Introduction:
Current sepsis guidelines emphasize resuscitation of hypotension to a mean arterial pressure (MAP) of at least 65 mmHg [1]. A MAP less than 90 mmHg appears to be associated with poor outcomes in postoperative patients in the intensive care unit (ICU) [2]. However, extent of hypotension in critically ill septic patients during ICU stay and its relationship with adverse outcomes is poorly defined. We determined the magnitude of hypotension in ICU patients with a diagnosis of sepsis and its association with major complications.

Methods:
With IRB approval we evaluated records from a large US electronic health records database (Cerner HealthFacts®, Kansas City, MO) of adult patients with a diagnosis of sepsis and ICU stay ≥ 24 hours from Jan 2010 - Nov 2016. Patients with a history of acute myocardial infarction or acute kidney injury (AKI) for six months prior to ICU admission or < 5 MAP readings/ICU day were excluded. Hypotension exposure was defined and analyzed via three methods: total time spent below MAP <65 mmHg; time-weighted average (TWA) MAP <65 mmHg, and the number of MAP readings <65 mmHg. Analyses were repeated for different MAP thresholds (<55, <75, <85 mmHg). We estimated association between hypotension exposure and a major morbidity composite defined by mortality, myocardial injury and AKI using multivariable logistic regression models.

Results:
10,495 patients met all qualifying criteria. 74% of sepsis patients experienced ICU hypotensive events with MAP <65 mmHg; 40% with MAP <55 mmHg. The number of minutes the average patient spent with MAP < 65 mmHg per ICU day will be presented, as will unadjusted/adjusted rates for the morbidity outcome, and unadjusted rates for composite components for all MAP thresholds.

Conclusion:
The result of this analysis will determine the amount and duration of ICU hypotension that is associated with major morbidity in patients with sepsis.

References:
2. Khanna AK et al. SCCM 2018 (Abstract #177)