Using Floor Champions to Improve Sepsis Quality Outcomes in Community Hospitals

Nicholas Alen Chmielewski, MSN, RN, CEN, CNML, NE-BC, FAEN,
Larry D. Faulkner, MBA, BSN, RN, CEN, and Marilyn Drone, MSN, RN

Although dedicated sepsis nurses are beneficial to larger institutions, recruiting and/or economies of scale make the feasibility and affordability of this role much more challenging in smaller community hospitals. This article discusses an approach St. Mary Medical Center used to improve the overall bundle failure rate from 74% to 9% without a dedicated 24/7 sepsis nurse.

More than 1 million Americans are diagnosed with sepsis each year; nearly 1 in 4 septic patients will die from it, and the mortality rate of severe sepsis or septic shock is approximately 40%.[1] It is estimated that sepsis costs the U.S. health care system between 16 and 24 billion dollars each year.[1,2] Early identification with appropriate rapid treatment of sepsis is essential to ensuring the best possible patient outcome.[2] It is further well documented in the literature that having a dedicated sepsis nurse 24/7 leads to improved sepsis bundle compliance and improved patient outcomes.[1,2] Although such a streamlined role is beneficial to larger institutions, economies of scale make its affordability much more challenging in smaller community hospitals. Moreover, recruiting for such a role in smaller non-urban communities can be difficult. This article discusses 1 possible solution to achieving positive sepsis bundle compliance when a dedicated 24/7 sepsis nurse is not possible.

St. Mary Medical Center (SMMC) is a faith-based organization that is part of the Providence St. Joseph Health System. The 212-bed community hospital's emergency department in the high desert of San Bernardino County, California, had been challenged with meeting sepsis bundle set compliance rates for its emergency department (ED) patients.

REGIONAL AND LOCAL SEPSIS IMPROVEMENT TEAMS ORGANIZE

In December 2015, Providence St. Joseph Health's Southern California Region formed a Regional Sepsis Collaborative to establish a standardized infrastructure for order set utilization and data analytics across the region.[3] The regional team's objectives are further detailed in Figure 1.

Concurrently, SMMC formed a local multidisciplinary sepsis performance improvement work team to implement site-specific processes in alignment with the regional collaborative work. The hospital sepsis performance improvement team consisted of the intensive care unit manager, ED manager, quality data analyst, clinical outcomes specialist, performance improvement coordinator, ED physician, and staff nurses from both the intensive care unit and ED.

Initially, the SMMC team worked in conjunction with the regional collaborative to develop new, easier-to-use order sets that included all elements of the 3- and 6-hour bundles. After development, the team worked to educate both the providers and staff in the ED and inpatient environments on order set utilization.

Nursing staff were also educated on the 3- and 6-hour bundle elements to help ensure compliance. This education included calculating and administering appropriate volume replacement, utilizing Central Venous Pressures to assist with volume replacement in the patient with a central line, lactate interpretation, and appropriate antibiotic utilization.

REAL-TIME METRICS FOR RAPID STAFF FEEDBACK

The hospital receives its performance data several months after actual care was delivered. This delay was found to inhibit the effectiveness of the continuous performance improvement program. To overcome this, the team instituted near real-time review/measurement of the 3- and 6-hour bundles. The goal was to generate a positive Hawthorne effect. To achieve this, the data analyst provided:

- Daily "outlier" reports that listed fallouts of bundle compliance for rapid review and peer coaching
- Weekly month-to-date compliance stats, which were subsequently shared in the daily staff huddles; this report listed overall bundle and provider-specific performance compliance rates for order set utilization, and measured fallouts that included insufficient fluids, untimely fluid administration, antibiotics not ordered timely, and antibiotics not administered timely

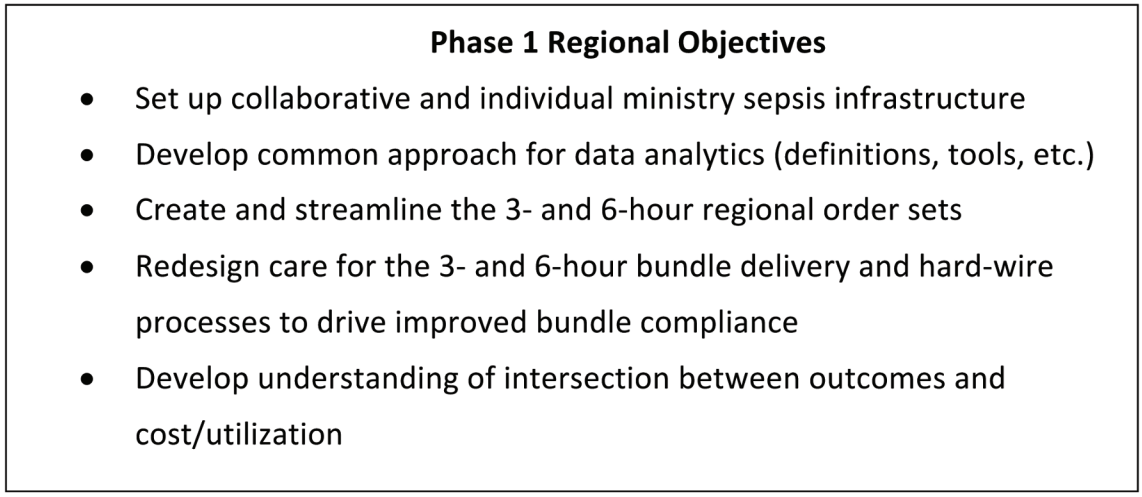

Figure 1. Phase 1 Regional Objectives[3]

- Monthly compliance stats for trending overall performance while awaiting final abstracted data for Centers for Medicare & Medicaid Services reporting

The team also created a sepsis indicator on the ED electronic medical record tracker. This indicator was linked to the order set and populated for all staff, signifying a patient required workup and treatment for possible sepsis. Although other institutions have created similar indicators for a positive sepsis screen by nursing staff, not all positive screens translated to a sepsis workup or diagnosis by a provider. Because the door-to-provider time averaged 21 minutes, the team felt that focusing on the order set utilization would be an appropriate balance for improving the care while not contributing to potential alarm fatigue (or in this case, indicator fatigue).

FUNCTIONING WITHOUT A DEDICATED SEPSIS NURSE

Although the hospital approved 1 full-time equivalent to be utilized in a sepsis nurse role, recruiting for this position was difficult. Also, because the role did not afford 24/7 coverage, other avenues were explored to achieve successful performance improvement. This was accomplished through implementing a "floor champion" model for sepsis performance improvement.

Also referred to as "best practice champions," it has been suggested that professionals in this role are central to implement or sustain performance improvement initiatives.[4,7] Ploeg et al.[6] further discuss factors that may impact the success of a nursing champion, including, but not limited to, their position in the organization, authority and span of control, and the necessary number of champions required to achieve critical mass in implementing or sustaining a change.

Our team hypothesized that having peer champions would promote a more collegial environment towards implementing and sustaining sepsis performance outcomes. As such, we designated a practicing ED physician to serve as sepsis champion for provider practice and 2 staff ED nurses (1 from the day shift and 1 from the night shift) to serve as sepsis champions for ED nursing practice. The champions were responsible for reviewing the near real-time quality data and meeting with the individual nurse or physician to discuss the case and identify opportunities for improvement. The champions intentionally did not maintain logs of outlier conversations, etc. They were directed to speak with respective ED provider/nursing leadership if they identified a repeated pattern of outliers by a particular person. There were several benefits to this individual peer-case review process:

- Reviewing the case individually with the nurse or provider helped the caregiver understand that a particular patient they cared for did not receive optimal care. Having this conversation as close as possible to the actual visit date allowed the caregiver to recall the patient and the circumstances of the day. It humanized what would otherwise be a reported statistic, allowing them to internalize opportunities for improvement, and hopefully, implement real practice change.
- These 1:1 conversations allowed the team to also identify specific contributing process barriers to achieving bundle compliance and respond to objective barrier trends once identified. Implemented improvements as a result of this process included staff education regarding:
  - Appropriate antibiotic selection (monotherapy versus dual therapy)
  - How nurses should properly document intravenous fluid administration in the electronic medical record

- Concurrent administration of intravenous antibiotics (see sample education in Figure 2).

- Staff responded well to the peer-to-peer conversations. It is our belief that the conversations were much more constructive in an informal peer-to-peer conversation as opposed to any conversation from leadership.

RESULTS

The monthly ED order set utilization progressively improved from 50% in December 2016 to 94% in July 2017; the overall bundle failure rate progressively improved during the same timeframe from 74% to 9%. This represents a 46.8% and 87.8% improvement, respectively (Figure 3).

When comparing year-over-year performance improvement results of July 2016 to July 2017:

- Lactate measurement within 3 hours of severe sepsis criteria improved from 98% compliance to 100% compliance.
- Blood cultures drawn prior to antibiotic administration improved from 90% compliance to 100% compliance.
- Antibiotic administration within 3 hours of severe sepsis criteria improved from 60% compliance to 97% compliance.

The above real-time auditing for performance improvement translated into the following publicly reported outcomes: The rate-based measure and composite process score for the early management bundle of severe sepsis/septic shock increased from 19.05% in 2016 Quarter 4 to 43.33% in 2017 Quarter 2. This represents a 127.3% improvement.

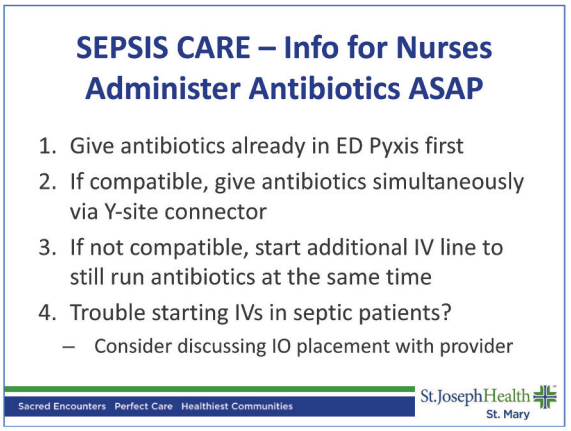

Figure 2. Staff Education Regarding Antibiotic Administration for Patients With Suspected Sepsis ASAP, as soon as possible: IO, intraosseous.

CONCLUSION

Utilizing a floor champion model was an effective method in improving sepsis bundle compliance at St. Mary Medical Center. The ED is now identifying floor champions and implementing a similar framework for other performance improvement initiatives. Senior leadership, recognizing the benefit the floor champion model has brought to the organization, supports the continued use of further development of the model throughout the rest of the organization. Although the organization has since recruited a sepsis nurse, we continue to implement the floor champion model for continued sepsis improvement.

Utilizing the floor champion method may be effective for other hospitals where dedicated resources

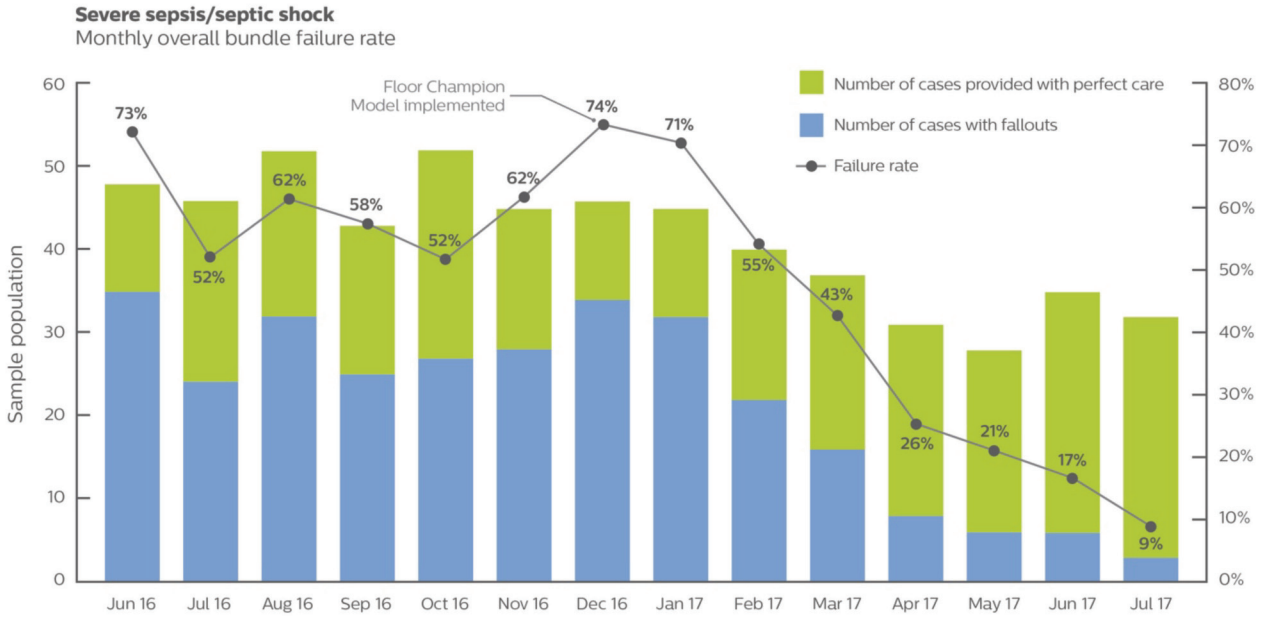

Figure 3. Severe Sepsis/Septic Shock Monthly Overall Bundle Failure Rate

are not available 24/7. However, additional utilization and research is needed to determine if this prediction is accurate. Further research is also needed, as Ploeg et al.[6] identified, in determining the appropriate methodology for the most effective floor champion model. This includes their role within the organization, power/authority and span of control, and necessary number of champions required to achieve critical mass in implementing or sustaining a change.

References

1. Afable R, Vovan A. Hospitals Need to Redouble Their Efforts in Fight Against Deadly, Costly Sepsis Cases. May 28, 2016. Modern Healthcare website. Available at: http://www.modernhealthcare.com/article/20160528/MAGAZINE/305289979. Accessed January 7, 2018.
2. Advisory Board. The nurse-led strategy that sharply cut sepsis deaths at St. Joseph Hoag Health. June 22, 2017. Advisory Board Daily Briefing. Available at: https://www.advisory.com/daily-briefing/2017/06/22/hoag-sepsis. Accessed January 7, 2018.
3. McMannus S, Vovan A. Sepsis: across the continuum webinar series. 2017. Available at: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=4&ved=0ahUKEwj78aenvcbYAhUIzIMKHTfWA6MQFgg-MAM&url=http%3A%2F%2Fwww.sepsis.org%2Ffiles%2Fwebinar-11-9-17.pdf&usg=AOvVaw3wazuS5gImOyLowxeP6mdY. Accessed January 7, 2018.
4. Santos J. Promoting best practices in long-term care homes. *Perspectives.* 2007;31(3):5–9.
5. Grinspun D. Inspiring respect for nurses through BPGs. *Regist Nurs J.* 2008;20(2):7.
6. Ploeg J, Skelly J, Rowan M, et al. The role of nursing best practice champions in diffusing practice guidelines: a mixed methods study. *Worldviews Evid Based Nurs.* 2010;7:238-251.
7. Mackinson L, Corey J, Kelly V, et al. Nurse project consultant: critical care nurses move beyond the bedside to affect quality and safety. *Crit Care Nurse.* 2018;38(3):54-67.

Nicholas Alen Chmielewski, MSN, RN, CEN, CNML, NE-BC, FAEN, is formerly a Consulting Manager at Philips Blue Jay Consulting located in Andover, Massachusetts. Larry D. Faulkner, MBA, BSN, RN, CEN, is a Senior Consultant at Philips Blue Jay Consulting located in Andover, Massachusetts. He can be reached at larry.faulkner@philips.com. Marilyn Drone, MSN, RN, is Chief Operating Officer and Chief Nursing Officer at St. Mary Medical Center in Apple Valley, California. She can be reached at marilyn.drone@stjoe.org.

Note: Outcomes data expressed in this article were provided to the authors by the St. Mary Medical Center Quality Department. The authors have permission to submit this manuscript for publication, including figures, but do not have permission to share the raw data. This article was written with editing assistance from the Marketing and Communications Team of the authors' employer.

1541-4612/2019/ $ See front matter

http://dx.doi.org/10.1016/j.mnl.2018.08.005