

**Title:** Impact of an Automated Sepsis Alert on Empiric Antibiotics

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**Introduction:** The Centers for Medicare and Medicaid Services (CMS) Sepsis Core Measure criteria outline the minimum standard of care that hospitals must meet for patients diagnosed with sepsis. Mercy St. Louis implemented an alert that provides physicians with a checklist of CMS criteria for these patients. The objective of this study was to determine the impact this alert had on empiric antibiotic prescribing.

**Methods:** Patients with diagnosis coding of sepsis (pre-alert group) or who were identified by the system alert (post-alert group) were included. Patients were excluded if they had septic shock, were pregnant, or were less than 18 years of age. The primary outcome was the difference in the percent of patients appropriately prescribed empiric broad spectrum antibiotics pre- and post-alert implementation. Appropriateness was determined by using source-specific, guideline-based criteria. Secondary outcomes included hospital length of stay (LOS) and time to de-escalation of antibiotics.

**Results:** A total of 77 patients were included in each group. In the pre-alert group, 58% received appropriate empiric antibiotics versus 64% in the post-alert group ( $p = 0.51$ ). De-escalation of antibiotics occurred after an average of 3.18 days in the pre-group and 2.69 days in the post-group. Mean LOS and Sequential Organ Failure Assessment scores were higher in the post-alert group, suggesting higher disease severity.

**Conclusions:** Compared to pre-alert patients, the post-alert group had similar empiric antibiotic prescribing patterns. These results indicate that the implementation of a sepsis alert did not significantly impact the use of empiric broad-spectrum antibiotics at our institution.