

Palliative Needs Screening in a Surgical Intensive Care Unit

by

Lauren B. Lu

Under Supervision of

Tracey Wilson, DNP, ACNP

Second Reader

Karen Yarbrough, DNP, ACNP-BC, CRNP

A DNP Project Manuscript
Submitted in Partial Fulfillment of the Requirements for the
Doctor of Nursing Practice Degree

University of Maryland School of Nursing
May 2022

Abstract

Problem: A surgical intensive care unit (SICU) at a large academic medical center did not have a process to identify patients with palliative needs. Published evidence demonstrates that screening criteria can help identify those with unmet palliative care needs and increase the rate of appropriate consultations. **Purpose:** To implement a screening process for identification of unmet palliative care needs among Acute Care Emergency Surgery (ACES) patients in the SICU. **Methods:** Once the process was developed using available evidence and a validated screening tool, staff were educated on the protocol. The goal was for all admitted ACES patients to receive palliative needs screening by the bedside nurse within 48 hours of admission. For positively screened patients, a palliative care consult would be placed by the SICU provider following approval from the ACES team. ACES patients were re-screened weekly while they remained in the SICU. **Results:** There were 34 patients admitted during the project period. The total percentage of patients that received screening within 48 hours of admission was 70.6% (24 out of 34 admitted patients). The total percentage of eligible patients that received weekly re-screening was 82% (23 out of 28 eligible patients). The total percentage of positively screened patients that received consultation was 53.8% (7 consults out of 13 positively screened patients). The overall palliative consult rate was 20.6% (7 consults out of 34 total patients). This is greater than the anecdotal baseline of 10%. **Conclusions:** Barriers were met during the project that affected screening compliance, but the screening tool identified many patients with palliative care needs. While SICU providers were receptive to hearing positive screening results, consultation was deferred at times. But the project may have prompted earlier discussions regarding palliative involvement. With modifications, future initiatives to screen for unmet palliative needs could be extended to other surgical patients in the SICU.

Palliative Needs Screening in a Surgical Intensive Care Unit

Patients in the intensive care setting often experience functional complications, cognitive impairments, and heavy symptom burden (Aslakson et al., 2014). These factors can create significant strain along with psychological distress on not only patients, but also families. Effective palliative care has the potential to benefit many intensive care unit (ICU) patients. Evidence supports early integration of palliative care in the ICU setting to help manage complex symptoms, decrease ICU mortality rates, decrease length of stay, promote advanced care planning, and improve quality of life (Kyeremanteng, 2013; Roczen et al., 2016). Despite the positive outcomes, a national survey of multiple institutions found that most ICU clinicians believe palliative consultation is underused in intensive care (Wysham et al., 2017). A consensus report from the Center to Advance Palliative Care recommends the use of screening criteria to identify patients who would benefit from palliative care consultation (Weissman & Meier, 2011).

A SICU at a large academic medical center lacked a process to identify patients with unmet palliative care needs (Appendix A). This created a potential missed opportunity in connecting patients to palliative care, including vulnerable populations. Interviews with the medical director, SICU providers, and nurses confirmed a desire for increased support for patients experiencing life-threatening illnesses. The purpose of this quality improvement (QI) project was to implement and evaluate the effectiveness of a screening process for identification of unmet palliative care needs among ACES patients in the SICU. The anticipated outcome was earlier identification of patients with palliative needs and increased support for those patients through involvement of the palliative care team.

Literature Review

A literature review was completed to analyze and synthesize the evidence regarding use of screening criteria to prompt palliative consultation in intensive care settings (Tables 1 and 2). Level and quality of evidence were determined through Melnyk's Rating System for Hierarchy of Evidence (Melnyk & Fineout-Overholt, 2014) and Newhouse's Rating Scale for Quality of Evidence (Newhouse, 2006).

The settings from the studies were described as MICU, SICU, medical and surgical ICU, mixed ICU, or ICU. They took place within tertiary medical centers, large urban medical centers, or inner-city teaching hospitals. Studies included one randomized controlled trial (Ma et al., 2019), one well-designed controlled trial without randomization (Hurst et al., 2018), two quasi-experimental studies (Mun et al., 2016; Walker et al., 2013), two quality improvement projects with pre-test/post-test design (McCarroll et al., 2018; Sihra et al., 2011), and a report from an expert committee (Nelson et al., 2013). ICU and palliative experts from the Improving Palliative Care in the ICU (IPAL-ICU) Advisory Board developed the expert committee report (Nelson et al., 2013).

Every study addressed the implementation of palliative needs screening in the intensive care setting. Themes regarding the timing and frequency of screening were identified among the studies. The IPAL-ICU Advisory Board recommended that the most beneficial timing for palliative needs screening was early in the ICU stay (Nelson et al., 2013). Screening within 24-48 hours or on admission was noted in several studies (Hurst et al., 2018; Ma et al., 2019; Mun et al., 2016; and McCarroll et al., 2018). Continued weekly or daily screening was also noted in several studies (Mun et al., 2016; McCarroll et al., 2018; and Sihra et al., 2011). This evidence illustrated that screening within 24-48 hours of admission, along with routine re-screening throughout hospitalization, was an effective way to identify patients with needs.

Use of screening criteria for palliative care consultation led to several positive outcomes in the intensive care setting. Ma et al. (2019) found that the practice led to decreased utilization of ICU resources. Nelson et al. (2013) also identified that the practice decreased utilization of resources without affecting mortality. Similarly, Walker et al. (2013) found that their study did not increase mortality rates. Another common outcome was increased palliative consultation rates (Hurst et al., 2018; Walker et al., 2013; McCarroll et al., 2018; Sihra et al., 2011). Hurst et al. (2017) found that the practice change led to earlier palliative consultations. Additionally, two studies observed decreased length of stay for the intervention groups (Mun et al., 2016; Walker et al., 2013). Two studies noted that their initiatives led to earlier family meetings and greater transition to DNR/DNI code status (Ma et al. 2019; Mun et al., 2016). Lastly, Ma et al. (2019) found that fewer patients in the intervention group presented to an emergency department or were readmitted to the hospital within 30 days post-discharge, compared to the control group.

The evidence quality and strength varied among the sources. The evidence level ranged from II to VI. The quality ratings ranged from grade A to grade C. The overall evidence would have been strengthened by the addition of more high-quality studies, such as meta-analyses or randomized controlled trials. However, the available evidence was relevant to the desired practice change and addressed the target population and setting. Each study was consistent in positive patient outcomes. This literature review illustrated that screening criteria to prompt palliative consultation in the ICU setting is not only feasible but largely beneficial for patients.

Theoretical Framework

Kolcaba's Comfort Theory served in understanding the practice problem (Figure 1). This theory explains that comfort is a basic need and can occur as relief, ease, or transcendence (Kolcaba, 2003). It can happen in domains such as physical, psychospiritual, environmental, and

sociocultural. The theory suggests that while there are intervening variables that cannot be changed, comfort can still be enhanced by addressing health needs of patients and by nursing interventions. Enhanced comfort leads to health seeking behaviors, which can include seeking a peaceful death. ICU patients have complex needs which can be physical, psychological, or social. By identifying patients with unmet palliative care needs, the goal was to improve quality of life and relieve suffering. Kolcaba's comfort theory aided in understanding the processes that occurred during the project.

The Framework for Complex Innovations (Helfrich et al., 2007) was applied to the implementation plan for this project (Figure 2). A favorable climate was an important supporting factor for success. As many SICU nurses expressed a need for change, this environment aided with the goals for education and screening compliance. Additionally, a coordinated effort by multiple organizational members was necessary. Communication and feedback from stakeholders ensured successful implementation. Management support and innovation champions helped with educational and process measures. Ultimately all of these factors were vital in leading to positive patient outcomes.

Methods

The setting of this QI project was a 24-bed SICU within a large academic medical center. The target population included patients under the ACES service, admitted from September 19th through December 3rd, 2021. Patients were excluded if another surgical service was involved in care. It was ensured that vulnerable populations were not excluded from the project, such as individuals that were non-English speaking, homeless, cognitively impaired, or imprisoned. ACES patients admitted to the SICU were screened for palliative needs by the bedside nurse with use of a validated screening tool (Wang et al., 2019). It was adapted to meet unit-specific

needs from input by the SICU medical director, lead nurse practitioner, ACES attending, a palliative care provider, and nursing staff (Appendix B). Blank screening documentation forms were kept in the nurse alcoves outside of each patient room. Screening was completed within 48 hours of admission. Positive screens were discussed with the SICU provider and consultation was placed following approval from the ACES team. ACES patients were re-screened weekly while in the SICU. Weekly results were discussed during interdisciplinary rounds that occurred each Wednesday. Completed screening documentation forms were placed in a protected folder secured in the staff room and collected by the project leader twice per week.

Structure measures included education on the practice change for the SICU nurses and advanced practice providers (APPs). Nurses and APPs were educated via face-to-face and virtual sessions (Appendix C). A unit nurse champion was recruited and prepared to assist with staff education. Educational materials were developed with feedback from the nurse champion and senior clinical nurses. A project resource binder was created with education, contact information, and extra forms for copying needs. Process measures included compliance of screening completion within 48 hours of admission and weekly re-screening for patients in the SICU for seven days or longer. The nurse champion's commitment to act as a change agent aided with these processes. During her shifts, she encouraged others to complete the screenings and report positive screens. Outcome measures included the palliative care consultation rate for positively screened patients and the overall consultation rate. To further improve these measures, strategies involved reminding clinicians and providing feedback from audits.

Education was recorded on a sign-off sheet and reviewed weekly. Screening completion within 48 hours of admission and weekly re-screening were tracked through the screening documentation forms. The project leader performed bi-weekly audits and forms were assigned

code numbers. They did not contain patient names, medical record number, or date of birth. Data analysis was completed through use of run charts. Palliative care consultation rates for positively screened patients and overall consult rates were tracked through chart audits completed by the project leader weekly. The electronic health records of ACES patients were reviewed for consults on a secure unit computer. All data was tracked on a secure data management spreadsheet without patient identifiers and stored on a password protected device (Appendix D). A code key was filed securely and kept separate from the data management spreadsheet on a password protected device only accessible by the project leader. Prior to implementation, the project was determined Non-Human Subjects Research by the University of Maryland Baltimore Institutional Review Board.

Results

Structure, process, and outcome measures were tracked throughout the project period. The goal to educate 100% of the SICU APPs was achieved (11/11 APPs), but it took longer than the projected time frame (Figure 4). Similarly, the goal to educate 100% of SICU RNs took longer than anticipated (Figure 3) and did not reach 100% (60/67 nurses). Education continued into the project phase and candy incentives were used during sessions. Brief education was given to travel nurses and education was sent via email to individuals that were difficult to contact.

The number of ACES patients admitted to the SICU each week ranged from one to five. There were 34 total ACES patients admitted during the project period. Regarding process measures, there was a weekly average of 63% of patients that were screened within 48 hours of admission. The overall total percentage of patients that received screening within 48 hours was 70.6% (24/34 admitted patients). Screening compliance within 48 hours of admission fluctuated weekly with no identifiable trends, runs, or shifts (Figure 5). Weeks with 100% compliance

correlated with the start of the project and when email reminders were sent. There was an additional goal to re-screen patients each week if their SICU stay was greater than seven days. The weekly average of patients that received re-screening was 81%. The overall total percentage of eligible patients that received weekly re-screening was 82% (23/28 eligible patients). A trend of 100% compliance was observed from the second to fifth week (Figure 6). During the eighth and ninth weeks of the project, compliance decreased. Nurses reported barriers with completing screening documentation such as time constraints, high patient acuity, or failing to remember. To address the decrease in screening compliance, the presence of the nurse champion and project leader was increased along with verbal reminders for staff.

In the analysis of outcomes, 41 screens were completed during the project including within-48-hours-of-admission and weekly re-screens. Out of those 41, there were 13 that met criteria for palliative consultation (positive screens). The screening tool contained several indicators for identifying needs. The indicator selected most among positively screened patients was “completely disabled; cannot carry on any self-care.” The second most selected indicator was “in the ICU setting with documented poor or futile prognosis.” The third was “uncontrolled psychosocial or spiritual issues,” which was noted as “anxiety” or “depression.” Figure 8 shows a complete list of the indicators selected among positively screened patients with their frequency.

The overall palliative consultation rate during the project period was 20.6% (7 consults out of 34 total patients). This is greater than the anecdotal 10% baseline rate that was reported by providers. However, it is notable that some of these consultations resulted from provider discretion, as opposed to screening results. The weekly average consult rate for positively screened patients was 50%. The overall total percentage of positively screened patients that received consultation was 53.8% (7/13 positively screened patients). Fluctuations between 0%

and 100% were noted for the weekly consult rate for positively screened patients (Figure 7). To address these fluctuations, the project leader prompted dialogue during weekly interdisciplinary meetings to identify provider concerns. While SICU providers were receptive to hearing positive screening results, they did not always move forward with palliative consultation.

Discussion

For many patients, the practice change led to palliative discussions within days of ICU admission. Additionally, an increase in palliative consultations was observed. However, it is not clear if this increase was a direct result of the project. Several factors influenced project outcomes. As discussed previously, some consultations were placed out of provider preference, regardless of screening. In all cases where this occurred the patients were Do-Not-Resuscitate/Do-Not-Intubate (DNR/DNI) status and had poor prognosis on admission or metastatic cancer. Since the criteria of DNR/DNI status had not been included on the screening tool, this was found to be a limitation of the tool.

Provider discretion played a major role in the decision to defer palliative consultation, as noted by the 50% weekly consultation rate for positively screened patients. SICU providers were very receptive to hearing screening results during weekly discussions. But even though screening evidence was available, consultation did not always occur. Many patients had varying clinical circumstances that quickly evolved throughout their ICU stay. Palliative involvement was deferred at times primarily due to an anticipated improvement in status. Adding to the limitations, the staffing model of providers in the SICU includes a rotating resident team and a non-rotating APP team. Only the APPs received the education sessions prior to implementation. Rotating resident physicians were not included in education sessions but had been notified of the project. This created a barrier during weekly discussions when resident physicians were not as

informed about the practice change as other providers. This was addressed through brief explanation by the project lead during the weekly interdisciplinary meetings.

In comparison with other studies, an increase in consultations occurred as expected (Hurst et al., 2018; Walker et al., 2013; McCarroll et al., 2018; Sihra et al., 2011). However, screening compliance was not 100%. As mentioned previously, nurses met barriers with completing screenings mainly due to time constraints or high patient acuity. This can be attributed to multiple factors including difficult working conditions from a pandemic, decreased number of staff, increased presence of travel nurses, and the use of paper documentation forms. These barriers were managed through increased presence and assistance from the project leader and nurse champion a few weeks into the project phase. Additionally, brief education was provided to travel nurses that were assigned to care for ACES patients.

It is notable that in several other studies, there existed a designated person who screened for unmet palliative care needs. The studies had various labels for the screening individual: a research member, designated member of the primary team, designated nurse, or a palliative physician (Hurst et al., 2018; Ma et al., 2019; Sihra et al., 2011; Walker et al., 2013). Not only did that individual help to facilitate screening compliance, but they ensured inter-rater reliability. The use of one person for the completion of every screening enhances intervention fidelity. A designated team member for screening completion would have been ideal, but it was not feasible at the time of project implementation. This factor came to light as a concern from nurse reports during implementation. Some nurses voiced that the selected screening tool felt subjective in areas. An example was the indicator “in the ICU setting with documented poor or futile prognosis.” Some nurses were unsure of their abilities to decide. Additionally, there were uncertainties about scoring functional status at the time of the screening or using the patient’s

reported baseline function. When these uncertainties arose, further discussions took place with providers to determine the indicators met. Even though a validated tool had been used, these concerns highlighted some of the limitations in the screening process.

Conclusion

In recent years, palliative care has become an increasingly accepted component of comprehensive care for patients in the ICU (Aslakson et al., 2015). This project aimed to implement a screening process to connect SICU patients in need to the supportive services of the palliative care team. While there were barriers that affected nurse screening compliance, many patients were identified with palliative needs through the selected screening tool. Feedback from nursing staff included appreciation for a tool that could open conversations regarding palliative involvement for patients who probably needed the support. This initiative likely prompted earlier discussions regarding palliative care consultation.

Although there were limitations, improvements can be made to support future QI initiatives. Discussions with provider and nursing staff have illustrated a clear desire for greater palliative involvement in the SICU. Future initiatives could include modifying the tool to better suit the SICU's needs. This could include modifying the process to assess for palliative needs pre-operatively as opposed to post-operatively. Screening could be expanded to other patients in the SICU beyond ACES. Additionally, integration of the screening documentation into the electronic health record would help to facilitate compliance. Alternatively, other palliative initiatives could have a greater focus on staff and provider education. Many stakeholders involved in the project expressed interest in continued efforts. The introduction of this project has created an opportunity for further steps to be taken.

References

- Aslakson, R., Cheng, J., Vollenweider, D., Galusca, D., Smith, T. J., & Pronovost, P. J. (2014). Evidence-Based Palliative Care in the Intensive Care Unit: A Systematic Review of Interventions. *Journal of Palliative Medicine*, 17(2), 219–235. <https://doi-org.proxy-hs.researchport.umd.edu/10.1089/jpm.2013.0409>
- Aslakson, R. A., Curtis, J. R., & Nelson, J. E. (2015). The changing role of palliative care in the ICU. *Critical Care Medicine*, 42(11), 2418-2428. <https://doi.org/10.1097/ccm.0000000000000573>
- Helfrich, C.D., Weiner, B.J., McKinney, M.M. & Minasian. L. (2007). Determinants of implementation effectiveness adapting a framework for complex innovations. *Medical Care Research and Review*, 64(3), 279-303 doi: 10.1177/1077558707299887
- Hurst, E., Yessayan, L., Mendez, M., Hammad, A., & Jennings, J. (2018). Preliminary analysis of a modified screening tool to increase the frequency of palliative care consults. *American Journal of Hospice and Palliative Medicine®*, 35(3), 417-422. <https://doi.org/10.1177/1049909117712229>
- Kolcaba, K. (2003). *Comfort theory and practice: A vision for holistic health care and research*. New York, NY: Springer Publishing Company.
- Kyeremanteng K. (2013). How palliative care can reduce healthcare costs & improve quality of care. *Health*, 5(12), 2081-2082.
- Ma, J., Chi, S., Buettner, B., Pollard, K., Muir, M., Kolekar, C., Al-Hammadi, N., Chen, L., Kollef, M., & Dans, M. (2019). Early palliative care consultation in the medical ICU: A cluster randomized crossover trial. *Critical Care Medicine*, 47(12), 1707-1715. <https://doi.org/10.1097/ccm.0000000000004016>

- McCarroll, C. M. (2018). Increasing access to palliative care services in the intensive care unit. *Dimensions of Critical Care Nursing*, 37(3), 180-192.
<https://doi.org/10.1097/dcc.0000000000000299>
- Melnyk, B.M. & Fineout-Overholt, E. (2014). *Evidence-based practice in nursing & healthcare: A guide to best practice* (3rd ed.). New York: Lippincott, Williams & Wilkins.
- Mun, E., Ceria-Ulep, C., Umbarger, L., & Nakatsuka, C. (2016). Trend of decreased length of stay in the intensive care unit (ICU) and in the hospital with palliative care integration into the ICU. *Permanente Journal*, 20(4), 56–61.
<https://doi-org.proxy-hs.researchport.umd.edu/10.7812/TPP/16-036>
- Nelson, J. E., Curtis, J. R., Mulkerin, C., Campbell, M., Lustbader, D. R., Mosenthal, A. C., Puntillo, K., Ray, D. E., Bassett, R., Boss, R. D., Brasel, K. J., Frontera, J. A., Hays, R. M., & Weissman, D. E. (2013). Choosing and using screening criteria for palliative care consultation in the ICU: A report from the Improving Palliative Care in the ICU (IPAL-ICU) advisory board. *Critical Care Medicine*, 41(10), 2318-2327. <https://doi.org/10.1097/ccm.0b013e31828cf12c>
- Newhouse RP. (2006). Evidence and the executive. Examining the support for evidence-based nursing practice. *JONA: The Journal of Nursing Administration*, 36(7/8), 337–340.
<https://doi-org.proxy-hs.researchport.umd.edu/10.1097/00005110-200607000-00001>
- Roczen, M. L., White, K. R., & Epstein, E. G. (2016). Palliative Care and Intensive Care Units. *Journal of Hospice & Palliative Nursing*, 18(3), 201–211. <https://doi-org.proxy-hs.researchport.umd.edu/10.1097/NJH.0000000000000218>
- Sihra, L., Harris, M., & O'Reardon, C. (2011). Using the improving palliative care in the intensive care unit (IPAL-ICU) project to promote palliative care consultation. *Journal of*

- Pain and Symptom Management*, 42(5), 672-675. <https://doi.org/10.1016/j.jpainsymman.2011.08.002>
- Walker, K. A., Mayo, R. L., Camire, L. M., & Kearney, C. D. (2013). Effectiveness of integration of palliative medicine specialist services into the intensive care unit of a community teaching hospital. *Journal of Palliative Medicine*, 16(10), 1237-1241. <https://doi.org/10.1089/jpm.2013.0052>
- Wang, S. S., Huang, C., Feng, R., Wu, Y., & Huang, S. (2019). Validation of a concise screening tool for the identification of palliative care needs among inpatients: A prospective study in hospital setting. *Journal of the Formosan Medical Association*, 118(5), 883-890. <https://doi.org/10.1016/j.jfma.2018.10.004>
- Weissman, D. E., & Meier, D. E. (2011). Identifying patients in need of a palliative care assessment in the hospital Setting: A consensus report from the center to advance palliative care. *Journal of Palliative Medicine*, 14(1), 17-23. <https://doi.org/10.1089/jpm.2010.0347>
- Wysham, N. G., Hua, M., Hough, C. L., Gundel, S., Docherty, S. L., Jones, D. M., Reagan, O., Goucher, H., Mcfarlin, J., & Cox, C. E. (2017). Improving ICU-based palliative care delivery: A multicenter, multidisciplinary survey of critical care clinician attitudes and beliefs. *Critical Care Medicine*, 45(4), e372-e378. <https://doi.org/10.1097/ccm.0000000000002099>

Tables

Table 1
Evidence Review Table

Citation: Hurst, E., Yessayan, L., Mendez, M., Hammad, A., & Jennings, J. (2018). Preliminary analysis of a modified screening tool to increase the frequency of palliative care consults. <i>American Journal of Hospice and Palliative Medicine</i> ®, 35(3), 417-422. https://doi.org/10.1177/1049909117712229					Level III
Purpose/ Hypothesis	Design	Sample	Intervention	Outcomes	Results
<p>“Evaluate whether using an objective PCST within 24 hours of ICU admission could improve the frequency and timeliness of palliative care consultation.” -No hypothesis stated.</p>	<p>-Prospective quasi-experimental study.</p> <p>-Setting: Two separate MICUs within the same urban tertiary care teaching hospital during a 6-week period.</p> <p>-Both MICUs managed by the same attendings, fellows, and physician assistants.</p>	<p>- Sampling technique: convenience.</p> <p>-Included: patients older than 18 years admitted to the ICU from 6/3 to 7/19, 2013.</p> <p>-Excluded: ICU boarders from other services.</p> <p>-Accepted- 223 admissions over 6 weeks.</p> <p>-Control (unit had twice as many beds)- 156 admitted patients.</p> <p>-Intervention- 67 admitted patients.</p> <p>-Power Analysis: Sample size of 123 patients was needed to detect 20% difference between the 2 groups with 2-sided, 5% significance level, and power of 80% group weights. Was adequately powered.</p> <p>-Group Homogeneity: Was statistically confirmed. No significant differences between the group demographics and baseline characteristics.</p>	<p>-Control: “Control MICU” continued existing consultation practice/standard of care.</p> <p>-Intervention: “Intervention MICU” implemented PCST with each new admission. Screening tool had been used previously by affiliated MICUs, was modified to a six-item checklist, deemed by providers involved. At least one checked item triggered PCC within 24 hours.</p> <p>-Intervention fidelity: Screening done by primary team for patients admitted between end of AM rounds and 1700. New patients admitted after 1700 were screened following weekday morning. Modified screening tool checklist form used for each admission.</p>	<p>-DV:</p> <p>-Primary outcome: Proportion of PC consults in each group.</p> <p>-Secondary outcomes: Group differences in frequency of triggered items in the tool; comparisons of median time to consultation, number of ventilator-free days, and number of days in MICU after PCC.</p>	<p>-PCC incidence was higher in the intervention group (22.3%) compared to the control group (7.05%) (P = .0011).</p> <p>-Consult requests occurred sooner in the intervention group (Wilcoxon P < .0001).</p> <p>-Median MICU LOS was not different between the intervention (3 days) and control group (2 days) (P=. 44).</p> <p>-Number of ventilator-free days was not different (2 days vs 2 days) (P = .8943).</p>

Citation: Ma, J., Chi, S., Buettner, B., Pollard, K., Muir, M., Kolekar, C., Al-Hammadi, N., Chen, L., Kollef, M., & Dans, M. (2019). Early palliative care consultation in the medical ICU: A cluster randomized crossover trial. <i>Critical Care Medicine</i> , 47(12), 1707-1715. https://doi.org/10.1097/ccm.0000000000004016					Level II
Purpose/ Hypothesis	Design	Sample	Intervention	Outcomes	Results
<p>-“To assess the impact of early triggered palliative care consultation on the outcomes of high-risk ICU patients.”</p> <p>-Hypothesis: “Palliative care consultation for high-risk patients within the first 2 days of ICU admission would increase transition to DNR/DNI code status and discharge to hospice while decreasing ICU and post-ICU resource utilization.”</p>	<p>-Cluster, crossover, randomized, controlled trial.</p> <p>-Not blinded.</p> <p>-Setting: Two medical ICUs at Barnes Jewish Hospital. Managed by separate care teams. Randomly assigned to intervention vs. usual care. Washout period occurred halfway through study followed by crossover of the MICUs to intervention or usual care.</p>	<p>-Sampling: Convenience.</p> <p>-Included: Patients admitted to the MICUs from 08/2017 to 05/2018 and at least 18 years-old. Patients were screened for enrollment using a 9-item PCST (criteria developed from previous studies). Patients positive for at least one item were eligible.</p> <p>-Excluded: History of stem cell transplant, organ transplant within 1 year, undergoing workup for transplant, non-English speakers with no interpreter, patients without capacity to participate and no surrogate, those who refused, those who already received PCC during same hospitalization, and current DNR/DNI status.</p> <p>-Enrolled: 242 screened pts.</p> <p>-Accepted: 199 patients.</p> <p>-Control: 102 patients.</p> <p>-Intervention: 97 patients.</p> <p>-Was adequately powered (96 pts per arm needed to detect a threefold increase in the primary outcome with 80% power and a type 1 error of 5%)</p> <p>-Group homogeneity was confirmed (demographic table with p values reported).</p>	<p>-Control Protocol: Standard of care: palliative care could be consulted at the discretion of the MICU clinicians.</p> <p>-Intervention Protocol: PCC within 48 hours of ICU admission.</p> <p>-Intervention fidelity: Research member (independent of ICU and PC teams) screened the EMRs of MICU admissions within the previous 24 hours for palliative needs. Up to the first two consecutively screened eligible patients enrolled per MICU each weekday in intervention and control arms; identifying information of those enrolled to the intervention was conveyed to the PC team. Patient limit determined by anticipated additional workload placed on the PC consultation service.</p>	<p>-DV:</p> <p>Primary: Proportion of patients who transitioned to DNR/DNI status prior to leaving the hospital.</p> <p>Secondary: MICU and hospital LOS, discharge to hospice, duration of mechanical ventilation, operating cost, tracheostomy, post discharge ED visits, hospital readmissions, and mortality.</p>	<p>-Transition to DNR/DNI significantly higher ($p < 0.0001$) for intervention group.</p> <p>-Earlier and more frequent code status change in intervention group ($p < 0.0001$). Adjustment for potential confounders was made.</p> <p>-Transfer to hospice care occurred significantly more often in the intervention group ($p = 0.0026$). Median duration of mechanical ventilation was shorter by 2 days in the intervention group ($p = 0.0415$). Tracheostomy placement occurred less in the intervention group ($p = 0.0354$). Of the patients that survived until discharge, fewer in the intervention group presented to an ED ($p = 0.0067$) or were readmitted to the hospital ($p = 0.0236$) within 30 days post-discharge. For department operating costs: intervention group had significantly lower MICU ($p = 0.0038$) and pharmacy ($p = 0.0158$) costs per patient.</p> <p>-No significant difference for hospital/30-day mortality, or, ICU or hospital LOS ($p > 0.05$).</p>

Citation: McCarroll, C. M. (2018). Increasing access to palliative care services in the intensive care unit. <i>Dimensions of Critical Care Nursing</i> , 37(3), 180-192. https://doi.org/10.1097/dcc.0000000000000299					Level VI
Purpose/ Hypothesis	Design	Sample	Intervention	Outcomes	Results
<p>-“To develop and implement a PCST using evidence-based triggers to help increase the proportion of palliative care consultations in the ICU setting.”</p> <p>-Also “to standardize the palliative care referral process through the use of an evidence-based screening tool to aid in providing greater consistency in when and why clinicians consult the palliative care service.”</p> <p>-No hypothesis stated.</p>	<p>-Quality improvement project with pre-test/post-test design. Utilized the “Plan-Do-Study-Act” framework as a guide.</p> <p>-Setting: Setting- 14-bed medical-surgical ICU in the southeast United States.</p>	<p>-Sampling technique: convenience.</p> <p>-Eligibility: Patients admitted to the medical-surgical ICU by the pulmonary critical care team during pre-intervention/intervention periods.</p> <p>-Accepted: 10 patients admitted during pre-intervention period. 10 patients admitted during intervention period.</p> <p>-Power analysis not performed.</p> <p>-Group homogeneity not statistically analyzed.</p>	<p>-Control Protocol: No screening criteria in place for palliative consultation; provider decision. Pre-intervention period June-August 2016.</p> <p>-Intervention Protocol: PCST, made up of unit-specific evidence-based triggers, based on IPAL-ICU guidelines as recommended by CAPC. Nurses administered the PCST on admission and daily to determine need for PCC. If warranted, the nurse reported positive screen during AM rounds. Physician decision to request consult. Intervention period October-December 2016.</p> <p>-Intervention fidelity: Nurses given education pre-intervention regarding PC and the project during Sept. 2016. Biweekly reminders implemented. The ICU senior charge nurse oversaw the incorporation of the PSCT during AM rounds. Onsite supervision by nurse intervention champion.</p>	<p>-DV: Percentage of admitted patients that receive PC consults.</p> <p>- Data was recorded by nursing staff. Confirmed retrospectively by data provided by IT showing percentage of patients admitted by the pulmonary critical care service who received PCC.</p>	<p>-Pre-intervention period: 10 patients admitted to ICU by pulmonary critical care team; 1 patient received PCC.</p> <p>-Intervention period: 10 patients admitted to ICU by pulmonary critical care team; 3 patients received PCCs.</p> <p>-Proportion of PCCs for patients admitted by pulmonary critical care team increased from 10% to 30%.</p> <p>-Total number of PCCs placed increased by 200% from the pre-intervention time frame.</p>

Citation: Mun, E., Ceria-Ulep, C., Umbarger, L., & Nakatsuka, C. (2016). Trend of Decreased Length of Stay in the Intensive Care Unit (ICU) and in the Hospital with Palliative Care Integration into the ICU. <i>Permanente Journal</i> , 20(4), 56–61. https://doi-org.proxy-hs.researchport.umd.edu/10.7812/TPP/16-036					Level IV
Purpose/ Hypothesis	Design	Sample	Intervention	Outcomes	Results
<p>“Incorporate palliative care into the routine ICU workflow to increase the numbers of palliative care consultations, improve end-of-life care in the ICU, and demonstrate an impact on ICU and/or hospital LOS.”</p> <p>-No hypothesis stated.</p>	<p>-Quality improvement with pre-intervention/post-intervention design.</p> <p>-Setting: 15-bed ICU at a tertiary medical center in Hawaii. Included variety of patient types (medical, surgical, cardiac, and/or neurologic instability).</p>	<p>-Sampling technique: convenience.</p> <p>-Eligibility: Patients admitted to the ICU, at least 18 years old.</p> <p>-Excluded: Patients younger than 18 years old.</p> <p>-Total accepted, n= 392.</p> <p>-Control: Pre-intervention data obtained via chart review for a 3-month period, n=194 patients.</p> <p>-Intervention: n= 198 patients.</p> <p>-Power Analysis: Not completed.</p> <p>-Group Homogeneity: Demographics of pre-intervention and intervention groups were displayed, but no test done to evaluate for statistically significant differences.</p>	<p>-Control Protocol: No screening criteria in place. Pre-intervention period from November 1st, 2013- January 30th, 2014.</p> <p>-Intervention Protocol: Patients screened on admission and daily. Followed recommendations from the IPAL-ICU and CAPC. Screening criteria and care algorithm developed by palliative and ICU teams. If patient met at least one trigger criteria → Days 1-3: informational video on goals of care; designation of a surrogate, advance directive, and code status. Family meeting was proactively initiated by Day 3. Further need identified → palliative care family meeting with the PC team initiated by Day 5.</p> <p>Intervention period from April 1, 2014-June 30, 2014</p> <p>-Intervention fidelity: Guidelines and flowcharts of protocol were created for staff.</p>	<p>-DV:</p> <p>- ICU and hospital LOS.</p> <p>-Number of patients that met criteria.</p> <p>-Goals of care, code status, advance directives, surrogate, and number of family meetings by Day 3 of meeting criteria.</p> <p>-Number of PC brochures offered to families.</p> <p>-Number of PCCs.</p> <p>-Chart reviews and data collection completed by team leader; each progress note reviewed for appropriate documentation.</p>	<p>-Similar number of patients met trigger criteria in pre-intervention (41) and intervention groups (47). Not statistically tested.</p> <p>-Mean hospital LOS was significantly less for intervention group (12.88 vs. 17.43 days; p=0.05).</p> <p>-Mean ICU LOS not significantly different (p=0.44).</p> <p>-Goals of care established within 3 days of criteria being met: greater in intervention group (33 pts) than control group (10 pts) (p=0.01).</p> <p>-Code status established within 3 days of criteria being met: greater in intervention group (37) than control (16) (p=0.05).</p> <p>-Family meeting within 3 days of criteria being met: greater in intervention (37) than control group (12) (p=0.01).</p> <p>-Total number of PC consults greater in intervention group (14) than control group (8), but not statistically significant (p=0.39).</p>

Citation: Nelson, J. E., Curtis, J. R., Mulkerin, C., Campbell, M., Lustbader, D. R., Mosenthal, A. C., Puntillo, K., Ray, D. E., Bassett, R., Boss, R. D., Brasel, K. J., Frontera, J. A., Hays, R. M., & Weissman, D. E. (2013). Choosing and using screening criteria for palliative care consultation in the ICU: A report from the Improving Palliative Care in the ICU (IPAL-ICU) advisory board. <i>Critical Care Medicine</i> , 41(10), 2318-2327. https://doi.org/10.1097/ccm.0b013e31828cf12c					Level II
Purpose/ Hypothesis	Design	Sample	Intervention	Outcomes	Results
“To review the use of screening criteria as a mechanism for engaging palliative care consultants to assist with care of critically ill patients and their families in the ICU.” -No hypothesis stated.	-Descriptive literature review/report from an advisory board. Recommendations based off literature review, examination of screening tools available at the CAPC website, and experiences of the Advisory Board members.	-Search Strategy: Two members of IPAL-ICU Advisory Board independently searched MEDLINE database for articles using the following terms: “trigger,” “screen,” “referral,” “tool,” “triage,” “case-finding,” “assessment,” “checklist,” “proactive,” or “consultation,” together with “intensive care” or “critical care” and “palliative care,” “supportive care,” “end-of-life care,” or “ethics.” Also hand-searched reference lists and author files and relevant tools on the CAPC website. Selected studies were presented to full board. -Descriptive/narrative format of report, did not provide number of studies selected or a PRISMA. -Stated that the “best available evidence” was included, including controlled before-and after studies. -One table of 9 studies was provided, which described palliative care referral criteria used those studies. -Reference list included 28 studies from 2003-2012.	-Reviewed the existing data and tools to identify screening criteria for PCC, to describe methods for selecting, implementing, and evaluating criteria, and to consider other strategies for increasing access of ICU patients to palliative care.	Used data and experience to address questions relating to: existing screening criteria; methods for selection, implementation, and evaluation of criteria; and appropriateness of the screening approach for a specific ICU.	-Criteria for PC screening and consultation have been developed within one or more of these domains: symptom distress, family distress, poor prognosis for survival or acceptable recovery, and intensive utilization of healthcare resources. -Literature review, unit-based needs, and priorities of clinicians have driven choice of specific criteria at individual ICUs. -Concluded that use of specific criteria to trigger referral for PCC helps reduce utilization of ICU resources without changing mortality and increases involvement of PC specialists for critically ill patients and families. -Recommended existing data and resources be used in developing criteria. -Screening criteria should be tailored for specific ICU. -Development process should involve key stakeholders.

Citation: Sihra, L., Harris, M., & O'Reardon, C. (2011). Using the improving palliative care in the intensive care unit (IPAL-ICU) project to promote palliative care consultation. <i>Journal of Pain and Symptom Management</i> , 42(5), 672-675. https://doi.org/10.1016/j.jpainsymman.2011.08.002					Level VI
Purpose/ Hypothesis	Design	Sample	Intervention	Outcomes	Results
<p>-Purpose: “to establish the presence of the palliative care team and increase palliative care consultations in the ICU.”</p> <p>-Hypothesis was “focused screening of patients appropriate for palliative care would result in an increased rate of consultations.”</p>	<p>-Quality improvement project with pre-intervention/post-intervention design.</p> <p>-First study in literature review noted to use the IPAL-ICU guidelines in PCST development.</p> <p>Setting: MICU and SICU of a large urban medical center.</p>	<p>-Sampling technique: convenience.</p> <p>-Eligibility: Patients admitted to MICU or SICU.</p> <p>-Excluded: Patients with admissions of less than 48 hours (to exclude those that were admitted for short-term monitoring).</p> <p>-Control: 1383 patients admitted to MICU. 1543 patients admitted to SICU.</p> <p>-Intervention: 1309 patients admitted to MICU. 1376 patients admitted to SICU.</p> <p>-No power analysis completed.</p> <p>-Group homogeneity was not statistically analyzed.</p>	<p>-Control: No process for palliative needs screening/consultation. Data obtained via chart review. Pre-intervention period from April 1st-December 31st, 2009.</p> <p>-Intervention: Initiative developed using IPAL-ICU guidelines. Screening criteria based on previously used criteria and facility-specific indicators. Patients screened by a MICU nurse 2-3 times/week. Positive screen triggered PC physician to engage attending physician to obtain order for consult. Once consult obtained, PCC interventions initiated. April 1st- December 31st, 2010.</p> <p>-Intervention fidelity: Two nurses performed screening and data collection. Same screening criteria used for each patient. PC physician mentioned domains of communication, decision making, emotional support, and symptom management during phone call to attending.</p>	<p>-DV:</p> <p>-Fraction of consults obtained from the total number of patients that met screening criteria.</p> <p>-Confirmed by the two assigned nurse data collectors.</p>	<p>-174 met the screening criteria in MICU, of which yielded 60 PC consults. Additionally, 36 consults were placed outside of screening measures.</p> <p>-99 met screening criteria in SICU, of which yielded 37 PC consults. Additionally, 40 consults were placed outside of screening measures.</p> <p>-Total MICU PC consults during pre-intervention time frame was 45. Total MICU PC consults during intervention time frame was 96. Adjusting for total number of admissions, consultation rate increased by 113% in the MICU.</p> <p>-Total SICU PC consults during pre-intervention time frame was 51. Total SICU PC consults during intervention time frame was 77. Adjusting for total number of admissions, consultation rate increased by 51% in the SICU.</p> <p>-Combined increase 80.2%, post-intervention.</p>

<p>Citation: Walker, K. A., Mayo, R. L., Camire, L. M., & Kearney, C. D. (2013). Effectiveness of integration of palliative medicine specialist services into the intensive care unit of a community teaching hospital. <i>Journal of Palliative Medicine</i>, 16(10), 1237-1241. https://doi.org/10.1089/jpm.2013.0052</p>					<p>Level IV</p>
Purpose/ Hypothesis	Design	Sample	Intervention	Outcomes	Results
<p>-To assess “the ability of a PCST to identify patients at high risk of death.” Hypothesis: -“Presence of the team in the ICU would increase PCC volume and would decrease time to consultation. We hypothesized that ICU length of stay would be lower in the referred group versus the unreferred group and that disposition to hospice would be more common in the referred group. We also hypothesized that palliative criteria would identify patients at high risk of death, establishing the validity of the tool to identify an unreferred control group.”</p>	<p>-Quasi-experimental retrospective chart review. Setting: A 24-bed ICU (surgical and medical) in an inner city 254-bed community teaching hospital.</p>	<p>-Sampling technique: convenience. Included- Medical patients. Excluded- Surgical patients and guardians of the state. -Total subject numbers (n) was not provided. -No power analysis completed. -Group homogeneity was not statistically analyzed.</p>	<p>-Control Protocol: Pre-intervention, no standard process for PC consultation. Pre-intervention data collected between October 2007 and May 2008. -Intervention Protocol: 1. Regular participation of palliative specialists on ICU rounds. 2. Use of PCST developed by palliative team, based on criteria from existing literature and guidance from CAPC. Meeting one or more criteria yielded positive screen and prompted PCC. If ICU physician disagreed with any criterion, it was not recorded. Patients could also be referred for reasons outside of the tool. Took place from November 2008 to October 2009. -Intervention fidelity: Palliative member screened all medical patients and participated in ICU rounds twice per week. During the first 2 weeks of project, differences in patient screening between members of palliative team were discussed to help maximize consistency among individual assessments.</p>	<p>-DV: -Mean consult volume per month. -Time to consultation. -Number of positive screens; number of consults. -ICU LOS. -Rate of enrollment in hospice. -Most scored screening indicators. -Spreadsheet used to abstract data from the EMR. One investigator trained two individuals for chart abstraction. Quality of data abstraction checked quarterly by comparing patient charts with the study record.</p>	<p>-Mean consult volume per month significantly higher than consult volume in the pre-intervention group (p = 0.04). -Time to consultation decreased, but not significantly compared with pre-intervention data (p = 0.46). -201 patients had positive screens, of which 92 were referred and 109 were not referred for consultation. -ICU LOS was significantly shorter in the referred group (7 vs. 11 days, p < 0.001). -Referred patients were more frequently enrolled in hospice compared with unreferred patients (37% of referred vs. 3% of those not referred (p < 0.001). -Patients referred significantly more often for dementia and ventilator withdrawal (p < 0.001) and significantly less often for ICU stay longer than 10 days (21 versus 49, p = 0.001).</p>

Note. PC=Palliative care, PCC= Palliative care consultation, PCST= Palliative care screening tool, SICU= Surgical intensive care unit, MICU= Medical intensive care unit, IPAL-ICU= Improving Palliative Care in the Intensive Care Unit Project, CAPC= Center to Advance Palliative Care, LOS= Length of stay. EMR= Electronic medical record. ED= Emergency Department.

Table 2
Synthesis Table

Level of Evidence	# of Studies	Summary of Findings	Overall Quality
II	2	<p>Ma et al. (2019) found that early triggered consultation was associated with significantly greater transition to hospice care, DNR/DNI code status, and decreased utilization of ICU and post-ICU healthcare resource. Fewer patients in the intervention group presented to an ED or were readmitted to the hospital within 30 days post-discharge. For the intervention group, MICU and pharmacy operating costs were lower. Researchers stated these findings suggest that palliative care consultation can positively impact the care of high risk, critically ill patients.</p> <p>Nelson et al. (2013): Expert committee concluded that use of specific criteria to trigger palliative care consultation decreases utilization of ICU resources without changing mortality and increases involvement of palliative specialists for critically ill patients and families. The advisory board noted that existing data and resources, along with involvement from key stakeholders, can be used to develop unit specific criteria.</p>	<p>A. Randomized, crossover, controlled trial design has strong validity and controls for confounding variables. The samples were adequately powered. Group homogeneity was statistically confirmed which also strengthens validity. Research member independent of ICU and palliative care teams completed the screenings, which strengthens validity. Definitive conclusions were provided with confirmation via statistical analysis (p values reported).</p> <p>B. Descriptive literature review/report from the Improving Palliative Care in the ICU (IPAL-ICU) Advisory Board. Included reproducible search strategy. Literature review was in descriptive/narrative format. Did not provide a PRISMA diagram or strength and quality of included studies. One table of 9 studies was provided, which described palliative care referral criteria used in those studies. Reference list included 28 studies from 2003-2012. Offered definitive conclusions based on data from studies as well as experiences of the IPAL-ICU Advisory Board members.</p>
III	1	<p>Hurst et al. (2018) found that implementation of a simple and objective palliative needs screening tool significantly increased consultation rates and decreased median time to consultation.</p>	<p>A. Prospective quasi-experimental cohort study, which utilized a control group. Was well designed but lacked randomization. Both MICUs in the study were managed by the same attendings, fellows, and physician assistants which strengthens the intervention fidelity. The samples were adequately powered, and group homogeneity was statistically confirmed, which strengthens validity. Definitive conclusions were made with confirmation via statistical analysis (p values reported).</p>

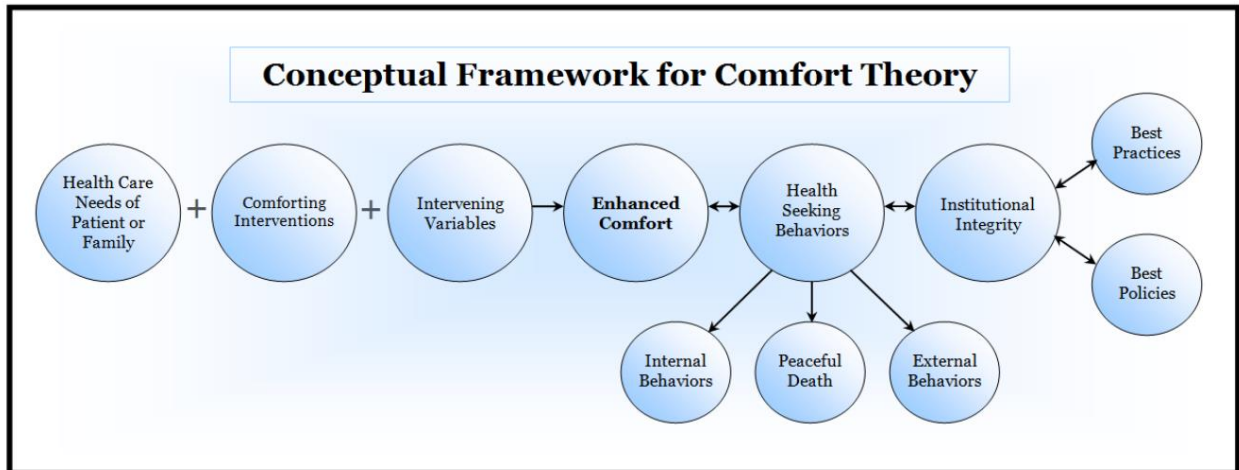
<p>IV</p>	<p>2</p>	<p>Mun et al. (2016) developed a screening criterion based on IPAL-ICU guidelines and the CAPC. A positive screen triggered a care plan algorithm including palliative consultation. The post-intervention group experienced significantly decreased ICU and hospital LOS, significantly earlier establishment of goals of care and code status, and earlier family meetings. Observed that involving palliative care in the ICU is feasible and may decrease ICU as well as hospital LOS.</p> <p>The study done by Walker et al. (2013) included participation of palliative specialists in ICU rounds and use of a PCST based on criteria from existing literature and guidance from the CAPC. They observed a significant increase in palliative consultations and a significant decrease in ICU LOS for referred patients without a significant increase in mortality. Additionally, their screening tool effectively identified patients at high risk of death.</p>	<p>B. Pre-intervention/post-intervention design, which allowed for a control, but no randomization. Clear protocol was described, which strengthens the intervention fidelity. Definitive conclusions were made with statistical confirmation (p values reported). Demographics of pre-intervention and intervention groups were displayed, but no test done to evaluate for statistically significant differences. The sample sizes appeared large, but no power analysis was done, thus threatening the statistical conclusion validity.</p> <p>B. Quasi-experimental retrospective chart review, which utilized a control, but lacked randomization. Intervention protocol was clearly described with strong intervention fidelity. Definitive conclusions were made, supported by statistical analysis, and p values were provided. But the total subject number (n) was not provided, nor was power analysis completed. Group homogeneity was also not statistically analyzed. These threats to validity reduced the quality.</p>
<p>VI</p>	<p>2</p>	<p>McCarroll et al. (2018) developed a PCST comprised of unit-specific evidence-based triggers based on IPAL-ICU guidelines. This study found that administration of the tool on admission and daily led to an increase in palliative consults.</p> <p>Sihra et al. (2011) used IPAL-ICU guidelines to develop a PCST, emphasizing previously used criteria and facility-specific areas of concern. With regular use of a PCST, consultation rates increased by 113% in the MICU and 51% in the SICU.</p>	<p>C. Pre-test/post-test design and utilized a control group but lacked randomization. Intervention fidelity was strong. But sample size appears small and no power analysis was done which threatens validity. Group homogeneity was also not statistically analyzed. Fairly definitive conclusions were provided but limited data regarding any confirmation via statistical analysis (no p values were reported).</p> <p>C. Pre-intervention/post-intervention design which utilized a control group but lacked randomization. Sample size appears large, but no power analysis completed. Group homogeneity was not statistically analyzed. Clear protocol described, which strengthens the intervention fidelity. Fairly definitive conclusions were provided but limited data regarding statistical results (no statistical analysis done to test for significance).</p>

Note. PC=Palliative care, PCC= Palliative care consultation, PCST= Palliative care screening tool, SICU= Surgical intensive care unit, MICU= Medical intensive care unit, IPAL-ICU= Improving Palliative Care in the Intensive Care Unit Project, CAPC= Center to Advance Palliative Care, LOS= Length of stay. EMR= Electronic medical record. ED= Emergency Department.

Figures

Figure 1

Kolcaba's Comfort Theory



Retrieved from <https://pmhealthnp.com/katharine-kolcabas-comfort-theory/>

Figure 2

Framework for Complex Innovations

Helfrich et al. (2007).

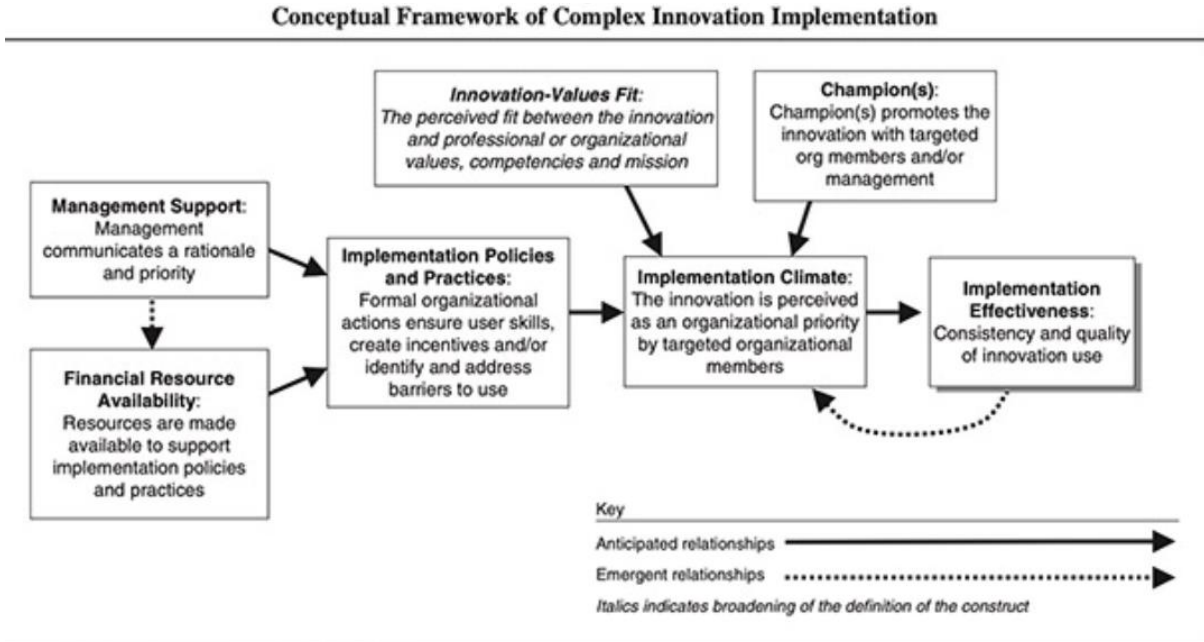


Figure 3

Run Chart of the Percentage of SICU Nurses Educated

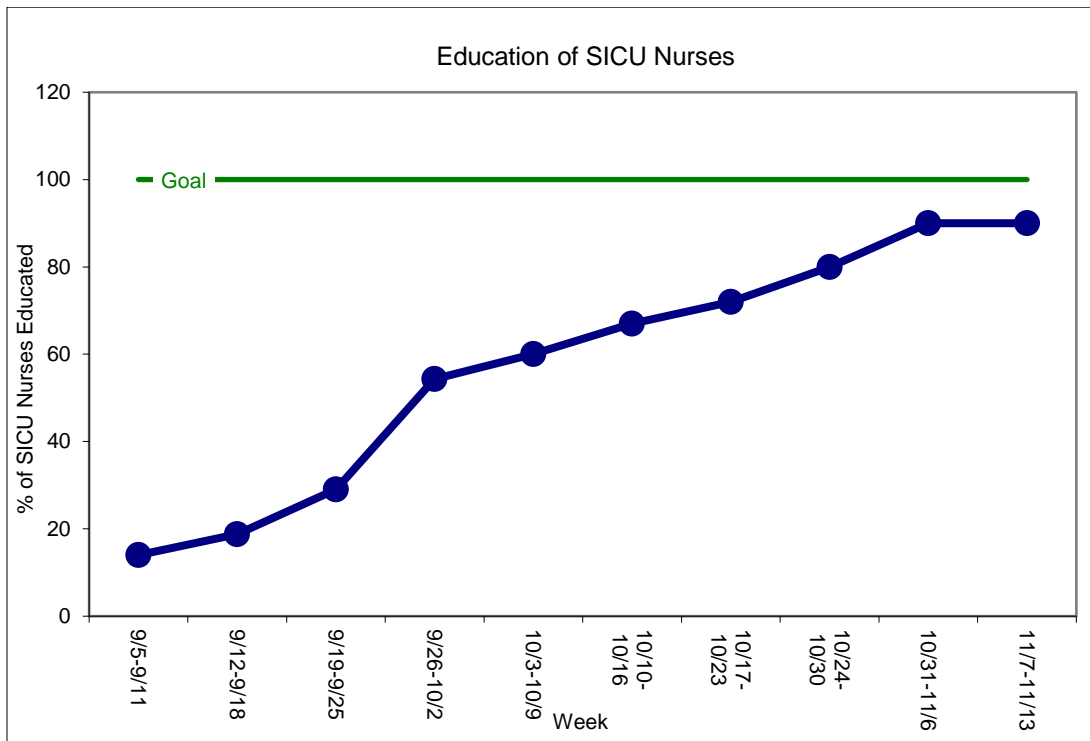


Figure 4

Run Chart of the Percentage of SICU APPs Educated

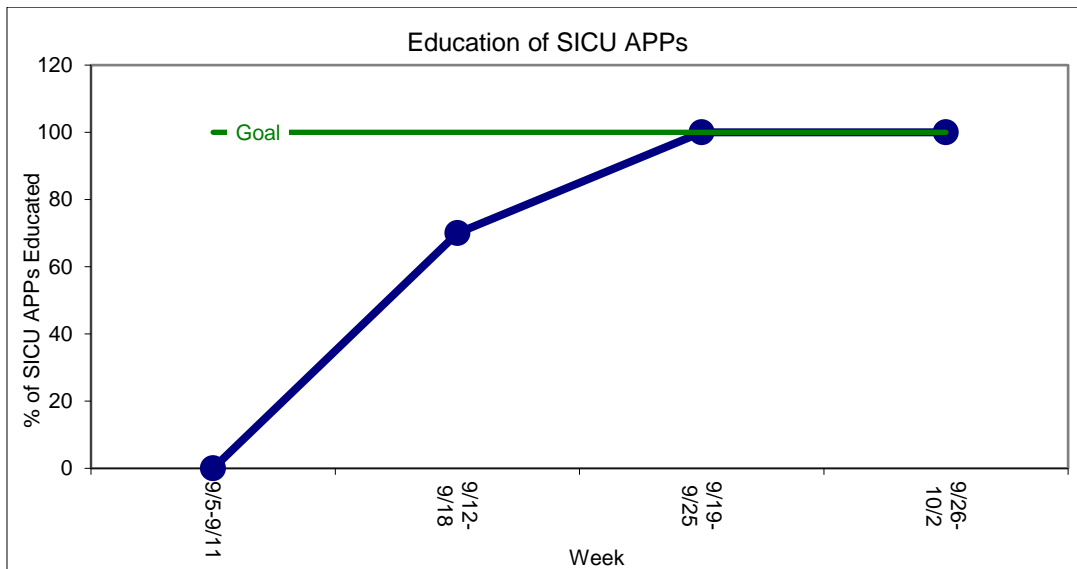


Figure 5

Run Chart of Screening Completion Within 48 Hours of Admission

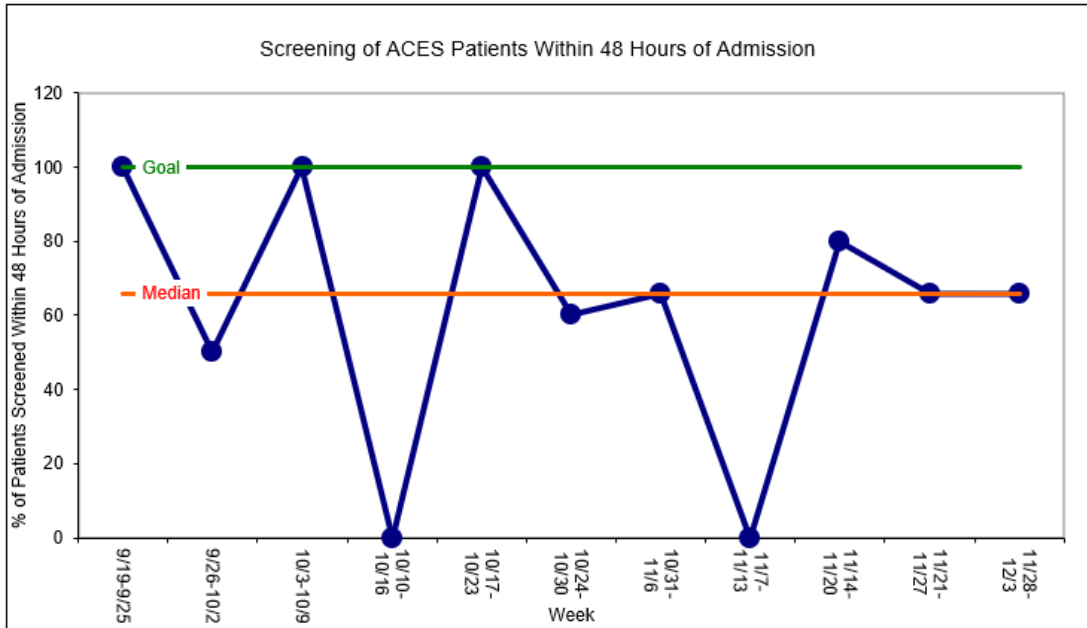
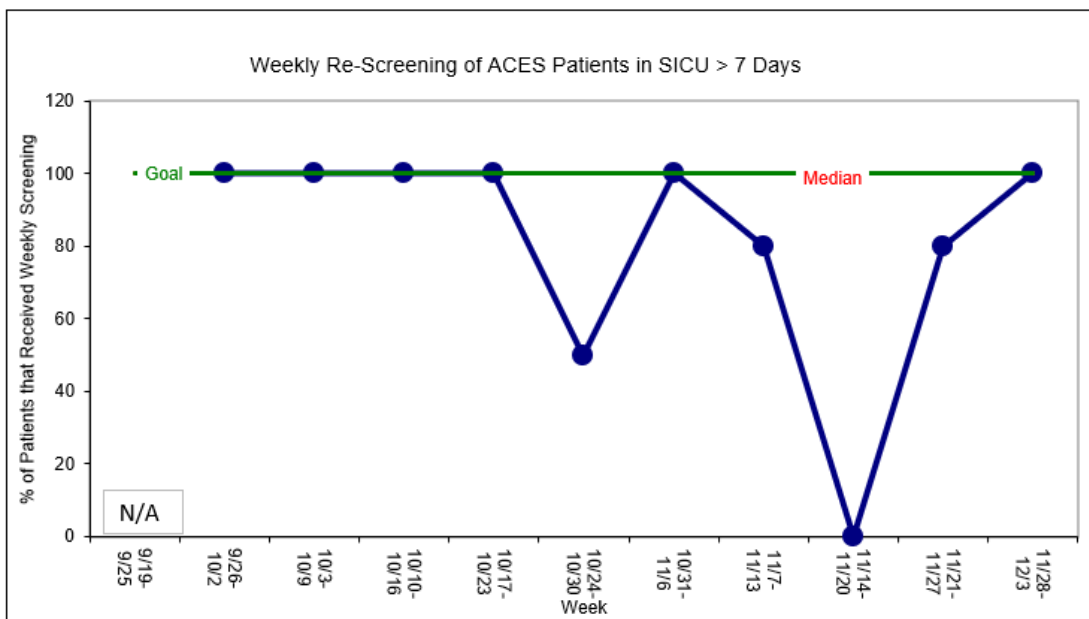


Figure 6

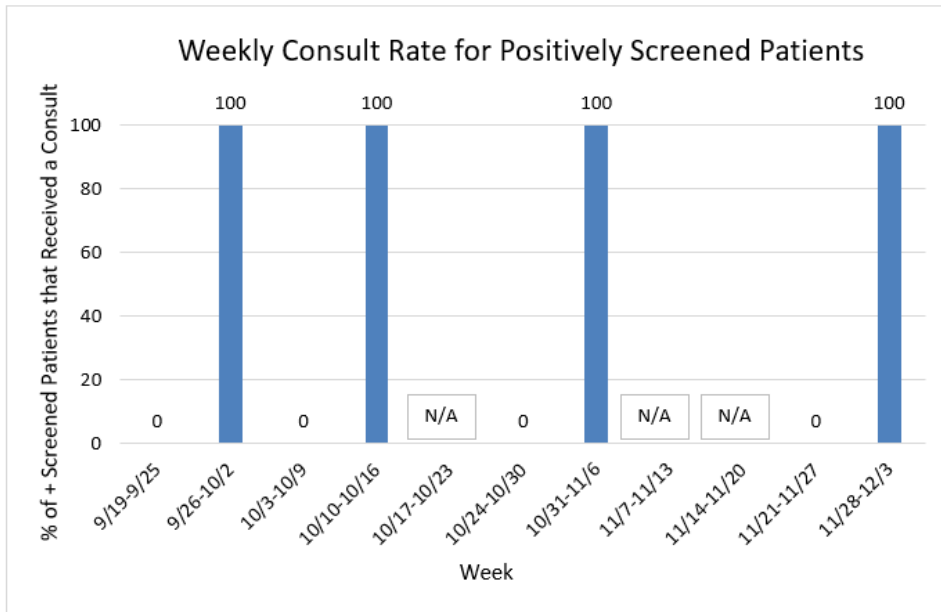
Run Chart of Weekly Re-Screening for Patients with SICU Stay Over 7 Days



N/A= No patient with stay > 7 days

Figure 7

Consult Rate for Positively Screened Patients



N/A= Weeks with no new positively screened patients

Figure 8

Frequency of Criteria Met Among Positively Screened Patients

Criteria Met Among Positively Screened Patients (n=13)

Basic Disease Process:

- 1 - Cancer (metastatic, recurrent)
- 2 - Life-limiting acute illness (ARDS, MODS)
- 1 - End-stage liver disease
- 1 - Neurologic disease with severely reduced function
- 1 - Advanced cardiac disease

Other disease process:

- 1 - Cancer (primary, not metastatic)
- 2 - Sepsis
- 1 - Liver cirrhosis
- 2 - Kidney dialysis (younger than 65, not on dialysis for > 2 years)

Functional Status:

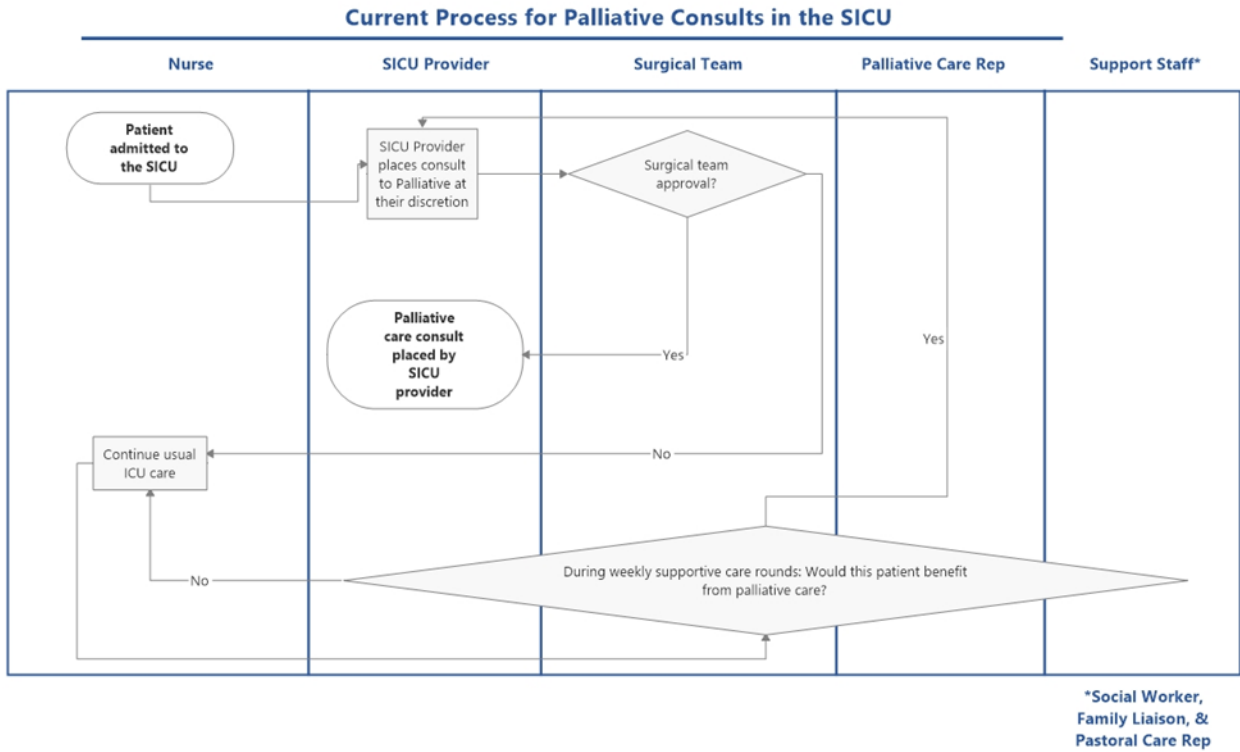
- 2 - Limited self-care; confined to bed or chair
- 6 - Completely disabled; cannot carry on any self-care

Other criteria:

- 2 - Unacceptable level of pain
- 4 - In ICU setting with documented poor or futile prognosis
- 2 - Has prolonged stay in ICU (>14 days) without evidence of progress
- 3 - Has uncontrolled psychosocial or spiritual issues (noted "anxiety" or "depression")
- 2 - Has frequent visits to the ICU (>1 x per month for the same diagnosis)

Appendix A

Current Process for Palliative Consultation in the SICU



Appendix B

Screening Tool

Palliative Care Screening Tool (PCST)	
Screening Items	Scoring
A. Basic Disease Process	Score 2 points EACH
<ol style="list-style-type: none"> 1. Cancer (Metastatic/Recurrent) 2. Advanced COPD 3. End-stage liver disease 4. Kidney dialysis (combined with age ≥ 65, or has been on dialysis for >2 years) 5. Advanced cardiac disease 6. Neurologic disease with severely reduced function (i.e. stroke, coma, dementia resulting in bed-bound) 7. Other life-limiting acute illness (ARDS, MODS) 	
B. Other Disease Process	Score 1 point EACH
<ol style="list-style-type: none"> 1. Cancer (primary, not metastatic) 2. Moderate COPD 3. Liver cirrhosis 4. Kidney dialysis (others not included in the criteria for A.4.) 5. Moderate congestive heart failure 6. Sepsis 7. Other condition complicating cure 	
C. Functional status of patient	Score as specified left
Using ECOG Performance Status (Eastern Cooperative Oncology Group)	
Score	Scale
0	Fully active, able to carry on all pre-disease activities without restriction.
0	Restricted in physically strenuous activity but ambulatory and able to perform activity of light or sedentary nature.
1	Ambulatory and capable of all self-care but unable to carry out activity beyond self-care.
2	Capable of only limited self-care; confined to bed or chair.
3	Completely disabled. Cannot carry on any self-care.
D. Other criteria to consider in screening	Score 1 point EACH
The patient:	
<ol style="list-style-type: none"> 1. Team/patient/family needs help with complex decision-making and/or conflicting of goals care 2. Has unacceptable level of pain 3. Has uncontrolled psychosocial or spiritual issues 4. Has frequent visits to the Emergency Department or ICU (>1 x per month for same diagnosis) 5. Has more than one hospital admission for the same diagnosis in last 30 days 6. Has prolonged stay in ICU (>14 days) without evidence of progress 7. Is in an ICU setting with documented poor or futile prognosis 	
Total Score: A + B + C + D =	
A total-ABCD score ≥ 4 indicates need for palliative care consult.	

Adapted from original screening tool:

Wang, S. S., Huang, C., Feng, R., Wu, Y., & Huang, S. (2019). Validation of a concise screening tool for the identification of palliative care needs among inpatients: A prospective study in hospital setting. *Journal of the Formosan Medical Association*, 118(5), 883-890. <https://doi.org/10.1016/j.jfma.2018.10.004>

Non-commercial use permitted through open access [Creative Commons CC-BY-NC-ND license](https://creativecommons.org/licenses/by-nc-nd/4.0/).

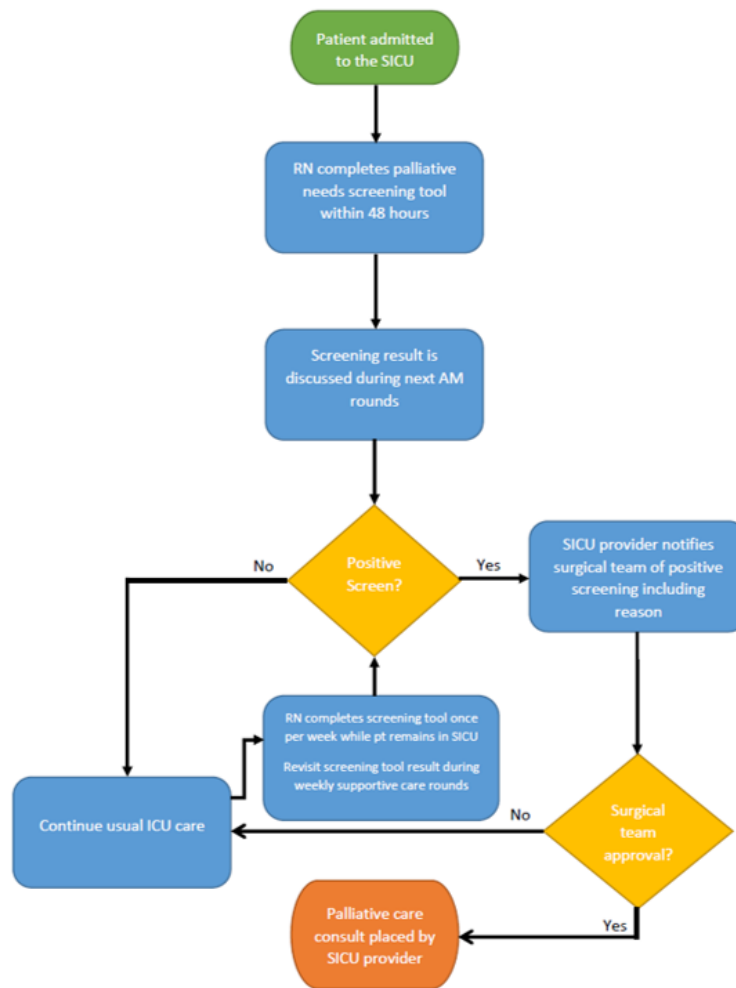
Appendix C

Education Materials

Introduction

ICU patients often experience difficult symptoms, psychological distress, and/or functional complications. Early integration of palliative care in the intensive care setting can result in earlier advanced care planning, decreased length of stay, decreased ICU mortality rates, and improved quality of life. Experts recommend that screening criteria should be used to facilitate identification of patients that would benefit from palliative care consultation. The purpose of this pilot project is to implement palliative needs screening for ACES patients in the SICU. A validated screening tool will be used, which was adapted from criteria from the United States Center to Advance Palliative Care. Project implementation will occur from September 19th through December 3rd. Staff will follow a process that was developed from literature recommendations. The introduction of this project may help facilitate screening for palliative needs among patients from other surgical services in the future.

The Screening Process



The ACES patient is admitted to the SICU. The RN will complete the palliative needs screening tool within 48 hours of admission. Once a screening result has been recorded (documentation form on next page) it can be discussed, for example during the next AM rounds. For positively screened patients the SICU provider or the RN can notify the ACES team of the positive screen including the reason. Messages about positive screens will be sent to Dr. [REDACTED] as the point of contact for ACES. Given approval from the ACES team (Dr. [REDACTED]), the palliative care consult will be placed by the SICU provider. If they do not screen positive, there will be continuation of care while the patient remains in the SICU and the screening tool would be completed week by the bedside nurse (each **Wednesday**). This will be revisited during weekly Supportive Care Rounds (which occur on Wednesdays) during the project implementation.

A copy of the screening tool (below) and a blank *documentation form* will be kept in folders in the alcoves outside of each patient room in the SICU. As soon as the *documentation form* is completed, please place completed forms in a designated folder in the multipurpose room (kept with the project resource binder).

The Screening Tool

Palliative Care Screening Tool (PCST)	
Screening Items	Scoring
A. Basic Disease Process	Score 2 points EACH
<ol style="list-style-type: none"> 1. Cancer (Metastatic/Recurrent) 2. Advanced COPD 3. End-stage liver disease 4. Kidney dialysis (combined with age ≥ 65, or has been on dialysis for >2 years) 5. Advanced cardiac disease 6. Neurologic disease with severely reduced function (i.e. stroke, coma, dementia resulting in bed-bound) 7. Other life-limiting acute illness (ARDS, MODS) 	
B. Other Disease Process	Score 1 point EACH
<ol style="list-style-type: none"> 1. Cancer (primary, not metastatic) 2. Moderate COPD 3. Liver cirrhosis 4. Kidney dialysis (others not included in the criteria for A.4.) 5. Moderate congestive heart failure 6. Sepsis 7. Other condition complicating cure 	
C. Functional status of patient	Score as specified left
Using ECOG Performance Status (Eastern Cooperative Oncology Group)	
Score	Scale
0	Fully active, able to carry on all pre-disease activities without restriction.
1	Restricted in physically strenuous activity but ambulatory and able to perform activity of light or sedentary nature.
2	Ambulatory and capable of all self-care but unable to carry out activity beyond self-care.
3	Capable of only limited self-care; confined to bed or chair.
4	Completely disabled. Cannot carry on any self-care.
D. Other criteria to consider in screening	Score 1 point EACH
The patient:	
<ol style="list-style-type: none"> 1. Team/patient/family needs help with complex decision-making and/or conflicting of goals care 2. Has unacceptable level of pain 3. Has uncontrolled psychosocial or spiritual issues 4. Has frequent visits to the Emergency Department or ICU (>1 x per month for same diagnosis) 5. Has more than one hospital admission for the same diagnosis in last 30 days 6. Has prolonged stay in ICU (>14 days) without evidence of progress 7. Is in an ICU setting with documented poor or futile prognosis 	
Total Score: A + B + C + D =	
A total-ABCD score ≥ 4 indicates need for palliative care consult.	

The patient receives a score based on the indicators in the tool. There are categories of basic disease process, other (comorbid) disease process, functional status, and "other." A score of ≥ 4 indicates a positive screen.

The Documentation Form

SICU Palliative Needs Screening Documentation Form

Nurse Documentation

Date/time of Admission to SICU _____

Date/time of Screening Completion _____

Screening Result: Negative No further actions at this time. Re-screen every Wednesday while patient remains in SICU.


Positive Provider notification during AM rounds.

Provider Documentation

Date/time of Surgical Team Notification of Positive Screen _____

Palliative Consult Placed: Yes No If no, indicate reason:

Please place completed form in the designated folder in the multipurpose room. Thank you.



For a positively screened patient, the provider would also need to fill out the date and time of the notification and then if they ultimately placed a consult, indicate yes or no; and if "no" indicate the reason.

**Additional note: If another surgical team besides ACES is involved in the patient's care they are excluded from the project.*

Post Test

1. Which patients are included in this project?
 - a. Vascular
 - b. Surgical Oncology
 - c. ACES
 - d. Transplant

2. Who should the SICU provider contact regarding a positively screened patient?
 - a. The charge nurse
 - b. Dr. [REDACTED]
 - c. Any ACES provider
 - d. Dr. [REDACTED]

3. When should patients be screened?
 - a. Immediately on admission to the SICU
 - b. Within 24 hours of admission to the SICU and every day following
 - c. Within 48 hours of admission to the SICU and every Wednesday following
 - d. On admission and discharge from the SICU

4. How will documentation of positive and negative screens occur?
 - a. On a documentation form, which can be found in the folder in the alcove outside the patient's room
 - b. By writing a "nursing note" in the patient's EHR
 - c. On a post-it note on the daily rounds sheet
 - d. In the admission navigator in the patient's EHR

5. Which of the following are indicators included in the palliative care screening tool?
 - a. Metastatic cancer
 - b. Life-limiting acute illness such as ARDS or MODS
 - c. Uncontrolled psychosocial or spiritual issues
 - d. All of the above are indicators in the screening tool

Please contact [REDACTED] with any questions or concerns:

[phone number protected]

Answers: C, B, C, A, D

Appendix D

Audit Tools

Tracking of ACES Patients: **Key Code**

Patient Code #	MRN	Date of admission	Date of Transfer/Discharge/Death

Audit Tools: for screening documentation form completion and chart audit for palliative care consult placement

Code #	Screening completed in 48 hrs? 1=Y 0=N	Positive screen? 1=Y 0=N	Palliative consult placed? 1=Y 0=N 9=N/A

Code #	SICU stay ≥ 7 days? 1=Y 0=N	One screening result documented for every 7 <u>days</u> ? 1=Y 0=N	Positive screen? 1=Y 0=N	Palliative consult placed? 1=Y 0=N 9=N/A