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Sepsis Work-Up and Treatment Interdisciplinary Approach

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Sepsis Work-Up and Treatment Interdisciplinary Team

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By
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Contents

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Executive Summary

Sepsis affects “1.7 million adults annually” and is a leading cause of death in America (Rhee et al., 2018). Sepsis bundles have been shown to reduce length of stay as well as improve mortality, however, the adherence to these bundles is often lacking. Multidisciplinary response teams to septic patients or patients showing SIRS criteria have shown to provide better patient outcomes. As a result of not following proper algorithms in a timely manner, patients “are not receiving life saving treatment” that they might not have otherwise (Focht, Anne, et al, 2006). Improving getting antibiotics to the patient within sixty minutes has been shown to provide better outcomes and in order to provide a more standardized approach having a Code Sepsis similar to that of a cardiac Code Blue would allow for better adherence to algorithms. It has been shown that following standardized algorithms decreased mortality compared to when no algorithm was used (Khan, J.M, et. al, 2019). This further proves the importance of following algorithms although the compliance of following all steps of the algorithm can be burdensome for the bedside nurse to take on alone. Sepsis response teams have removed the barriers associated with following sepsis bundles and added a team effort to reduce burden without increasing many expenditures. The multi-disciplinary response utilizes resources already available in the hospital and capitalizes those resources to improve patient outcomes. In order to decrease the average door to antibiotic time in oncology emergency patients an evidence based change initiative was created. In oncology patients do multidisciplinary sepsis work up and treatment (SWAT) compared to primary nurses affect length of stay during a six month period.

1. Rationale for the Project

The high mortality for sepsis patients makes timely identification and treatment a priority for implementing a process for sepsis patients. Multi-disciplinary response to sepsis similar to that of a cardiac emergency that has a multitude of disciplines collaborating such as pharmacy,

physicians, and nursing has not only eased the workload of the staff but has been shown to provide better outcomes to patients. As a result of the sepsis response teams it has been shown that patients who would otherwise not receive the timely treatment "are now receiving life saving treatment" (Focht, Anne, et al, 2006). The multidisciplinary response to sepsis has proved to better patient outcomes both in patient mortality and hospital length of stay. The evidence strongly supports using a team composed of a multitude of disciplines to manage sepsis patients or patients that present with SIRS criteria. A randomized control trial that examined the effectiveness of having a multidisciplinary team monitor patients and respond with the appropriate antibiotic therapy concluded that patients who were under the care of the multidisciplinary team received the antibiotic treatment faster and that they also received the appropriate treatment in a more timely manner (Cairns, K., et al. 2016). The data strongly supports that providing staff with incentive programs to meet sepsis metrics also helps to improve compliance with the sepsis bundle. According to a meta-analysis the data supports that performance incentives improve the teams adherence to sepsis response metrics (Damiani, E., Donati, A. et. al, 2015). After review of the six keeper studies the evidence overwhelmingly supports multidisciplinary collaboration in response to suspected sepsis patients. See fig. 1 for the synthesis study of the findings.

2. Literature Synthesis

The multidisciplinary response to sepsis has proved to better patient outcomes both in patient mortality and hospital length of stay. The evidence strongly supports using a team composed of a multitude of disciplines to manage sepsis patients or patients that meet SIRS criteria. A randomized control trial that examined the effectiveness of having a multidisciplinary team monitor patients and respond with the appropriate antibiotic therapy concluded that patients

who were under the care of the multidisciplinary team received the antibiotic treatment faster and that they also received the appropriate treatment in a more timely manner (Cairns, et al. 2016). The data strongly supports that providing staff with incentive programs to meet sepsis metrics also helps to improve compliance with the sepsis bundle. According to Damiani et. al. (2015) a meta-analysis the data supports that performance incentives improve the teams adherence to sepsis response metrics. The literature supports that sepsis response teams increase bundle compliance within the organization. The existing literature also explores the impact on overall hospital mortality. The literature supports that both hospital mortality and hospital length of stay are both decreased when a sepsis response team is implemented. In addition to overall length of stay being reduced it was also shown that hospital readmissions reduced when patients had intervention by sepsis response team. The articles show a robust group of metrics that highlight different reflections of patient care. The articles all show that the sepsis response team is favorable to metrics and provides the best patient care.

3. Project Stakeholders

The primary stakeholder for the project is patients that present to the emergency department that trigger the best practice advisory for suspected sepsis. Nurses, physicians, lab technicians, pharmacy, patient care technicians are also stakeholders as they are directly involved in multidisciplinary teams. On a broader note the office of quality improvement and the Chief Quality Officer are also stakeholders. The institutional sepsis team that reviews yearly sepsis metrics and is composed of critical care physicians, pharmacy, and executive leadership are also stakeholders.

4. Implementation Plan

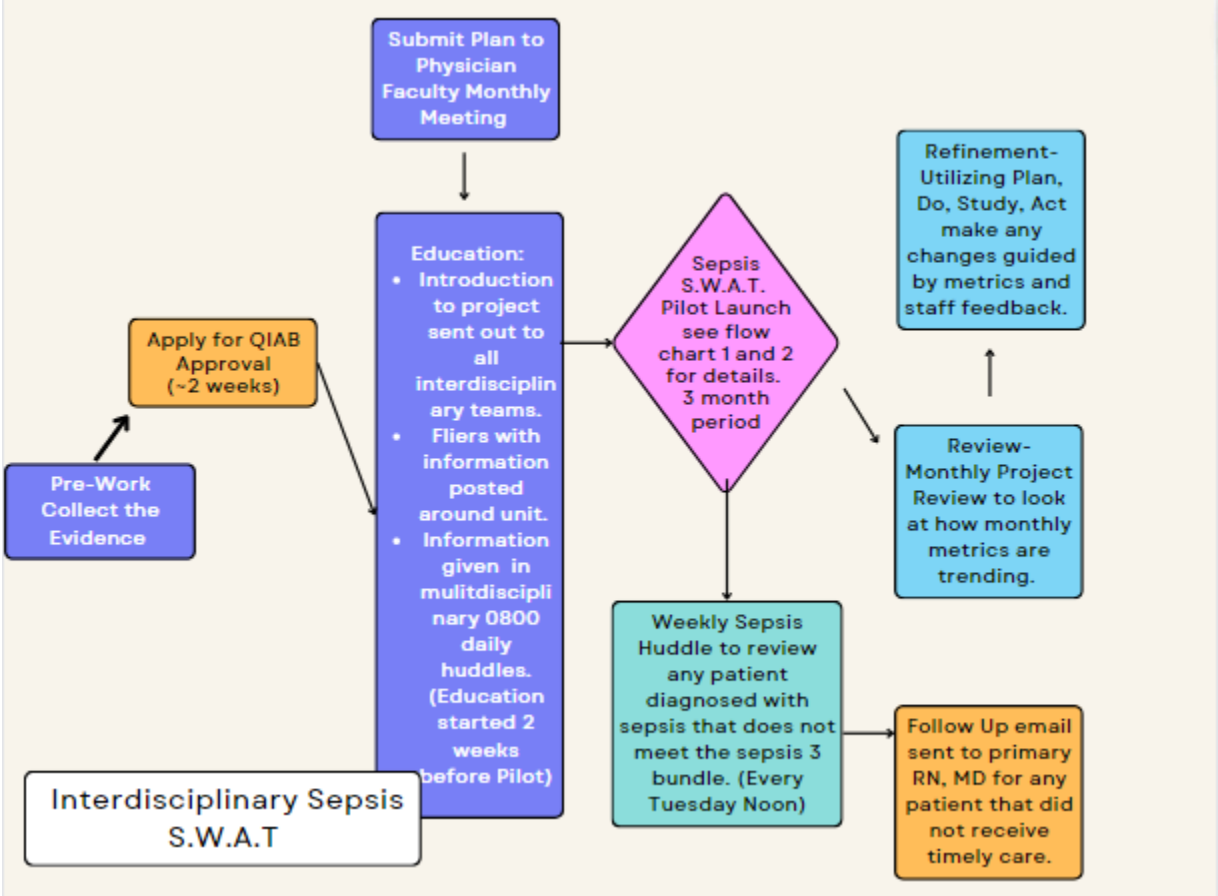
The project is building on current measures in place.The first step is to achieve QIAB approval through the institution. This is completed by filling at an online form where you explain the project planning phase. Turn around time for approval at my institution is typically two weeks. Once the project is approved education is initiated this will be done in three primary ways and it will start two weeks before project launch. Education will be completed by sending a email to all disciplines (Pharmacy, Physicians, Patient Care Technicians, Nursing, Lab technician) to introduce the project. Fliers around the unit with the flowchart will also be present in key areas (charge office, nurse station, triage desk, physician/ pharmacy work room) . During daily huddles with the emergency team (these are daily 0800 huddles with interdisciplinary team that already occur) education about upcoming initiative and response team will be introduced. The SWAT team will become active. To see details of the SWAT team plan see attached figures 1, 3, and 4. At our already established Weekly Sepsis Meetings we will look at any "fallouts" if a patient did not receive the timely bundle- antibiotics, cultures ,fluids, lactic. If any of the parameters are not met an email will be sent out to the team for that specific day that was activated for that patient. This is already a current process as well in our unit to notify the MD taking care of patients now the whole response team will be notified. Every month on the first day of the month we will review the monthly data as a whole and utilize the Plan, Do, Study Act Method to make any adjustments if we are not seeing an improvement in compliance.

5. Time Table and Flow Chart

The first step in project implementation is approval to proceed by the QIAB. Once that is complete educating all disciplines will be next. After education is complete the project will be implemented and data will be tracked for six months. Below is a timeline of project

implementation. The flow chart in figure 1 shows the overall flow for the project from QIAB approval to result reviewing.

Fig. 1



The timetable below figure 2 illustrates the tentative dates for the project to be rolled out.

Fig. 2

September 4, 2023	QIAB application complete (approx. 2 week turn around)
September 18, 2023	Education of lab tech, pharmacy, nursing and physician team regarding new processes and the importance of timely response. Education through morning huddles, staff meetings and

	meetings with triage nurses regarding specific directions on project implementation. Round on night shift to educate night shift employees in person.
October 2, 2023	Project Launch-SWAT goes live. Continued teaching completed at multidisciplinary safety huddle every morning 0800.
October 2, 2023- May 31, 2023	Data collection and project adjustment as needed in order to best meet our patients needs. Continued education in daily safety briefings and notifying the team of current metrics and progress through the fall out emails.

6. Data Collection

Data will be looked at weekly at the established Sepsis Review Meetings. The data will be collected through the Epic reports that are already generated. The data will look at patient chief complaint, time sepsis best practice advisory alerts, time to antibiotics, blood culture and lactic compliance, patient overall hospital length of stay, mortality, and ICU length of stay (if applicable). Plan, Do, Study, Act will be utilized to make necessary adjustments throughout the course of the project. Data will be trended over a six months and then reviewed by the leadership and institutional committee to determine the effectiveness of implementation. All metrics will be compared to the pre intervention data.

7. Cost Benefit Discussion

The sepsis response teams have removed the barriers and added a team effort to reduce burden without increasing many expenditures. The multidisciplinary response utilizes resources already available in the hospital and capitalizes to achieve better patient outcomes. In a journal

published by the Joint Commission it cites these changes as being “easily integrated” and cites it takes “low direct expenditures" (Fotch, A., 2009). Due to low cost since the goal of the team is to mobilize the staff and provide a framework for teamwork. Similarly the CODE Blue team utilizes the team of people present and gives them a specific role. When the unit is fully staffed no additional staff is needed to implement the SWAT team. The potential cost associated is for the supplies to print the fliers. In addition in order to educate all shifts and disciplines it is possible that overtime hours will need to be utilized to provide education. Overall the cost is minimal compared to the expected outcome for example reduced readmissions and decreased length of stay.

8. Discussion of Evaluation

At this time the disciplines are working to get back to appropriate staffing. Once staffing reaches the normal level the project will have a better start. In addition the hospital was recently preparing and completing regulatory surveys so there was hesitancy to start a new process and project at this time. The project will be proposed again towards the end of the fiscal year when staffing can be evaluated, hopefully at that time the project will be able to be implemented.

Recommendations

It is the goal that if the SWAT team is effective in the emergency department that the hospital will utilize the same team to address all inpatients that trigger the sepsis best practice advisory. However this would require additional staffing due to the team covering the hospital so it is important to first determine the effectiveness of the team. If the project is successful the evidence will be present to help get executive leadership to adopt hospital wide.

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Appendix

Figure 1: Project Flow Chart

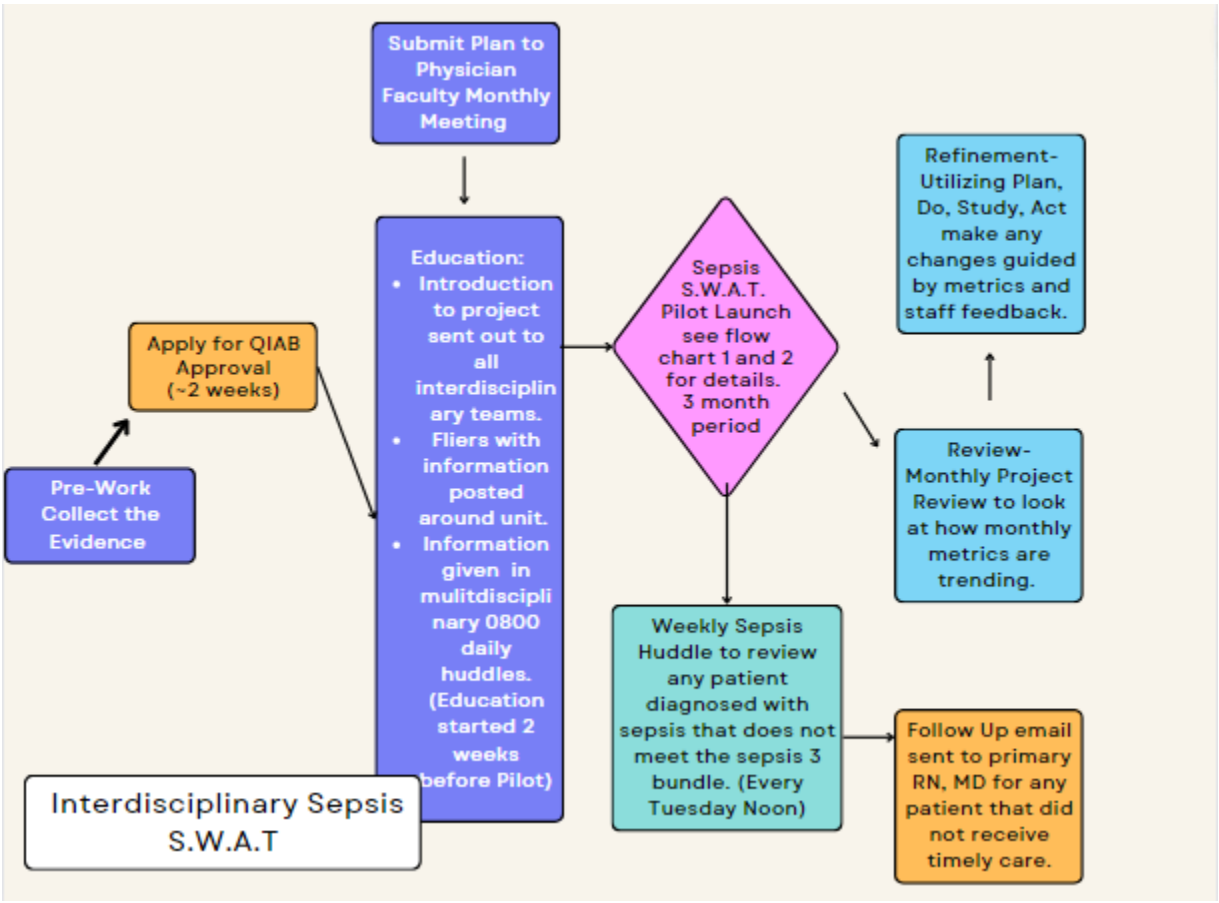

Figure 2: Proposed Time Table

September 4, 2023	QIAB application complete (approx. 2 week turn around)
September 18, 2023	Education of lab tech, pharmacy, nursing and physician team regarding new processes and the importance of timely response. Education through morning huddles, staff meetings and

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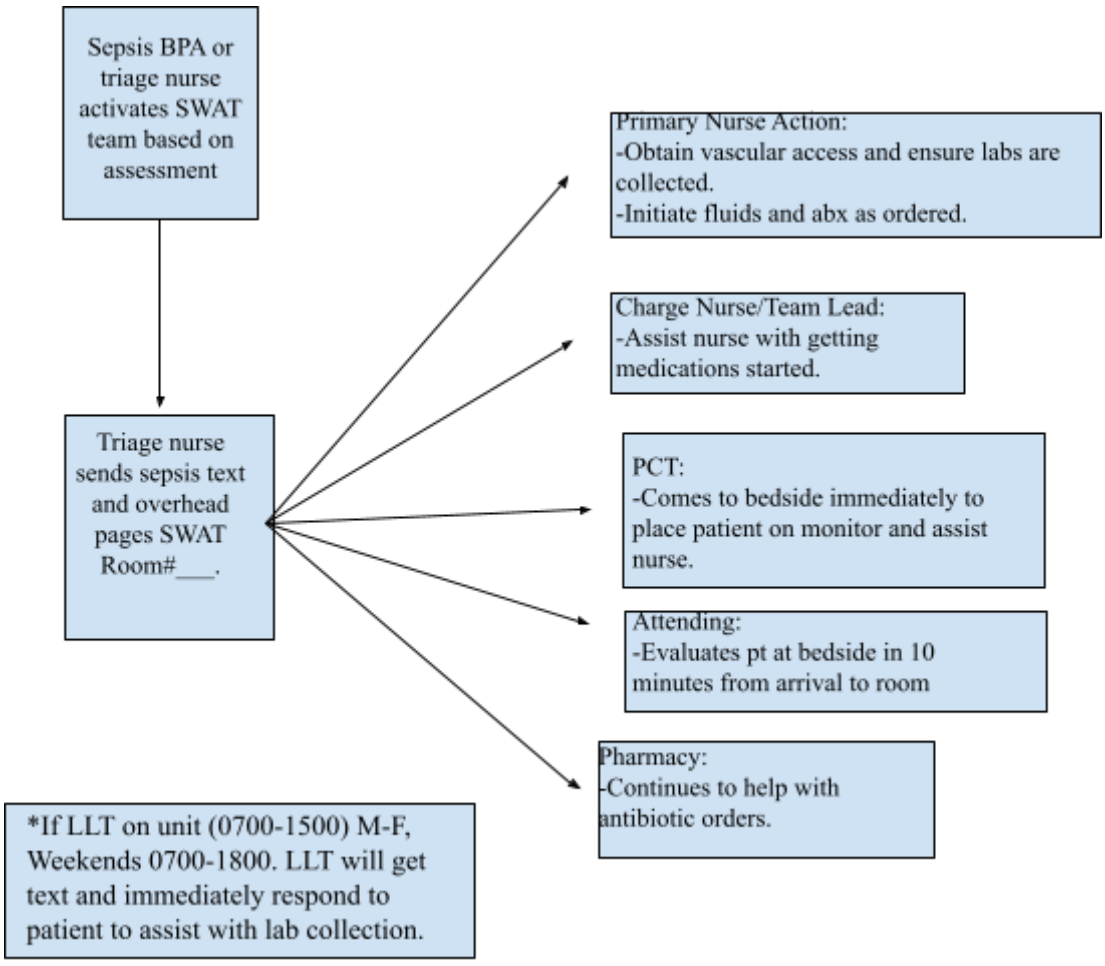
Figure 3: Algorithm when patient is roomed immediatly



SEPSIS WORKUP AND TREATMENT- INTERDISCIPLINARY TEAM

*** Can be activated anytime by a bedside nurse. Bedside nurse overhead pages SWAT Room#___ then charge will send an alert in text as well.

Figure 4: Activated when a patient is being held in triage.