

Early Sepsis Intervention and Education with EMS Teams

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Key Findings: Identifying barriers and providing early sepsis identification and intervention education to EMS crews showed a statistically significant improvement in patient outcomes and increased EMS personnel willingness to intervene among patients with a potential diagnosis of sepsis.

Background

More than 1.5 Million people get sepsis each year in the United States

At least 250,000 Americans die each year from sepsis

The leading cause of mortality in hospitalized patients are the ones diagnosed with septicemia

One out of three patients that die in the hospital die from sepsis. 50% of patients who die from sepsis are brought in via ambulance to the hospital

United States spent approximately \$27.4 billion in 2015 on hospital treatment and management of sepsis

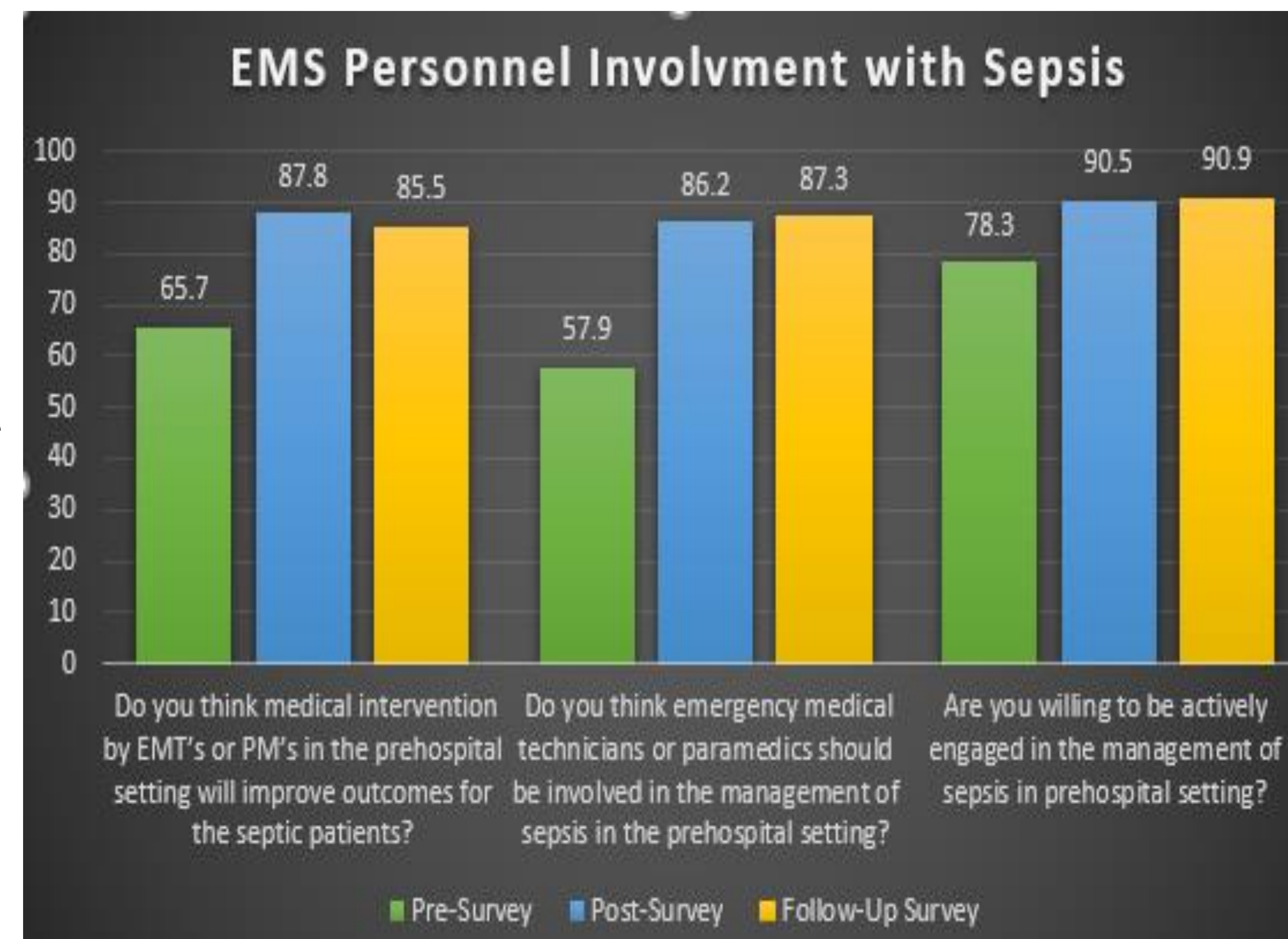
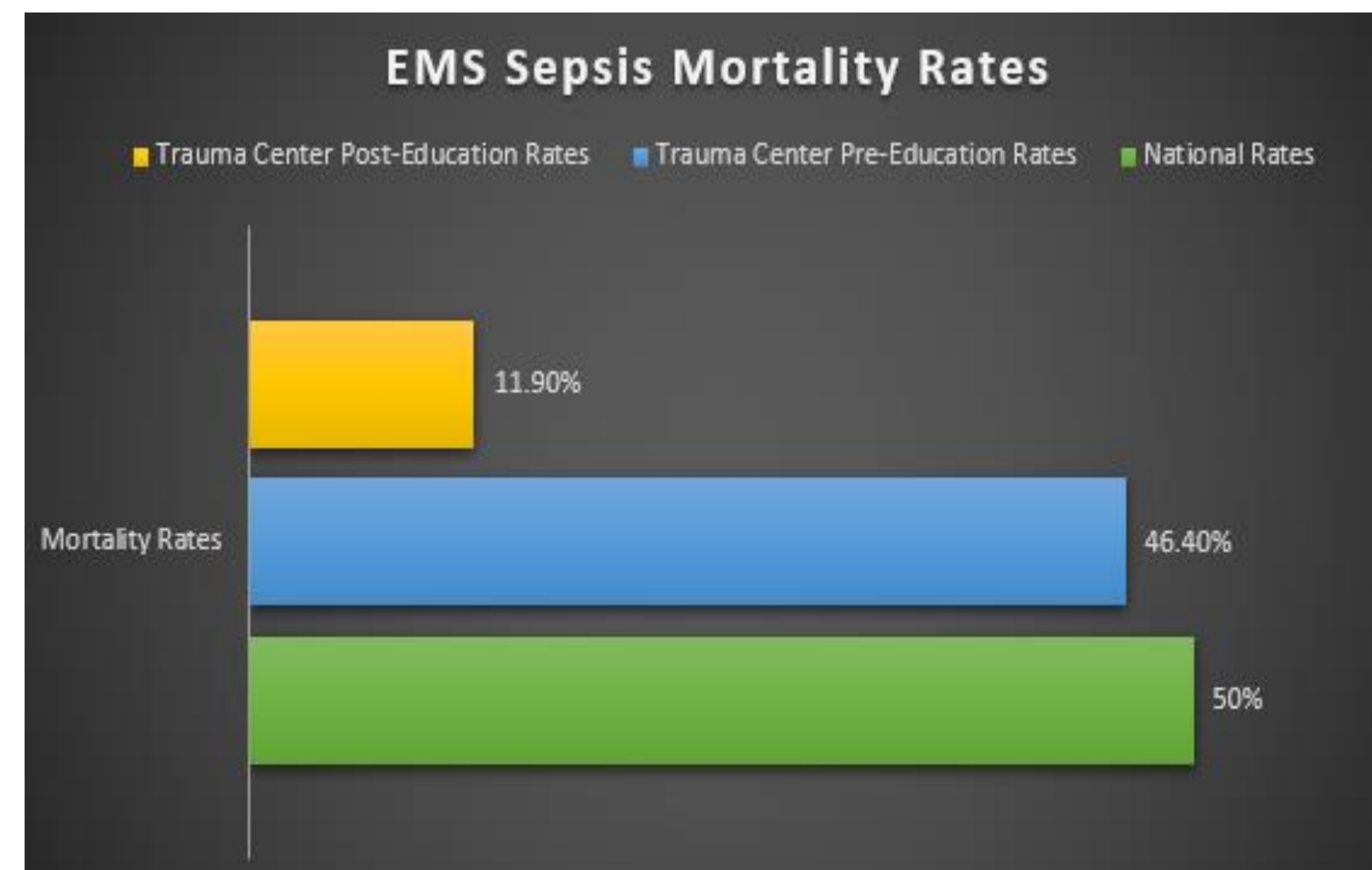
Methods

EMS personnel, including emergency medical technicians and paramedics in the Salt Lake region were included in this project

Education materials were developed and presented to EMS crews, addressing the knowledge deficits and barriers identified about early sepsis identification and intervention. This included a sepsis checklist

A pre- and post-survey was given to all EMS personnel assessing understanding and knowledge about sepsis

Comparison with pre- and post-education surveys and a three month follow-up survey



Results

254 (100%) EMS personnel participated in the sepsis education and completed the pre-survey. 189 (74.4%) EMS personnel completed the post-survey and 55 (21.7%) of EMS personnel completed the follow-up survey

A Wilcoxon signed-rank test was conducted to compare pre-, post-, and follow-up surveys showed a statistically significant change in the early recognition and identification of sepsis ($Z = -2.335, p = 0.020$)

22% increase in EMS personnel understanding the importance of early identification and intervention about sepsis care

EMS mortality rates over 3 month period were 11.9%

Conclusion

Education about appropriate identification of early signs and symptoms of sepsis provided earlier interventions and treatments of patients at risk of having sepsis. Mortality rate decreased from 46.4% to 11.9% over the three month period

Sepsis checklists provide appropriate algorithm for adequate identification and early identification of patients at risk of being septic

Follow-up survey results showed significant EMS satisfaction of sepsis education and retention of early recognition of sepsis and appropriate interventions for early patient care

Due to earlier sepsis intervention by EMS crews patient mortality rates and length of hospital stay decreased