Code Sepsis: Erlanger Rethinks, Retools Protocols to Address a Killer

As a large, academic health system with both adult and pediatric facilities designated to accept the highest levels of acuity, Erlanger opens its doors to patients in the immediate communities they serve, as well as those transported from other hospitals into their system for expert care. With such a high volume of patients, Erlanger Health System is routinely faced with assessing and treating patients on the sepsis spectrum. According to the National Institutes of Health, sepsis, in its most advanced states, is one of the leading causes of death in hospitals.

"We usually have 180 to 200 or more patients a month coded with severe sepsis or septic shock," noted Natalie Montgomery, MSN, APRN, ACNS-BC, CCNS, CCRN, a clinical resource specialists and sepsis coordinator for Erlanger Health System. "When someone is identified with severe sepsis or septic shock, time is of the essence," she added. However, Montgomery continued, the clock really starts ticking from the moment a patient's vital signs raise the possibility of infection since a patient's condition can move from mild symptoms to organ dysfunction and failure in a very short window if left untreated.

The nature of being a tertiary health system means many patients arrive at Erlanger already in trouble. "A large portion of those being transported in with sepsis have already been diagnosed with severe sepsis or septic shock," explained Montgomery. While those patients don't have to be included in numbers reported to the Centers for Medicare & Medicaid Services, she noted it makes no difference internally. "We're honed-in on every patient," Montgomery said. "We want to provide world class care to each and every one of them that comes through our doors."

Erlanger Clinical Resurce Specialist and Sepsis Coordinator Natalie Montgomery has helped lead efforts & implement protocols to drive sepsis rates down dramatically.

With so many cases each month, perhaps it wasn't surprising that Erlanger saw a higher sepsis mortality rate than the national standard … but what might have been unsurprising was also unacceptable to the clinical teams at Erlanger. Under the leadership of Associate Chief Nursing Officer Ted Nelson, DNP, MBA, MNA, and physician champions Woods Blake, MD, and Jigme Sethi, MD, Erlanger began to take a serious look at their processes of identifying sepsis patients and treating them in a timely manner. That initiative really took off when Montgomery, who had previously worked at Erlanger, returned to the health system in 2017 and took the reins of the program.

One of the first steps was to identify protocols to assess disconnects between best practices and actual clinical implementation. Working closely with the quality team, Montgomery said, "We wanted to see where our fall-outs were. We wanted to drill down to see what tools we were using to identify our patient population for screening."

While 'gut instinct' might have led the sepsis committee to focus on the hectic Emergency Department as a prime location for missed screening, Montgomery said a gap analysis actually led them to two of their busiest med-surg floors. "It was more our direct admit patients where you might not know they have an infection brewing," she explained of cryptic shock, which has a similar mortality rate to those with overt septic shock. "You have to know what your organization needs … and that's where we needed it most – on our med-surg floors," she added of letting the data dictate where to start.

A pilot project on those floors was initiated to evaluate screening and review the number of patients who did and did not receive evidence-based care. "The sepsis screening tool pilot was completed at the end of October 2017," said Montgomery. "After the first month, we did floor huddles to see what was working or not working, and we modified the screening tool to make sure it was clearer and was being used properly."

Another key component was to consider how the next steps would unfold if a patient was identified as being on the sepsis spectrum. "We made sure to meet with our rapid response team," she noted. "If we're screening these patients, and they are positive for sepsis, we had to have a plan in place. The rapid response team has a higher level of training because of Erlanger's trauma designation."

She added the purpose of the team is to intervene before patients have to be transported to the ICU. Keeping patients on the med-surg floors, however, doesn't lessen the sense of urgency. "During the pilot, we renamed it to be Code Sepsis," Montgomery said. "It's a medical emergency, and we wanted to get it embedded into our everyday culture just as you have Code STEMI and Code Stroke."

As Erlanger worked through the pilot project, several changes were implemented including having the appropriate antibiotics handy on the floors in the automated medication dispensing cabinets. The committee also integrated the Code Sepsis with the rapid response team as a matter of policy, reviewed their sepsis order set and made ongoing education a priority. "As a teaching hospital, we have so many specialties and new people coming in every July," Montgomery noted of the need for continual education at every level. She added the hospital embraced the Surviving Sepsis national campaign, utilizing 'badge buddies' that help remind clinicians what is required at three hours and six hours in the sepsis management bundle under CMS.

Although their sepsis pilot started on paper, the health system was in the process of going live with EPIC, their new electronic health record system, through much of 2018. While the EHR ultimately allowed for enhanced clinical decision support, Montgomery said working through so much change at one time was challenging. Now, however, the protocol is built into EPIC along with Sepsis BPAs – best practice alerts. "In March 2019, we added a new hospital policy that any patient with a serum lactate acid level of ≥ 4 is called to the nurse, and the physician is notified electronically through the EPIC system so that we can treat them accordingly," Montgomery noted of the continued migration toward electronic reminders.

She added tweaks and changes to the Code Sepsis protocol are ongoing – "but that's how medicine is … it's always evolving so we have to evolve with it," she pointed out.

The hard work has paid off. "Looking at the big picture, our mortality rates look much, much better," said Montgomery. "The Tennessee Hospital Association has been wonderful. They collect all the discharge data and send it to us to help us align and benchmark where we are nationally and with other hospitals in Tennessee."

As a result of the heavy lifting to rethink and retool the sepsis protocol, Montgomery said there has been a culture shift throughout Erlanger to respond to sepsis with the same urgency as other medical emergencies requiring coordination by multiple clinicians across units and specialties. "We're so blessed to have support from every level of our organizational chart," she said of the journey to rapidly identify and treat this deadly condition.

The Tennessee Center for Patient Safety, a department of the Tennessee Hospital Association, develops and shares hospital and health system success stories and promotes best practices.

THA
TENNESSEE HOSPITAL ASSOCIATION

TENNESSEE
Center for Patient Safety