, and participants include 40% physicians, 40% nurse leaders, and 20% allied health providers, administrators, research scientists, QI analysts and others interested in or are responsible for directing QI efforts. Along with interprofessional continuing education credits, the course is approved for MOC Part 2 credit, and projects are eligible for MOC Part 4 credit application.

We have trained 450 hospital employees since the course’s inception in 2012. Given the course’s popularity, we have also partnered with seven different national and international institutions training more than 65 external participants. Past participants have said, “Through QIE, I was able to develop a firm understanding of QI principles and methodologies that I can apply in my current and future practice,” and “I really had no expectations for QIE. I didn’t know what to expect. After the first day, I knew I was in the right place for my development.”

Are you interested in participating in QIE? Please visit the QIE ANCHOR page by searching for QIE or contact Laura.Lehman@NationwideChildrens.org.
Accredited by the Society for Simulation in Healthcare, the simulation program provides opportunities for various clinicians to practice technical skills, medical judgment and teamwork.

The dedicated 7,500 square foot simulation center is a fully equipped facility that allows faculty to conduct education in a space that is modeled after the environment of our patient care areas. Highlights of this space include:

- A surgical and medical skills lab to practice procedural techniques.
- Two debriefing/conference rooms to allow for continued learning and self-reflection following a simulation experience.
- Six patient care rooms that are designed to closely match different hospital settings, such as inpatient, outpatient and operating rooms.

The Simulation Center is a state-of-the-art pediatric simulation training, education and research center. The center prepares clinicians to provide the safest and most efficient care to children by using medical manikins and other educational tools. Each year the center provides more than 1200 teaching sessions to greater than 8,250 attendees, training the leading pediatric clinicians of tomorrow.

The utilization of this space combined with the expertise of the simulation team enables us to lead the way in simulation by empowering health care teams, patients and families to reach their highest potential.

The Nationwide Children’s Simulation Team is made up of a multidisciplinary group of professionals who value teamwork. Staff and physicians are leaders in medical simulation and share their unique knowledge at leading regional and national conferences. Over 75% of the team that provides instruction are certified as experts in the simulation arena. This diverse skill set within the team leverages the many talents to support the focused education needed in multiple areas around our organization from mental health settings to critical care.

Simulations may also add to our understanding of human behavior in the true-to-life settings in which clinicians usually operate. Nationwide Children’s Hospital’s Simulation Center, located at 520 Butterfly Gardens Drive, opened in August of 2020. The center shares healthcare simulation’s overall purpose of improving the safety, effectiveness and efficiency of healthcare services.

Health care simulation’s four main purposes are education, assessment, research and health system integration in facilitating patient safety. Each of these components may be met by some combination of role play, low- and high-technology use and a variety of settings from tabletop sessions to a full mission such as utilizing a high fidelity simulator in a real patient environment engaging staff from many disciplines.

Simulations may have a long history in medical education yet many are unfamiliar with the concept. Simulation is the imitation or representation of one act or system by another.
The Simulation Team provides education with the hospital’s guiding principle to “create a safe day every day.” Accredited by the Society for Simulation in Healthcare, the simulation program provides opportunities for various clinical staff to practice technical skills, medical judgment and teamwork. Activities incorporate a variety of simulation modalities and methodologies including, AR/VR (Augmented Reality/Virtual Reality), real patient care environments, virtual reality and task trainers. The typical simulation session places the clinicians in a safe and controlled learning environment where they actively participate in a highly immersive scenario that is low in frequency but high-risk. In this space all learners can get hands-on practice and use their critical thinking skills without causing patient harm.

Simulation, just as in health care and science, is constantly evolving and improving to deliver education in the most realistic way. In the education industry, augmented reality (AR) and virtual reality (VR) have emerged and are quickly trending upward to be the next “go to” when delivering educational instruction. AR/VR is a virtual reality learning option in which the clinician can suspend disbelief and emerge themselves into a virtual world with a procedural-based competency or a scenario-based educational session. This technology provides favorable outcomes coupled with the training convenience brought to clinicians. In addition, less resources are utilized as this type of education can be completed anywhere. Realism is much more enhanced as this allows the learners to experience the simulation in a virtual world.

Our mission at Nationwide Children’s Simulation Center is to provide simulation-based pediatric focused education through scenarios and courses within our organization and for our affiliates. Improving safety for patients and getting to best outcomes is our number one priority. We want to familiarize clinicians with procedures and technologies. This is done by annual competencies, continued education and new product education.

Simulation doesn’t only focus on clinicians. The simulation team works with the inpatient discharge planners and medical teams to provide educational classes to our families who are starting their journey home with a new tracheostomy. Families rarely get a chance to practice medical skills while in the hospital, especially emergency scenarios, since they have a medical team to rely on. In the Simulation Center we encourage families to practice crisis situations with a hands-on approach. These classes are geared to provide these families the confidence they need to safely care for their loved ones at home. Being able to recognize signs and symptoms of deterioration and knowing how to react in a timely manner can mean the difference between life and death for these patients. Our primary goal is to educate families to the best of our abilities so that they can provide the highest quality care to their loved one even when they are not at the hospital. Perfect practice makes perfect.

Simulating patient safety also means sharpening communication and teamwork skills. In the clinical arena, staff have many different tasks to complete in their scope of practice during a shift or an event, whether planned or emergent. Having a clear line of sight regarding effective communication and understanding amongst each other is imperative for the successful management and outcome of a patient. Providing realistic simulation scenarios and utilizing effective debriefing models to teach components of clear communication and teamwork gives clinicians the opportunity to safely practice and improve upon these skills. This in turn should create clinician confidence and ease of application when they are in a real patient care setting.

Simulation is utilized in systems integration. Systems integration refers to the coupling of simulation into institutional healthcare training and delivery systems. Simulation-based approaches can be effectively used to help evaluate organizational processes as well as individual and team performance. Gaps in performances that are left unmitigated can lead to harm. By using systems-focused simulation and systems-focused debriefing, these gaps and potential threats can be quickly found and fixed. The Simulation Team, under the Center for Clinical Excellence, has been able to utilize this collaboration to support our organization in education around serious safety events. Our team has been able to identify educational opportunities when conducting simulations to determine work as done versus work as imagined. In turn, we have been able to partner with clinical educators in specific units to provide staff the education they need to impact best outcomes for patients in our organization. Examples include disaster response drills or testing a new space prior to occupancy such as the Behavior Health Pavilion that opened in March of 2020.

As health care becomes more complex and clinical practice becomes more specialized, simulation will continue to evolve to meet educational needs. We anticipate virtual reality, augmented reality, and mixed-reality simulators to become increasingly more commonplace. Medical manikins are also likely to become more capable, integrating diagnostic, task and environment trainers. Not only would such tools be invaluable for medical education, but they would likely form the basis of a new paradigm for performance evaluation such as certifications, allowing for the examination of not only knowledge and judgment, but also physical skills.
Mutual Respect, Accountability and Social Capital: Stopping Incivility in the Work Environment
Cathleen Opperman, DNP, RN, NPD-BC, NEA-BC, CPN
Andrea Manning, RN, MSN, MBA, NEA-B

This is the description of a nurse-driven evidence-based practice change for our employees. This initiative is about eliminating incivility in the work environment through building relationships of mutual respect and accountability, supported with social capital.

CLINICAL INQUIRY:
Whether you call it incivility, lateral violence, horizontal hostility or bullying, it is deviant behavior and it wreaks havoc on a clinical practice environment. The Quadruple Aim for health care in the United States is practice change necessary to.

1. IMPROVE PATIENT OUTCOMES
2. IMPROVE THE CUSTOMER EXPERIENCE
3. REDUCE COSTS
4. IMPROVE EMPLOYEE SATISFACTION

This past decade has been a decade of quality improvement with metrics (i.e., patient falls, pressure injuries, medication errors) driven down by awareness, reporting and concentrated efforts by focused work groups. However, the dramatic improvements on these metrics across the country have hit a plateau falling short of the elusive zero target. According to a study by the Joint Commission, in 70% of sentinel events, communication was found to be the root cause.
Communication issues and incivility are often connected. Nurses may dismiss incivility behaviors as normal, someone’s “bad day” or a “need to grow a thick skin” (Schwarz & Leibold, 2017). What interventions can facilitate a change in the culture of a work group so that incivility is no longer tolerated?

**PICO QUESTION:** In health care workgroups (P) how does education (I) compared to current practice (C) affect the occurrence of incivility in the practice environment? (O)

The literature was searched, appraised and synthesized, identifying that education can make a difference if it includes:

1. Knowledge about deviant behaviors
2. Self-reflection exercises
3. Communication skill practice
4. Microlearning follow up for sustainability

**IMPLEMENTATION:** To implement education in the pandemic with staffing shortages, a combination of a self-pace module (24/7 access), a half day workshop (opportunity to practice using scenarios) and a series of weekly microlearning emails were developed for the interprofessional team. Unlike efforts in the past (“The Pebble Effect”), this curriculum was designed and scheduled in clusters of offerings so that an entire workgroup (all roles) could participate in a narrow period. This gets everyone aware of unacceptable behaviors at the same time and leads to the group using the learned strategies as the new norm.

The educational content focused on: a) mutual respect (recognizing deviant behaviors, assuming positive intent, supporting assertive communication); b) accountability (self-reflection, no Silent Witness, using Stand-by Assist, receiving and giving feedback); and c) social capital (building it as individuals and teams). Recognizing incivility is essential before any strategies can be applied. See box for common examples.

**OUTCOME EVALUATION:** The expected outcome of the education was an increase in knowledge of incivility and mechanisms to address associated behaviors. We used a self-developed survey to measure knowledge, the Negative Acts Questionnaire-Revised (NAQ-R) to measure incivility and two open ended questions to gather additional information. This qualitative information included staff experience with incivility and recommendations to improve the culture of the workgroup.

We conducted these survey’s pre and post intervention and will complete them quarterly to determine if the staff retained knowledge, utilized mechanisms to address the behaviors, and if the intervention impacted the incidence of incivility. Stay tuned for analysis of these outcomes at the end of the year. Long term outcomes that could be achieved include decreased medication errors, improved patient outcomes, and reduced turnover resulting in cost avoidance for the organization.
Opioid Stewardship: Providing High Quality and Safe Pain Management

Sharon Wrona, DNP, PMN-BC, PNP, PMHS, FAAN, Director Comprehensive Pain and Palliative Care Services
Erin McKnight, MD, MPH, FASAM, Medical Director Medication Assisted Treatment for Addiction MATA Program

In 2015, Nationwide Children’s Hospital created an Opioid Safety Task force to embark on opioid stewardship initiatives, improving quality and safety of pain management and opioid prescribing. The goal was to enhance understanding of pediatric opioid prescribing, improve prescriber and patient/family education regarding use of opioids and ultimately promote a multi-modal approach to pain, minimizing opioid prescriptions and risk for later misuse. The multidisciplinary team included physicians, nurses, pharmacists, quality improvement coordinators, informaticists, compliance team and patient/family representatives.

Since that time, many quality improvement projects at Nationwide Children’s have been implemented, significantly decreasing opioids prescribed for home-going patients while continuing to ensure adequate pain management. Providers are utilizing more non-opioid analgesics and only using opioid medications for breakthrough pain, if needed, rather than first-line management.

Despite the significant decrease in opioid prescribing, ongoing efforts are needed to ensure patients and parents understand the potential risks of using opioids as well as opioid safety tenets in the home. Be a wingman and inform the practitioner if there are any of the following for patients who are prescribed an opioid:

- Family or patient history of substance use disorder
- History of mental health diagnosis: i.e., anxiety or depression
- History of taking medications differently than prescribed

Spend time with patients and families to validate their understanding of home opioid safety practices of Monitor, Secure, Transition and Dispose using the Important Facts to Know When Talking Opioid Helping Hand™ and Edutainment video in the inpatient setting. Show families on the discharge AVS the section on Instruction on Opioid Medication. This information also includes a QR code to the Nationwide Children’s opioid safety video and a link to medication disposal locations in their community if they do not live close to Nationwide Children’s outpatient pharmacy drop box locations.

There is a shift in the picture of the opioid epidemic. There is a decrease in overall prescription opioid pill burden which has led to an increase in illegally made pills on the market. There is a transition of illicit opioids from heroin to synthetic fentanyl which is the driver of overdose deaths. The majority of people misusing opioids still started with a prescription opioid. We have also seen a demographic change with the opioid epidemic no longer just a “white rural” problem.

All of us at Nationwide Children’s have a responsibility to our patients and our communities to be opioid stewards. Be sure to have conversations with patients and families on safety and risks of prescription opioids.

If patients and families have questions beyond the information provided to them, please direct them to the prescribing practitioner for more clarification. It takes a multidisciplinary team approach to ensure opioid safety, and every member is important.
Children hospitalized with asthma represent one of the most common inpatient conditions at Nationwide Children's Hospital, with more than 700 patients discharged annually. Asthma can be difficult to treat, and the high volume of patients—some of whom are severely ill—means there is a large, diverse group of physicians providing care on different services and units of the hospital. The robust and rapidly evolving evidence published annually on asthma care is also daunting.

In 2016, internal data revealed that asthma patients at Nationwide Children's had a median length of stay of 2.3 days—longer than our peer institutions nationally. Gerd McGwire, MD, PhD, pediatric hospitalist and Medical Director of the Clinical Pathways Program, saw this as an opportunity to improve the care of our asthma patients by creating an Asthma Clinical Pathway. She notes that “Clinical Pathways have evolved to be the best method to bring the entire care team together to review the evidence and to standardize best practice that is specifically suited for an institution’s infrastructure in order to improve the outcomes for our patients.”

Clinical Pathways at Nationwide Children’s Hospital are peer-reviewed, evidence-based best practice recommendations for the management and treatment of medical conditions and are meant to complement clinical judgment. Each pathway has an algorithm and text document outlining the recommended flow of patient care along with the evidence-based research to support it. Order sets or other tools embedded in the electronic medical record help providers use the pathway.

Education materials alert providers to new pathways, their goals, and how and when they are to be used. Data gathering and analysis allows the Clinical Pathways Program to chart improvement of patient outcomes.

To develop the Asthma Clinical Pathway, Dr. McGwire and a multi-disciplinary team worked with the hospital’s research librarians to conduct a focused literature search. The team analyzed and graded the results for their relevance to the hospital’s patient population and the quality of the studies, and then mapped the recommended flow of patient care. The final product is a pathway with algorithms for patient care in the Emergency Department, Inpatient Floors and the Pediatric ICU. The pathway, like others produced by the program, includes sections on treatment, as well as tests that are not recommended, to eliminate approaches to care not supported by research. Says Dr. McGwire of the team’s work: “The collaboration between pulmonologists, hospitalists, intensivists, Emergency Department and primary care physicians laid the foundation, but it was the contribution of our skilled Respiratory Therapists and nurses that allowed us to implement the Asthma Clinical Pathway.”

Grounded in Nationwide Children’s quality improvement methodology, the Clinical Pathways Program draws on data analysts and service line coordinators to evaluate pathway and program performance and, ultimately, demonstrate the success of the work. An existing score card tracks pathway utilization to chart the percentage of eligible patients who are on a pathway, with goals established for incremental increases through the duration of the strategic plan. A new outcome measure score card will display each pathway’s progress towards its established metric to validate performance improvement.

The Asthma Clinical Pathway is one of the great, early successes of the Clinical Pathways Program. Not only has care been standardized across multiple sites at the hospital, with use of the associated Epic order set utilized for more than 90% of eligible patients, but the outcome metric of length of stay for the inpatient population is down from 2.3 days to 1.8 days. Patients are getting better more quickly, with less time in the hospital and more time at home and in school. There is also less cost to the families involved, including less time away from work when their child is hospitalized.

Dr. McGwire continues to support clinical pathway champions and co-lead development teams. The inpatient Failure to Thrive pathway, developed through participation in a national collaborative, has been in place for several years now. The Failure to Thrive pathway team, led by Allison Heacock, MD, and Tatyana Karakay, MD, of Nationwide Children’s Primary Care Network, are developing the program’s first primary care pathway. A related project led by Dr. Heacock and others is studying disparities of care in the Failure to Thrive patient population using social determinants of health and equity, diversity, and inclusion criteria to determine how best to serve our diverse patient populations. The program will pursue similar reviews of additional pathways and the program as a whole in 2022.

The Clinical Pathways Program has grown from six pathways in 2018 to more than thirty at the start of 2022, with ambitious plans for continued development. As one of the cornerstones of the new hospital strategic plan, the program plans to increase its implemented pathways, ranging from Acute Gastroenteritis to Urinary Tract Infections, to ninety pathways by the end of 2026. Nationally, most pathways programs are limited to recommendations for care in the emergency department and inpatient settings. However, Nationwide Children’s Clinical Pathways Program is collaborating with colleagues in Primary Care and Community Pediatrics to develop and share the pathways with our Primary Care Network providers, as well as publishing them on the Nationwide Children’s Hospital internet site in 2022. Collaboration with Partners for Kids and expansion to the Toledo campus and regionally-affiliated hospitals will follow.

Josh Watson, MD, Infectious Disease, who led the Nationwide Children’s development teams for the Bronchiolitis and Urinary Tract Infections Pathways, notes that “Pathways that provide succinct, evidence-based guidance are one important tool to help busy clinicians stay up to date on current best practices for treating infections.” As head of the Hospital’s Antimicrobial Stewardship initiative, Dr. Watson also sees a role for pathways both inside and outside the hospital: “Extending the reach of the Pathways Program to outpatient settings (both within and beyond Nationwide Children’s) will have tremendous benefits for antimicrobial stewardship efforts. More antimicrobials are consumed by outpatients than inpatients, and there is tremendous opportunity to optimize prescribing even for common, ‘bread-and-butter’ infections in the community.” This will be a growth year for the Clinical Pathways Program in terms of leadership as well. The program expanded to four medical directors and two program managers in the early stages of 2022, with new data, coordinator and informaticist roles supporting the program. In addition to enabling the program to develop additional pathways and more sophisticated data analysis, the new team members will enable the program to take leadership roles in national collaborations and to pursue and publish research on the impact of pathways on social determinants disparities as well as health/equity diversity and inclusion challenges in healthcare.

Says Ryan Bode, MD, Medical Director for Quality and one of the senior leaders of the program, “Clinical pathways are clearly an effective tool in promoting high quality and high value care—ultimately leading to best outcomes for our patients. Like our Zero Hero safety journey, Nationwide Children’s Hospital has the culture, expertise, and the will to become the preeminent pediatric clinical pathway program.”

Improving Patient Outcomes Through Clinical Pathways Programs

Andrew Bethune, Business and Development Manager, Clinical Pathways Program

Education materials alert providers to new pathways, their goals, and how and when they are to be used. Data gathering and analysis allows the Clinical Pathways Program to chart improvement of patient outcomes.
Patient safety initiatives are perhaps the most visible of our improvement efforts at Nationwide Children’s Hospital. For more than a decade, we have developed tools and processes aimed at reducing adverse events such as medication errors, central line-associated blood stream infections (CLABSI) and pressure injuries (PI). This is evidenced by our robust Zero Hero program and unit-based teams working to minimize harmful hospital-acquired conditions (HACs). This work is ongoing and of paramount importance to the patient safety pillar of the newly designated Center for Clinical Excellence.

Improving Patient Safety:
Highlights for 2022

Rob Gajarski, MD, MHS, Section Chief of Cardiology, Medical Director for Quality and Safety, Center for Clinical Excellence

Patient safety initiatives are perhaps the most visible of our improvement efforts at Nationwide Children’s Hospital. For more than a decade, we have developed tools and processes aimed at reducing adverse events such as medication errors, central line-associated blood stream infections (CLABSI) and pressure injuries (PI). This is evidenced by our robust Zero Hero program and unit-based teams working to minimize harmful hospital-acquired conditions (HACs). This work is ongoing and of paramount importance to the patient safety pillar of the newly designated Center for Clinical Excellence.

Under the auspices of the Chief Medical Officer and Vice President for quality and safety, the patient safety workgroup is committed to reducing harm and minimizing disparities as part of the organizational mission to deliver high quality patient and family centered care. In the upcoming year, the hospital will place an ongoing emphasis on proactive safety initiatives such as the PROMISE and Situational Awareness programs along with a new project aimed at reducing serious peripheral IV extravasations (PIV-E).

Rooted in the Heart Center, the PROMISE (PROactive MIgtiation to decrease Serious adverse Events) project is a key proactive safety initiative. Born from the “failure to rescue” concept, the crux of this project is the engagement of a multidisciplinary group of experts to proactively recognize and then troubleshoot solutions for patients not following an expected clinical path. The project has met its specific aim and due to its success, we anticipate it will be adapted and implemented in other areas of the organization over the next several years.

Situational awareness is recognized by the Solutions for Patient Safety network as a hallmark program for proactive safety. Nationwide Children’s has been active in this domain for the past few years with continuous efforts to reduce the number of emergent transfers (patients requiring significant fluid resuscitation, medications to support blood pressure or mechanical ventilation within 60 minutes of transfer) to an intensive care unit which is linked to higher patient mortality. An important adjunct to the team’s efforts was last year’s implementation of the Deterioration Risk Index alert. This complemented our existing Watchstander program with an expectation that emergent transfers will decrease throughout 2022 as more units recognize the extent to which this Epic-based predictive analytics tool can improve early recognition of patient deterioration and facilitate care escalation minimizing the need for emergent transfer.

Beginning in 2022, we will challenge ourselves to reduce serious PIV-Es. There were 44 of these specific injuries in 2021 and were related to toxic peripheral IV fluid extravasation. This is a full thickness tissue injury extending into subcutaneous fascia or muscle. These injuries can usually be treated with an injection of hyaluronidase in the affected area but, if ineffective, it may also necessitate more aggressive treatments including fasciectomy, skin grafting and, rarely, amputation. Through the project’s three-year time horizon, the PIV-E leadership committee will partner with unit-based PIV-E teams to implement interventions such as IVWatch (the proper name of product that will be used for early detection of IV infiltration) to minimize extravasations before they become serious injuries.

Partnering with Jack Stevens, PhD, we have named 2022 the year of the “nudge” for these and other safety initiatives across the organization. Dr. Stevens will facilitate our use of behavioral economics principles to remind us to do the right thing in our ongoing efforts to reduce harm and optimize outcomes.
Health care quality and patient safety are key components of the strategic plan at Nationwide Children’s Hospital. Compassion fatigue burnout, and stress are known factors among health care workers that reduce job satisfaction, quality of care delivery and patient satisfaction. The past couple of years have highlighted and magnified health care workers’ stress. Nationally, nurse attrition continues to rise, leaving critical staffing shortages and creating potential gaps in knowledge as experienced nurses vacate their positions. Pediatric nurse attrition is often associated with stress, emotional fatigue, increased work demand, moral distress and burnout. Pediatric critical care nurses work in a fast-paced, high-stress environment, predisposing them to an increased risk of compassion fatigue and burnout.

An essential pillar of the strategic plan at Nationwide Children’s is the organizational commitment to our culture and talent. In recent surveys, nurses in the critical care units identified high levels of perceived stress, poor work-life balance and intent to leave the organization. An organizational commitment to nurse well-being is pivotal to the strategic plan. Mindfulness-Based Stress Reduction (MBSR) is an evidence-based intervention that decreases nurse stress, improves job satisfaction and improves patient care outcomes. This project aimed to reduce perceived stress in pediatric critical care nurses at Nationwide Children’s by implementing the Palouse Mindfulness program.

Palouse Mindfulness is an eight-week, asynchronous, evidence-based MBSR program taught by an MBSR certified instructor. Participants accessed the program online at www.palousemindfulness.com. The course is self-paced, which allowed participants to complete the daily requirements at a time that worked best for their schedule. Each week of the Palouse Mindfulness program instructed participants on tools to practice and increase mindfulness. Over eight weeks, participants followed a prescriptive course of readings, supplemental readings, videos, and meditations.

The cornerstone of MBSR is engaging in daily mindfulness practice. Participants were required to complete a daily meditation practice six days a week. The meditations guided participants in connecting the mind, body, and spirit to reduce stress. Participants could complete the meditations in the Insight Timer mobile application or on the Palouse Mindfulness website.

Five nurse participants from the critical care units completed the Perceived Stress Scale-10 (PSS-10) survey before and after the Palouse Mindfulness intervention. These five participants were included in the descriptive statistical analysis and paired t-test. Before the intervention, PSS-10 scores indicated moderate stress (n = 4, 80%) or high stress (n = 1, 20%). After the intervention, PSS-10 scores indicated low stress (n = 2, 40%) or moderate stress (n = 3, 60%). Perceived stress decreased among participants (t = 2.425, p = 0.036) following the Palouse Mindfulness program. Among participants who completed any portion of the Palouse Mindfulness program, there was a reduction in their perceived stress (Figure 1). One barrier to participation was the time-intensive nature of the program. Despite this challenge, the MBSR intervention demonstrated efficacy in reducing perceived stress among pediatric critical care nurses.

An essential pillar of the strategic plan at Nationwide Children’s is the organizational commitment to our culture and talent. Pediatric critical care nurses will continue to experience high stress levels in their everyday work. Practicing mindfulness is one evidence-based way nurses can improve their resilience and well-being. There are several implications for nursing and healthcare outcomes related to this project: (a) impact and improve patient safety and quality of patient care using mindfulness practice as nurse well-being directly impacts the safety and quality of patient care delivery, (b) improve nursing practice by implementing an evidence-based intervention that improves nurses’ resilience and well-being, and (c) support the Nationwide Children’s strategic plan and organizational commitment to achieving the best outcomes by reducing nurse stress, improving patient safety, and reducing nurse attrition.

Figure 1: Perceived Stress Scale Changes and Amount of Participation per Participant
In Recognition, a twice yearly feature in In Patient Care, recognizes clinical operations staff in their pursuit of education advancement and knowledge sharing.

Presentations
Bihur M., Barrett K. “When Two Become One: Joining Two Programs to Promote Family-Centered Care for Pediatric Patients Undergoing Bone Marrow Transplantation.” Association of Pediatrician Hematology/Oncology Nurses 2021 National Conference; October 2021.
Lundline J. “Services for Elementary and Middle School Students with Early Childhood Brain Injury.” ASHA National Convention; November 2021.
Garcia K. “‘Going forward, how has the COVID-19 pandemic changed how you deliver care? How will you prepare for the next pandemic?’” 53rd Annual Tri-State Craniofacial Symposium; December 2021.
Lundline J. “Services for Elementary and Middle School Students with Early Childhood Brain Injury.” ASHA National Convention; November 2021.
Winer E. “Occupational Therapy Treatment and Assessment Approaches for the Impaired Pediatric Outpatient Population.” AOTA Children and Youth Specialty Conference; December 2021.
Publications
Murphy A. “In-Hospital Respiratory Viral Infections for Patients with Established BPD in the SARS-CoV-2 Era.” Pediatric Pulmonology; October 2021.
Osborne E. “Mechanisms and Management Considerations of Parent Chosen Feeding Approaches to Infants with Swallowing Difficulties.” Scientific Reviews; October 2021.
Daisy Award

Kayla Cape, RN

The quarterly Nationwide Children's Hospital Daisy Award was presented to Kayla Cape, RN. The Daisy Award is given in appreciation of the important difference our nurses make in the lives of our patients and families at Nationwide Children's.

Says Kayla's nominator: “Kayla is the bubbliest person we think we’ve ever met. Within three hours of meeting my daughter, she asked, ‘What does your child like?’ By the end of her shift, she had made our child a celebratory name sign with rubber duckies on it. We still hang it every chemo round. Our child points to it almost first thing every morning and we have to take her over to it so she can look at the letters and touch them. Kayla makes being on this unit HAPPIER. … Kayla always squeals with happiness when she sees our child in the hallway, and it makes her so happy.”

To learn more about our Daisy winners, and read their full nomination, visit NationwideChildrens.org/Daisy-Award