Background & Review of Literature

- Sepsis remains the leading cause of death among hospitalized patients4
- At this institution,
  - Patients over the age of 60 were identified as having a mortality rate of 27-43%
  - The average time to administration of antibiotics was 182-265 min.
- Common themes from the literature include:
  - There is an association between decreased knowledge and experience with sepsis and increased time to antibiotic administration1,5
  - Rapid response teams decrease time to administration of antibiotics and increase appropriateness of first dose of antibiotics6
  - Simulation education provides a safe learning environment to participate in emergency situations2,7
  - Sepsis simulation has been shown to empower nurses to escalate concerns and initiate treatment earlier, and increase compliance with sepsis bundle completion3

Methods

- **Design:** Pilot Quality Improvement Project with Pre/Post-Test Design
- **Setting:** Medical-Surgical Unit in a hospital in the Northeast
- **Intervention/Measurement:** Sepsis Simulation Education from the NLN; Sepsis Knowledge Survey, Nursing Self-Confidence Survey, and data abstraction of number of RRTs
- **Sample:**

<table>
<thead>
<tr>
<th>Demographic Characteristics</th>
<th>N=199</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years of Experience, n (%)</td>
<td></td>
</tr>
<tr>
<td>0-5</td>
<td>4 (21.1)</td>
</tr>
<tr>
<td>6-10</td>
<td>5 (26.3)</td>
</tr>
<tr>
<td>11-19</td>
<td>6 (31.6)</td>
</tr>
<tr>
<td>20+</td>
<td>4 (21.1)</td>
</tr>
<tr>
<td>Age, n (%)</td>
<td></td>
</tr>
<tr>
<td>20-29</td>
<td>0 (0)</td>
</tr>
<tr>
<td>30-39</td>
<td>4 (21.1)</td>
</tr>
<tr>
<td>40-49</td>
<td>6 (31.6)</td>
</tr>
<tr>
<td>50+</td>
<td>9 (47.4)</td>
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<tr>
<td>Level of Education, n (%)</td>
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<tr>
<td>ADN</td>
<td>3 (15.8)</td>
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<tr>
<td>BSN</td>
<td>10 (52.6)</td>
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<tr>
<td>MSN</td>
<td>6 (31.6)</td>
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<tr>
<td>PhD/DNP</td>
<td>2 (10.5)</td>
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<tr>
<td>Prior Experience Participating in Simulation, n (%)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>7 (36.8)</td>
</tr>
<tr>
<td>No</td>
<td>12 (63.2)</td>
</tr>
<tr>
<td>Prior Experience Caring for Septic Patients, n (%)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>7 (36.8)</td>
</tr>
<tr>
<td>No</td>
<td>12 (63.2)</td>
</tr>
</tbody>
</table>

- **Aim 1:**
  - Pre-Test scores (Mean, SD): 4.74 (1.40)
  - Post-Test scores: 4.88 (2.93)
  - A Wilcoxon signed-rank test indicated that there was no statistical significance (Z=-0.489, p=0.625, r score=-0.11) ,
  - The intervention had a small effect.
- **Aim 2:**
  - Pre-Intervention: 20% (2/10) of patients were transferred
  - Post-implementation: 62.5% (5/8) of patients were transferred
  - The number of patients screened with qSOFA was unable to be obtained.

Results

- **Aim 2:**
  - Number of Patients Transferred to a Higher Level of Care
  - Pre-Intervention: 20% (2/10) of patients were transferred
  - Post-implementation: 62.5% (5/8) of patients were transferred
  - The number of patients screened with qSOFA was unable to be obtained.

Strengths & Limitations

- **Strengths:**
  - Increased nursing self-confidence in caring for septic patients
  - Dissemination:
    - Results will be disseminated with institutional stakeholders and nursing leaders on participating units to continue implementation of sepsis simulation as part of nursing education
    - Manuscript will be submitted to a nursing journal for publication
    - Sustainability
      - Simulation education is able to be sustained due to feasibility in continuing education and minimal use of resources.
      - Sepsis simulation education is able to be continued on this unit, and may be adapted by other med-surg units at the institution as well

- **Limitations:**
  - Small sample size; not generalizable to other populations
  - Nursing unfamiliarity with equipment and vital sign presentation
  - Inability to analyze number of patients screened with qSOFA pre/post-intervention
  - Lack of responses on 6 week post-intervention survey did not allow for analysis of knowledge retention

Purpose & Aims

- **Purpose:**
  - Evaluate efficacy of simulation education, increase nursing self-confidence in implementing the sepsis protocol, and improve compliance with the nurse-driven sepsis protocol

- **Aims:**
  1. Improve compliance with a nurse-driven sepsis protocol by measuring pre/post-test scores using a Sepsis Knowledge Survey
  2. Increase number of patients screened with qSOFA and utilization of a rapid response team
  3. Evaluate usage and satisfaction of the nurse-driven protocol by measuring pre/post scores using a Nursing Self-Confidence Survey

- **Purpose:**
  - Implementing sepsis simulation education increases nursing self-confidence in caring for septic patients
  - Dissemination:
    - Results will be disseminated with institutional stakeholders and nursing leaders on participating units to continue implementation of sepsis simulation as part of nursing education
    - Manuscript will be submitted to a nursing journal for publication
    - Sustainability
      - Simulation education is able to be sustained due to feasibility in continuing education and minimal use of resources.
      - Sepsis simulation education is able to be continued on this unit, and may be adapted by other med-surg units at the institution as well


