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Date: * 07/06/2023

- Choose your DNP program: *
- Adult-Gerontology Acute Care Nurse Practitioner (Doctor of Nursing Practice)
 - Family Nurse Practitioner (Doctor of Nursing Practice)
 - Post-Master's DNP (Doctor of Nursing Practice)

Manuscript Title: * The Quality Improvement Pr

Date of Manuscript Approval: * 07/07/2023

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**The Quality Improvement Program for Sepsis Fallouts: Utilizing Education and an Order
Set to Improve Compliance with SEP-1**

A DNP Project Submitted to the
Graduate Faculty
Of Jacksonville State University
In Partial Fulfillment of the
Requirements for the Degree of
Doctor of Nursing Practice

By

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Jacksonville, Alabama

August 4, 2023

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Abstract

Background: Sepsis is a multisystem disease that occurs when the human body reacts to a severe infection in the body. Sepsis is a life-threatening response that can lead to multisystem organ failure and even death. Sepsis is the number one cost of hospitalization and is estimated to be \$62 billion annually (Sepsis Alliance, 2022). This disease affects at least 1.7 million adults yearly in the United States, and nearly 270,000 die from it (National Institute of General Medical Statistics [NIGMS], 2021).

Purpose: This Doctor of Nursing Practice (DNP) project aimed to improve the compliance rate of the sepsis bundle with evidence-based practices by educating physicians in the Emergency Department (ED) on the SEP-1 guidelines and the utilization of a sepsis order set.

Methods: The quality improvement project educated 100% of ED physicians on the SEP-1 guidelines and how to utilize the order set. Chart reviews were performed monthly, and the outcomes were compared to scores collected from pre-interventional education.

Results: Key findings from the project implementation show a statistically significant increase in the sepsis order set's utilization and compliance with the sepsis SEP-1 bundle. Pre-intervention showed 71.8% adherence, and post-intervention showed 75% adherence to the bundle criteria.

Conclusion: The DNP project accentuated the need for hospitals and emergency departments to prioritize the implementation of an educational program with the SEP-1 evidence-based standards. Interventional education was highly effective in improving bundle compliance in the emergency department for adult patients diagnosed with sepsis.

Keywords: adults, sepsis bundle, sepsis guidelines, bundle compliance, compliance

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The Quality Improvement Program for Sepsis Fallouts: Utilizing Education and an Order Set to Improve Compliance with SEP-1

Sepsis is a disease caused by the body's response to an infection (Sepsis Alliance, 2022). This disease has affected people from any populations worldwide. Guidelines for timely recognition of sepsis and early intervention with lifesaving therapies are laid out by the Severe Sepsis and Septic Shock Management Bundle (SEP-1) (Sepsis Alliance, 2021). Sepsis Bundle compliance can improve the outcomes of a septic patient (Provident, 2016). This project educated providers on the utilization of an order set for sepsis to meet the SEP-1 bundle compliance.

Background

In America, nearly 1.7 million adults will develop sepsis, and 350,000 will die from it yearly (Centers for Disease Control [CDC], 2022). Sepsis is a life-threatening response to an infection that can lead to multisystem organ failure and even death (Sepsis Alliance, 2022). For the best patient outcome, rapid identification and treatment of sepsis are required. Without timely treatment, sepsis can lead to decreased tissue perfusion and can result in tissue damage, organ failure, and patient death (CDC, 2022).

Effective October 1, 2015, the Centers for Medicare and Medicaid Services (CMS) required hospitals to collect data for compliance with SEP-1 (Centers for Medicare and Medicaid Services, 2021). The bundle measure is aimed at facilitating efficient, effective, and timely sepsis care delivery to reduce complications (Provident, 2016). To meet monthly core measures, data collection is a criterion that a hospital must adhere. Core measures are set up by the CMS as a national standard of care and treatment guideline for disease processes such as sepsis.

Provident (2016) defines severe sepsis as having a suspected source of infection and two or more symptoms such as temperature >38.3 degrees Celsius or <36 degrees Celsius, heart rate >90 beats per minute, respirations >20 breaths per minute, and white blood cell count $>12,000$ or $<4,000$ per mm^3 , or $>10\%$ bandemia. The sepsis bundle includes three- and six-hour requirements. The three-hour bundle requires the patient to have an initial lactic acid drawn; if results are higher than 4 mmol/L or hypotension is present, resuscitation with 30 mL/kg crystalloid fluid should be administered. Broad-spectrum antibiotics should be initiated immediately after blood cultures are collected and within three hours of sepsis identification (Provident, 2016). A repeat lactic acid should be measured within six hours of presentation if the initial was higher than 2 mmol/L .

Sepsis is associated with an increased mortality risk by 10% (Jee et al., 2020). Early identification of sepsis can decrease the patient's mortality and morbidity (World Health Organization, 2020). Early identification relies upon the collaboration of nurses and physicians to identify patients who meet sepsis criteria upon arrival. The time the patient is identified as meeting sepsis criteria is known as "time zero." Staff must communicate clearly and understand the elements required to follow SEP-1 sepsis bundle guidelines. Utilizing a sepsis bundle order set streamlines the process of ordering lactic acid levels, fluid boluses, blood cultures, and broad-spectrum antibiotics, thereby improving compliance with SEP-1. Improved compliance with SEP-1 has been shown to decrease mortality and length of stay among sepsis patients (World Health Organization, 2020).

Needs Analysis

The needs analysis was completed by discussing problems with the rural emergency department (ED) director and manager. The ED manager is also the hospital's Sepsis Coordinator

and oversees the sepsis chart reviews. The hospital achieved 71.8% compliance with the Sepsis Bundle in 2022. Under the current protocol: measures, labs, and fluid resuscitation must be identified within the first 3 hours of the patient meeting sepsis criteria. This percentage means that 71.8% of the time, patients receive protocol-compliant care. The remaining 28.2% of patients are classified as "fallouts" for bundle compliance, meaning one or more protocol elements were omitted.

Sepsis criteria and fallouts create a problem within the healthcare delivery system and result in increased mortality rates (Jee et al., 2020). Approximately 1.7 million adults are diagnosed with sepsis yearly, accounting for 6% of all hospital admissions and 33% of in-hospital mortality (Warstadt et al., 2021). According to Burkhart (2021), 17% of the 1.7 million American adults die from sepsis. The providers must initiate the treatment and order necessary labs per the protocol. There are cases of a delay when it is a challenge to gain intravenous (IV) access, or it is not easy to collect the blood. Delays in care can cause a fallout. However, most fallouts occur when pieces of the sepsis bundle are omitted from the 3-hour SEP-1 treatment plan.

The organization's desired state is that 100% of the time, each patient is identified and treated promptly for sepsis. Prompt treatment would decrease the hospital's inpatient mortality rate. It would also allow the organization to have a higher reimbursement from the insurance companies for the patient's stay.

Problem Statement

The problem in the rural ED is that some patients admitted to the hospital fall out of the SEP-1: Sepsis Core Measures for a few reasons. One main reason is that physicians did not order the fluid resuscitation and the initial lactic acid within the first 3-hour bundle. These items are

identifiable on the facility's order set. If there is a contraindication to the bolus fluids, there must be documentation from the physician as to why the patient does not meet the criteria. The PICOT question this project aims to answer is: In adult sepsis patients in the ED, does the utilization of a sepsis bundle order set, compared to no order set, improve compliance with SEP-1 over eight weeks?

The DNP student provided education to all the physicians and staff in the ED. Physicians are given education on the SEP-1 guidelines and how to locate and utilize the sepsis order set. It is the physician's priority to analyze the patient data and recognize when patients meet the criteria for sepsis. The nurses must notify the provider if the patient develops sepsis criteria while in the ED. With proper education of the physicians and collaboration with the nursing staff, the organization has a great chance of improving the percentages of sepsis bundle compliance.

Aims and Objectives

The intended goal of this project is to increase compliance rates with the SEP-1 bundle guidelines. This project took place by educating 100% of ED physicians. The goal for compliance is ideally 100%; however, a baseline improvement was seen at 71.8% or greater. Another goal for the project was that the implementation of the interventions would last long after the project had ended. These goals help the facility decrease admission length, morbidity, and mortality.

Review of Literature

The DNP project began with a review of literature through several web sources and libraries. The bulk of data came from Science Direct, PubMed, and the Gale Academic OneFile. The Jacksonville State University (JSU) Library also provided a few articles for this research. PubMed returned four articles with the keywords *sepsis*, *order set*, and *SEP-1*. Science Direct had 99 hits of articles with the keywords *sepsis order set utilization* and *SEP-1*, with 5-6 articles

fitting best. Lastly, Gale Academics OneFile had 12 results with the keywords *sepsis* and *order set*. To further refine the results, journals were checked for peer-review status and publication within the last five years. The results provided below are in a thematic order.

SEP-1 Performance

Key findings from the literature review also included guideline recommendations, surveys, sentinel works, and systematic reviews. Per the CMS, the purpose of the severe sepsis management bundle is to facilitate the effective and timely delivery of sepsis care to reduce resources and lower the rates of complications (Provident, 2016). With the increased sepsis numbers, there is a greater need for consistent documentation and reporting (Provident, 2016). Per a CMS cross-sectional study in 2016, 2,851 out of 3,283 eligible hospitals (86.8%) reported SEP-1 performance data. Among hospitals reporting performance data, overall bundle compliance was generally low but varied widely across hospitals (mean and standard deviation: $48.9\% \pm 19.4\%$) (Barbash et al., 2019).

Inconsistencies

Inconsistencies found in the literature included data from Rossi et al. (2014), Sanghvi et al. (2018), and Green et al. (2019) regarding bundle compliance. Per Sanghvi et al. (2018), an analysis of 20 studies regarding SEP-1 compliance found only low-level evidence to prove that the SEP-1 bundle improves the patient's mortality. The study also reported that the CMS's time-sensitive protocol could result in clinicians administering unnecessary treatments, with potential negative ramifications (Sanghvi et al., 2018). Similarly, in a cohort study in Africa, out of 677 patients with sepsis, it was found that the 3-hour sepsis bundle did not improve the mortality from a septic infection, 15% of patients in the compliant cohort died, while 10% of the non-compliant cohort died (Green et al., 2019). Baseline compliance with the SEP-1 3-hour bundle in

the intensive care unit (ICU) was deficient, but an electronic sepsis order set has marked improvement in bundle compliance (Rossi et al., 2014).

Interventions

Interventions such as a sepsis order set, an electronic screening tool, a computer-generated sepsis alert, and a nurse-driven triage assessment were needed to improve the early identification and treatment of patients with sepsis (McVeigh, 2020). A study completed in New York shows an improvement in compliance. After education was implemented for staff and the utilization of an Electronic Health Records (EHR) tool was started, the sepsis bundle criteria compliance went from 40% to nearly 80% in a 15-month study (Warstadt et al., 2021). In a cohort study in the ED, research showed that a three-tiered intervention with a sepsis order set had a baseline of 28% compliance compared to the last quarter of the study. This study illustrated a 71% bundle compliance with improvement in mortality (Gatewood et al., 2015). Rajan & Rodzevik (2021) performed a pilot study that implemented formal education to nurses on the SEP-1 and an order set. The project found that out of 101 charts, identifying sepsis and initiating the order set was, on average, 33 minutes less than before education (Rajan & Rodzevik, 2021). Similarly, Longinow et al. (2019), chart reviews on 11,573 patients showed that those following the best practice advisory (SEP-1) guidelines and utilizing an order set were 56% more likely to survive than the group with no interventions. This group also significantly decreased the risk of mortality (Longinow et al., 2019).

Fluid Resuscitation

It is found in many reviewed studies that initial fluid resuscitation is an essential part of the wellness and improved outcomes of patients (Wang et al., 2021). Fluid resuscitation offers protective effects on organ function by improving hemodynamic stability at the early stages of

sepsis (Zhou et al., 2021). The fluid boluses are ordered by the physicians and are followed to completion by the nursing staff. In Ko et al., (2018) study, the prognosis of patients with initial lactic acid elevation and fluid resuscitation was evaluated. Findings show that patients that received a resuscitation bolus for sepsis had a 28-day decrease in mortality than individual patients that did not receive fluids (Ko et al., 2018). This study did not significantly describe the in-hospital length of stay.

Key Findings

Treating sepsis often includes a prolonged hospital stay in the ICU. The SEP-1 implementation by CMS in October 2015 has significantly impacted the research for sepsis and improved patient outcomes. Key findings in the research supported the implementation of education for a sepsis order set and utilization of the SEP-1 guidelines to measure bundle compliance. An electronic order set is needed to achieve optimal compliance with the evidence-based guidelines (Rossi et al., 2014). Interventions appeared to be more successful after implementing staff and physician education. Standardization of the order sets that reflect sepsis bundle requirements shows a significant increase in compliance with the SEP-1 bundle and a decrease in the patient's mortality (McVeigh, 2020). Patients have benefited from nurse involvement in the clinical decisions made at the bedside to initiate the sepsis protocol. A clinical electronic health records application helped identify patient criteria sooner. Recommendations include initiating staff education in the facility to utilize the sepsis order set.

Theoretical Model

The theory chosen for the DNP project is Lewin's Theory of Change. This theory provided a driven approach to the study by giving the project a behavioral model. The model that occurred is a balance of forces that work in opposite directions (Petiprin, 2020). The theory

provided three steps to implement change during the project and continue to occur after the project has ended. The theory gave the study a well-defined argument by providing the essential steps for implementing a successful project. The thesis offered defined steps such as unfreezing, changing, and refreezing. The study followed the three steps closely to ensure the project was successful. If the refreezing was unsuccessful in these steps, the final project results may only be temporary. The theory takes driving forces, restraining forces, and equilibrium and uses these to explain changes that occurred. Forces have an impact on an implemented change and the outcome. Driving forces have an impact on negative behaviors to be changed to meet equilibrium.

The theory directed the DNP student to identify gaps in knowledge and practice. The research pushed the student to fill gaps through the three-step change process. The project educated providers on the SEP-1 guidelines and a standardized order set. The gap in practice found is the need for greater utilization of an order set to achieve higher compliance rates. The theory provided broader guidelines and ideas for which a research study could fit with straightforward instructions on how the three-step model was completed. Education was completed, new habits were formed, and the change was refrozen. Hopefully, this change became a permanent solution to the problem found in the study.

Utilizing Lewin's Theory of Change provided a firm structure to define how scholars should approach the thesis. The DNP student implemented this project in the ED over eight weeks. The project was unfrozen, a change implemented, and refrozen to allow each staff member to create a new habit of thinking. The goal was to have physicians utilizing the sepsis order set and patients meeting sepsis compliance with national standards. A visualization of this model can be located in Appendix A.

Methodology

The DNP project was a quality improvement initiative aimed at improving rates of sepsis bundle compliance within the ED. The data collection method for the project included chart reviews that determined the quantitative results of sepsis bundle compliance. The project was derived after the completion of a literature review that reflected a national and local issue involving sepsis fallouts, which placed patients at risk for increased morbidity and mortality.

Setting

This project took place in a small rural hospital in North Alabama. The project focused on the ED, which saw various medical problems and provided services 24 hours a day. The ED has fourteen beds to treat patients and two for critically ill patients. The physicians worked twelve-hour shifts, and a provider was always available.

Population

The population of focus included emergency department patients diagnosed with sepsis. The project taught physicians and nurses about using a sepsis order set and the SEP-1 criteria. The sample size was five full-time physicians that received the education. The patients were not directly involved in the study.

Inclusion and Exclusion Criteria for the Project

Inclusion criteria included patients eighteen years and older diagnosed with sepsis. The diagnosis of sepsis must be diagnosed and treated in the ED. Exclusion criteria included anyone younger than eighteen or patients diagnosed with sepsis as an inpatient in the hospital. All patients meeting inclusion criteria were enrolled in the study, as the sepsis protocol bundle was part of routine patient care.

Recruitment and Consent

All physicians employed by the ED were included in the education and provided a consent form for participation. Consent is obtained in written form. Each physician was notified that this project is a student-led activity to increase compliance with the SEP-1 guidelines. The consent form can be found in Appendix B. No ethical, racial, or discrimination occurred during the collection of this data. No discrimination or bias against providers receiving education occurred.

Design

The quality improvement project was conducted in an ED and included all physicians. The project began after receiving approval from the facility and JSU Institutional Review Board (IRB) (See Appendix C). The educational intervention sessions were conducted in the physicians' work area with computer access to the electronic medical records (EMR) system. The sessions occurred in the mornings during a shift change for the convenience of the providers coming and going off shift. The education established the identified problem at the facility and the national evidence-based recommended findings. Handouts of the SEP-1 bundle and the facilities order set are presented during the education. The handouts included a screenshot of the facility's sepsis order set and a copy of the SEP-1 guidelines found in the EMR resources. The order set and guidelines are the hospital's property, and permission was given only for educational purposes and not for reproduction in a publication. Each provider was given hands-on instruction on locating and utilizing the order set. Physician education took the first four weeks of the project to complete. No reeducation was performed since all physicians verbalized understanding of the education.

Chart Review

The hospital's Sepsis Coordinator is responsible for reviewing all sepsis charts, which included those in the ED, that resulted in sepsis fallouts. The coordinator's EMR review system involved a manual review of each sepsis patient's chart. Chart reviews are performed monthly during the implementation of the project. The fallout review forms are filled out and presented monthly in the sepsis meeting. Chart reviews looked for specific SEP-1 criteria in each chart. SEP-1 data and national standards indicated if the patient met or did not meet the standards. The quantitative data is transformed into a yes or no list. This list is a percentage of the monthly charts from patients diagnosed with sepsis in the ED. A monthly sepsis meeting discussed how each fallout occurred and how the problem could be corrected to prevent future fallouts. Data is only available to the Sepsis Coordinator, ED director, and DNP student.

Risks and Benefits

The physicians participated with minimal to no risk. All participants and patient information were kept confidential. Participants were free to opt out at any point of the project without risk of penalty to job or title.

Benefits included providers gaining updated clinical evidence-based practice guideline education at no cost. With the implementation of the DNP project, patient outcomes can be improved, hospital admissions become shorter and decreased mortality and morbidity.

Compensation

No compensation was provided to project participants or physicians that received education from this project.

Timeline

The following timeline for this project portrays the DNP student's work. In the Summer of 2022, the PICO question was submitted for approval. In Fall 2022, IRB project approval and chair member assignments guided the student's work. After approval, the DNP student began writing the draft proposal, which brought the manuscript to life. The project implementation started with the plan for implementation and IRB and facility approval. In the Spring of 2023, the project was implemented in the first eight weeks of the semester, leaving the rest to collect data and update the manuscript. In the Summer of 2023, approval of the manuscript was obtained, dissemination occurred, and graduation occurred with the publication of the final manuscript in the JSU Library Repository (See Appendix D).

Budget and Resources

The DNP project had full support from the facility. The facility provided all printed materials and handouts. The materials cost around \$10 for one package of printer paper and ink for handouts and consent forms. The person-hours budgeted was 10 hours a week minimum for education, chart reviews, research, and data collection. Since the resources were printed and found within the facility, the principal investigator (PI) avoided incurring extra costs (See Appendix E).

Evaluation Plan

Statistical Considerations

Descriptive statistics are utilized to portray the project's results from quantitative research. Pre-intervention and post-intervention chart reviews were performed to determine the bundle compliance percentage. Interventional education was given to 100% of physicians employed in the ED. Data analysis was achieved by comparing the post-intervention to the pre-

intervention percentage to discover if the intervention was successful. The post-intervention score rose from 71.8% to 75% compliance. The results of the data are portrayed in Table 1.

Table 1

Monthly Sepsis Fallout Totals Per Month

Month: Based on 8-Week Project	Total Number of Sepsis Cases	Total Number of Fallouts Per Month	Percentage of Bundle Compliance
January:	7	4	42%
February:	42	12	71%
March:	32	8	75%

Data Maintenance and Security

A certificate for Collaborative Institutional Training Initiative (CITI) was obtained before the project initiation (See Appendix F). Approval from the facility was gained prior to implementation to ensure data was maintained (See Appendix G). The PI asked all physicians to sign informed consent to participate in the project. The consent gathered from these physicians was kept in a secured folder and was viewable only by the PI. Data collected from this project was kept and secured by the Sepsis Coordinator. The information was on a password-protected computer in a locked office. The PI also had access to the data. The project blinded all data to keep the patient and provider information private. Data was kept securely and destroyed following the completion of the manuscript.

Discussion

The DNP project goal was aimed to improve provider compliance with the SEP-1 bundle guidelines in the ED. The project was developed from the most recent evidence-based practice guidelines per national evidence and an extensive literature review. Statistically significant findings from the DNP project showed improved adherence to the SEP-1 bundle and order set

utilization in the ED. The significant findings reinforced the need for an educational intervention program to improve the high-quality healthcare provided to each patient meeting sepsis criteria.

Implications for Clinical Practice

The SEP-1 bundle is an evidence-based practice guideline for the early identification and intervention of sepsis patients. Currently, the sepsis order set is not part of the mandated clinical practice. Evidence in research studies showed that using an order set could improve compliance rates with the sepsis bundle. With further research and clinical projects, there has become a need for a change in the clinical practice guidelines.

Implications for Healthcare Policy

This project aimed to improve compliance with SEP-1 guidelines to reduce complications and mortality from sepsis. Reduced complications from sepsis by utilizing the SEP-1 guidelines assist in shortening the average length of stay per patient. A shorter stay causes smaller patient charges and improves insurance company reimbursement.

The facility had no policy that forced physicians to utilize the order set. If practice improvement occurs, a change in the facility's policy may need to take place. For now, it is decided by the physician what method works best and quickest for them to order all the necessary items to comply with the SEP-1 guidelines.

Implications for Quality/Safety

The data was kept securely in the Sepsis Coordinator's office. The data was stored on a locked computer in a closed office. The data was shared between the Sepsis Coordinator, the ED Director, and the DNP student. Data was reviewed monthly in sepsis meetings. Project implementation has improved compliance with the sepsis bundle and strengthened patient care quality. When utilization of the order set was in place, patient safety was also improved. SEP-1

guidelines, when initiated early, can decrease the mortality and morbidity of the patient (World Health Organization, 2020).

Implications for Education

The educational impact was an essential factor. The teaching in this project was solely for the Physicians of the ED. The physicians received instruction on the SEP-1 guidelines and the utilization of the sepsis order set. Nurses were included to some extent; however, physicians started utilizing this order set, and the nurses notified the physician if the patient developed sepsis criteria during the ED stay. With this amount of education, the project is anticipated to leave a sustainable impact on the facility.

Limitations

Limitations occurred during the implementation of the project. During project implementation, it was discovered that several physicians could no longer access the SEP-1 order set due to many updates in the EMR. The updates gave the order set a new name, the "1-hour Sepsis Bundle". The name change caused several physicians to go off memory when ordering the SEP-1 criteria. To correct the issue, the DNP student gave each physician the name changes as an update during the provided education. The next problem was that data was challenging to gather as the Sepsis Coordinator had to review each chart for the fallouts manually. Having a manual system makes data gleaning more difficult. Information and data are less readily available than the DNP student initially concluded. Another issue found is that some of the more experienced providers protested new guidance since the older physicians do not like change. All physicians can pull up the order set; however, due to resistance to change, only approximately 80% of the physicians may have utilized the order set for SEP-1. Another limitation included that there is no way to analyze the use of an order set in the patient chart; this means that there is no

way to measure the success or failure of this intervention.

Dissemination

After the project was completed, dissemination occurred. The stakeholders, physicians in the ED, and any clinical staff member who desired to participate joined a conference call where the project dissemination transpired for the facility. Then, a poster and PowerPoint presentation occurred at JSU on July 13, 2023. Upon graduation, the JSU repository housed the manuscript for public viewing.

Sustainability

This project is designed for sustainability. The quality improvement project showed how to utilize and improve interventions. All physicians received printouts of SEP-1 guidelines and education for the sepsis order set. These doctors already know and have previously used the SEP-1 approaches during day-to-day practice. The project was a refreshment of previous knowledge. Each physician had access to the SEP-1 order set for utilization to ensure the patients met bundle compliance within the desired time frame. Since no new interventions occurred during this project, the ER implementation will be very sustainable.

Conclusions

After the project, there was a significant rise in SEP-1 bundle compliance by 5%; however, the rate needed to be higher to meet the project's goal of 80%. Each month of the project did show improvement in bundle compliance. In the initial month of the project, January showed the least bundle compliance by 42%. In the second month, physician education continued, and the compliance rate rose to 71%. Lastly, after the project's interventional education was completed in March, the compliance rate was 75%. The fallouts each occurred for various components of the SEP-1 bundle.

Early intervention for sepsis was imperative in stabilizing the patient (Sepsis Alliance, 2022). Fallouts from the SEP-1 bundle still occur, as evidenced by the project's results. This study aimed to bring awareness to the need for improvement in the SEP-1 compliance rates and the utilization of an order set. Standardizing care through an order set may have improved compliance; however, this intervention needed to be more measurable. As shown by the evidence in this project, the facility still needs improvement in compliance rates to meet the organization's goal of 80%. Further research and interventions should be conducted to assess what barriers prevent bundle compliance and fallouts in the facility.

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[1971](https://doi.org/10.21037/apm-21-1971)

Appendix A

Theoretical Model



Appendix B

Participant Consent Form

Title of Study:

The Quality Improvement Program for Sepsis Fallouts: Utilizing Education and an Order Set to Improve Compliance with SEP-1

Principal Investigator:

This consent form partially fulfills a consent process for a Doctor of Nursing Practice student project. It will inform participants about the purpose of this practice improvement project, enabling them to decide if they wish to volunteer.

In case of any questions that may arise during this practice improvement project, you should ask the principal investigator at any time and be provided with answers you clearly understand in their entirety.

After all your questions have been answered, you may participate in the educational session if you still wish to participate in the practice improvement project.

Purpose:

This quality improvement project aims to improve the utilization of the Sepsis Bundle compliance and the Sepsis order set to prevent early fallouts of compliance.

The PICOT question this project aims to answer is: In adult sepsis patients in the ED (P), does the utilization of a sepsis bundle order set (I), compared to no order set (C), improve compliance with SEP-1 (O) over eight weeks (T)?

What will you be asked to do if you take part in this practice improvement project?

Each participant will be asked to listen to a brief education on the Sepsis Bundle Guidelines (SEP-1 from the Sepsis Alliance), and the Sepsis Order Set will be demonstrated.

Location:

This will occur in the Emergency Room with each participant and at staff meetings.

Length of time of participation:

The time is estimated to be approximately twenty minutes for each demonstration.

Potential risks:

Participation in this project is voluntary. No foreseeable risks to participants have been identified. All information obtained during the practice improvement project will be kept confidential and destroyed after the completion of the process improvement project.

Confidentiality:

No confidential or identifiable information will be collected.

Benefits of the practice improvement project:

The benefits of this project include better compliance with the Sepsis Bundle (SEP-1) and the Order Set that should be utilized.

What will happen if you wish to refrain from participating in the project or later decide not to stay in the project?

Participation in this project is voluntary. Participants are given a choice to participate and may change their minds at any time and withdraw from participation. If you wish to not participate or withdraw from the project at any time, you may do so without fear of penalty or loss of benefits to which you are otherwise entitled.

Participation is not mandatory and will not affect your job assignment or performance evaluation. You may decline participation during the DNP Project and not suffer any retribution, retaliation, or harm should you wish to withdraw from the DNP Project.

Whom can you call if you have any questions?

If you have any questions about your participation in this practice improvement project, please call the principal investigator:

Ryleigh Tibbitt, MSN, FNP-C
256-770-9048

1. Subject consent:

I understand the purpose and implications of the discussed process improvement intervention. My questions have been answered, and I agree to participate in this practice improvement project.

Subject Name: _____

Subject Signature: _____ Date: _____

2. Signature of Investigator/Individual Obtaining Consent:

To the best of my ability, I have. I have addressed concerns with the parties involved.

Investigator/Person Obtaining Consent (printed name): RYLEIGH TIBBITT

Signature:  Date: _____

Appendix C

JSU IRB Approval Letter



Institutional Review Board for the Protection of Human Subjects in Research
249 Angle Hall
700 Pelham Road North
Jacksonville, AL 36265-1602

October 20, 2022

Ryleigh Tibbitt
700 Pelham Rd. North
Jacksonville, AL 36265

Dear Ryleigh:

Your project "The Quality Improvement Program for Sepsis Fallouts: Utilizing Education and an Order Set to Improve Compliance with SEP-1" has been granted exemption by the JSU Institutional Review Board for the Protection of Human Subjects in Research (IRB). If your research deviates from that listed in the protocol, please notify me immediately. One year from the date of this approval letter, please send me a progress report of your research project.

Best wishes for a successful research project.

Sincerely,

A handwritten signature in black ink, appearing to read 'Lynn Garner', written in a cursive style.

Lynn Garner
Associate Human Protections Administrator, Institutional Review Board

Appendix D

Project Phases and Timeline

DNP Project: Sepsis

Clinical Phases	Week 1	week 2	week 3	week 4	week 5	week 6	week 8	Week 9	week 10	week 11	week 12	week 13
Project proposal	give proposal of project											
Draft Writing		Write 1-2 pages	Write 1-2 pages	Write 1-2 pages	Write 1-2 pages	Write 1-2 pages	Write 1-2 pages	Write 1-2 pages	Write 1-2 pages	Write 1-2 pages		
Faculty Review and editing			Faculty review/edit	Faculty review/edit	Faculty Review/edit	Faculty review/edit	Faculty review/edit	Faculty review/edit	Faculty review/edit	Faculty review/edit	Faculty review/edit	
Editing and Reviewing Faculty suggestions				Edit pages	Edit pages	Edit pages	Edit pages	Edit pages				
Draft Dissemination											Draft copy, review edits	
Final editing											Final edits, submission of final	
Dissemination												Dissemination presentation

Appendix E

Budget and Resource

Project Expense	Cost
Paper Copies	\$2
Printer Ink	\$8
Total Cost:	\$10

Appendix F

CITI Training Certificate



Completion Date 26-Sep-2022
Expiration Date 25-Sep-2025
Record ID 51577378

This is to certify that:

Ryleigh Tibbitt

Has completed the following CITI Program course:

Social and Behavioral Responsible Conduct of Research
(Curriculum Group)
Social and Behavioral Responsible Conduct of Research
(Course Learner Group)
1 - RCR
(Stage)

Under requirements set by:

Jacksonville State University

Not valid for renewal of certification through CME.



Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?wb8a37d78-f336-496b-a689-97c129d10249-51577378

Appendix G

Agency Letter of Support



September 21st, 2022

To whom it may concern,

Ryleigh Tibbitt has been given permission to do her DNP project here at Riverview Regional Medical Center. An IRB is not needed for this project. She will collaborate with our ER Director, our Education Director, and myself on an as needed basis throughout her project. We look forward to working with Ryleigh and expect to see great results.

Sincerely,

A handwritten signature in blue ink that reads "Sherry Fryman".

Sherry Fryman

Chief Nursing Officer