### Background

- Sepsis is the leading cause of death in hospitalized patients (Dellinger et al., 2012).
- Early detection & treatment of the disease are key to decrease morbidity & mortality
- Adopting international sepsis standards, Lehigh Valley Health Network (LVHN) developed an Emergency Department (ED) Sepsis Alert Protocol
- Informatics staff embedded the protocol into the electronic health record (EHR)
- ED nurses expressed concerns with the functionality & documentation capabilities of the EHR protocol order sets posed workflow & safety concerns
  - Inability to successfully barcode IV fluids
  - Difficulty tracking care given in the ED when the patient became an inpatient
- Provider champion sought the expertise of the Nurse Informaticist (NI) to address obstacles

# Challenge

### NI were tasked with:

- Developing pragmatic strategies to assist nursing staff address workflow barriers
- Designing the build to support the successful implementation of the sepsis alert protocol

# **SEPSIS – Using Technology to Improve Patient Outcomes**

# **Clinical Informatics**

Lehigh Valley Health Network, Allentown, Pennsylvania

### Methods

## Interdisciplinary team assembled

- Physicians, nurses, quality specialists & information services analysts
  - Focus review electronic protocols, test workflows & improve electronic documentation
  - Created
    - Order sets with defaulted fields
    - Embedded antimicrobial guide
    - Smart text for physician documentation

### **NI consultation**

### Contributions for protocol success

- Expanded nursing flowsheet documentation added fields for suspected sepsis, End Tidal CO2 (ETCO2), Mean Arterial Pressure (MAP), & pre-hospital care
- Redesigned medication administration record & barcoding of fluids based on weight and rapid administration
- Ensured the flow of active data from the ED to the inpatient record
- Created reports to measure time related activities (triage, lactate level, IV fluids, & antibiotics)
- Educated medical surgical units on MAP and ETCO2 as an important part of quality data collection

### **References:**

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## Outcomes

- Timely, safe care
- Ability to gather data for quality improvement activities
- Improved communication across ED and inpatient areas

# Conclusion

- The former EHR exclusively used in the ED had limited customization abilities – offered little opportunity to embrace the skills & expertise of the
- The NI played a crucial role in the evaluation, design, build, testing, & implementation of protocols by supporting clinical workflows.
- With the adoption of a system-wide EHR, the ED has valued the NI as a contributor capable of leverging the use of information technology.

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