Quality Initiative to Improve Emergency Department Sepsis Bundle Compliance Through Resident Education and Awareness

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Introduction: Timely recognition of sepsis is important for physicians as each hour of delay before sepsis is treated is associated with a 4-9% increase in mortality. In order to monitor the care provided in critically ill patients, the Centers for Medicare & Medicaid Services (CzMS) designed Hospital Quality Initiatives which include The Severe Sepsis and Septic Shock Management Bundle (SEP-1). A prior study conducted by Alexander et al at McLaren Oakland Hospital's Emergency Department (ED) demonstrated improvement in bundle compliance with standardization in documentation and order entry in EMR in the form of Sepsis Macros. Subsequently, the compliance rates with the SEP-1 bundle at McLaren Oakland were found to have fluctuated monthly. This fluctuation affects both patient outcomes and reimbursement for the care provided. Therefore, we hypothesized further education needed to be provided to ensure quality care of septic patients.

Objectives: Our project aimed to improve sepsis bundle compliance at McLaren Oakland by providing education to the PGY-1 class and off-service residents on how to accurately utilize the pre-populated sepsis macro and order sets in EMR in order to recognize and treat sepsis in a timely manner.

Methods: We developed a Sepsis Education sheet sent in the form of a monthly educational email. This initiative targeted PGY-1s, instructing them on how to appropriately use the new sepsis macro to have timely recognition of sepsis and appropriate orders placed to meet compliance guidelines. Our monthly educational email was sent from August 2022 to February 2023.

Results: Sepsis Compliance data was analyzed from August 2022 to February 2023 and compared to August 2021 to February 2022. After implementation of the Sepsis Education sheet, the mean of compliance rates actually decreased from 64% (SD= 0.101 95% CI: 0.575 to 0.719) to 47% (SD= 0.116 95% CI: 0.388 to 0.560) during intervention (p-value = 0.0101).

Conclusion: Our intervention was not successful in increasing compliance with SEP-1 bundle requirements. We therefore determined that PGY-1 awareness of sepsis and use of macros is not the limiting factor in sepsis compliance for McLaren Oakland Hospital's ED. Further investigation regarding limiting factors in sepsis bundle compliance at our institution will need to be conducted.