Improving Early Sepsis & Severe Sepsis Identification and Management on Internal Medicine service at the Detroit John D. Dingell VA Medical Center

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Background: Sepsis is a life-threatening organ dysfunction due to infection, with an incidence of nearly 50 million people each year, causing about 11 million in mortality worldwide. Adhering to Sepsis protocols is a quality metric monitored by both the Centers for Medicare & Medicaid Services (CMS) via the SEP 1 measure and the VA Healthcare System through SEP 90, which consists of an all-or-nothing score comprised of individual metrics. These metrics include specific actions such as early management bundle utilization, lactate monitoring, timely fluid resuscitation, and vasopressor administration, all within defined timeframes. Based on FY 2023 Data, the John D. Dingell VAMC performed nationally in the last quintile with > 72% fallouts. Given that the vast majority of our Sepsis patients are treated and managed by the inpatient Internal Medicine resident service, we initiated a Quality Improvement project to educate them and thereby decrease our number of fallouts. We aim to improve Sepsis, severe Sepsis, & Septic shock Identification and Management by 50% over the course of 8 months on the internal medicine service.

Methods: Internal medicine residents are central to the identification and management of early Sepsis and Severe Sepsis at the Detroit VA. Given the monthly turnover of resident teams, we focused on our model for improvement on interventions at the start of each month with targeted educational sessions to define Sepsis, severe Sepsis, and septic shock (and their management). We have also implemented targeted EMR training on utilizing a recently developed “Sepsis Bundle order set” for patients who have been identified as Sepsis. Sepsis Menu data usage was collected based on health factor tags on patients with Sepsis as their ICD-10 code on discharge from the internal medicine service.

Results: Internal Medicine Resident educational sessions and EMR training commenced on July 1st, 2024. Sepsis Bundle was implemented in the EMR late 2022 due to rising fallouts of Sepsis and severe sepsis cases. However, its usage remained minimal, as depicted in Figure One, when compared to the number of discharged patients. Following the educational sessions and EMR training, both the identification and management of Sepsis have increased. Prior to intervention, from October 2022 to June 2023, a mean sepsis bundle usage rate of 10% was observed for identified sepsis patients, whereas post-intervention, from July 2023 to March 2024, the mean has increased to 30%.

Conclusion/Discussion: Based on the early data, we can confidently note that our monthly education sessions, paired with our process measure (Sepsis bundle use), have been effective. Ongoing opportunities for improvement are improved coordination and handoff between ER and IM/MICU. We continue to see the need for ongoing resident education on identification and appropriate documentation of Sepsis severity along with obtaining labs within a certain time frame.