

Improving Sepsis Outcomes with Implementation of Sepsis Icon to ED Trackboard



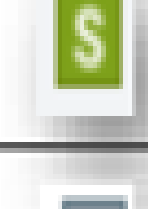

Maria Lasorsa RN, MSN, CEN and Anamaria Sandoval RN, MSN, CEN

New York Presbyterian, Columbia University Irving Medical Center

Introduction or Purpose

- Sepsis is a life-threatening medical emergency with a mortality risk of up to 80% in the absence of prompt medical attention (Valean et al., 2023).
- In an effort to combat sepsis and improve survival, NYP has included adherence to the surviving sepsis bundle in the ED one of its 2024 Quality and Patient safety goals.
 - **P** – Adult ED patients > 18 years old.
 - **I** – Implementing a Sepsis Column on the ED trackboard to promptly identify potential sepsis patients.
 - **C** – Compared to before the use of the Sepsis column
 - **O** – Improve adherence with the 3-hour surviving sepsis bundle in the ED to 75%
 - **T** – Data was collected 3 months prior to implementation and three months after implementation.
 - **S** – Setting was in the Adult ED.

▪ **Current practice:** The sepsis column has been redesigned with a bright red **S** icon to promptly alert providers/nursing of patients who meet systemic inflammatory response syndrome (SIRS) criteria. Sepsis is defined by the Centers for Medicare and Medicaid Services (CMS) as having a source of infection plus 2 or more systemic inflammatory response syndrome (SIRS) criteria: Temp > 38° or < 36° Celsius, heart rate > 90, respiratory rate > 20 or PaCO₂ < 32 mm Hg, WBC > 12,000/mm³ or < 4,000/mm³ or > 10% bands.

	Red = Patient meets adult SIRS criteria, but all 3 components of the sepsis bundle (lactate, blood cultures, antibiotics) have not been ordered .
	Yellow = All 3 components of the sepsis bundle have been ordered, but all 3 components have not been collected/administered by nursing
	Green = All 3 components of the sepsis bundle have been ordered and collected/administered by nursing. The sepsis bundle is complete.
	Gray = Provider documents (in the Adult ED Quality Tab in the ED Provider Note) that the patient is NOT septic despite meeting SIRS criteria .

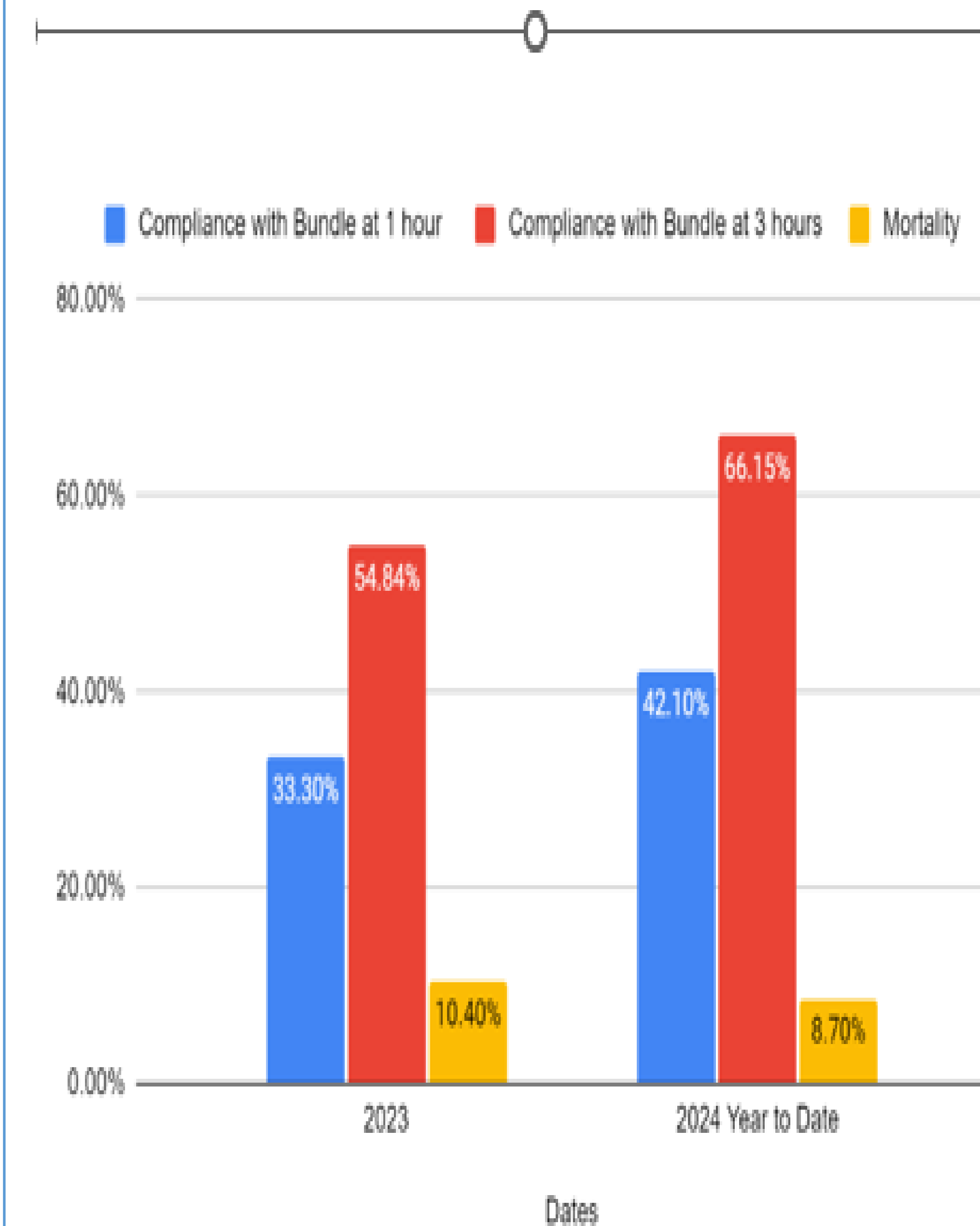
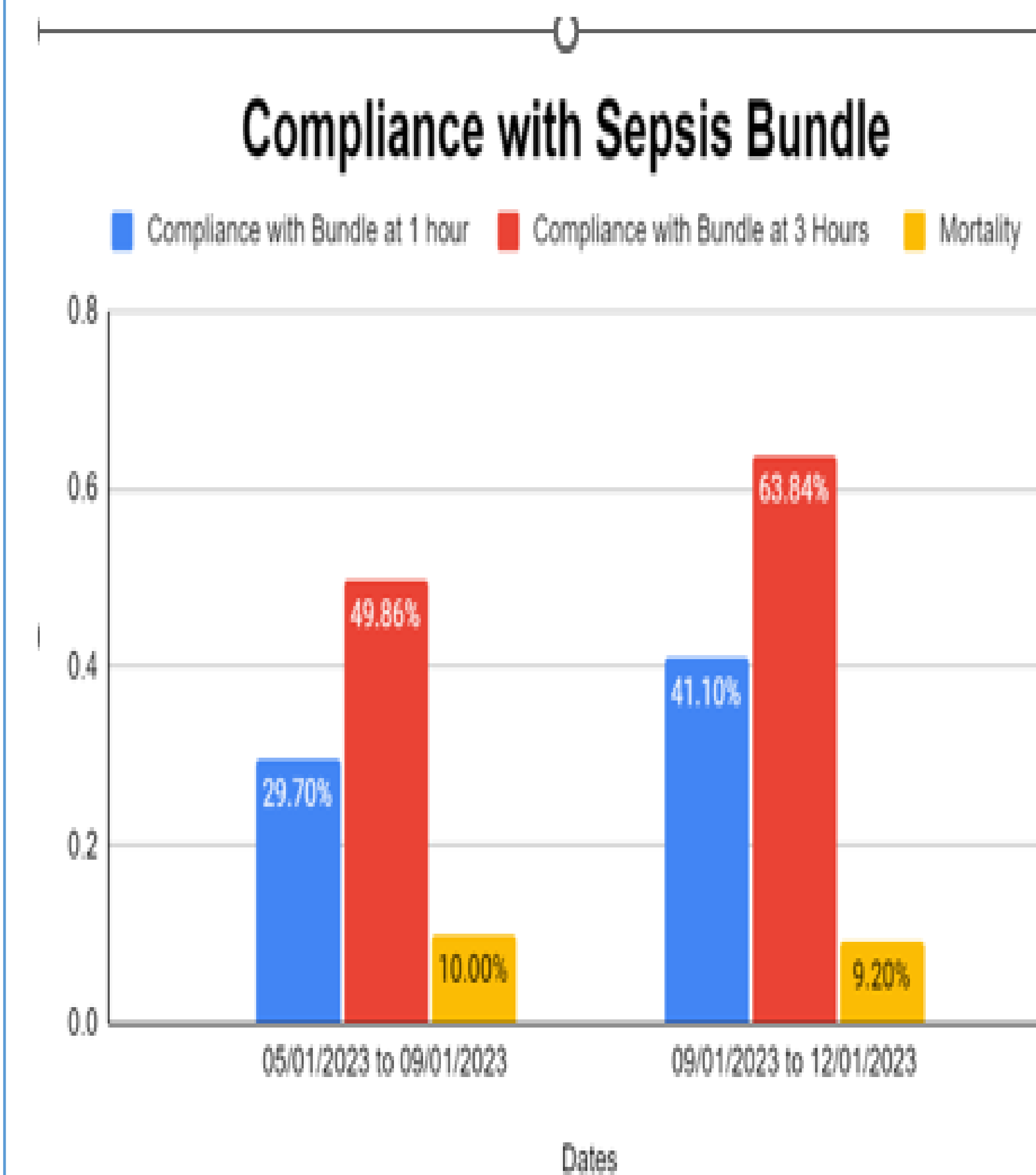
Design Setting

- Our original question was to determine if implementing a Sepsis Column on the ED track board would promptly identify potential sepsis patients and improve compliance with our 3-hour surviving sepsis bundle over 6 months.
- We used data gathered from chart reviews over a 6-month period, three months prior to implementation of the Sepsis Column on the ED trackboard and three months post-implementation,
- The setting was the Adult ED.

Material and Methods

- A practice change was necessary to improve survival of patients with sepsis through prompt interventions and treatment. This change includes the addition of a sepsis icon on the ED trackboard to alert the nurses and providers of a possible sepsis case.
- It allows the user to: 1) Promptly identify patients who meet SIRS criteria; 2) evaluate them for sepsis, 3) track lactate, blood culture and antibiotic orders for compliance with the sepsis bundle.
- The data utilized for this project was obtained from the NYP Sepsis dashboard and is categorized by campus location. The data obtained for CUMC Emergency Department included compliance with the sepsis bundle at 1 hour and 3 hours, as well as mortality rates in patients affected with sepsis in the years 2023 and 2024.
- The Sepsis Icon went live on 9/1/2023 and data was collected in the 3 months prior to implementation, as well as 3 months after. Compliance with the Sepsis bundle increased 11.4% for the 1 hour and 13.98% for the 3-hour bundle after 3 months. Mortality rate also decreased by .8%.
- When comparing the data between 2023 and year to date for 2024, the 1-hour bundle increased 8.1%, 3-hour 10.2%, and the overall mortality rate decreased by 2.1%
- **Limitations:** included a possible lag of 1-2 months on sepsis data since some sepsis definitions are based on billing diagnoses which are determined after patient discharge.

Results



Implications/ Conclusions

- Each year in the U.S., approximately 1.7 million adults develop sepsis with 350,000 deaths and worldwide, sepsis accounts for 20% of all global deaths. Bundles are a set of evidence-based practices that when performed are shown to improve patient outcomes (Seckel et al., 2024).
- Institution of sepsis pathways to streamline the recognition, management, and review of sepsis cases in hospital settings reduces sepsis mortality and morbidity (Wilks et al., 2023).
- The results of this study lend support to the evidence base that the 3-hour sepsis bundle does indeed improve the outcomes for patients with severe sepsis. The results show how a large hospital system can improve 3-hour bundle compliance and see a corresponding improvement in the in-hospital survival of patients with severe sepsis (Lynn et al., 2018).
- Sepsis screening tools are designed to promote early identification of sepsis and consist of manual methods or automated use of the electronic health record (EHR) (Evans et al., 2021).

References

Please scan the QR below for additional references -



Acknowledgements and Contacts

For more information, please contact Maria Lasorsa, RN, MSN, CEN at mal9079@nyp.org and Anamaria Sandoval, RN, MSN, CEN at als9094@nyp.org