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Dear Colleagues and Friends,

Empowering our nurses is a goal of nurse leaders everywhere. As we strive to provide the best in patient care, our success rests on skilled nurses who are empowered to do their best work.

Empowerment starts with a good foundation — education. Unfortunately, over the past decade, our field has seen a decline in nurse preparedness for the real world of patient care. In the past two years, Cleveland Clinic has strengthened its training programs and enhanced collaborative efforts with academic institutions. Our p. 3 feature highlights some of our innovative education initiatives.

Research is another area of empowerment for nurses. In our complex healthcare environment, it is important to push for new evidence-based nursing practices and retire outdated practices. Today, Cleveland Clinic nurses are moving healthcare forward through many pioneering research projects. In the feature on p. 10, find out how nursing research is becoming embedded in the Cleveland Clinic culture. And be sure to read the regular Research section (pp. 18-19) for an inside look at how results of two nurse-driven research efforts are impacting patients’ lives. In addition, a new tool to improve medication adherence has become a best practice (see p. 15 story).

As healthcare reform changes begin to take root, nurses continue to search for ways to improve clinical outcomes. On p. 16, learn about three new online tools our nurses helped implement that are making it possible to observe and assess patients with greater accuracy to reduce patient length of stay and readmissions.

One health crisis that can stop us in our efforts to heal patients and get them home is the life-threatening diagnosis of sepsis. In 2013, Cleveland Clinic developed and has been fine-tuning a sepsis care path for early detection. The care path meets new sepsis measures from the Centers for Medicare & Medicaid Services and ultimately shortens time to treatment. See the feature on p. 13.

Finally in this issue, we take a look at Cleveland Clinic’s tough new safety policies in its hospital emergency departments to address the increased incidence of client violence (p. 6) — since nurses cannot feel empowered in care delivery until they feel safe in the workplace.

I hope this issue provides ideas for creativity and innovation in your own setting. Please contact us to share your thoughts on our activities or to explore how we can work together to advance our vital profession. You can reach us anytime at notablenursing@ccf.org. I look forward to hearing from you.

K. KELLY HANCOCK, DNP, RN, NE-BC
Executive Chief Nursing Officer
Cleveland Clinic health system
Chief Nursing Officer, main campus
Hospital leaders worldwide seek solutions from nurses when they look to improve the quality of patient services, says Joan Kavanagh, MSN, RN, NEA-BC, Associate Chief Nursing Officer of Nursing Education and Professional Development at Cleveland Clinic.

“Nurses comprise the majority of the healthcare workforce, and we understand the nuances of delivering high-quality care, which has a profound impact on outcomes and patient experience,” she says.

Patients on both ends of the spectrum — from the youngest preemies to a growing elderly population with multiple chronic conditions — along with a host of new lifesaving therapies, are increasing the complexity of care. These demands make it imperative that nurses are properly trained from the start to be accountable for patient care.

To achieve success, the Zielony Institute has developed a number of education programs to seek out and develop the best of the best. Here, we focus on three innovative education programs that are having a meaningful impact on nurse training and patient care.

continued
1 ACUTE CARE ESSENTIALS (ACE) Program

Transitioning from nursing home to hospital

At Cleveland Clinic, one great source for bringing experienced RNs into an acute care setting has been local long-term care or home care settings. “In Northeast Ohio, many nurses are looking to transition to acute care,” says Clinical Instructor Nancy Steckel, MSN, MBA, RN.

In 2015, findings reflected that nurses who initially worked in nonacute care settings needed additional support to achieve competency in patient assessments. “In long-term care, a nurse might perform an assessment once a week. Acute care nurses do daily head-to-toe assessments and multiple focused assessments,” says Steckel.

“Nurses also told us they were concerned about their critical thinking skills in recognizing changes in a patient’s condition and knowing the immediate intervention,” says Christine Szweda, MSM, BSN, RN, CCRN, Senior Director of Operations in Nursing Education.

As a result, the Zielony Institute developed a two-week program called Acute Care Essentials (ACE) as a precursor to the usual 10-week nurse residency for new graduates, long-term care nurses, and nurses transitioning to a new specialty. Launched in November 2015, ACE focuses on:

• Critical thinking
• Head-to-toe assessments and documentation
• Peripheral vascular IVs and advanced vascular access
• Pneumonia prevention and respiratory stations
• Foley catheter insertion
• Neurological and sepsis overviews

Knowledge and clinical skills are reinforced with case-based instruction, experience on the unit with expert clinicians and instructors, and video simulations. “Each day we build on what they’ve learned the previous day,” says Szweda.

Endpoint data are not yet available, but in anecdotal reports, ACE was associated with improved knowledge and critical thinking. “An emergency department nurse told me she thought she could transition easily from skilled nursing care. Later, she realized she would have really struggled without the ACE program,” says Steckel.

Every nurse hired by Cleveland Clinic undergoes a clinical competency evaluation before and after residency, using the Performance Based Development System. “Since we hired many nurses from skilled facilities over several months, we were able to get actionable feedback and data showing progress made with the program,” Szweda relays. This is good news.

2 NURSE ASSOCIATE EXTERN Program

Reaching out to nursing students

In summer 2016, Cleveland Clinic nurse leaders are looking forward to meeting 70 BSN students as part of the new Nurse Associate Extern program. “Hospitals across the country are vying for new graduates. Our program allows student nurses to experience Cleveland Clinic between their junior and senior years. It also gives us the opportunity to identify students who display the attributes and possess the values and vision that align with putting patients first,” says Meg Duffy, MS, RN, Director of Nurse Recruitment and Staffing Resources.

Thirty students from 18 nursing schools participated in the pilot extern program in summer 2015. The expanded 2016 program will provide 10 weeks of classroom time and paid clinical experience to two cohorts.

The externs are hired as nurse associates and work 40-hour weeks with experienced RN mentors. “Students are not shadowing their mentors — they are experiencing many procedures and working collaboratively with an
RN to enhance their critical thinking and organizational skills," says Cynthia Willis, DNP, MBA, RN, CMSRN, Senior Director of Nursing Education.

Fifty of the 70 externships are in medical-surgical, critical care, neonatal intensive care, labor and delivery, and behavioral health specialties. Ten spots each are dedicated to the Sydell and Arnold Miller Family Heart & Vascular Institute and perioperative (OR) nursing — high-priority areas for Cleveland Clinic’s nurse recruitment. “Academic affiliations do not typically offer extensive OR experiences. We hope this externship will spark interest in the specialty of perioperative nursing and attract individuals to our dynamic OR team,” says Dr. Willis.

Because Cleveland Clinic cares for the highest acuity patients, classroom topics include:

- Cardiac rhythms and defibrillation
- Neurologic and respiratory assessments
- Chest-tube care
- Wound and skin care
- Arterial blood gases
- Emergency response
- Hospital-acquired infections

Exercises in critical thinking, problem solving, influencing patient care, and ethical situations also are covered. “Case studies and simulations help with skills validation and specialty skills,” says Dr. Willis.

The 2015 externs gained confidence during the program, according to Dr. Willis. In self-assessments using a four-point scale, their confidence in patient interaction and clinical skills increased from a mean score of 2.17 to 3.64. Twenty-one participants expressed interest in continuing to work at Cleveland Clinic prior to graduation, and 22 said they “very likely” would pursue a career opportunity here. “Some externs have emailed me that they have become the leader-mentors of their senior class,” says Dr. Willis.

Since last summer, Dr. Willis and Duffy invited students who attended the 2015 extern program to meet them at nurse recruitment events at their schools. “It’s been very helpful having the nurse associates right there with us, describing their experience and sharing their enthusiasm with other nursing students,” says Duffy.

VISITING NURSE SCHOLARS Program

Sharing our expertise

The Zielony Institute is also opening Cleveland Clinic’s doors to nurses worldwide. In 2015, 45 nurses from 15 healthcare organizations from around the world came to Cleveland Clinic as Visiting Nurse Scholars to observe our best practices.

“They reach out to us with learning objectives, and we try to match those with our nurse experts here,” explains Nancy Kanyok, MSN, RN-BC, CNS, Education Nurse Specialist.

Kanyok designs customized programs to meet the educational needs of nurses and their sponsoring organizations from the United States, Japan, Singapore, South Korea, China, Australia, South Africa and the Middle East. “Nurses may want to learn something specific or perhaps get a general overview,” she says.

For example, eight nurses from Australia came for a two-week visit, and each had different objectives. One was in case management, another was looking at orthopaedics, another worked in the intensive care unit, and others were interested in the patient experience. “We arranged group activities, then they broke off and shadowed clinical nurse specialists and bedside nurses,” says Kanyok.

This program is highly beneficial for Cleveland Clinic nurses too. “There is a very nice collegial exchange of ideas as our bedside nurses and clinical specialists learn how care is delivered in other places,” says Kanyok. “And after the visiting nurses leave, we continue conversations by email. This collaboration opens the door for new ideas and sharing of evidence-based best practices.”

“It is empowering for our nurses to know that other health organizations are actively seeking our expertise,” says Kavanagh. “The exchange of new knowledge about ongoing problems and sharing of medical research is a win for nurses and for healthcare overall.”

Email comments to notablenursing@ccf.org
Violence in the ED: Cleveland Clinic Implements Tough Safety Policies

National Support and Resources

National healthcare and government agencies have taken measures to help healthcare workers faced with the threat of violence:

• The Emergency Nurses Association completed several studies on workplace violence and offers an online violence prevention course for emergency nurses and healthcare workers.

• The Centers for Disease Control and Prevention also created an online training course geared toward helping healthcare workers avoid violence.

• The Occupational Safety and Health Administration published “Guidelines for Preventing Workplace Violence for Healthcare and Social Workers,” which is available on its website.

• Many states (including Ohio, where Cleveland Clinic is headquartered) have instituted or strengthened laws against assaulting healthcare workers.
In August 2015, paramedics brought a man into Cleveland Clinic’s Marymount Hospital Emergency Department (ED) for a psychiatric evaluation. The patient became increasingly violent and tried to steal the community police officer’s gun. The officer tried several times to de-escalate the situation, but the patient eventually took his stun gun and began using it. Fearing for the safety of patients, clinical staff and himself, the officer was forced to draw his weapon and wound him. The assailant was then taken to a nearby trauma center for medical treatment.
Unfortunately, disturbing incidents similar to this are happening in alarming numbers in hospitals across the country. According to a 2014 survey conducted by nurses at Inova Loudoun Hospital in Leesburg, Virginia, more than 75 percent of nurses reported having experienced violence by patients and visitors in the previous year. (Incidence and cost of nurse workplace violence perpetrated by hospital patients or patient visitors, *Journal of Emergency Nursing*, 2014;40(3):218–228.)

Violence has increased in hospitals, and in EDs in particular, within the past decade. In 2010, The Joint Commission issued a Sentinel Event Alert outlining the problem and listing actions to help healthcare organizations “prevent assault, rape and homicide in the healthcare setting.”

“Our patients are changing,” says 31-year nurse veteran James Bryant, MSN, RN, CEN, CCRN, NEA-BC, Cleveland Clinic’s Associate Chief Nursing Officer of Emergency Services. He cites the proliferation of drug and alcohol addiction and the possession of weapons as the biggest reasons for violence today.

Christian Burchill, PhD, RN, CEN, a Cleveland Clinic nurse researcher who studies workplace violence, agrees with Bryant’s assertion about drugs and violence as key factors for the increase in violence, but he says the problem is even more complex. Two additional factors are the increase in the number of people with health insurance through the Affordable Care Act and the increased need for mental healthcare services.

“Many healthcare professionals think patient violence is just part of the job, which leads to underreporting of events,” says Dr. Burchill, who himself was assaulted by a patient when he worked as an ED nurse in Philadelphia. But this “culture of acceptance” is changing.

“One of the key findings from my research is that ED nurses feel safest in knowing that their manager and administrators have their back,” he says. “Nurses need to feel supported by their leaders.” That means nurse and hospital leaders must encourage caregivers to report violent incidents and then support the staff in their actions following an event.

Development of an enterprise workplace violence prevention program

The event at Marymount Hospital last year was “extremely devastating to the nursing staff,” Bryant says. So much so that staff members from other Cleveland Clinic hospital EDs in Northeast Ohio banded together to staff the Marymount ED for three nights after the August 2015 incident. This gave the night shift staff time off to process what had happened to them.

Many safety protocols were already in place, but after the Marymount incident, a more robust and comprehensive policy of mitigating harm was implemented, Bryant says. A policy was created “to establish an evidence-based standard of assessment and intervention to care for ED patients at risk for harming themselves or others.”

Among other components, the new policy allows nurses to take a patient’s cellphone and clothing and put the patient in a gown or scrubs to establish the patient-caregiver roles up front. Nurses also have the option to put patients in a “safe room” where they can’t harm themselves or others.

“We took a hard look at the hospitals in our system that have (psychiatric) behavioral units and added safe rooms that are free of equipment, structures or supplies that could be used as weapons,” Bryant explains.

He added, “We have given staff additional safety training, and we’ve written protocols for excitable patients — not just patients under the influence of drugs, but people who are stressed, have a lot of anxiety or have an undiagnosed mental illness.”

Prior to the incident at Marymount, nurses in several Cleveland Clinic hospitals began wearing badges with a
tracking device and alert button that allow them to instantly communicate with other staff members. The badge makes it easy to call for help in a violent situation.

For several years, staff members received training from the NAPPI (Non-Abusive Psychological and Physical Intervention) and ALICE (Alert, Lockdown, Inform, Counter, Evacuate) programs. NAPPI, which is nearly 40 years old, was created to teach healthcare workers, among others, to assess, prevent and even physically manage violence. ALICE training helps teach staff what to do in an active shooter situation.

Cleveland Clinic police force works to make EDs safer

“Emergency departments are the riskiest locations in any healthcare environment,” says Tom Lynch, Senior Director of Protective Services for Cleveland Clinic. “And they are riskier at night when they become the main entrance to the entire hospital.”

To make the physical environment safer, Cleveland Clinic police officers are assigned to a majority of the hospitals in the health system. They are available to respond to any situation in the ED. In many locations, community police officers also patrol the EDs to be close at hand.

“Police support has become a great abater of problems,” Lynch says. A visitor badging system has helped as well. Anyone wishing to enter the hospital to see a patient must present identification and be verified against the patient census.

Lynch says that metal detectors (magnetometers) virtually eliminate weapons in the ED. Cleveland Clinic’s main campus and Lutheran Hospital already have them in place at the entrances. The plan is to have metal detectors at all health system EDs by mid-2016. “Our caregivers in both hospitals are exposed to less risk,” he says.

Bryant says he feels safer now that so much focus has been put on protecting nurses and securing the ED environment.

Help after a violent incident

Today, the Cleveland Clinic Police Department employs a social worker and victim advocate, Ashley Withrow, MSSA, LISW-S, who offers hospital staff support following a violent incident.

Withrow’s position is federally funded by the Victims of Crime Act. She provides immediate emotional support to victims and helps them connect with community resources for ongoing support. “A person who witnesses violence can experience crisis and trauma as well,” she says. “Going back to work after an incident can be challenging.” Withrow also provides support to employees experiencing domestic violence at home or abusive situations with co-workers.

“Historically, hospitals along with schools and places of worship were considered safe havens from violence,” says Lynch. “This paradigm has shifted, with a growing number of active shooter and violent events taking place in these locations. Today, Cleveland Clinic is doing everything it can to prevent a situation before it happens.”

Email comments to notablenursing@ccf.org
Cultivating a Culture of Research

Cleveland Clinic offers support to its health system nurses to pursue research projects, whether they are novices in the field or experienced researchers.

In recent years, nursing research has gained momentum at Cleveland Clinic hospitals. “Research promotes professionalism and enhances the science of nursing,” says Karen Distelhorst, MSN, RN, GCNS-BC, clinical nurse specialist at South Pointe Hospital. “Nursing research is foundational; it provides a way of asking questions about nursing practice, and research results provide rationale for making changes in practice.”

The spirit of inquiry is encouraged by the Zielony Institute at Cleveland Clinic. Researchers in the Office of Nursing Research and Innovation mentor nurses as principal and co-investigators in conducting, analyzing, disseminating and translating research. The research process increases nurses’ knowledge about:

- Clinical and administrative practices
- Environmental situations and disparities
- Healthcare provider
- Patient and caregiver behaviors
- Processes and structures surrounding care delivery

The primary goal is to facilitate evidence-based nursing practices and create novel interventions that improve healthcare outcomes.

Office researchers, led by Associate Chief Nursing Officer Nancy Albert, PhD, CCNS, CHFN, CCRN, NE-BC, FAHA, FCCM, FAAN, work with nurses at hospitals across the Cleveland Clinic health system to cultivate and sustain a culture of research. Some hospitals, like South Pointe, have recently taken up the research mantle. Others, such as Hillcrest Hospital, are further along the path.

Gaining a foothold in research — South Pointe Hospital

A year ago, Dr. Albert held an evidence-based research boot camp for nurses at South Pointe. During the four-hour workshop, she discussed how to develop and refine PICOTS questions (Population or problem, Intervention, Comparator, Outcome, Time and Setting), how to review literature on the PICOT question of interest, and what steps to take once more is known about current evidence. Following her presentation, the fun began as nurses created questions and searched the literature. “At the end of the day, nurses left with thoughts about next steps in conducting research,” says Distelhorst.

Since the boot camp, two research projects were initiated and approved by Cleveland Clinic’s Institutional Review Board (IRB), including one led by Distelhorst, who is studying early post-discharge follow-up appointments for patients with heart failure. The boot camp was so well-received that Dr. Albert held another one in January 2016, and two new research projects are underway as a result, with more in the start-up phase.

Now, during monthly Shared Governance meetings, representatives on the research council are given time to work on projects. “Nurses can’t step back and reflect on their practice when they are taking care of patients during a 12-hour shift,” says Distelhorst. “So we built time into our day to let nurses think, share and work on projects.” In addition, Mark McClelland, DNP, RN, CPHQ, a scientist with the Office of Nursing Research and Innovation, attends these monthly research council meetings and serves as a mentor.

South Pointe Hospital Chief Nursing Officer Sheila Miller, MSN, MBA, RN, and her team provide leadership support. She stresses the many benefits of research, including elevation of the nursing profession and promotion of disciplined thinking. “It’s an ongoing conversation with front-line nurses,” says Miller. “Having that steady discussion — and creating venues for those conversations — helps bring importance to research.”

Collectively, it’s making a difference at South Pointe one nurse at a time. Last year, when nurses on a global hospital Shared Governance Committee signed up for councils, the research council had an abundance of volunteers. “Suddenly we were the popular kids!” says Distelhorst. “People are really starting to get excited about research.”
A Rich Resource Pool

It takes more than personal drive to complete a nursing research project. Among the resources available to Cleveland Clinic nurses are:

**Nursing Research Center intranet website** It provides templates, checklists, forms and information about disseminating and translating completed research. Internally created with external references, the website links to other research and adjunct departments (art, library, quantitative health sciences).

**Research database** Available on the intranet, the database provides a comprehensive list of active nursing research projects in all phases within the system.

**Online educational modules on evidence-based practice** Four self-administered modules provide continuing education hours for module completion.

**Research educational workshops** Researchers and scientists in the Office of Nursing Research and Innovation offer multiple workshops at each hospital in the system. Nurses can select up to four sessions at a time to create content for a workshop individualized to hospital needs.

**Three-hour writing for publication didactic session** This workshop offers an overview of the elements of a well-constructed paper (1.75 hours) and common writing errors (1 hour). It also provides knowledge and writing experiences with mentor support.

**Nursing Research Conference** It features nationally recognized speakers, paper and poster presentations, and concurrent sessions to enhance nurses’ ability to transform practice through research and dissemination. The 12th annual Nursing Research Conference will be held May 2-3, 2016.

**Nursing Research Grants** and **Nursing Research-Literature Review Grants** Twice a year, the Office of Nursing Research and Innovation awards a number of small grants to offset costs of nursing research. Grants are competitive and peer-reviewed by nurses.

**The recently published book** *Building and Sustaining a Hospital-Based Nursing Research Program* (Springer, 2015) provides a road map to develop and nurture a nursing research program. Nancy Albert, PhD, CCNS, CHFN, CCRN, NE-BC, FAHA, FCCM, FAAN, Associate Chief Nursing Officer of Nursing Research and Innovation at Cleveland Clinic, is the editor; nurse researchers and other colleagues within and external to Cleveland Clinic contributed content.

“It is so fulfilling to be contributing to the body of knowledge that drives our practice.”

Jayne Rosenberger, BSN, RN, Hillcrest Hospital
Sustaining commitment to research — Hillcrest Hospital

Three years ago, Dr. Albert held the first research boot camp at Hillcrest Hospital. Since then, nurses have initiated more than a dozen research projects, nine of which are IRB-approved. One of those is a project on medication adherence led by Jayne Rosenberger, BSN, RN, a critical care and emergency room float nurse.

“I have been a nurse for over 34 years,” says Rosenberger. “It is so fulfilling to be contributing to the body of knowledge that drives our practice. Doing something that directly benefits patient care is awe-inspiring.” That level of excitement for research is nourished at Hillcrest Hospital in several ways.

Cleveland Clinic’s Office of Nursing Research and Innovation hosts biannual 4.5-hour research workshops at Hillcrest. Nurses from the research council select topics, which have included developing a research proposal, making good use of literature reviews, finding publishing opportunities for completed research, and understanding the concept and practice of peer reviews. “Our nurses have all kinds of ideas for research,” says Erin Sibben, BSN, RN, CCRN, a nurse in the progressive care unit. “These educational workshops help get them the support and knowledge to continue through to the end.”

The monthly research council also offers support. One of the council exercises is to review a “sacred cow” at every meeting. Council members review long-held nursing practices brought to them by front-line nurses and consider why they are still done. The research council has looked into everything from using a Trendelenburg position when patients have low blood pressure to prescribing a neutropenic diet for oncology patients. After examining research evidence behind these sacred cows, the council emails nurses a synopsis of the practice that should be “put out to pasture” and the correct practice with research references.

In January, Rosenberger and Sibben began a monthly hospitalwide journal club. “We wanted a place where all nurses could learn how to critically appraise the literature,” says Rosenberger, and Dr. McClelland is serving as the club’s mentor. About 20 nurses attended the first meeting. “Nurses are really stepping up and owning their practice,” says Sibben.

Hillcrest Hospital’s dedication to nursing research can be summed up in one story. In 2011, a nurse spearheaded a project looking at how the hospital’s culture had changed since launching a Shared Governance Committee. She surveyed over 70 nurses before losing her battle with cancer, leaving her research questions unanswered. One of her peers brought the project to the research council, which sought volunteers to continue the project. Six nurses are now completing the study.

Nurses throughout Cleveland Clinic are invigorated by what Distelhorst calls “the spirit of inquiry.” More and more clinical, administrative, advanced practice and specialty care nurses are joining the research ranks. “Once they realize all the opportunities, they’re going to be standing in line to do research,” says Rosenberger.

Miller sums it up succinctly: “Research changes the world.”
A Proactive Approach to the Sepsis Crisis

Developing and Optimizing the Severe Sepsis Care Path

Every year, 750,000 Americans are diagnosed with sepsis. Anyone with an infection can develop sepsis, and it is the most expensive condition treated in hospitals, with an annual price tag of $24 billion, according to the Agency for Healthcare Research and Quality.

Viewed as a three-stage syndrome, sepsis begins with infection, progresses to severe sepsis and leads to septic shock and death. Nearly half of patients who die in U.S. hospitals have sepsis, and the mortality rate for inpatients with severe sepsis ranges from 25 to 50 percent, according to the National Institute of General Medical Services.

In April 2013, Cleveland Clinic President and CEO Toby Cosgrove, MD, called for better sepsis outcomes. “We’re lucky we started when we did,” says Michelle Ferrari, BSN, RN, research manager and care path lead in the Respiratory Institute. Cleveland Clinic was proactive in making sepsis management a priority before guidelines were announced by the Centers for Medicare & Medicaid Services (CMS).

Today, CMS measures include a Severe Sepsis/Sepsis Shock Early Management Bundle (SEP-1). When patients are identified with sepsis, hospitals must document actions taken consistent with bundled expectations that must be completed within 3 and 6 hours. The CMS SEP-1 bundle was initiated with hospital discharges in fiscal year 2016 (Oct. 1, 2015), and performance results are posted on the CMS website Hospital Compare (at hospitalcompare.hhs.gov).

Developing the care path

The initial Cleveland Clinic severe sepsis care path was completed in July 2013, with Nursing taking an important role in its development. “This project brought together representatives from across our organization — intensive care, internal medicine, emergency services, infection control, pharmacy, laboratory — to look at how we treated sepsis then and how we could implement the Surviving Sepsis Campaign (SSC) guidelines,” says James Bryant, MSN, RN, CEN, CCRN, NEA-BC, Associate Chief Nursing Officer of Emergency Services.

The CMS guidelines (and the care path) include clinical definitions of severe sepsis and septic shock, diagnostic criteria, and 3- and 6-hour management bundles that are consistent with the SSC guidelines and CMS core measures.

Pilots reveal promise and needs

The severe sepsis care path testing began with a pilot study in the intensive care units and emergency departments at Cleveland Clinic’s main campus and Fairview Hospital, where Ferrari and colleagues quickly demonstrated its potential impact. Then, from February through April 2014, hospitals examined outcomes of 8,870 patients. A paper tool guided the clinical decision process, and screening included lactate results as an early identifier of sepsis.

Severe sepsis was diagnosed in 403 patients (4.5 percent), and 3- and 6-hour bundles were initiated. Compared with the same three months in 2013:

- Length of stay in the ED decreased 60 minutes.
- Length of stay in the hospital decreased 24 hours.
- 21 percent more ICU patients were discharged home.
- 14 percent fewer ICU patients were transferred to a skilled nursing facility after discharge.
- Time to lactate test results decreased 28 minutes, to an average turnaround of 34 minutes.

Image shows a blood agar culture growing colonies of the Gram-positive bacteria Peptococcus magnus bacteria. Members of the genus Peptococcus are part of normal flora of the mouth, upper respiratory tract, large intestine and genitourinary tract. They can cause a variety of infections including intra-abdominal sepsis. Image ©Centers for Disease Control and Prevention
The sepsis team then worked with computer programmers to develop a paperless screening and best-practice alert system in the electronic medical record (EMR). When vital signs are entered, a yellow alert appears on the computer screen if the patient meets two or more criteria for systemic inflammatory response syndrome (SIRS).

“In the ED, if we document abnormal vital signs, we will get an alert asking if there is a concern for sepsis. If we say ‘yes,’ we are directed to call the physician and get an order for a lactate level,” says Bryant. If the lactate is higher than normal, the nurse informs the physician, and they begin the sepsis bundle (3- or 6-hour, based on acuity).

After being tested on seven medical floors, the best-practice alert system was rolled out to ICUs, EDs and appropriate medical floors in all Cleveland Clinic hospitals, says Ferrari. This standardized approach helped to align sepsis management throughout Cleveland Clinic. “The process was more challenging than expected, but it brought to light some technologies the hospitals needed,” says Ferrari.

Because the signs and symptoms of sepsis can be subtle or mimic other illnesses (such as pain or tachycardia), the greatest barrier to timely management is delayed identification. “Nurses spend the most time at the bedside. We see subtle signs: a rising temperature, changes in serum laboratory values, patient complaints and patient appearance. Now, we’re able to leverage the EMR to help identify those signs and symptoms faster,” Bryant says.

Technology’s role in beating the clock
In 2015, another pilot on a Cleveland Clinic main campus general internal medicine floor was initiated. New EMR software that was designed to identify sepsis even more rapidly was tested. “We’ve had successes on our unit because we were able to intervene quickly and did not have to transfer patients to the ICU,” says nurse manager Jared Leal, BSN, RN.

When vital signs are entered and a patient meets two or more SIRS criteria, an alert appears on every nurse’s computer on the unit. A countdown timer is activated on the pre-login screen, and a pager carried by the charge nurse or assistant nurse manager receives a “code sepsis” alert. The nurse then pages the physician for a decision on whether to draw a lactate level. “If the physician decides yes, we consider sepsis as a diagnosis, and we partner with an adult medical emergency team — a physician, an RN and a respiratory therapist,” says Leal.

The respiratory therapist brings a point-of-care machine to the bedside; a nurse draws a lactate level and then receives the result in seconds. “This is phenomenal, because we have only three hours to complete the bundle,” Leal says.

Based on experience with 10 patients with sepsis over a five-month period, Leal says proceeding with all interventions in the bundles is too much for one primary nurse. “We learned that it takes the entire nursing team working together to implement all interventions within the allotted time,” he says.

Looking forward
Every Cleveland Clinic care path is a dynamic document intended to be updated. “Our sepsis group is still meeting every week. We look at the data that have been collected, at how well the process is working, and what we need to do to make refinements,” says Bryant.

“We have the best chance of detecting sepsis early and intervening quickly with antibiotics and fluids when everyone follows the same course of action,” he adds. “Reducing mortality is our goal, and people are becoming more comfortable with the protocols as they use them.”

Email comments to notablenursing@ccf.org

Sepsis: Who is vulnerable?

Sepsis affects all age groups. Especially vulnerable are newborns, young children and the elderly.

People at increased risk include adults with chronic illnesses such as diabetes, cancer, AIDS, and kidney or liver disease; pregnant women; and people who have experienced a severe burn or physical injury.

- Sepsis begins as an immune response to infections, most often pneumonia, urinary tract infections, skin infections, abdominal infections, and invasive medical procedures.
- More patients are hospitalized for sepsis than for myocardial infarction.
- In the U.S., sepsis accounts for far more deaths than prostate cancer, breast cancer and AIDS combined.
- If all U.S. hospitals achieved earlier sepsis identification and evidence-based treatment, the result would be 92,000 fewer deaths, 1.25 million fewer hospital days, and a $1.5 billion reduction in hospital expenditures per year.

Simple Tool Teaches Patients About Meds

Just how well do patients understand their medications? Not well enough, based on HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems) survey results of patients discharged from the telemetry unit at a Cleveland Clinic regional hospital. Survey results in late 2014 showed:

- For “Communication About Medicines,” only 50 percent gave the unit a top score. (Unit target was 72 percent)
- Only about 60 percent understood why they were taking the medication. (Unit target was 84.1 percent)
- Less than 40 percent could describe a side effect of their medication. (Unit target was 59.1 percent)

“Communicating about medication is a challenge for hospitals everywhere,” says Kelly Brown, RN, in medical/surgical telemetry at Cleveland Clinic’s Fairview Hospital. “It’s especially important that telemetry nurses focus on medication education since patients are often discharged home.”

Understanding meds is hard for many reasons. Some barriers to educating hospitalized patients are that “they’re not feeling well and may be overwhelmed with new information,” Brown says. “Patients may not understand medical terms or long words, especially in complex medication regimens. Nurses need to overcome these barriers to improve medication adherence and post-discharge outcomes.”

Introducing: a patient-friendly teaching sheet

At the unit’s request in early 2015, a Cleveland Clinic pharmacy team developed a patient-friendly teaching sheet. It groups medications by function (e.g., antibiotics, pain, blood pressure/heart) and lists common side effects and special instructions.

The telemetry team began using the sheet during shift-change huddles, and it gradually became the unit’s standard tool for medication discharge education. “Patients could see the most important details on one piece of paper,” says Brown. “We made it simple.”

Nearly 100 percent of patients understood. Three months later, the unit’s HCAHPS scores had improved substantially:

- Nearly 80 percent of patients gave the unit the top score for “Communication About Medicines.”
- Nearly 100 percent understood why they were taking their meds.
- 50 percent could name at least one side effect.

“The sheets helped us increase patient understanding, adherence and satisfaction,” says Brown. Today, many telemetry units throughout Cleveland Clinic use the medication teaching sheet.

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New Tools Help Nurses Observe and Assess Patients With Greater Accuracy

Cleveland Clinic strives to provide patients with excellent care and simultaneously reduce the average length of stay and decrease readmission rates. Last year, nurses throughout the health system were instrumental in launching three tools that help meet those goals.

Visual cueing contributes to shorter length of stay

In September, Cleveland Clinic’s Fairview Hospital opened its rapid observation unit, which provides outpatient care to adult patients who are not ill enough to warrant inpatient hospital admission but aren’t healthy enough to return home. Patients in the 25-bed unit receive expedited monitoring, diagnostic evaluation and treatment to quickly determine appropriate intervention and disposition. The targeted length of stay for the unit is under 18 hours.

One of the tools utilized by caregivers to achieve their length of stay goal is a color-coded visual cueing system on the hospital’s electronic medical record (EMR). “Visual cueing allows us to readily and quickly see a list of our patients and how many hours they have been in observation status,” says Theresa Lattner, BSN, RN, CMSRN, nurse manager of the rapid observation unit. Patients’ names are highlighted in one of three colors indicating length of stay — green (up to 16 hours), yellow (16 to 18 hours) and red (over 18 hours).

“The visual cueing system facilitates conversation,” says Russ Ringwall, RN, assistant nurse manager on the unit. “If I see a patient’s name in the yellow or red area, I wonder what’s holding us up. I can make a phone call or get the appropriate party involved, such as radiology, pharmacy, transport or care management.” A physician or nurse practitioner is on the unit at all times to expedite orders.

The rapid observation unit will soon add a second visual cueing component. Visilert devices will be mounted outside each patient room. When the transport team brings a patient to a room, they will hit a start button on the device, which tracks the amount of time the patient has been on the unit. Display screens on the devices will show a green, yellow or red light, corresponding with the color scheme in the EMR.

So far, visual cueing has been successful: The average length of stay in the unit has decreased from 22.4 hours when it opened to 19 hours. “We’re working in a synchronous, concise manner to ensure patients get the necessary care in an expeditious time frame, so that they can get home faster,” says Lattner. “Visual cueing promotes cost savings to patients as well.”

Electronic checklist curbs readmission rates

Rehospitalization rates for patients with heart failure continue to approach 30 percent within 60 to 90 days of hospital discharge, leading hospitals to seek innovative ways to decrease their readmission rate. “Our patients are the sickest of the sick, and keeping them out of the hospital is a huge feat,” says Josalyn Meyer, MSN, RN, NE-BC, nurse manager of the cardiac stepdown units at Cleveland Clinic’s main campus. “So we began some coordinated efforts around patient education.”

Several years ago, the health system launched a Heart Failure Survival Skills Class for patients. Many of the topics covered in the class, including nutrition management and medication information, formed the basis of a checklist used by nurses to ensure all pertinent information was provided to patients with heart failure prior to discharge. Created in 2013, the paper discharge checklist worked so well that it was embedded into Cleveland Clinic’s EMR last year.
“The discharge process really starts upon admission,” says Meyer. “We know it’s important to have all caregivers collaborate with one another, and to speak with one voice so that patients and families understand self-care expectations. The heart failure discharge checklist helps.” It’s divided into five areas, listing all the tasks and patient education that must be completed by each area prior to discharge. It covers nutrition, nursing, pharmacy, care management and physician requirements.

When a patient is admitted, each area on the electronic checklist displays a red stop sign. “Nurses can mouse over the stop sign and see exactly what needs to be completed,” says Meyer. “When all components are done, the stop sign turns green and the caregiver will see a little check mark. Then, the physician can place the discharge order for the patient.”

Meyer says the checklist benefits nurses because it provides structure and keeps everybody focused on what the patient needs. “It helps our patients get the best possible care,” she says. “Nothing is left out inadvertently.” Data support this claim: During the second quarter of 2014, we were above the national average for heart failure readmission rates on the cardiac stepdown, and with the process in place, we dropped by 5 percent.

That figure has improved most quarters since implementing the electronic checklist, nearing the goal of 20 percent by the fourth quarter of 2015.

Vital sign alert system allows for early intervention

In January 2015, Cleveland Clinic’s Medina Hospital began piloting a vital sign alert (VSA) system on its medical/surgical and cardiac stepdown units. “The system allows us to recognize subtle changes in patients’ vital signs, and helps nurses think through what might be impacting those vital signs and then determine what interventions we need to do to save or stabilize a patient,” says Kathy Burns, DNP, RN, ACNS-BC, ACCNS-AVG, CEN, a clinical nurse specialist at Medina Hospital.

The VSA system was developed by a multidisciplinary team of caregivers at the regional hospital in partnership with Cleveland Clinic’s Clinical Solutions Center in the Information Technology Department. The system, which displays on a pre-login screen and a customized report screen in the EMR, considers four parameters for each patient: systolic blood pressure, pulse, respiratory rate and oxygen saturation. It assigns points to each parameter — one point if it’s slightly out of range, two points if it’s significantly out of range. Based on the total score, the system indicates whether nurses should consider interventions to better stabilize the patient.

Each patient on the unit appears on a color-coded list at computer terminals at the nurses’ stations indicating that the vital signs are within range (green), are cause for awareness (blue), require a patient assessment (yellow) or necessitate immediate action (red). “We can sort and instantly know which patients on the units are the sickest ones,” says Dr. Burns. “If a patient’s status changes, everyone on the unit knows.” In addition, the VSA uses an intervention algorithm to provide care suggestions for nurses and pulls critical data to one report screen to support nurse critical thinking.

Since implementing the VSA system more than a year ago, Medina Hospital has reported a 40 percent decrease in patient hours spent at higher acuity and a 52 percent reduction in time-to-reassessment of vital signs following an acute change. “We’re picking up signs that a patient might be deteriorating and intervening sooner,” says Dr. Burns. “Our nurses are working with physicians earlier to save lives or recognize that a patient needs a higher level of care.”

The system was rolled out at Cleveland Clinic’s Hillcrest Hospital in January under the name Vital Scout. It now includes a fifth parameter, oxygen supplementation, as a scoring component.

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A concerted effort by Cleveland Clinic to reduce the number of alarms in intensive care units (ICUs) was associated with a 70 percent overall reduction.

“Nurses asked for help with making alarms go away without causing harm to their patients, and we believe we have done that,” says Anita White, MSN, RN, ACNS-BC, CCRN, a clinical nurse specialist at Cleveland Clinic who led the ICU alarm management task force.

Before this effort began, there were 8 million alarms per month in the 264 ICU* beds on Cleveland Clinic’s main campus. After a number of changes in alarm criteria, they now number just over 2 million per month, says White, who works in the Medical ICU and is a member of the Department of Nursing Education and Professional Practice.

“On any given day, one nurse would hear up to 80 alarms per patient per shift,” she says. “That was not even considering alarms produced by other patients on the unit. Alarm noise was intrusive.”

The result is nurses being able to hear the alarms that they need to act on, which improves both patient safety and job satisfaction, she adds.

**How they did it**

White explains that changes came about in stages. First, she searched the literature for evidence-based solutions on how to reduce alarms. The task force learned that standardizing the alarms of physiologic monitors was a good starting point.

“Another group had determined that standardizing heart rate and SpO₂ monitor alarm settings would result in a substantial gain, so we started by looking at alarm default settings,” she says.

Patient data from the previous year showed patient norms to be consistent across all Cleveland Clinic main campus adult ICUs. However, the team found that alarm default settings varied from unit to unit and even, in some cases, from bed space to bed space within units.

Establishing consistent standard alarm default settings for oxygen saturation and heart rate on monitors led to a 7 percent alarm reduction, White says.

The next step was to target common ICU “nuisance alarms.” We agreed that some alarms that did not require action by nurses or communication about a change in patient condition should simply be turned off. “If we are not going to treat a patient when an alarm sounds, why would we want to have that alarm?” says White.

Examples included a too-high oxygen saturation alarm on patients who were otherwise doing well, and most alarms associated with patient temperatures, as ICU nurses take temperatures regularly.

The team also sought to reduce duplicate alarms, such as those that can occur when patients have heart rate alarms on multiple hemodynamic monitoring devices — for example, on an electrocardiogram (ECG) monitor, an arterial line and an SpO₂ monitor. “We only need one alert about a problem,” White says.

The task force also added an end-of-life profile to allow for a peaceful, respectful time for patients and families at the end of life. This profile allows alarms to be turned off as appropriate.

*Main campus ICUs include:
Cardiothoracic | Coronary | Heart Failure | Medical | Neurological | Surgical | Vascular
The etiology of intracranial hemorrhage (ICH) is multifactorial and may include an aneurysm, head trauma or severe hypertension. According to Robbi Cwynar, MSN, ACNP, CCRN, “Intracranial hemorrhage is associated with high rates of mortality and morbidity.” Cwynar, who is a member of Cleveland Clinic’s Critical Care Transport (CCT) team, noticed that when the team arrived at a facility to transport a patient with ICH, the patient’s blood pressure was often not yet controlled.

Hematomas typically expand within six hours of initial hemorrhage, making it crucial that blood pressure management be achieved quickly. Although researchers reported that maintaining a systolic blood pressure of less than 160 mm Hg was associated with better patient outcomes, there is little in the literature comparing blood pressure levels during transit and final patient outcomes. Cwynar notes that Cleveland Clinic’s CCT team travels up to 250 nautical miles from Cleveland and that in the research study discussed below, the average transport time is about 50 minutes. This is an important period of time during which blood pressure management needs to be initiated.

The purpose of the research study was to determine if management of systolic blood pressure by the CCT team during transport would impact outcomes, regardless of the initial systolic blood pressure. The study was conducted by Cwynar; Andrew P. Reimer, PhD, RN, of CCT; and Sandra L. Siedlecki, PhD, CNS, of Cleveland Clinic’s Office of Nursing Research and Innovation. Using a retrospective chart review, researchers assessed the records of 201 patients with the diagnosis of ICH who were transported by the CCT air team between January 2011 and January 2012.

According to Cwynar, findings from this study support those in earlier studies, suggesting that it is important to initiate interventions quickly that will keep the systolic blood pressure in the ideal range of 140 mm Hg to 160 mm Hg, as poor outcomes (mortality and morbidity) were associated with a systolic pressure greater than 160 mm Hg. They also found that a systolic blood pressure less than 100 mm Hg was associated with poor outcomes. Thus, it is not enough to worry about hypertension alone — it is also necessary to be aware of the dangers associated with hypotension in this population.

Cleveland Clinic’s CCT team is able to start medications or insert arterial lines to monitor blood pressure when in transit since the team includes a nurse practitioner, like Cwynar. “Not all transport teams have that capability,” she says. The ability to respond rapidly and efficiently while en route to a higher level of care results in better patient outcomes.

The study was presented as a poster at Cleveland Clinic’s 11th Annual Nursing Research Conference in April 2015. Cwynar hopes to submit the findings to a journal in the near future.

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Awards

Over the past year, four Cleveland Clinic critical care units (CCUs) have received the Beacon Award for Excellence from the American Association of Critical Care Nurses. They are among just 2 percent of CCUs in the U.S. to have received this award, which recognizes units meeting 42 high-quality standards in five categories. In December 2015, Cleveland Clinic’s main campus Coronary Intensive Care Unit (ICU) and Heart Failure ICU received the award (gold level). In January 2016, the Hillcrest Hospital CCU received the award (silver level), and in March 2015, the Cleveland Clinic Florida ICU received the award (bronze level).

In November 2015, the Ohio March of Dimes presented three Cleveland Clinic nurses with Ohio Nurse of the Year Awards at the third annual event. The selection committee reviews hundreds of applications across 18 nursing areas and honors exceptional nurses who help advance the organization’s mission of promoting the health of babies. Our winners are, in Advanced Practice, Myra Cook, MSN, RN, ACNS-BC, CCRN, CSC, Cleveland Clinic main campus; in Pediatrics, Nancy Dorenkott, BSN, RN, CPN, Fairview Hospital; and in Quality Management, Christine Rose, BSN, RN, CIC, CMSRN, Lutheran Hospital.

In October 2015, Christian Burchill, PhD, RN, CEN, presented research findings at the annual conference of the Institute for Emergency Nursing Research (IENR) in Orlando, Florida. From a large pool of submissions, his poster “Factors that Make Emergency Nurses Feel Safe from Patient-Visitor Violence” took top honors for Best Research Poster. Dr. Burchill works in Cleveland Clinic’s Office of Nursing Research and Innovation.