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2018

Partnering with Inpatient Situation Awareness Screening to Improve Early Sepsis Recognition

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Recommended Citation

Hueschen, Leslie; Burrus, Stephanie; Raymond, Andrea; Thompson, Charity; Carney, Lisa; and Riling, Jay, "Partnering with Inpatient Situation Awareness Screening to Improve Early Sepsis Recognition" (2018). *Posters*. 18.

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Background

Early recognition of sepsis and designing a huddle process are key drivers of the Improving Pediatric Sepsis Outcomes (IPSO) collaborative. Our tertiary care, free-standing, pediatric hospital joined the IPSO collaboration in 2016. Our hospital began piloting Situation Awareness (SA) Escalation Huddles in 2016, to improve recognition of patients with clinical deterioration. The tool triggers if a patient has a high PEWS (≥ 5), requires initiation of hi-flow nasal cannula, or for staff/parental concern. The SA paper tool guides the communication process and steps of the huddle. Huddles include a nurse, provider, and respiratory therapist. One of the goals of the SA escalation huddle is to decrease the amount of Advanced Life Support code blue events and rapidly identify septic patients on the inpatient units. Prior to this study there was no formal screening process for sepsis in the inpatient units.

Objective

- Identify septic patients early on inpatient units by forcing consideration of sepsis during SA screening in high-risk patients.
- Utilize existing SA screening tool without employing increased work demands on care providers.
- Ultimately, improve timely treatment of septic patients (antibiotics, fluid resuscitation) and escalate to higher level of care earlier, if indicated.

Methods

In Fall 2017, a question "Sepsis Concern?" was added to the SA tool to better identify septic patients. Roll out of new SA tool was completed in a step-wise process throughout the hospital and completed January 2018 in all units. We collected the number of PICU transfers with + SA tool. We hypothesized this change should lead to timely identification of sepsis, care team huddle with bedside discussion, treatment, and escalation of care. Sepsis clinical practice guidelines and order-sets were developed in conjunction to aid in the decision making process.

Results

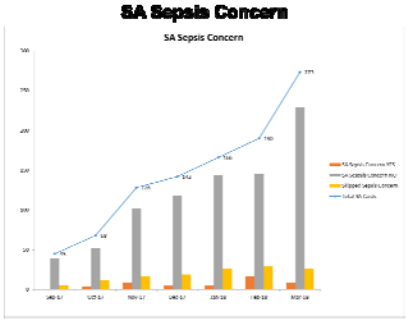
There were 162 number of severe sepsis patients treated from September 2017 to March 2018 in our hospital. There were an average of 23 severe sepsis patients each month. 21% (34/162) of these patients were identified to have possible sepsis on the inpatient units.

From September 2017 to March 2018, 1,012 SA tools were triggered with a mean of 4.8 huddles/day. The average patient had an average 2.3 (1,012/445) SA huddles during their hospitalization. Of SA triggers, 49 huddles (over 34 patients) screened positive for "Sepsis Concern?" (4.8%, 49/1,012). 71% of "+ Sepsis Concern" episodes were treated as possible severe sepsis (35/49). Of the "+ sepsis concern" patients, 29% (10/34) were transferred to the ICU. When completing the SA form 13.3% (135/1,012) skipped the "Sepsis Concern?" question.

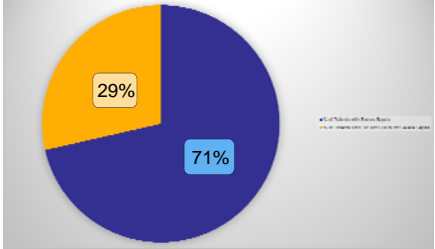
During the study, 21% of PICU transfers for possible severe sepsis had the SA tool used (3/14) prior to transfer.

The image shows the 'Sepsis clinical practice guideline' flowchart and the 'Situation Awareness (SA) Patient Documentation' form. The flowchart starts with 'Sepsis and Sepsis Concern' and leads to 'Check Sepsis or Sepsis Concern' and 'Escalate Sepsis or Sepsis Concern'. The SA form includes sections for 'Nurse', 'Physician', and 'Respiratory Therapist', with fields for patient name, PEWS score, and various clinical observations.

Results



SA Huddle Patients with Positive Sepsis Concern



Conclusion

The majority of sepsis patients identified with the SA tool had severe sepsis and required ICU care. Ideally the "concern for sepsis" question would generate a shared mental model in the diagnosis and treatment of sepsis, however even questioning the possibility of sepsis and discussion about sepsis remains challenging.