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<b>USE</b>

- To evaluate effectiveness of an educational offering aimed at cultivating staff understanding of the Sepsis Response Team (SRT) process and its importance
- Implement a team to improve care response time to patients suspected of sepsis
- After completing the education module, registered nurse (RN) staff on a unit at Cincinnati Children's Hospital Medical Center (CCHMC) will understand responsibilities of each SRT member and the reasoning for the team's creation, as well as have access to quick references to aid in their knowledge retention.

## **OBJECTIVES/GOALS**

- 1) Review of the current Emergency Response Team on A7NS
- 2) Review of the updated Emergency Response team including Sepsis Response Team
- 3) Understanding of the need for Sepsis Response Team
- 4) Review of the roles in the Seizure Response Team
- 5) Understand what reference resources exist

### METHODS

### **The Educational Offering**

- Need identified, project implemented on Neuroscience/ Trauma unit at CCHMC via online learning module methodology
- Online self-directed learning module created regarding SRT; reviewed Emergency Response Team (ERT), institutional need for standardization of sepsis interventions, how to activate SRT, roles/responsibilities of members, and resources/quick references to aid knowledge retention
- Nursing educational concepts considered in creation and delivery of educational offering included staff readiness to learn, motivation, potential learning barriers, and workplace culture
- Education module included with monthly requirements through *Mosby*; 100% score on completion test with unlimited attempts required per CCHMC policy
- Prior to module completion, optional pre-test distributed to RN staff via email to assess knowledge on sepsis huddle, intervention times, and available resources
- After module completion, post-test distributed via email to assess effectiveness and learner satisfaction of education module
- Both pre-/post-tests consisted of the same five questions--four multiple-choice and one fill-in-the-blank; Post-test included an additional four questions regarding satisfaction with SRT education and practice implementation
- All 70 RNs completed education module via *Mosby*; however, only 25 responded to pre-test and 28 responded to post-test
- Data from both surveys analyzed and compared (Figure 4)
- Collaborated and communicated with key stakeholders (unit Education Specialist and managers, Center for Professional Excellence/Education, RN staff, Quality Improvement (QI) team) who also provided support for project

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# LITERATURE REVIEW

• Sepsis: leading cause of child mortality worldwide (Bulatova et al., 2020) • As a leading pediatric facility, CCHMC has established two main goals:  $\gg$  80% compliance with intravenous (IV) antibiotics administration within 60 minutes of sepsis recognition (*Currently at 59% compliance*) > 84% compliance with IV fluid push-pull bolus administration within 20 minutes of sepsis recognition (*Currently at 73% compliance*)) • Surviving Sepsis Campaign (SSC) guidelines: immediate fluid resuscitation, IV antibiotic administration within 1 hour of sepsis recognition, hospitals should delays in treatment lead to increased mortality (Bulatova et al., 2020) decreasing patient mortality, improving patient prognosis/outcomes, decreasing ICU sepsis-related admissions, and decreasing hospital costs (Delawder & Hulton, 2020; Lane et al., 2016; Maclay, 2017) • RN perception of online educational formats are generally positive, especially when creative/visually stimulating (San Martin, 2019); allows for self-directed learning and for communication of continual changes/updates in modern health care (Karaman, 2011; O'Shea, 2003)

Figure 2. Lippitt's Change Phases Applied to Sepsis Response Team Development Figure 1. Social Learning Theory Phases Phase 7: Termination of develop a performance improvement program for sepsis (Rhodes et al., 2017); Attention Retention Change Phase 4: Transforming Similar sepsis initiatives via specialty response teams have proven successful in Set expectation that Staff will retain the Intentions into Staff will give their learnings from the module Sepsis Response Phase 3: Actions Developing an attention to the information Collecting feedback, presentation via helpful Team be utilized being provided and grasp the importance of what they are learning as it pertains to their immediate practice. resources provided to them ("badge buddies", huddle addressing issues o Action Plan when a patient Phase 2: questions as they Diagnosing the becomes suspected board signage, and Assigning education unlimited access to module arise, bringing of sepsis **Client System's** module, ensuring in Mosby). attention to sepsis Problem Creation of Phase 1 Assessing completion by all team roles education tools and Motivation 8 staff, and providing displayed on huddle references, Mosby resources to help Capacity fo Diagnosing the board during pre-Production Motivation Collection of module, gatherin, retain learnings; Problem Change shift huddles institutional data baseline data about adopt education supporting need fo staff knowledge, into practice Assessing what better response to and create timeline aff will be motivated t Staff will produce resources are septic patients and for educational adopt the Sepsis Response connections to one another available, if staff are Sepsis is a leading identifying why interventions Team in order to feel more and to the information cause of death in willing to change of there are delays in based on their previous confident and supported • Institutional support for best-practice implementation, clear objective add to their pediatric patients, experience with septic during their care of septic care provision patients and past protocols practice, and who patients going forward. which is a concern communication, and utilization of existing or new teams are ideal components to CCHMC as a would be the pediatric facility change agents for successful practice implementation (Ploeg et al., 2007) EVALUATION OUTCOMES CONCLUSIONS Institutional data showing lack of intervention responsiveness/ • 25 RN respondents to pre-test **Pre-test questions:** timeliness parallel to pre-survey results 100% aware of ERT member information - Where are the members of the Emergency Response Team posted? • SRT education module resulted in increased knowledge base in A7NS 60% knew when sepsis huddle should occur - Once a patient is suspected for sepsis, how long until a sepsis huddle RNs regarding sepsis intervention timing, specifically with sepsis huddle • 76% answered correctly regarding IV fluid bolus intervention should occur? occurrence, IV fluid bolus and antibiotic administration parameters, and • 56% answered correctly regarding IV antibiotic intervention CCHMC's goal for treating sepsis is administration of IV fluids as where sepsis resources can be found 88% knew where to find sepsis resources

- described by which of the following?
- CCHMC's goal for treating sepsis is IV antibiotic administration within what time frame?
- Where can the sepsis algorithm be found?

#### Post-test questions: (same as above questions with addition of 1 multiple-choice, 2 subjective Likert Scale questions, and 1 openended question)

- Where can you look if you forget what the SRT roles are?

- On a scale of 1 to 5, 1 being very unsatisfied and 5 being very satisfied, how satisfied are you with the amount of educational support you have for sepsis management?
- On a scale of 1 to 5, how confident are you with your ability to enact and participate in the Sepsis Response Team?
- After completing the ERT update education module, do you have any other questions/concerns regarding the Sepsis Response Team addition?
- All staff required to complete education module with 100% on *Mosby* module test
- Continual evaluation can be done as SRT utilization increases
- will include analyzation of the Sepsis Debrief Tool
- will also include data collection of updated institutional data regarding intervernation response times

# **Sepsis Response: A Revision to the Current Emergency Response Team**

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# **THEORETICAL FRAMEWORKS**

#### Social Learning Theory (SLT)

- 4 phases applied to educational delivery and process (Figure 1)
- Staff likely to adopt "modeled behavior" of SRT implementation since outcomes of increased intervention timeliness is projected to produce results they value: better patient outcomes (Culatta, 2020)

- 28 RN respondents to **post-test**  100% aware of ERT/SRT member info 93% knew when sepsis huddle should occur 100% answered correctly regarding IV fluid bolus intervention 100% answered correctly regarding IV antibiotic intervention 100% knew where to find sepsis resources  $\succ$  Additional post-test question responses: • 96.43% knew where their SRT knowledge aids were
  - 100% reported being "Very Satisfied" with educational offering
  - 82.14% rated confidence "Very High" while remaining 17.86% indicated confidence as "High" regarding ability to enact and take part in SRT
  - 100% responded with "none", "no", or "N/A" that they did not have any additional questions/concerns about SRT

Figure 4. Pre-/Post-test Results Member info location Sepsis Huddle timing IV fluid bolus timing IV antibiotic timing O Sepsis algorithm location

Percentage Answered Correctly

Pre-test Post-test

#### Change Theory

• Lippitt's Change Theory requires an external agent creating change through deliberate development, planning, and careful implementation (Career Professionals MARCR, 2020) • The 7 phases applied to this project (as seen in Figure 2)



• Higher post-test scores could be attributed to similarity between *Mosby* completion test and emailed post-test

• Even though only ~1/3 RN staff completed surveys, 100% of staff completed education module; therefore all RN staff received and addressed the education regardless if they participated in pre-/post-tests

• *Mosby* online learning module was a successful teaching strategy in educating staff about SRT as reflected by RN high satisfaction responses As data is collected on septic patients going forward, the impact of an SRT on improving sepsis intervention timing will become more evident

# **IMPLICATIONS/RECOMMENDATIONS**

• Though well-received and cost-efficient, further studies should be conducted to determine if this type of online learning module is effective for educating RN staff on a larger scale

• For increased validity of post-test results, initial *Mosby* completion test responses could be recorded, analyzed, and compared to pre-test • Continue data collection/analysis about effects of SRT implementation • Once data shows improvement in sepsis intervention responses as hypothesized, other units at CCHMC should adopt similar standardization practices of a sepsis response team

