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Improving Early Sepsis Recognition: Resocializing Intensive Care Unit Nurses in a Large Hospital on the Inpatient Sepsis Bundle Checklist

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Improving Early Sepsis Recognition: Resocializing Intensive Care Unit Nurses in a Large Hospital on the Inpatient Sepsis Bundle Checklist

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NURS 653: Internship
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December 1, 2023
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Improving Early Sepsis Recognition in a Intensive Care Unit

Abstract

Problem: Sepsis is a life threatening disease that has caused over a million deaths annually in the nation. Early recognition of sepsis is highly crucial for health care professionals to know to prevent an increase of mortality and morbidity rates. This quality improvement project aimed to increase sepsis bundle checklist awareness to the staff and compliance in the Intensive Care Unit to improve the sepsis cases.

Context: Clinical Nurse Leader students completed a microsystem assessment of the Intensive Care Unit at Hospital X in San Mateo County. This unit cares for patients with sepsis, septic shock, severe sepsis, organ failure, and stroke.

Interventions: The implemented intervention of sepsis bundle resocialization was ineffective.

Measures: After completing an assessment of the microsystem, the students collected data to evaluate if the nurses were aware of the sepsis bundle checklist. The post-survey was to measure if the intervention of resocializing the sepsis bundle checklist was effective.

Results: Analysis from the initial survey showed that 42% nurses were aware of the sepsis bundle checklist. From the post survey it showed that 0% nurses were aware of the sepsis bundle checklist.

Conclusions: In collaboration, with my CNL colleague student, sepsis champion, registered nurses, assistant nurse managers, and quality improvement consultant, a need for sepsis bundle adherence and awareness was identified at Hospital X in the ICU. This study has the potential to expand on the project of reducing sepsis cases of staffing being aware and adhering to the sepsis bundle checklist.

Keywords: sepsis, sepsis bundle, sepsis ICU, sepsis bundle checklist, and sepsis awareness
Introduction

Sepsis is the number one cause of death in hospitals due to how rapidly the disease affects the organ systems (Gyawali et al., 2019). It has caused millions of deaths in the nation annually and has increased the mortality and morbidity rates. Today, many healthcare professionals face this key challenge of preventing the increase of sepsis cases. As healthcare professionals, it is important to understand the cause of sepsis and how sepsis cases can be decreased within the hospital. This will help in decreasing the amount of deaths, hospital readmissions, and the healthcare costs (Choy et al., 2022). Therefore, it is important to make awareness to the healthcare professionals on adherence of an inpatient sepsis bundle checklist to be utilized when a patient is diagnosed with sepsis. A sepsis bundle checklist consists of the two components, one from the initial time sepsis is recognized to the 3-hour mark. In the 3 hour mark it is noted that the patient needs to receive antibiotics, intravenous fluids, and antibiotics. The other one is from the initial time sepsis is recognized to the 6-hour mark. In the 6-hour mark, lactic acid is repeated, blood pressure is checked, and a vasopressor is given. Hence, it is highly valuable that the sepsis bundle checklist is utilized throughout a microsystem to prevent an increase of deaths.

Problem Description

Hospital X is a 149-bed medical center located in the San Mateo County of the Bay Area located in California. Since sepsis is a leading deadly disease in the United States it is crucial that all healthcare members of the patient care team are aware of the components of acknowledging sepsis and knowing the steps to take to treat the disease. Research has stated how important it is for nurses to adhere to the sepsis bundle, which can help with the hospital mortality and morbidity rates. In one study, it was noted that noncompliance with the sepsis bundle had a 70%
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increase in hospital deaths compared to nurses who were compliant in utilizing the sepsis bundle (Choy et al., 2022). Hospital X has prepared nurses to utilize a sepsis bundle in the Intensive Care Unit (ICU), which has specific elements when a patient is detected with sepsis. The bundle is separated between time zero to 3 hour mark and time zero to 6 hour mark. In each time zone, there are certain elements that need to be given to the patient to have them be treated for sepsis.

During the month of September Awareness Month, a script and survey was developed to survey nurses in the ICU at Hospital X on the awareness of the sepsis bundle checklist. However, after the initial survey, data showed that awareness and compliance to the sepsis checklist was low on the ICU unit. It is crucial for bedside nurses to understand the importance of the sepsis bundle elements to make informed decisions as they see their patients everyday and have the most up-to-date information on their health (Edward & Jones, 2021).

Specifically, a Quality Improvement (QI) project will be conducted at Hospital X and the focus will be in the ICU of exploring the gaps in knowing there is an in-patient sepsis bundle checklist and to make aware of that to the healthcare team, specifically the unit nurses and assistant nurse manager.

**PICOT Question**

In order for the QI project to move further on being conducted, a patient, intervention, comparison, outcome, and time (PICOT) question was determined as follows: In the Intensive Care Unit, what is the effect of a sepsis checklist resocialization, as compared to no sepsis checklist resocialization on fallouts within the fourth quarter of 2023?

**Rationale**

The Awareness, Desire, Knowledge, Ability, and Reinforcement (ADKAR) model was utilized in this QI project, for the ICU microsystem. This model had five stages of its change
management theory. Awareness was the first stage, which is about acknowledging and being communicative for the need of a change (Balluck et al., 2020). In this QI project, it was noted that not many were aware of the sepsis bundle checklist, which leads to an increase of cases and fallouts. Desire was the second stage, which created a vision to support the change (Balluck et al., 2020). This was demonstrated by the Clinical Nurse Leader (CNL) students creating a survey and flyers for the unit.

Knowledge was the third stage, which is about enacting change with providing adequate resources (Balluck et al., 2020). The CNL students conducted this during the initial survey of asking the healthcare professionals if they were aware of the sepsis bundle checklist. If not, the CNL students made it aware to the staff that the checklists were located in the sepsis binders at the nurses station. Ability was the fourth stage, which is about reinforcing the change, in which the CNL students conducted a post survey asking the staff if they were aware of the sepsis bundle checklist. The CNL students continued to resocialize the bundle checklists to the staff. The last stage was reinforcement, which allows the change to part of the organization’s culture (Balluck et al., 2020). This was done through the CNL students posting the sepsis checklist to the bulletin board for all staff to look at it and remind them to utilize it.

**Literature Review**

To start the QI project, a literature review was conducted from August 2023 to September of 2023 to allow for evidence-based practice research to support the project. The databases of the literature review were done through Cumulative Index to Nursing and Allied Health (CINAHL) and SCOPUS. The search for peer-reviewed journals included keywords of “sepsis”, “sepsis bundle”, “sepsis ICU”, “septic shock”, “sepsis bundle compliance”, and “sepsis detection” that were published from 2015 to 2022. The tool that was used to evaluate the evidence levels of the
literature review was called the Johns Hopkins Research Evidence Appraisal Tool from Level I to Level III (Dang et al., 2022).

**Available Knowledge**

The Johns Hopkins Evidence-Based Practice for Nurses and Healthcare Professionals: Model and Guidelines (See Appendix B) (Dang et al., 2022) was used to assess the quality of the literature review. The research studies that were in the literature review are utilized to support the research for this QI project and to highlight the crucial points of how valuable the sepsis bundle care is to patients.

It is important for healthcare professionals to understand the increase of sepsis cases, which can lead to an increase in deaths at the hospital. In a randomized controlled trial, it was known that an increase of awareness of understanding what sepsis is amongst staff is highly valuable because it allows for healthcare professionals to determine the disease quickly and can prevent further complications from happening (Kim & Park., 2019). This was an experimental study to collect data from surveys from healthcare professionals in determining the understanding of sepsis. It is also known that staff are in understanding of the different bundles and the elements that go with it. Because, delay in any element can cause an increase in death (Kim & Park., 2019).

In a quantitative study, nurses who received sepsis training were asked through a survey on the knowledge and skills for treatment on sepsis. It was determined that nurses who had sepsis training had a more positive attitude towards managing patients that have sepsis (Edwards & Jones, 2021). This study showed the importance of why sepsis training for nurses is crucial because it gives nurses the confidence in managing patients in critical conditions.
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In a retrospective cohort study, it was acknowledged that the importance of sepsis education for the staff will allow for a timely manner in treatment, such as improved antibiotic time given to the patient to prevent deaths and an increase of costs (Ferguson et al., 2019). In addition, staff being aware of the sepsis bundle allowed for an increase in the sepsis bundle adherence from 40% to 70% (Ferguson et al., 2019). Hence, being aware of what sepsis can do and what the bundle elements consist of can allow for improvement in the patient outcomes.

Specific Project Aim

The specific aim of this study was to increase awareness and adherence to the inpatient sepsis bundle checklist to reduce bundle fallouts and sepsis-related complications in the ICU at Hospital X. CNL students created a script and it was asked to the nurses and assistant nurse manager if they were aware of the inpatient sepsis bundle checklist. Data was collected and specific recommendations were made to increase the awareness, such as reminding the staff that the checklist is in the sepsis binders on the unit and also posting the checklist on the bulletin board.

Methods

Project Overview

For the QI project to be continued, the CNL students participated in Hospital X’s Sepsis Awareness Month and data was collected then to create a PICOT question and specific aim statement. A literature review was done in regards to sepsis and sepsis bundle adherence. A Plan, Do, Study, Act (PDSA) cycle was created (See Appendix C). A Root Cause Analysis (See Appendix D) and 5 P Assessment were used to complete an evaluation of the ICU. A Strengths, Weaknesses, Opportunities, and Threats (SWOT) Analysis (See Appendix E) was performed. A pre-intervention script was created by the CNL students and data collection was collected during...
the morning shift huddle. After collecting the initial data, an intervention was created to be delivered for implementation. A Cost-Benefit Analysis (CBA) (See Appendix F) was created to show the potential cost-saving benefits for Hospital X. A Gantt Chart was utilized in this QI project, which demonstrated the project’s timeline (See Appendix G).

**Microsystem Assessment**

Moreover, a 5 P assessment that consists of the terms, purpose, patients, professionals, process, and patterns was used as a resource to evaluate the adherence and awareness of the sepsis bundle in the ICU. The purpose of this QI project was to increase the healthcare professionals' awareness on the inpatient sepsis bundle checklist and for it to be utilized to improve the Hospital X sepsis rates. The patients in the ICU at Hospital X consisted of complications regarding diagnosis of sepsis, septic shock, severe sepsis, organ failure, and stroke. The healthcare team on the ICU unit consisted of registered nurses, nursing assistants, assistant nurse managers, unit secretaries, physicians, and unit directors. It was known that care for sepsis patients were communicated through huddles, handoff reports with nurses and physicians, and Electronic Medical Record (EMR) charting. It was noted that nurses were made aware of the sepsis bundle checklist to be utilized for sepsis care.

**Plan, Do, Study, Act (PDSA) Cycle.**

The first section of the PDSA cycle is the plan, in which three processes were created. First, a PICO question and specific aim statement was created. Second, CNL students developed a script and survey on awareness of the sepsis bundle for the ICU unit. Third, CNL students collaborated with stakeholders at Hospital X on the awareness of the sepsis bundle checklist. The second section of the PDSA cycle is the do, in which three processes were also created. First, the CNL students assessed the ICU unit with the 5 P assessment. Second, a Root Cause Analysis was
developed. Third, the CNL students conducted an initial and post survey to assess the nurses awareness of the sepsis bundle checklist. The third section of the PDSA cycle is the study, in which this was about the continued ness of collecting data and comparing data from the initial intervention to post-intervention. Lastly, the fourth section of the PDSA cycle is the act. The focus was to continue the involvement of resocializing the sepsis bundle checklist. In addition, to monitor for frequent changes to see if the implementation needed to be adjusted for better outcomes.

**Root Cause Analysis (RCA)**

A RCA was developed based on the focus of the lack of utilization of the sepsis checklist amongst the healthcare team on the ICU. A fishbone diagram was created to display the potential reasons for the issue regarding the lack of utilization. Some reasons that can explain the reason for this can be outlined in the process, tools, environment, and people. Problems in processes can include the ineffective communication among the healthcare team of sharing updates regarding the sepsis bundle checklist or due to how time consuming the checklists can take. For tools, there could be a lack of automated reminders on the EMR that allow the healthcare professionals to dismiss the notification of completing the checklist. The issues that can arise from the environment are related to the insufficient resources made aware to the staff on the sepsis checklist. This can be due to the absence of the sepsis bundle checklists located in the sepsis binders or on the unit bulletin board. Lastly, for issues that arise from the people, are the lack of awareness and knowledge of the importance of using the sepsis bundle checklist. It was noted that many staff were given little to no information regarding it. This can also be from the lack of education on the reason behind utilizing it on the unit.
Strengths, Weaknesses, Opportunities, and Threats (SWOT) Analysis

A SWOT was developed to demonstrate the sepsis bundle adherence amongst the healthcare professionals in the ICU. Some of the strengths noted was the sepsis bundle checklist made readily available for the staff to use at the nursing station, and a supportive staff and leadership team. On the other hand, weakness included that there was a lack of sepsis bundle adherence training, and also less than 50% of nurses were aware of the sepsis bundle checklist on the unit. Opportunities in the ICU can result in an increased compliance of the sepsis bundle checklist amongst the healthcare staff, reducing hospital costs in the decrease of sepsis cases that need to be treated, and the improvement of patient outcomes. If sepsis bundle adherence amongst the staff continue to decrease some of the threats include keeping up with the cost of resocializing the sepsis bundle checklist or the staff being reluctant to change their ways of having to utilize the sepsis bundle checklist because of how complex and time consuming it can get.

Cost-Benefit Analysis (CBA)

A CBA was developed to calculate the estimated costs of the QI project. An estimated total cost was determined from the sepsis flyers, sepsis resocialization, sepsis information binder for the care of an average of 30 patients in the ICU receiving sepsis care. The total estimated cost of the sepsis flyers was $100, and the total estimated cost of the resocialization was $0. The cost per patient for treating sepsis is estimated on a severity level scale and can go up about $40,000 per patient (Taylor et al., 2021). This would make an estimated total cost of $1,000,000 per year for treating sepsis patients. Hence, why the importance of the resocialization of the bundle is important because the costs for the hospitals can be decreased.
Timeline

A Gantt Chart was developed, which was utilized as a timeline that illustrated the progress of the project from the initiation, planning, implementation, and evaluation. The project timeline started in August of 2023 and concluded in November of 2023. The project planning and implementation had a greater time commitment compared to the initiation and evaluation. To plan a project, it takes time to execute it because of the many components within it that need to be coordinated with one another. For instance, at Hospital X there were barriers with coordinating with the stakeholders to visit the facility due schedule flexibility. Hence, the project planning had extended the time because of adapting to changes and being flexible with the stakeholders. For a smoother execution in the future of this project, it is recommended that there is a given timeline and structure of when visitation should occur.

Intervention

Based on the first survey, the intervention of this QI project was resocializing the sepsis bundle checklist at Hospital X. It was determined that the staff had lacked awareness on what, where, and when to utilize the sepsis bundle checklist. The resocialization of the sepsis bundle checklist was determined through acknowledging staff and making them aware of utilizing the sepsis bundle checklist and notifying them that it was located at the nurses station in the sepsis binders. In addition to posting the sepsis bundle checklist on the bulletin announcement board in the break room for staff to be aware of during shift huddles and break time. The purpose of this intervention was to bring awareness to staff and adherence of the sepsis bundle checklist to decrease sepsis cases at Hospital X.
Study of Interventions

After the intervention was implemented, the CNL students evaluated how well the sepsis bundle checklist was resocialized. Data results were reviewed and compared to results prior to the checklist being resocialized. Based on how effective the intervention was, the implemented change can stay in place or a new intervention can be created and executed.

Measures

The measures of this QI project consisted of both qualitative and quantitative data from the pre and post-intervention survey based on the staff awareness of the sepsis bundle checklist. The surveys among nurses were conducted amongst a variety of settings. Data collected was either in the beginning of the shift huddle, in smaller groups, or asked individually. The qualitative data was measured by an experimental survey asking the nurses, “How many of you know of the Inpatient Handoff Sepsis Bundle Checklist?” and the nurses would either verbally express if they knew or if they did not. Other qualitative data that was collected was based on the nurses facial expressions. Some nurses expressed facial expressions of knowing the sepsis checklist, others expressed annoyance of not wanting to know about it. The qualitative data was measured through experimental techniques through various groups. The quantitative data was collected based on counting the number of how many nurses were aware of the sepsis bundle checklist or not.

Results

A total of 14 registered nurses in the ICU were surveyed between the two facility visits for pre and post-intervention surveys. Based on the data collected from the pre and post, only 42% (n=6) of the nurses surveyed were aware of the sepsis bundle checklist. On the other hand,
58% (n=8) nurses were unaware of the sepsis bundle checklist. It is concluded that more than half of the nurses were unaware of the sepsis bundle checklist.

The pre-survey was conducted on September 20th, where a total of 10 registered nurses were asked if they were aware of the bundle. Of the 10 registered nurses, only 60% (n=6) were aware, and 40% (n=4) were unaware of the sepsis bundle checklist. The post-intervention survey was conducted on October 26th to see if the intervention implemented was successful. A total of 4 registered nurses were asked if they were aware of the bundle. Of the 4 registered nurses, 0% (n=0) were aware, and 100% (n=4) were unaware of the sepsis bundle checklist.

**Discussion**

Evidence has supported how important it is for healthcare professionals to be aware of the sepsis bundle checklist in their daily patient care as it can decrease the number of deaths and highly expensive costs (Edwards & Jones, 2021). At Hospital X, it was determined that there was an Inpatient Sepsis Bundle checklist for staff to utilize, however throughout Sepsis Awareness Month, CNL students conducted a pre-survey to see if staff were aware. Results showed that there was a lack of awareness in staff in knowing about the sepsis bundle checklist, and adhering to the bundle. From the pre-survey results, the intervention of resocializing the bundle was implemented. The goal of intervention was to make staff aware of the checklist by resocializing the sepsis bundle checklist. The resocialization was done by reminding staff to utilize the checklists, checklists are located at the nurses station, and also posting it on the bulletin board in the break room. Utilizing the data collected can be a start in improving the awareness of the sepsis bundle checklist among staff, and can help with decrease of sepsis cases in Hospital X.
Limitations

There were a couple of limitations throughout conducting the QI project that impacted the results. The different populations that were conducted for the survey. The first survey that was conducted pre-intervention was amongst the morning shift staff. The second survey that was conducted post-intervention was amongst the night shift staff. In addition, the motivation of the nurses to learn or acknowledge the sepsis checklist. It was very known during the post-intervention data collection that nurses did not want to listen in regards to where the sepsis checklists were located on the unit and to utilize them. It was also known that this study had a limited sample size, which correlated with the intervention being unsuccessful.

Conclusion

Hospital X had determined that there was a lack of awareness to the staff for utilizing the sepsis bundle checklist in the ICU. In collaboration, with my CNL colleague student, sepsis champion, registered nurses, assistant nurse managers, and quality improvement consultant, a need for resocializing the sepsis bundle adherence and awareness was identified at Hospital X in the ICU. Pre and post-intervention surveys were conducted to address the issue, and it was determined how beneficial resocializing the bundle checklist was. It is important to continue resocializing the sepsis bundle checklist as it helps with saving the economic costs for the hospital. In addition, it allows staff to utilize the checklist when a sepsis patient is detected to help decrease the mortality and mobility rates.
References


Gyawali, B., Ramakrishna, K., & Dhamoon, A.S. (2019). Sepsis: The evolution in definition,
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https://doi.org/10.1177%2F2050312119835043


https://doi.org/10.4037/ccn2022608

Appendix A

Statement of Determination

Student Project Approval: Statement of Determination

Title of Project

Improving Early Sepsis Recognition: Resocializing Intensive Care Unit Nurses in a Large Hospital on the Inpatient Sepsis Bundle Checklist

Brief Description of Project:

The aim of this quality improvement project is to improve sepsis-related morbidity and mortality rates in the Intensive Care Unit at Hospital X. Nurses will be resocialized on the sepsis bundle to raise awareness and increase bundle compliance. Data will be collected by surveying the nurses on their knowledge of the sepsis bundle. This data can potentially reveal the gaps within the microsystem to improve sepsis rates through early recognition and treatment.

To qualify as an Evidence-based Change in Practice Project, rather than a Research Project, the criteria outlined in federal guidelines will be used: (http://answers.hhs.gov/ohrp/categories/1569)

This project meets the guidelines for an Evidence-based Change in Practice Project as outlined in the Project Checklist (attached). Students may proceed with implementation.

Comments:

Signature of Supervising Faculty __________________________ (date) 12/8/2023

Signature of Student_________________________ Nancy Zhu (12/1/2023)
## Appendix B

### Literature Synthesis Table

<table>
<thead>
<tr>
<th>Study Authors</th>
<th>Objective &amp; Design</th>
<th>Sample &amp; Setting</th>
<th>Results</th>
<th>Level of Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bruce, Maiden, Fedullo, &amp; Kim (2015)</td>
<td>This retrospective study assessed patient charts for the 3-hour SSC protocol, which included serum lactate measurement and blood cultures before the initiation of antibiotic treatment.</td>
<td>This study reviewed charts of 195 patients who were diagnosed with severe sepsis or septic shock in the emergency department.</td>
<td>Compliance with the SSC bundle improved antibiotic administration time. There was no significant difference in the setting’s mortality rate. Treatments that required a multidisciplinary approach complicated the process and led to substandard results.</td>
<td>Level III (Dang et al., 2022)</td>
</tr>
<tr>
<td>Edwards &amp; Jones (2021)</td>
<td>This randomized controlled trial studied the effects of sepsis training on knowledge and skills among registered nurses.</td>
<td>This study was conducted on registered nurses from 16 different acute medical and surgical units.</td>
<td>Nurses with sepsis training were more knowledgeable and confident in screening patients for sepsis than nurses without sepsis training.</td>
<td>Level III (Dang et al., 2022)</td>
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<tr>
<td>Ferguson, Coates, Osborn, Blackmore, &amp; Williams (2019)</td>
<td>This retrospective cohort took place over 7 patients with sepsis in the</td>
<td>The sample size was 17,000 patients with sepsis in the</td>
<td>Sepsis bundle adherence increased from 40.5% to 73.7%</td>
<td>Level III (Dang et al., 2022)</td>
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<td>Study</td>
<td>Design</td>
<td>Sample Size</td>
<td>Findings</td>
<td>Level</td>
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<tr>
<td>Kim &amp; Park (2019)</td>
<td>Randomized controlled trial</td>
<td>4446 patients with sepsis in emergency departments and intensive care units</td>
<td>Increased awareness of sepsis bundles improved patient outcomes.</td>
<td>Level I (Dang et al., 2022)</td>
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<td>Semanco, Wright, &amp; Rich (2022)</td>
<td>Retrospective</td>
<td>32 patients with suspected sepsis in an acute care setting</td>
<td>A delay in antibiotic administration and recognition of sepsis were associated with increased mortality.</td>
<td>Level III (Dang et al., 2022)</td>
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<tr>
<td>Taylor, Anderson, Beam, Taylor, Ellerman, &amp; Kowalkowski (2021)</td>
<td>Retrospective cohort</td>
<td>20,026 adults with suspected sepsis in twelve different emergency departments.</td>
<td>A delay in antibiotic administration and recognition of sepsis were associated with increased mortality.</td>
<td>Level III (Dang et al., 2022)</td>
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Appendix C

Plan, Do, Study, Act (PDSA) Cycle

- **PLAN**
  - Created PICO question and a specific aim statement
  - Developed a script and survey on awareness of the sepsis bundle
  - Collaborated with stakeholders at Hospital A on the awareness of the Sepsis bundle checklist

- **DO**
  - Developed a Root Cause Analysis
  - Assessed the ICU unit with the 5Ps
  - Conducted an initial and post survey assess the nurses awareness of the Sepsis bundle checklist

- **ACT**
  - Continued the involvement of resocializing the Sepsis Bundle Checklist
  - Monitored for frequent changes to see if the implementation needed to be adjusted

- **STUDY**
  - Continued to collect data and compare data from initial intervention and post-intervention
Appendix D

Root Cause Analysis

FISHBONE DIAGRAM

Process
- Ineffective communication channels on sharing updates regarding the sepsis bundle checklist
- Improper ways of integration of the checklist into existing workflows
- Complexity of the high level and time consuming checklist procedures
- Insufficient resources of the sepsis checklist made aware on the unit, such absence in the in patient sepsis binders and on the bulletin board

Tools
- Lack of technological advances for the implementation to be tracked among staff
- Lack of automated reminders on the electronic medical record to utilize and complete the checklist
- Lack of awareness about the important use of the sepsis bundle checklist
- Lack of training and education on the implementation of the sepsis checklist on the unit

Environment

People

Lack of Sepsis Checklist Utilization

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Appendix E

Strengths, Weaknesses, Opportunities, and Threats (SWOT) Analysis

**STRENGTHS**
- Staff are knowledgeable and well-educated on sepsis recognition and treatment
- Sepsis bundle is available for staff at the nursing station
- Supportive staff and leadership

**WEAKNESSES**
- Less than 50% of nurses knew of the sepsis bundle checklist
- Lack of sepsis bundle adherence training
- Several travel nurses were unaware of the sepsis bundle and where it was located

**OPPORTUNITIES**
- Increase compliance of the sepsis bundle
- Improve patient care and outcomes
- Decrease mortality and morbidity rates due to sepsis
- Reduce hospital costs

**THREATS**
- Cost to resocialize nurses of the sepsis bundle
- Staff hesitancy and resistance to change
- Time restraints on informing nurses of the sepsis bundle
- Staff turnover; float pool and travel nurses

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Appendix F

Cost-Benefit Analysis

Estimated Cost of Sepsis Bundle Resocialization:

$0 per year

Estimated Cost of Sepsis Flyers:

$100 per year

**Total Estimated Cost: $100 per year**

**Compared To:**

The Total Average Cost of 30 patients receiving Sepsis Care related to Sepsis Complications totals:

$1,200,000 (40,000 x 30 patients)
### Appendix G

**Gantt Chart**

<table>
<thead>
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<th>Task Title</th>
<th>Start Date</th>
<th>End Date</th>
<th>August Week</th>
<th>September Week</th>
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<td>Coordinate with stakeholders to visit the facility</td>
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<td>Project Implementation</td>
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<tr>
<td>Conduct pre-survey with non-clinical departments</td>
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<tr>
<td>Perform non-clinical department staff education on sepsis</td>
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<tr>
<td>Conduct pre-survey with inpatient (Med-Surg &amp; ICU) staff</td>
<td>9/14/23</td>
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<tr>
<td>Perform inpatient (Med-Surg &amp; ICU) staff re-education on sepsis bundle checklist</td>
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<tr>
<td>Place sepsis resources (binder and checklist copies) on the Med-Surg unit</td>
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<td>Project Evaluation and Synthesis</td>
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<td>Meet with relevant staff to solidify plan for post-survey</td>
<td>10/5/23</td>
<td>10/12/23</td>
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<td>Coordinate with stakeholders to visit the facility</td>
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<td>Conduct post-survey with non-clinical departments</td>
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<tr>
<td>Conduct post-survey with inpatient (Med-Surg &amp; ICU) staff</td>
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<td>Data analysis</td>
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