

Palliative Care Screening Tool Implementation in a Medical Intensive Care Unit

by

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Abstract

Problem: Palliative care is underutilized and not prioritized in a large metropolitan teaching hospital medical intensive care unit. On average, it takes 6.7 days for a patient to receive a palliative care consultation but can take as long as 49 days. Only 15.74% of patients admitted to the medical intensive care unit will receive a palliative care consult. There is not a consistent method by which palliative care recommendations are made or how patients in need of palliative care services are identified in this medical intensive care unit which contributes to a delay in, or lack of, palliative care. **Purpose:** The purpose of this quality improvement project is to implement and evaluate the effectiveness of a palliative care screening tool in a medical intensive care unit. **Methods:** A validated palliative care screening tool was added to the admission documentation in a 19-bed medical intensive care unit to be completed by the nursing staff on each admission. When completed, a total score of 4 or greater creates a task for the nurse via the electronic health record to notify the provider of unmet palliative care needs. **Results:** Nurses utilized the screening tool 74% of the time. The number of palliative care consults increased from 15.74% to 23.75%. Time from admission to palliative care consult decreased from 6.68 days to 6.25 days. **Conclusions:** The implementation of a palliative care screening tool was associated with decreased time to palliative care consult and an increase in number of palliative care consults in a medical intensive care unit.

Keywords: palliative care, screening tool, medical intensive care unit

Palliative Care Screening Tool Implementation in a Medical Intensive Care Unit

The World Health Organization (WHO) estimates that only 14% of people who need palliative care actually receive it, and the need for palliative care will only increase as the population ages (2020). Without palliative care, symptoms such as pain and difficulty breathing often go untreated or undertreated. Intensive care units (ICU) have some of the greatest needs for palliative care services, given their high rates of mortality and morbidity. Less than one-third of patients who have an ICU length of stay (LOS) of at least three days and who require any form of life-sustaining treatment will return to their baseline in six months, and 50% will die (Detsky et al., 2017). This emphasizes the need for supportive, symptom management in adjunct to or instead of aggressive treatments based on shared decision making between patient and provider. The authors of a systematic review of palliative care associated outcomes concluded that palliative care increases quality of life and decreases symptom burden (Kavalieratos et al., 2016). However, it is not the presence of palliative care alone that makes the greatest impact; it is the early initiation of such services. In a randomized control trial in a medical intensive care unit (MICU), patients who had palliative care consultations within 48 hours of admission had more transfers to hospice care, fewer days spent on a ventilator, fewer tracheostomies performed, fewer readmissions, decreased healthcare resource utilization, and decreased MICU costs than those who received usual care (Ma et al., 2019).

In a large metropolitan teaching hospital MICU, palliative care is underutilized and not prioritized. According to data reported by the palliative care team, it takes an average of 6.7 days for a patient to receive a palliative care consultation and as long as 49 days. Only 15.74% of patients admitted to the MICU receive a palliative care consult. There is not a consistent method by which palliative care recommendations are made or how patients in need of palliative care

services are identified in this MICU, which contributes to a delay in care (see Appendix A). The purpose of this quality improvement project was to implement and evaluate the effectiveness of a validated palliative care screening tool (PCST) in increasing the number of palliative care consults and decreasing the time from admission to palliative care consultation for relevant patients admitted to a MICU.

Evidence Review

A literature review was conducted to find the best practice for increasing palliative care access. Search terms “palliative care” AND “screening tool” were used on OneSearch through the University of Maryland Health Sciences and Human Services Library. After filtering for the last 10 years, seven articles were selected for a more thorough examination (See Table 1). They were rated based on Melnyk and Fineout-Overholt’s (2011) criteria ranging from level two to level six.

Of the seven studies, one was a literature review expert report (Nelson et al., 2011), three were quasi-experimental studies (Cox et al., 2018; DiMartino et al., 2019; Hurst et al., 2018) and three were quality improvement (Churchill et al., 2020; Jenko et al., 2015; Mun et al., 2016). Six of these studies found that with the use of a PCST in an ICU setting, there was a decrease in days between admission and palliative care consultation (PCC) as well as an increased uptake in the number of PCC overall (Cox et al., 2018; DiMartino et al., 2019; Hurst et al., 2018; Churchill et al., 2020; Jenko et al., 2015; Nelson et al., 2011). While Mun et al. did not find that the PCST decreased time to consult, they did find other positive outcomes associated with the PCST. Positive outcomes included: a decrease in ICU LOS and overall hospital LOS, an increase in the number of patients who had their code status and goals of care discussed, an increase in the frequency of early family meetings with the palliative care team, and an increased number of

palliative care consults (2016). Another positive outcome discovered was an increase in nursing comfort in identifying palliative care and requesting PCC (Jenko et al., 2015). See Table 2 for a more in-depth synthesis of the evidence.

The literature supports that a PCST increases access to palliative care. Increased access to palliative care contributes to positive patient outcomes such as improved symptom management, decreased ICU LOS, decreased ICU costs, increased do not resuscitate/do not intubate (DNR/DNI) code status, and decreased time spent on a ventilator (Ma et al., 2019). Therefore, there is robust evidence to support the recommended practice change of implementing a PCST in the MICU.

Theoretical Frameworks

The middle range theory used to guide this quality improvement project was Kolcaba's Comfort Theory. Katharine Kolcaba developed the Comfort Theory which states that unmet comfort needs in stressful health care scenarios are met by nurses (2001). A screening tool for unmet palliative care needs allows nurses to quickly identify which patients are at the highest risk for discomfort. Having early access to palliative care will relieve physical symptoms such as dyspnea and pain but will also address spiritual and emotional distress. Comfort interventions also need to be present in policy and practice of an institution to maintain institutional integrity which ultimately leads to patient satisfaction. At its core, palliative care is a holistic practice that aligns with Kolcaba's four contexts of comfort: physical, psychospiritual, environmental, and sociocultural. See Figure 1 for a diagram of Kolcaba's Comfort Theory.

The Framework for Complex Innovations is the practice theory that was used for implementation. Several key constructs of this practice theory aided in the success of this quality improvement project. The first constructs are the implementation climate and management

support (Helfrich et al., 2007). Many of the unit nurses expressed the need for more palliative care resources, and management encouraged the use of a PCST to increase access to palliative care. Nurse interest and management support create a conducive climate for quality improvement. The next construct is the innovation champion (Helfrich et al., 2007). Two nurses who are passionate about palliative care stepped forward to serve as champions. The champions helped to educate their peers on how to use the PCST and reminded nurses to complete the screening when they received a new admission. Another vital construct of the framework is that the innovation fits with users' values. Promoting positive outcomes fits with nurse and provider values because the organization and its providers believe that patient comfort is a priority. Finally, financial resource availability did not inhibit implementation because there are very few resources, other than staff time, needed to implement a PCST. In fact, palliative care consultation within 3 days of a hospital admission has been shown to save an average of \$3,237 per patient when compared with patients who did not receive palliative care (May et al., 2018). See Figure 2 for a diagram of the Framework for Complex Innovations.

Methods

This quality improvement project took place in a 19-bed MICU in a large urban academic hospital. There were 11 staff nurses who were available to complete the palliative care screening tool (PCST) per 12-hour shift, as well as one charge nurse and one resource nurse to aid and remind nurses to complete it when admitting a patient. All patients admitted to the MICU were included and eligible for screening. The validated tool was created by the Joint Commission and the Center to Advance Palliative Care (Appendix B). It was added to the electronic health record (EHR) within the existing nursing admission documentation. The nurse informatics department

was able to do this geographically, meaning the screening tool would not appear in the admission documentation on other units within the hospital.

Nurses added the Inpatient Admission Documentation when a patient was admitted from the emergency department (ED) or an outside facility. This was part of their usual care. The PCST would then appear on their task list to complete. Once the PCST was completed, the computer automatically calculated the total score of the screening. A positive screen (score of four or greater) prompted a task for nurses requiring them to “Notify Provider (Consider Palliative Care Consult).” Per institution policy, it was ultimately up to the provider to decide if a consult was needed, and their responsibility to place the consult order.

Data collection began on August 31, 2021, and was collected weekly via an aggregated report from nurse informatics on the institution’s server. It was then deidentified and transferred to another spreadsheet (Appendix C) to protect patient information. A code key file was created as a separate, password-protected document on the institution’s server that contained a unique code for each patient to refer back to in the event more patient data was needed from a manual chart review. Manual chart audits were done the first week to verify the data report’s accuracy. For comparison, baseline data was obtained from the same timeframe from the year before implementation, August 31 to December 11, 2020.

There were several implementation strategies utilized to ensure successful implementation. The first was staff education. Educational material was provided to all nursing staff on how to complete the PCST (Appendix D). Nurses were provided training on how to utilize the tool in the form of written and verbal communication. They were also given practice scenarios to demonstrate how to screen patients accurately. Second, reminders were provided in the form of a weekly email and by posters with the training materials displayed in the break

room on the unit. Finally, data updates were disseminated monthly at practice council and palliative care committee meetings to motivate participation in the quality improvement project.

Results

There were three outcomes measured through the course of the quality improvement project. The first was the process outcome. The change in process was tracked weekly to observe the completion rate of the screening tool. There were zero patients screened in the first week of implementation. This discrepancy was due to a delay in technology with adding the tool to the EHR. The unexpected extra time was used to educate nursing staff on how to use the tool. Refer to Figure 3 for a visual representation of the run chart. There was a positive run of screening completion during the first two weeks of implementation, followed by a downward trend in weeks three to seven. The run chart then shows an upward trend in compliance with using the screening tool. Additionally, a total of six shifts and a positive run during the second half of implementation demonstrate successful implementation. In total, there were 177 admissions eligible for screening. About 74% (n=131) were screened while about 26% (n=46) were not screened.

The next outcome tracked was the total number of palliative care consults (Figure 4). Pre-implementation data revealed that 15.74% of patients received palliative care consults. During implementation, there was a significant increase in the total number of consults to 23.75% (p=0.012). The final outcome was the time from admission to palliative care consult (Figure 5). Overall, the time from admission to consult decreased from 6.68 days to 6.25 days. This was not a statistically significant difference (p= 0.73).

Discussion

Although the aim of 100% of patients screened upon admission was not achieved, a change in the process over time was seen. The percentage of unscreened patients can mostly be attributed to admissions that took place from within the institution (as opposed to the ED or outside facility), because patients transferred into the ICU had already had their admission paperwork completed on another unit and the ICU staff would forget to add the screening tool separately. After this was realized, additional education was provided on how to incorporate the screening tool into their documentation as needed. This extra education did make an impact demonstrated by an upward trend on the run chart during the second half of implementation.

The increase in the total number of consults and decrease in time to consultation is consistent with previous findings in the literature. While statistically insignificant, there is clinical significance of the shortened time to receive palliative care. Increased quality of life is realized the moment a patient can receive symptom relief or psychosocial support. Ideally, the time to initiation of palliative care should be less than 48 hours from admission to the ICU because research shows the most benefit to the patient during this timeframe (Ma et al., 2019).

There were a few barriers encountered during the project. The first was high staff turnover. New staff, agency staff, or staff floated from other units did not receive the same education on how to use the tool. Additionally, nurses felt that despite high scores on the screening tool, providers failed to place an order for a palliative care consult. This gap in communication between nurses and providers could be eliminated if an automatic or nurse-led consult could be placed for positive screening which would require additional hospital protocol changes.

Conclusion

Access to palliative care for patients in the ICU improves quality of life, decreases symptom burden, facilitates transfer to hospice care, decreases days spent on a ventilator, prevents readmission, and decreases healthcare resource utilization (Ma et al., 2019; Kavalieratos et al., 2016). The implementation of a palliative care screening tool improved access to palliative care in a medical intensive care unit in that it decreased the time to a palliative care consult and increased the overall number of palliative care consults. Moving forward, continued use of the screening tool is recommended to allow for additional positive patient outcomes. Future practice should be aimed at automatic orders placed for a positive screening result to eliminate the barrier of physician order process. To create spread and sustainability, the palliative care screening tool should be implemented in the other ICUs at the institution. More exposure to the tool will make it common practice amongst nurses and providers. Adding a PCST to existing documentation methods is an easy, no-cost approach to improve patient care and bring comfort to those with life-limiting illnesses.

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Tables

Table 1

Evidence Review Table

Citation: Churchill, I., Turner, K., Duliban, C., Pullar, V., Priestley, A., Postma, K., & Law, M. (2020). The use of a palliative care screening tool to improve referrals to palliative care services in community-based hospitals. <i>Journal of Hospice & Palliative Nursing</i> , 22(4), 327–334. https://doi-org.proxy-hs.researchport.umd.edu/10.1097/NJH.0000000000000664					Level IV
Purpose/ Hypothesis	Design	Sample	Intervention	Outcomes	Results
A quality improvement initiative to develop and test a Palliative Care Screening Tool (PCST) to screen 100% of patients within 24 hours of admission to increase palliative care referrals.	Before and after study design. Quality improvement intervention across 3 hospitals.	Sampling Technique: Convenience sampling- All patients admitted to inpatient units in 3 community hospitals. Does not specify how many patients were screened. No power analysis	Control: n/a Intervention: Inpatient nurse completed PCST on each patient within 24 hours of admission. The tool scores patients based on functional ability, life-limiting illnesses, and concomitant diseases. Nurses faxed the tool to a palliative care team. For any patient scoring 7 or higher, the nurse put a referral to palliative care in the computer system. Intervention fidelity: Plan-Do-Study-Act cycles executed which included educational interventions to teach nurses how to properly fill out forms as well as daily rounds with	Outcomes: Compliance to screening tool, number of consults, timeliness of palliative care referrals demographics of palliative care patients, inappropriate referrals, and nurse workload Measure: Outcomes measured preintervention and postintervention via random chart audits performed at 3-month intervals. Workload/willingness of nurses assessed at huddles and inform focus groups *care was considered timely if done within 24 hours of referral	Compliance at 3-month intervals: Site A 93%, 72%, 80% Site B 22.2%, 28%, 0% Site C 4.4%, 0%, 0% Number of consults-increase of 9.2% in consults across the hospitals compared to previous 3 months preintervention Increase of timeliness of consults of 25% compared to 3 months preintervention Demographics- an increase of 8.3% of noncancer patients receiving palliative care. Increase in inappropriate referrals. 2.9% preintervention and 4.1% post.

			informational pamphlets		Qualitative measures showed nurses thought the screening and faxing of the tool was an added burden to the daily process.
Citation: Cox, C. E., Jones, D. M., Reagan, W., Key, M. D., Chow, V., McFarlin, J., Casarett, D., Creutzfeldt, C. J., & Docherty, S. L. (2018). Palliative Care Planner: A Pilot Study to Evaluate Acceptability and Usability of an Electronic Health Records System-integrated, Needs-targeted App Platform. <i>Annals of the American Thoracic Society</i> , 15(1), 59–68. https://doi-org.proxy-hs.researchport.umd.edu/10.1513/AnnalsATS.201706-500OC					Level III
Purpose/Hypothesis	Design	Sample	Intervention	Outcomes	Results
“To develop and pilot an app platform for clinicians and ICU patients and their family members that enhances the delivery of needs-targeted palliative care.”	Before and after, controlled, quasi-experimental design.	Technique: Convenience sample, patients admitted to ICU. Intervention patients: n =14 Intervention family members: N=18 Control Palliative care ICU patients: n=25 Control family members: n=49 Control Medical ICU patients: n=39 Excluded: patients who physicians believed would die within 24 hours of admission	Intervention: App scans EHR of patients enrolled in study for palliative care needs based on 5 triggers. If positive screen by app, physician is notified. Family also logs unmet patient need in app. Control: usual care	Dependent Variable: Duration of ICU stay. Hospital disposition. Timing of palliative care consultation. Family outcome: perceived ICU care and acceptability of PCplanner app, NEST (adapted needs of social nature, existential concerns, symptoms, and therapeutic interaction) scale Measures: chart review for palliative care consults; multiple Likert-type scales for family perceptions	Summary statistics are reported including number (frequency), mean (standard deviation), and median (interquartile range). Comparisons performed using t tests and Wilcoxon rank-sum tests for continuous variables and Pearson’s chi square and Fischer’s exact tests for categorical variables. Mean ICU days before palliative care consultation in the intervention group vs control group (3.6 vs. 6.9 days).

					<p>Intervention group shorter hospital LOS (20.5 vs 29.7 days).</p> <p>Hospital mortality was lower in the intervention group (n = 4; 29%) compared with Control A patients (n = 14; 56%),</p> <p>Intervention patients more frequently received hospice care</p> <p>Intervention family members experienced a mean decrease in the NEST total unmet needs score in comparison with Control family members who had increased NEST scores.</p> <p>Intervention group had overall higher Patient-Centeredness of Care Scale scores and increased reporting of goal-concordant treatment.</p> <p>Feasibility and acceptability of the app were reported with an average of “excellent” and “good” respectively.</p>
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Citation: DiMartino, L. D., Weiner, B. J., Hanson, L. C., Weinberger, M., Birken, S. A., Reeder-Hayes, K., & Trogdon, J. G. (2019). The impact of two triggered palliative care consultation approaches on consult implementation in oncology. <i>Healthcare</i> , 7(1), 38–43. https://doi.org/10.1016/j.hjdsi.2017.12.001					Level III
Purpose/Hypothesis	Design	Sample	Intervention	Outcomes	Results
To evaluate “the impact of two triggered palliative care consultation (TPCC) approaches on consistency and quality of consult implementation, operationalized as uptake and timeliness, on solid tumor medical and gynecologic oncology services at an academic hospital.”	Pre-experimental, before/after design.	<p>Technique: Convenience sampling using all admissions from medical oncology or gynecology oncology services from January 1, 2010 to June 30, 2016.</p> <p>Pre-intervention control n= 8039</p> <p>Post-intervention n= 1721</p> <p>Excluded: 69 palliative care consults from different services</p>	<p>Intervention: Two TPCC approaches. Implementation took place from 8/1/2014-9/30/2015. In the gynecology oncology unit: one-page screening guideline with criteria to initiate a consult. In the medical oncology unit: screening guideline in addition to monthly palliative care trainings for residents and champions from palliative care.</p> <p>Control: Compared interventions to usual care that took place from 1/1/2010-7/31/2014. Compared the two interventions to each other</p>	<p>Primary: palliative care consult uptake</p> <p>Secondary: time to palliative care consult after admission</p> <p>Measures: uptake was measured by encounter recorded in patient chart</p>	<p>Statistical analysis: proportions for categorical variables and means with standard deviations for continuous variables.</p> <p>Unadjusted changes in the uptake and time to consult outcomes before and after TPCC using a Chi square test for categorical variables and Wilcoxin rank sum test for continuous variables.</p> <p>Patient-level demographic and clinical characteristics of the oncology services were included as covariates in the models</p> <p>Significant increase in consult uptake of 18.4% for medical oncology and 15.3% for gynecology oncology (p<0.05)</p> <p>Medical oncology-significant decrease in time to consult.</p>

					<p>Changed from 3.8 to 2.8 days ($p < .05$).</p> <p>No significant change in gynecology oncology ($p > .05$) but clinically significant from 4.5 days to 3.7 days as the mean time to consult.</p> <p>No significant change in time to consult across both interventions.</p>
<p>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</p>					<p>Level III</p>
Purpose/ Hypothesis	Design	Sample	Intervention	Outcomes	Results
<p>To evaluate if a screening tool can improve the timeliness and frequency of palliative care consults.</p>	<p>Prospective quasi-experimental cohort design comparing two MICUs.</p>	<p>Technique: Convenience sampling- All patients 18 years and older admitted to the two ICUs from June 3, 2013 to July 19, 2013.</p> <p>Eligible: 223 Accepted: 223 Control: 156 Intervention: 67</p> <p>Power analysis: 123 patients needed to detect 20% difference between the groups with a power of 80%</p>	<p>Intervention: Primary team used a modified version of a validated screening tool between on each new admission. Anyone admitted after 5 pm had the screening done the next day. Selection of any criteria on screening tool triggered palliative care consultation within 24 hours of admission.</p> <p>Control: continue existing standard of care</p>	<p>Primary Outcome: difference in the proportion of palliative care consults between the two groups.</p> <p>Secondary Outcomes: Frequency of each triggered item, time to palliative care consult, days spent in MICU, days spent on a ventilator</p> <p>Measures: Chart audits for consults recorded and days counted for LOS, ventilator days, time to consult; items</p>	<p>Proportion of palliative care consults between the two groups was evaluated using a 2-sided t test or a Kruskal-Wallis test showing incidence of palliative care consultation significantly higher in the intervention group (22.39% vs 7.05%; $p = .0011$).</p> <p>Wilcoxon rank test used to compare time to palliative care consult. Time to consult was significantly less in the</p>

		Group Homogeneity: no significant difference between the two groups regarding race, age, gender, admitting diagnosis, and APACHE II scores.	Intervention fidelity: screening tool was modified during a 16-week improving palliative care initiative in other ICUs. Before intervention, a 6-week run-in phase was conducted for staff to familiarize themselves with the tool and to tailor it to unit specific needs.	on screening tool tallied for frequency	intervention group compared to control group (P < .0001). No significant difference in length of MICU stay (3 days vs 2 days P= .44). No significant difference in length of days on ventilator (2 days vs 2 days P= .8943). The most frequent triggering item: admitted to the ICU with hospital length of stay >5 days or second ICU readmission with the same diagnosis in 30 days
Citation: Jenko, M., Adams, J. A., Johnson, C. M., Thompson, J. A., & Bailey Jr, D. E. (2015). Facilitating palliative care referrals in the intensive care unit: a pilot project. <i>Dimensions of Critical Care Nursing</i> , 34(6), 329–339. https://doi-org.proxy-hs.researchport.umd.edu/10.1097/DCC.000000000000143					Level IV
Purpose/ Hypothesis	Design	Sample	Intervention	Outcomes	Results
“To increase nurse confidence in using a palliative care screening tool and to evaluate ICU palliative care referrals before and after implementation”	Pilot project pretest/posttest design in a MICU of a community hospital.	Technique: Convenience sample: All patients admitted to the 12-bed unit during 12-week implementation period (number of patients not specified- abstract states 610 observations).	Intervention: Nurses used the Palliative Performance Scale version 2 (PPSv2) on each patient admitted to the 12- bed MICU. This is a valid and reliable screening tool. Nurses were asked to prompt a discussion with the	Outcomes: Uptake of the PPSv2; nurses’ comfort and knowledge of palliative care; ICU palliative care referrals and time to referral; nurses' opinions on the importance of screening for palliative care.	Uptake was calculated as percentage and graphed over time. It varied over the study period. Highest at week 10 (85.6%). Pre and postimplementation survey scores compared

		<p>27 nurses employed on the unit completed preimplementation training and surveys. 26 completed postimplementation survey as 1 nurse resigned before postimplementation</p>	<p>multidisciplinary team regarding a possible palliative care consult if a patient had a PPSv2 score of 60 or less. Nurses received training about screening tool and about importance of palliative care. Nurses took pre and postintervention surveys about their comfort level identifying patients for palliative care and knowledge about palliative care.</p> <p>Comparison: preimplementation period measurements</p>	<p>Measures: PPSv2 11-point ordinal scale (valid and reliable), 8-item survey to measure nurses' comfort, 3 item true/false test to test nurses knowledge</p>	<p>using Mann Whitney U tests. Comfort in identifying palliative care and requesting palliative care consultation increased (mean scores from 3 to 4, not significant with P values from .18 to .74).</p> <p>Fisher exact test used to compare change in nursing knowledge. Knowledge did not change (P= 1).</p> <p>Summary statics compared percent in change of palliative care referrals. Number of referrals increased by 110% from pre to postimplementation.</p> <p>2-sample t test compared days between admission and referral. Days between ICU admission and palliative care consult was not statically significant but was clinically significant with a change from 3.7 days to 2.85 days.</p>
<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</p>					<p>Level IV</p>
<p>Purpose/</p>	<p>Design</p>	<p>Sample</p>	<p>Intervention</p>	<p>Outcomes</p>	<p>Results</p>

Hypothesis					
<p>“To increase the number of palliative care consultations and improve end-of-life care in the ICU while demonstrating the impact palliative care has on ICU LOS.”</p>	<p>Quality improvement project using recommendations from the Center to Advance Palliative Care’s Improving Palliative Care in the ICU project.</p>	<p>Technique: Convenience sample of all patients admitted to the adult ICU.</p> <p>Preintervention: 194 patients</p> <p>Postintervention: 198 patients.</p> <p>Excluded: anyone younger than 18 years old.</p> <p>Patient demographics similar preintervention and postintervention.</p>	<p>Intervention: Screening tool created based on recommendations from the Center to Advance Palliative Care (CAPC). Patients who met one or more criteria were directed by nurses to watch informational videos on goals of care. ICU physician had code status discussion between days 1 and 3 of ICU stay. Positive screening patients were to have palliative care family meeting initiated by day 5.</p>	<p>Outcomes: LOS in ICU and hospital. Number of patients who met palliative care criteria. Goals of care conversations, advance directives, code status, family meetings done by day 3 post positive screening. Use of goals of care informational videos. Numbers of palliative care brochures given to families. Number of palliative care consults.</p> <p>Measures: Data collected from chart reviews 3 months preintervention and 3-month time period postintervention. A template was devised for easy insertion into the electronic progress notes with key phrases to help guide electronic record and abstraction. However, documentation was inconsistent</p>	<p>Frequencies, means, standard deviations used for distribution measures. Pearson X² used to compare frequencies.</p> <p>Process and outcome measure evaluated as changes in trends.</p> <p>T-test applied to means.</p> <p>Decrease in ICU LOS post intervention (5.76 days to 4.92 days, not significant P >.05). Significant (p=.05) decrease in overall hospital LOS (17.43 to 12.88 days).</p> <p>Number of patients who had their code status and goals of care discussed increased significantly (p= .05 and .01 respectively)</p> <p>Increase in family meetings by day 3 by 79% (p=.01).</p> <p>Use of video unchanged.</p> <p>Brochures given to families increased by 21% (p <.01).</p>

					Number of palliative care consults increased from 20% to 30%.
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.proxy-hs.researchport.umd.edu/10.1097/CCM.0b013e31828cf12c					Level II
Purpose/ Hypothesis	Design	Sample	Intervention	Outcomes	Results
“To review the use of screening criteria (also known as “triggers”) as a mechanism for engaging palliative care consultants to assist with care of critically ill patients and their families in the ICU”	Expert report by the Center to Advance Palliative Care	Search strategy: MEDLINE search from inception to 2012 using 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 Center to Advance Palliative Care website Eligible studies: those that included screening criteria for palliative care consultation deemed comprehensive	Intervention: variety of screening criteria for palliative care based off of institutional needs- ICU admission after ≥ 10 days in hospital, Age > 80 yr with ≥ 2 life-threatening comorbidities, Active stage IV malignancy, Status post cardiac arrest, Intracerebral hemorrhage with mechanical ventilation, multi organ system failure, baseline dementia, family request, concern for futility of current treatment, death expected in hospital, need for goals of care clarification, disagreements among patient or family in resuscitation preferences	Variety of outcomes across studies including: Frequency of palliative care consults; ICU LOS; hospital LOS; time to palliative referral; tracheostomy rate; ventilator withdrawal; family satisfaction	Statistics not reported, only conclusions. Frequency of palliative care consults- increased in one, unchanged in another study ICU LOS- decreased in 3 studies Hospital LOS- unchanged in one study, decreased in 2 studies Time to palliative referral- decreased Tracheostomy rate- decreased Ventilator withdrawal- increased Family satisfaction- maintained

		<p>and unbiased by the Advisory Board.</p> <p>Included Studies: 10 studies total, 1 prospective pre-post study, 1 retrospective pre-post study, 3 prospective comparison to historical control, 1 randomized control study, 1 retrospective pre-post study, 1 consensus panel report, 1 descriptive report, 1 where methods were not specified</p>	<p>Control: varied standard of care</p>		
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Table 2

Synthesis Table

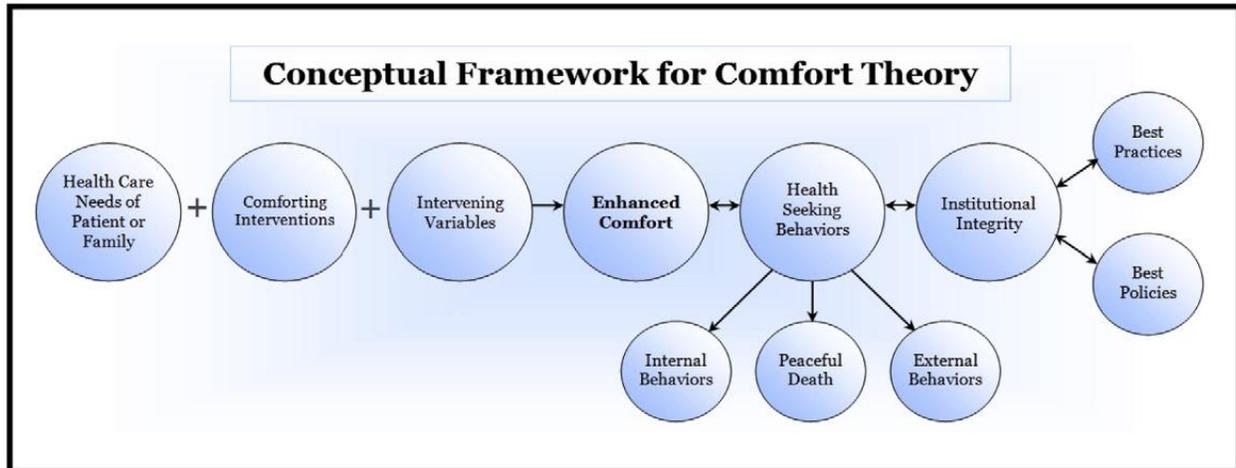
Evidence Based Practice Question (PICO): Does a palliative care screening tool initiated on admission increase patients' access to early palliative care consultation in a medical intensive care unit?			
Level of Evidence	# of Studies	Summary of Findings	Overall Quality
II	1	Nelson et al. (2013) literature review and subsequent report supports the Improving Palliative Care in the ICU Project presented by the Center to Advance Palliative Care. They concluded that specific criteria (determined by the institution) used to screen for palliative care consult can reduce utilization of ICU resources while increasing the involvement of the palliative care team in patient care earlier and more often.	B, studies are limited by their design, but an adequate number of studies used to generalize conclusions across intensive care units. Statistical analysis not performed and are not provided from study outcomes. Outcomes were consistent across the studies. Expertise of Advisory Board is clearly evident.
III	3	<p>Cox et al. (2018) found that the use of the PCplanner app platform, which screens patients for palliative care needs through the EHR, was a feasible and easy method to improve accessibility to palliative care while simultaneously improving patient’s family’s satisfaction. This was demonstrated by decreased time to palliative care consult, decreased hospital LOS, and decreased hospital mortality in the intervention group.</p> <p>DiMartino et al. (2019) found that a screening tool alone had greater uptake of palliative care consults than usual care in medical and gynecology oncology and a screening tool paired with educational resources had more uptake than a screening tool alone. While there was no significant change in time to consult across both interventions, the multi-strategy screening did create a significant decrease in time to consultation and the single strategy demonstrated clinical significance.</p> <p>Hurst et al. (2018) found that a palliative care screening tool used in the medical intensive care unit (MICU) significantly increased the frequency of palliative care consults and significantly decreased the time it took a patient to receive such</p>	<p>C, thoughtful reference to scientific evidence and adequate control but small sample size without power analysis. Authors highlight these as limitations and acknowledges that a larger, more robust study is needed to confirm their findings.</p> <p>B, large sample size and statistically controlled for patient clinical characteristics. Results were consistent and recommendations were clear that a larger sample size may be needed in future studies to demonstrate statistical significance in change of timeliness across a both groups.</p> <p>A, although it lacks randomization, this study is well controlled with a sufficient sample size. Authors included power analysis. There was found to be no significant difference between the characteristics of the control and intervention</p>

		<p>consult. There was no significant difference in MICU length of stay (LOS) or days spent on a ventilator.</p>	<p>groups. Their results and methods were consistent with recommendations made by the Center to Advance Palliative Care and a modified version of a screening tool used extensively in the literature.</p>
<p>IV</p>	<p>3</p>	<p>Churchill et al. (2020) implemented a quality improvement project. This was a palliative care screening tool in 3 different hospitals which resulted in an increase of consults across the hospitals, an increase of timeliness of consults, as well as an increase in non-cancer diagnosis related consults compared to 3 months preintervention. One negative impact of the screening tool was an increase in inappropriate palliative care consults which increased the burden on the palliative care team.</p> <p>Jenko et al. (2015) found that the Palliative Performance Scale version 2 increased nursing Comfort in identifying palliative care and requesting palliative care consultation, increased number of palliative care referrals, and decreased days between admission and palliative care referral in a MICU. Nursing knowledge about palliative care remained unchanged after the intervention but there was overall positive qualitative feedback received.</p> <p>Mun et al. (2016) found that implementation of a palliative care screening tool in an ICU decreased ICU LOS and overall hospital LOS, increased the number of patients who had their code status and goals of care discussed, increased the frequency of early family meetings with palliative care team, and increased the number of palliative care consults.</p>	<p>C, reports number of consults pre and post intervention but not the number of patients admitted to the units or the total number of patients screened. Compliance to intervention at one site was 0% at the end of the study. Challenges and limitations openly discussed. Recommendations consistent with evidence and referenced practice guidelines.</p> <p>B, utilization of a valid, reliable, extensively studied prognostic tool- the PPsV2- based on comprehensive literature review. However, sample size was not reported (noted only in abstract), and authors admit that their study was small and underpowered. Recommendations and conclusions were consistent with the fact that the intervention has a positive impact on ICU patients.</p> <p>B, sufficient sample size screened in both the pre and post implementation groups. The results were consistent, and recommendations were clear. Definitive conclusions made with comprehensive discussion about the benefits of using a palliative care screening tool with robust literature support.</p>

Figures

Figure 1

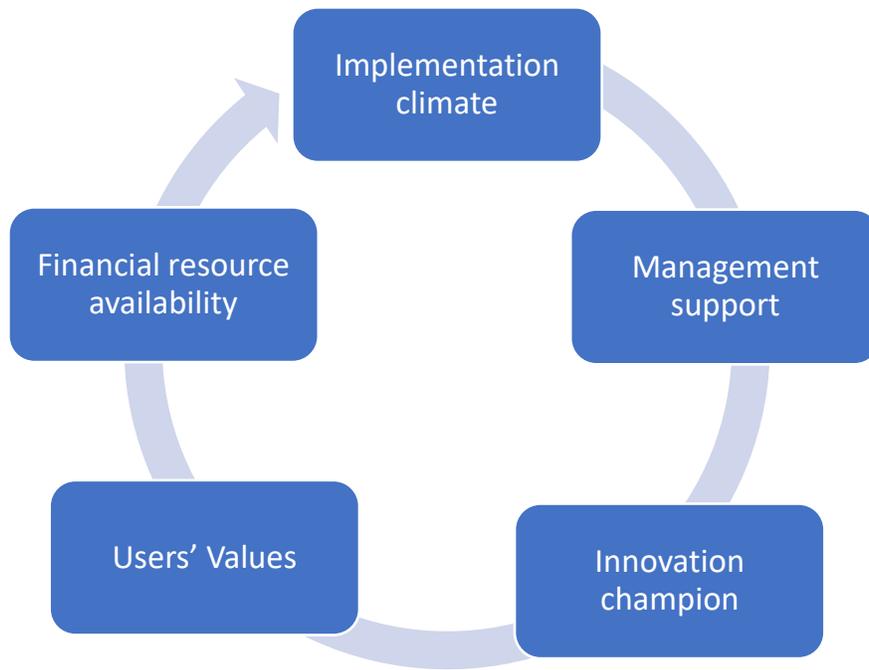
Kolcaba's Comfort Theory



(Kolcaba, 2001)

Figure 2

Framework for Complex Innovations



(Helfrich et al., 2007)

Figure 3

Process Outcome: PCST Completion

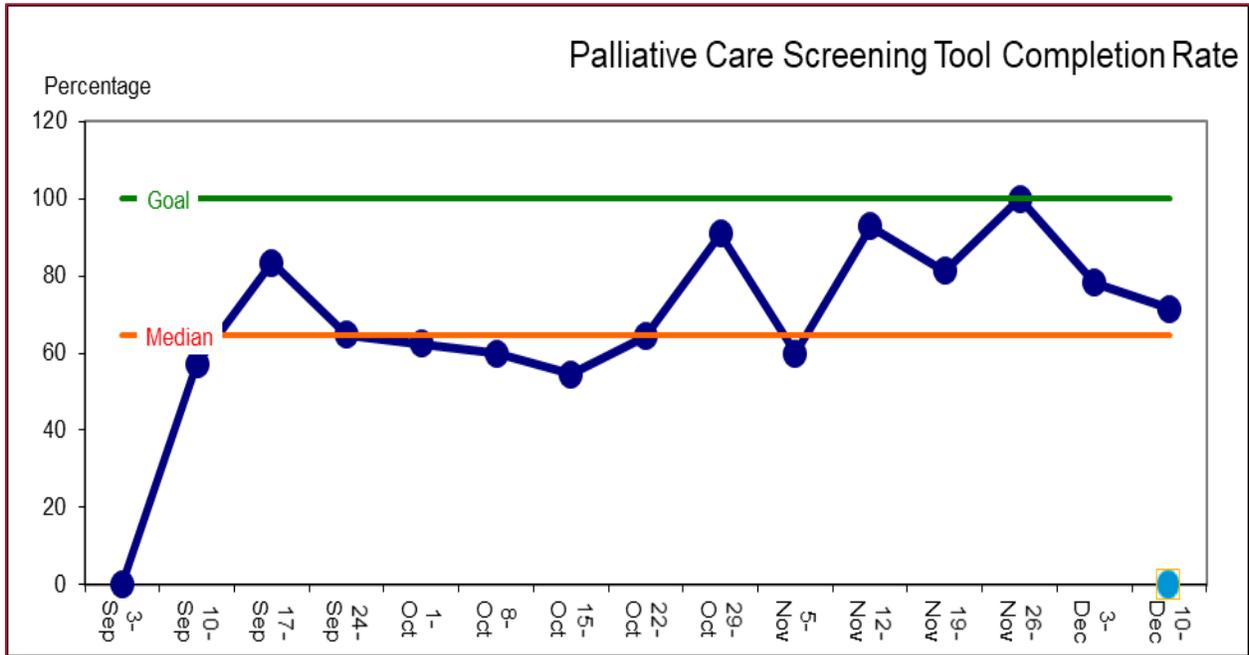


Figure 4

Percentage of Total Palliative Care Consults

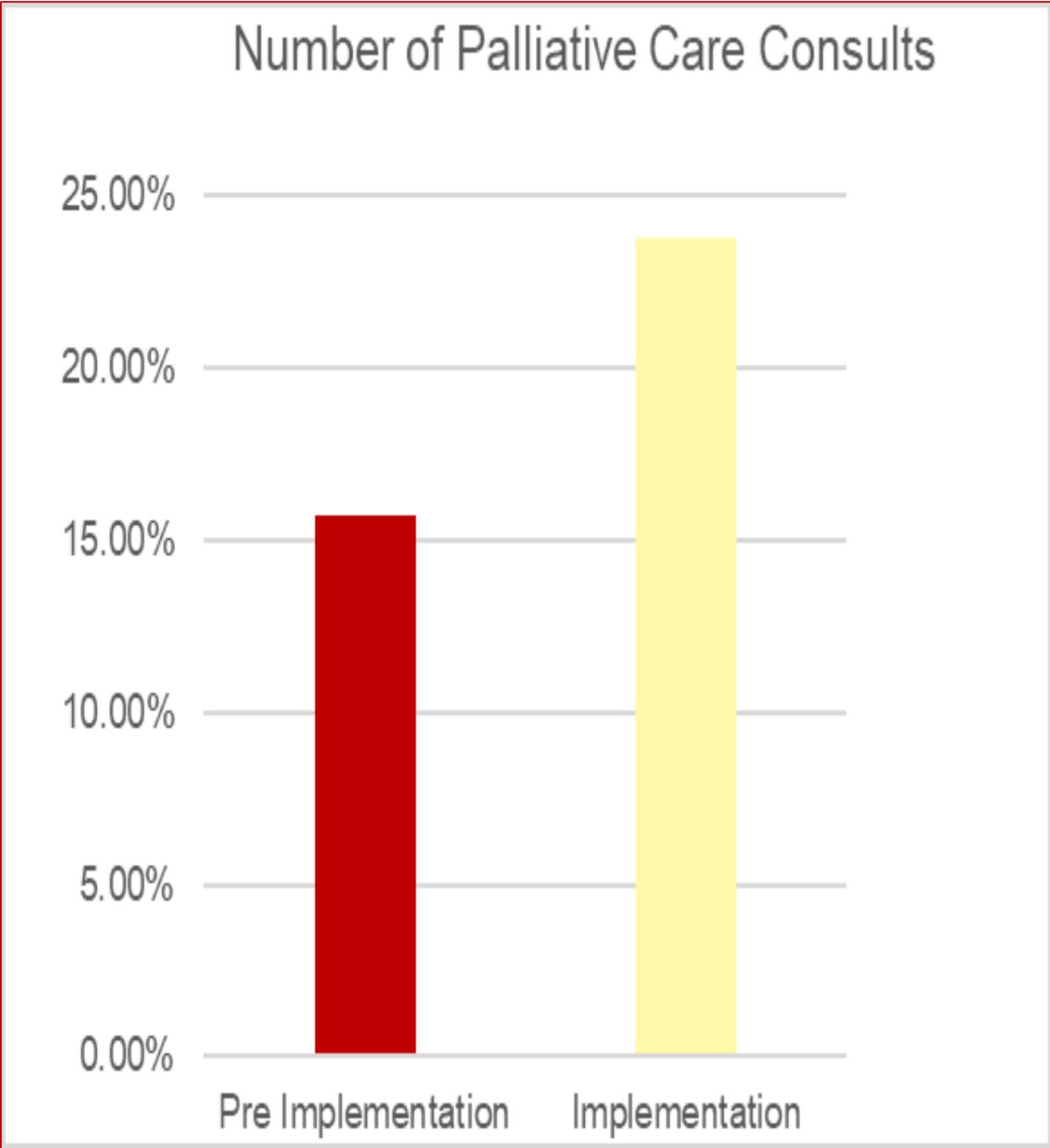
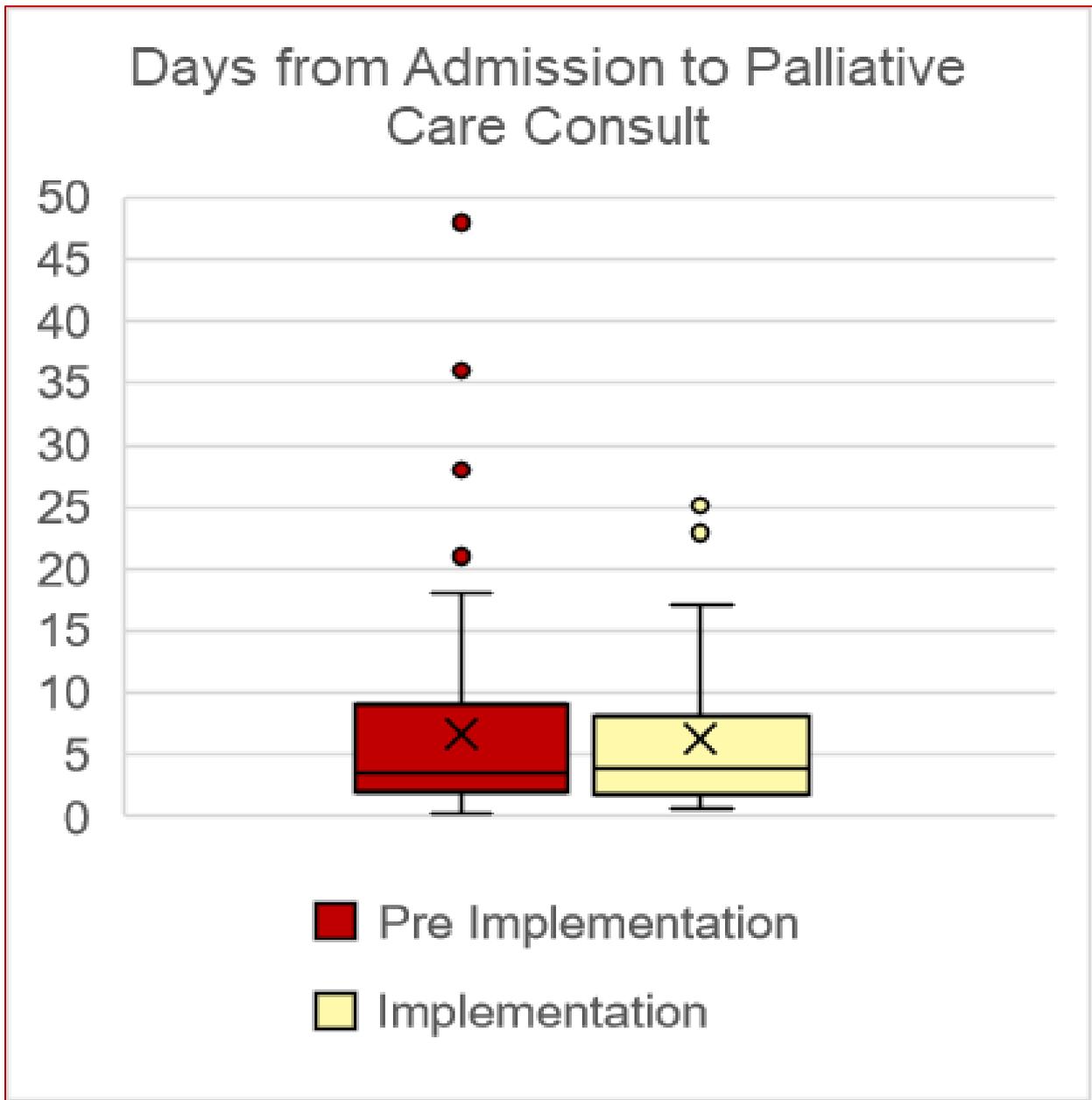


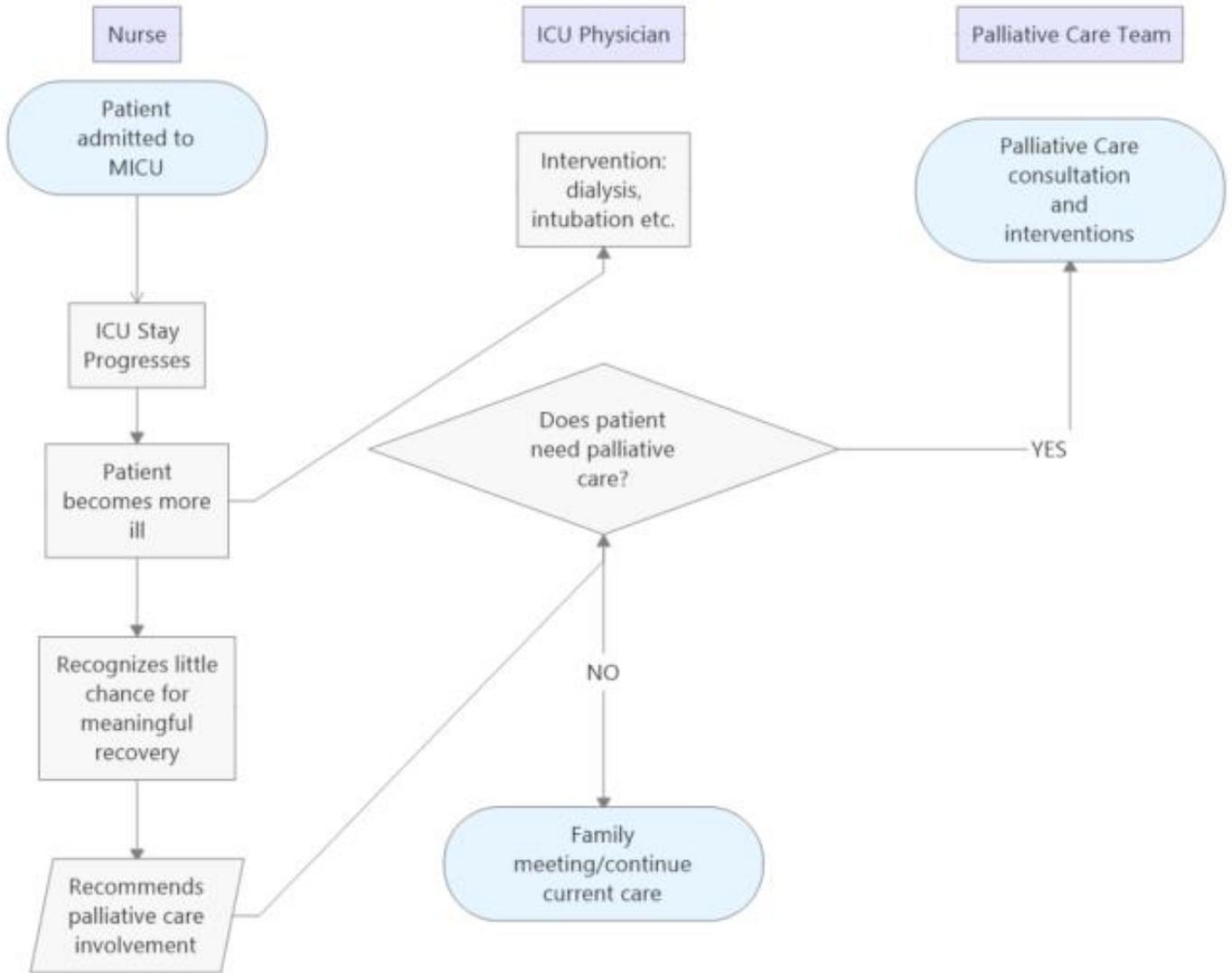
Figure 5

Days from Admission to Palliative Care Consult



Appendix A

Current Process Flow Map



Appendix B

Palliative Care Screening Tool

Criteria – Please consider the following criteria when determining the palliative care score of this patient			
1. Basic Disease Process			SCORING
a. Cancer (Metastatic/Recurrent)	d. End stage renal disease		Score 2 points EACH _____
b. Advanced COPD	e. Advanced cardiac disease – i.e. CHF, severe CAD, CM (LVEF < 25%)		
c. Stroke (with decreased function by at least 50%)	f. Other life-limiting illness		
2. Concomitant Disease Processes			Score 1 point overall _____
a. Liver disease	d. Moderate congestive heart failure		
b. Moderate renal disease	e. Other condition complicating cure		
c. Moderate COPD			
3. Functional status of patient			Score as specified below _____
Using ECOG Performance Status (Eastern Cooperative Oncology Group)			
ECOG	Grade	Scale	
	0	Fully Active, able to carry on all pre-disease activities without restriction.	Score 0
	1	Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature, e.g., light housework, office work.	Score 0
	2	Ambulatory and capable of all self-care but unable to carry out any work activities. Up and about more than 50% of waking hours.	Score 1
	3	Capable of only limited self-care; confined to bed or chair more than 50% of waking hours.	Score 2
	4	Completely disabled. Cannot carry on any self-care. Totally confined to bed or chair.	Score 3
4. Other criteria to consider in screening			Score 1 point EACH
a. Team/patient/family needs help with complex decision-making and determination of goals of care			_____
b. Patient has unacceptable level of pain or other symptom distress >24 hours			_____
c. Patient has uncontrolled psychosocial or spiritual issues			_____
d. Patient has frequent visits to the Emergency Department (>1 x mo. for same diagnosis)			_____
e. Patient has more than one hospital admission for the same diagnosis in last 30 days			_____
f. Patient has prolonged length of stay (>5 days) without evidence of progress			_____
g. Patient has prolonged stay in ICU or transferred from ICU to ICU without evidence of progress			_____
h. Patient is in an ICU setting with documented poor prognosis			_____
		TOTAL SCORE	_____
SCORING GUIDELINES:			
TOTAL SCORE = 2 No intervention needed			
TOTAL SCORE = 3 Observation only			
TOTAL SCORE = 4 Consider Palliative Care Consult (requires physician order)			

Appendix C

Date of Admission	De-Identified Patient ID	Screening Performed (yes=1, no= 0)	Screening Result (positive=1, negative =0)	Palliative Care Consult if Screening positive? (yes=1, no=0)	Days from Admission To Consult

Appendix D

Palliative Care Screening Education

Beginning September 7, 2021, on all new admissions to C4-2, you will see an order for the **Palliative Care Screening Tool** when the Adult Inpatient Nursing Documentation orderset is signed. It will be ordered to be completed once, on admission. For all transfers to C4-2, you will not see this order. You will have to complete the form through Ad Hoc

What is palliative care?

- The treatment of physical, spiritual, and psychosocial suffering associated with life-threatening illnesses¹
- Can be delivered in conjunction with curative therapies²

Why is palliative care beneficial²

- Improves quality of life
- Decreases symptom burden and depression
- Provides support for family and caregivers
- Improves utilization of healthcare resources

How can a screening tool help?

- Decreases days between admission and palliative care consultation^{3,5}
- Decreases ICU LOS⁴
- Decreases overall hospital LOS^{3,4}
- Decreases in-hospital mortality³
- Increases the number of patients who have their code status and goals of care discussed⁴
- Increases the frequency of early family meetings⁴
- Increases nursing comfort in identifying palliative care needs in patients⁵

Why is early (within 48 hours of admission) palliative care important?⁶

- Increases transfers to hospice care
- Fewer days spent on a ventilator
- Fewer readmissions
- Decreased ICU and post-ICU healthcare resource utilization
- Decreased cost in MICU stay

Tips for accurately completing the tool:

- **Basic Disease Process** should be related to or the cause of admission, not components of the patient's history
- **Concomitant Disease Processes** will include components of the patient's history
- **Functional status of patient** should be the patient's status just prior to admission
- If the provider does not place a palliative care consult, be sure to document why. Some reasons may include:
 - Anticipated discharge in 24 hours
 - Patient does not have unmet palliative care needs

References

- 1 World Health Organization. (n.d.). WHO definition of palliative care. <https://www.who.int/cancer/palliative/definition/en/>
- 2 McAteer, R., & Wellbery, C. (2013). Palliative care: benefits, barriers, and best practices. *American Family Physician*, 88(12), 807–813.
- 3 Cox, C. E., Jones, D. M., Reagan, W., Key, M. D., Chow, V., McFarlin, J., Casarett, D., Creutzfeldt, C. J., & Docherty, S. L. (2018). Palliative Care Planner: A Pilot Study to Evaluate Acceptability and Usability of an Electronic Health Records System-integrated, Needs-targeted App Platform. *Annals of the American Thoracic Society*, 15(1), 59–68. <https://doi-org.proxy-hs.researchport.umd.edu/10.1513/AnnalsATS.201706-500OC>
- 4 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>
- 5 Jenko, M., Adams, J. A., Johnson, C. M., Thompson, J. A., & Bailey Jr, D. E. (2015). Facilitating palliative care referrals in the intensive care unit: a pilot project. *Dimensions of Critical Care Nursing*, 34(6), 329–339. <https://doi-org.proxy-hs.researchport.umd.edu/10.1097/DCC.000000000000143>
- 6 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.proxy-hs.researchport.umd.edu/10.1097/CCM.0000000000004016>

Practice using the PCST with these scenarios:**Case 1:**

78-year-old male with a past medical history of end stage renal disease, hypertension, and diabetes. He was admitted to the floor 6 days ago for treatment of pneumonia and is now being transferred to C4-2 after a code was called for emergent intubation. He has had multiple trips to the Emergency Department in the last 2 months. His daughter has been living with him as he has been unable to carry out all of his ADLs.

Case 2:

55-year-old female with a history of NASH cirrhosis, HDL, and DM2. She is being admitted from an outside hospital with a GI bleed. The nurse giving report states she is alert and oriented and able to ambulate with stand-by assist. She is being transferred for higher level of care and transplant evaluation.

Case 3:

74-year-old female with a past medical history of DM2, hypertension, and a stroke in 2018. She is being admitted from a long-term care facility where she was found to be in respiratory distress. She had a recent hospital stay for septic shock. She is bed-bound and nonverbal at baseline.

Answers: 7, 3, 7

