

Use of Improving Palliative Care in the ICU (Intensive Care Unit) Guidelines for a Palliative Care Initiative in an ICU

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ABSTRACT

Objective: For improved utilization of the existing palliative care team in the intensive care unit (ICU), a process was needed to identify patients who might need a palliative care consultation in a timelier manner.

Methods: A systematic method to create a new program that would be compatible with our specific ICU environment and patient population was developed. A literature review revealed a fairly extensive array of reports and numerous clinical practice guidelines, which were assessed for information and strategies that would be appropriate for our unit.

Results: The recommendations provided by the Center to Advance Palliative Care from its Improving Palliative Care in the ICU project were used to successfully implement a new palliative care initiative in our ICU.

Conclusion: The guidelines provided by the Improving Palliative Care in the ICU project were an important tool to direct the development of a new palliative care ICU initiative.

INTRODUCTION

Palliative care is medical care that enhances quality of life for patients living with serious advanced illness, by helping to align their treatment choices with their values. It is defined by the World Health Organization as an approach that improves the quality of life of patients and their families facing problems associated with life-threatening illness.¹ This is achieved through the prevention and relief of suffering by means of early identification, assessment, and treatment of pain and other physical, psychosocial, and spiritual problems.^{1,2} A palliative care team helps to determine patient goals and align the medical care with those goals, procure resources for symptom management, assist with advanced care planning, partner with the patient to create a plan of care, ensure the patient has a safety net under him/her by using all of the available resources in the system, and educate others about the palliative care approach.³ Despite these possible benefits of consultation with a palliative care team, palliative care traditionally has been used late in the care of patients, when all life-prolonging interventions have failed and death is imminent.⁴

In our hospital, an inpatient palliative care team had been in existence since 2010. A formal consult could be generated by either the nursing or physician staff, but there was no structure or process in place in the inpatient setting that determined when goals-of-care or end-of-life discussions should be initiated. It was only when major end-of-life issues arose that the palliative care team was brought in to assist with family and patient problems. This problem was also evident in the intensive care unit (ICU). The palliative care team was not being utilized in an appropriate manner, and the instances in which they were consulted were usually only in cases of suspected futile care. This underutilization of palliative care services in the ICU was consistent with findings from the literature in various units across the country.^{2,4-8}

For improved use of the palliative care team in the ICU and improved overall awareness of basic palliative care principles, a process was needed to more quickly identify patients who required a palliative care consultation. To do this, it was necessary to use a systematic method to create a new program that would be compatible with our specific ICU environment and patient population. A team, whose members represented the physicians, nursing staff, and nursing management from both the ICU and palliative care, was formed to perform a literature search and review, develop work processes, and implement and evaluate the program.

METHODS

Literature Review

An electronic search was completed using PubMed, Cumulative Index to Nursing & Allied Health Literature, Cochrane, and National Quality Forum (NQF) databases. Search terms included “ICU,” “intensive care unit,” “critical care unit,” “palliative care consult,” “palliative care service,” “end-of-life care,” “palliative care,” “comfort care,” “supportive care,” “model,” “screening,” “guidelines,” “outcomes,” “measurements,” “cost,” and “metrics.” Among 63 publications from 1995 to 2014 that were examined, 23 were included in this review.

Mosby’s levels of evidence system was used to grade the level of evidence and internal validity.⁹ This grading system assigned the studies to one of eight levels (Figure 1). The eighth level was designated as “Other” for evidence that was excluded from the

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previous seven categories. Clinical practice guidelines (CPGs) were added to the “Other” category because they played a major role in the formation of practice recommendations for this project. The synthesized reports, presented in Figure 2, were ranked according to the eight levels of evidence.⁹

The critiquing tools used included Mosby’s Research Critique Form,¹⁰ the Rapid Critical Appraisal of Randomized Controlled Trials by Melynck and Fineout-Overholt,¹¹ and the Appraisal of Guidelines for Research and Evaluation (AGREE) II instrument for the evaluation of CPGs.¹² The AGREE II instrument was used to evaluate each CPG.¹³ It uses a ranking system of an assigned grade 1 to 7, designed to assess the methodologic rigor and transparency with which a guideline was developed. The 6 different domains include: 1) scope and purpose, 2) stakeholder involvement, 3) rigor of development, 4) clarity of presentation, 5) applicability, and 6) editorial independence. The percentages assigned to each domain were averaged into 1 representative score, up to 100%.¹³ The scores of the 9 CPGs used in this synthesis are presented in Table 1.

The publications focused on the various aspects of initiating a palliative care program in an ICU. These included benefits, various models, screening tools, guidelines/standards, evaluation tools, metrics, barriers, and cost. There was also a moderate quantity of data regarding the importance of family satisfaction with the end-of-life care provided for patients.¹⁴⁻²²

A number of reports recommended using guidelines offered by the Center to Advance Palliative Care (CAPC). These CPGs follow the standards from the National Quality Forum (NQF) in its Framework and Preferred Practices for Palliative and Hospice Care, and from the National Consensus Project for Quality Palliative Care. These standards were operationalized by the CAPC with its

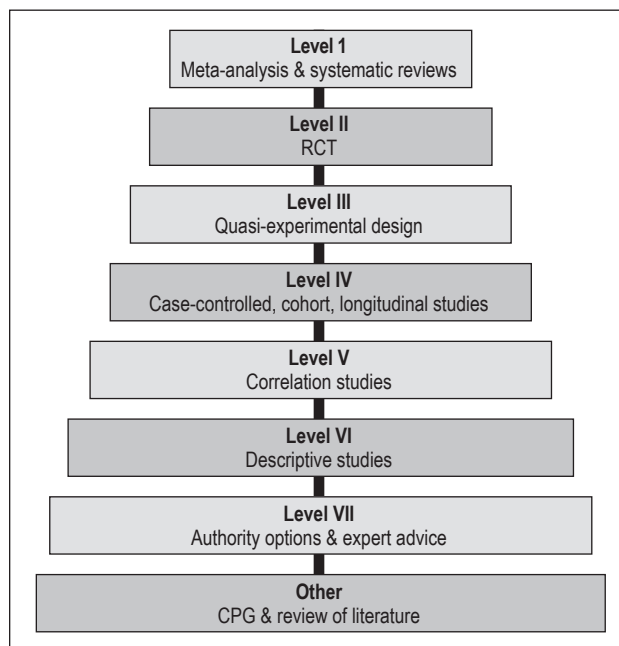


Figure 1. Mosby’s levels of evidence⁹

CPG = clinical practice guidelines; RCT = randomized controlled trial.

Improving Palliative Care in the ICU (IPAL-ICU) project.^{15,19,22-26} This project was a Web-based resource sponsored by the National Institute on Aging, the CAPC, the major critical care societies, and other nationally funded groups such as the Robert Wood Johnson Foundation Critical Care End-of-Life Peer Workgroup. The CPGs provided by the project were designed to offer a framework, along with practical steps, for the development of a palliative care initiative in an ICU.²⁶⁻²⁹

The steps laid out by the CPGs were essential to the integration and improvement of palliative care in specific health care settings. They included convening an interdisciplinary workgroup to plan and lead the effort; assessing the needs and resources for improving palliative care in a particular ICU; developing an action plan to address existing needs in the context of available resources; and engaging the interdisciplinary ICU team to create a culture supporting palliative care improvement. The CPGs also reviewed the two major models of palliative care, along with screening and trigger criteria, guidelines and standards, and methods for program evaluation.¹⁶⁻²² The guidelines were used as a road map of sorts, and most of the provided instructions were easily adapted for our initiative.

Guideline Recommendations

Model of Palliative Care Integration

Each ICU has an intrinsic and specific “culture” created by its history, structure, and policies and processes of care, and by the attitudes and interactions of different disciplines on the ICU team.³⁰ The selection of a model was considered one of the earliest steps in planning an ICU palliative care initiative.¹⁵ The actual role of the consult service varies with local customs and culture, but the focus tends to be on issues such as goal setting, challenging care decisions regarding the use of life-sustaining treatments, withdrawal of unwanted life-prolonging therapies, do-not-resuscitate designation, conflict resolution, and transitional care planning.^{15,20,31,32}

The practice guidelines all started with choosing a model for palliative care incorporation into an ICU. The literature noted two major models of palliative care: the “consultative model” and the “integrative model.”¹⁵ The “consultative model” focused on increasing the involvement and effectiveness of palliative care consultants in the care of ICU patients and families. The “integrative” model sought to embed palliative care principles and interventions in daily practice by the ICU team, for all patients and their families.¹⁵ There were advantages and disadvantages in both models, but the “consultative model” was the most prevalent model of palliative care service delivery in acute-care hospitals. It was particularly useful in those patients identified as being at highest risk of poor outcomes and was the most feasible in institutions with preexisting palliative care teams.¹⁵

Screening/Trigger Criteria

Criteria for screening then needed to be established. The CAPC IPAL-ICU consensus panel determined that identifying patients with unmet palliative care needs was important, both at the time of admission and during the hospital course. As a result, two groups published a systematic review and a set of CPGs designed to address the selection of trigger criteria. Nelson et al³¹ reviewed the use of screening criteria as a mechanism for engaging palliative care consultants in the ICU. They determined that the use of specific criteria

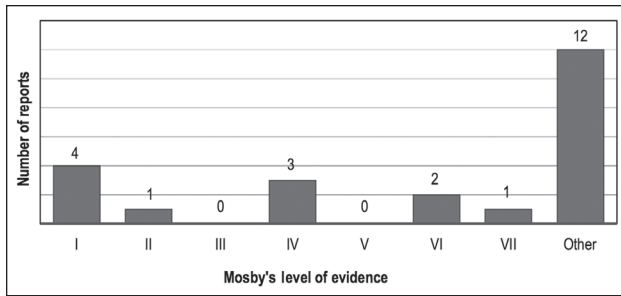


Figure 2. Reports used for literature review (N = 23) ranked according to Mosby's levels of evidence. Clinical practice guidelines are placed in "Other" category.

to prompt a proactive referral for a palliative care consultation reduced utilization of ICU resources without changing mortality rates, while increasing involvement of the palliative care specialist for patients and families in need.³¹

Weissman and Meier²⁰ recommended development of two checklists, divided into primary and secondary criteria, to facilitate ease of implementation. Selection of the indicators for these checklists was based on national standards, research findings, and expert opinions from the consensus panel.²⁰

Screening and trigger criteria should be representative of the individual ICU. Many potential triggers have been reported, not only in the recommended CPGs but also in the literature from medical ICUs^{33,34} and surgical ICUs.^{2,6,35} The three main criteria fell into the domains of disease, utilization, and other criteria, following recommendations from the IPAL-ICU consensus panel and the literature.^{6,15}

Mosenthal et al³⁰ also reviewed the use of "triggers" from the perspective of a surgical ICU, in which referral for a palliative care consultation was typically dependent on the attending surgeon. They reported that the optimal use of trigger criteria had not yet been fully demonstrated in this setting, and that the triggers might have been more successful in the surgical ICU if the criteria were applied to specific diseases.³⁰

Guideline Development and Evaluation

In several areas of ICU practice, performance improvement has been approached by grouping evidence-based processes into

"bundles" of measures that are applied together, for a fuller assessment of the quality of care.^{36,37} The development of care bundles is designed to bring evidence-based literature to bedside management and to create best-practice guidelines for specific disease processes common to ICU patients.

This strategy was employed by the Volunteer Hospital Association in its "Transformation of the ICU" program, a performance improvement initiative, to organize their quality measures into bundles. The resultant Care and Communication Bundle was developed to measure palliative care quality in adult ICUs and was described by Nelson et al,³⁶ in their report on defining standards for ICU palliative care. The bundle was designed to assist in the development of measures using a process approach for routine monitoring of, and performance feedback of, the quality of palliative care across a broad range of ICUs.¹⁶ It also set a base in which to create a set of standards or guidelines for a new palliative care program in the ICU.^{36,37} Contained in the bundle framework were identified ICU palliative care processes that are associated with desirable outcomes, a list of indicators with corresponding quality measures, a measurement guide containing specifications, definitions for the numerators and denominators of the measures, and a data tool.³⁶

These recommendations provided validated measures addressing multiple domains of ICU palliative care quality, and they were consistent with standards established by the National Consensus Project for Quality Palliative Care and the NQF for palliative care across clinical settings.^{16,26,37} The domains of quality are made operational as specific measures, each with a numerator and a denominator. In general, the numerator represents the number of patients receiving a care process or outcome that is to be evaluated as an indicator of quality. The denominator defines the total patient population. It is also typical to select subgroups with special risks or needs. Therefore, the population targeted by the denominator for most of the measures was to be limited to those patients in the ICU for at least 5 days, which had been determined to be a practical risk marker for poor outcomes among critically ill adults.^{15,22,36} Individual care processes, which included identified advance directives, goals of care, and code status, were then to be triggered by specified days after admission to the ICU, with some processes performed by Day 1 and others by Day 3 or Day 5. This time-triggered strategy was designed to prompt timely performance of important processes for all ICU patients, while limiting the burden of data collection to patients with prolonged ICU stays.^{15,38,39}

Outcomes and Metrics

Data collection and analysis are necessary to assess the effectiveness of a program. They are essential when planning for program staffing, and to accommodate growth in demand for services as well as other types of strategic designs. They are also necessary for quality improvement and program sustainability, and to demonstrate the impact of a palliative care program on major stakeholders.²¹ Weissman et al,²¹ as part of the CAPC's IPAL-ICU expert panel, published the *NQF Framework for Preferred Practices for Palliative and Hospice Care Quality: A Consensus Report*, along with the four domains for key outcome measures. These included overall and individual reports on operational, clinical, customer-satisfaction, and financial metrics.^{19,21,22}

Reference	Score (%)
Nelson et al, ¹⁶ 2010	77
Nelson et al, ¹⁷ 2010	83
Nelson et al, ¹⁸ 2010	78
Weissman & Meier, ¹⁹ 2008	76
Weissman & Meier, ²⁰ 2011	81
Weissman et al, ²¹ 2008	82
Weissman et al, ²² 2010	77
Truog et al, ²⁶ 2008	71
Mularski et al, ²⁸ 2006	82

^a Clinical Practice Guideline Appraisal of Guidelines for Research and Evaluation (AGREE II) scores used a ranking grade in six domains. Percentages assigned to each domain were averaged into one representative score.

Nelson et al^{17,18} reviewed the advantages and disadvantages of different quality measures and the domains for measurement of ICU palliative care quality. They showed how the domains of quality were made operational as specific measures¹⁷ and then examined the use of data relating to mortality, utilization, and care process.¹⁸

The success of interventions can be determined by looking at process and outcome measures as evaluation tools. Process measures refer to interactions between the health care institution or clinician and the patient, such as charting a daily pain assessment. Outcome measures refer to a patient's subsequent health status, such as a reduction in symptom distress.²² The differences between the two types of measures have been well described in the literature and a number of examples of validated instruments that can be used to evaluate patient, family, and clinician experiences were also provided.⁴⁰

Interventions

The interventions we decided on followed the guidelines offered by the IPAL-ICU program. They consisted of defining the four major recommended categories, which included the model of integration, screening and trigger criteria, guideline formation, and the process and outcome measures.

Model of Palliative Care Integration

The consultative model was used because one of the goals was to improve the use of the existing palliative care team. However, some of the basic palliative care principles were also incorporated into the daily practice of ICU care. This was to ensure that the numbers of consultations to the palliative care team remained appropriate, while at the same time improving the level of routine palliative care management by the ICU physicians and nursing staff.

Screening/Trigger Criteria

The physicians representing both the palliative care team and the ICU were tasked with coming to a consensus on the trigger criteria that best characterized our ICU. Although the literature suggested both an admission and daily screening tool, both with primary and secondary criteria, we concentrated on one screening tool for ease in streamlining the implementation.

Guideline Development and Evaluation

The literature recommended obtaining the code status, advance directives, and surrogate name by Day 1 of admission to an ICU.¹⁵ Finalization of these measures within this timeframe was questionable. At the time, the ICU social worker was responsible for the advance directives and surrogate, and the ICU physician was responsible for the code status. Because of staffing patterns, the social worker was available only on the day-shift weekdays. Although an on-call social worker was available during the days on weekends, s/he covered the entire hospital and there was no night coverage. The team members were in agreement that the nursing staff could be educated to initiate the conversations regarding the code status, advance directives, and surrogate, using the goals-of-care videos already available in the hospital television educational system.⁴¹ In addition, guidelines were written to allow for leeway between Days 1 through 3. Identification, but not necessarily completion, of surrogate, advance directives, and code status were to be noted in the progress notes and could be carried out by any clinical staff, including registered nurses, physicians, and social workers. This would then trigger the need for a social worker consult on off-hours,

which was traditionally left until a Monday morning, when the ICU social worker brought herself up to date.

The literature recommendation of a proactive, palliative care consultation by Day 3¹⁵ raised the concern that this could generate potentially unnecessary numbers of consultations for the palliative care team. Therefore, a proactive family meeting by Day 3 was deemed possible, but was facilitated instead by the ICU team. Then, if still needed, a multidisciplinary, palliative care family meeting could be initiated by Day 5. At the time, informal family meetings conducted by the ICU team were inconsistent and based on physician availability and perceived need by the registered nurse. This also was dependent on the overall experience and knowledge of palliative care by the registered nurse, which was not necessarily consistent.

Every patient who was admitted and/or transferred into the ICU was screened daily, using the predetermined trigger criteria. Once a patient met the criteria, a social-worker consult was generated, and the charge nurse and physician were notified. The staff was to direct families to the goals-of-care videos,⁴¹ on the Education on Demand Kaiser Permanente Webinar, and to document any questions or discussions in the electronic medical record. The social worker was responsible for completion of the advance directives and the surrogate designation if necessary. The physician was responsible for addressing code status and the patient's goals of care. Their documentation was to reflect the proactive ICU family meeting that was to be performed by Day 3 of meeting the trigger criteria. Should the need for a palliative care consultation be identified within this timeframe, a formal request for consultation was generated by the intensivist, and the staff was to offer the family the preexisting palliative care brochure. The nursing staff was to participate in the family meetings, as allowed by staffing and workload. The finalized guidelines culminated in a flowchart, demonstrated in Figure 3, that was available to all staff at all times.

Outcomes and Metrics

The metrics and benchmarks were predetermined and approved by the Quality-Improvement Committee before the implementation of the project. Outcome measures involved operational data such as the patient age, sex, ethnicity, admitting diagnosis, comorbidities, and disposition. Process measures looked at identification of numbers of patients meeting the trigger criteria; key component identification such as surrogate, advance directives, code status, and/or goals of care by Day 3 of meeting the trigger criteria; numbers of ICU family and/or palliative care consults; and changes in code status or treatment after either the ICU or the palliative care family meeting, or both. Clinical measures looked at the number of days of intubation. Financial metrics involved the length of stay in the ICU and the hospital. Customer data were obtained from both family satisfaction and nursing surveys.

RESULTS

The review of literature demonstrated a mix of Evidence Levels 1 through 7, but in the 23 reports chosen, the substantial number of CPGs weighted the level of evidence in the "Other" category. Although ICU culture and the incorporation of palliative care have changed considerably within the last 10 to 15 years, the numbers of randomized controlled trials in this arena remained somewhat limited, and therefore, meta-analysis was not an option.⁴² Vulnerable

groups are usually excluded from randomized controlled trials; therefore, true randomization of a palliative care service is difficult.⁴³ Methodologic and ethical concerns regarding withholding a potentially beneficial service to those in need often preclude randomization, and long-term outcome monitoring may not actually be in the best interests of the patient.⁴⁴

The CPGs that were available to provide assistance in the initiation of a palliative care program were all based on nationally set standards and met most of the domains set in the AGREE II instrument. They fell short on procedures for updating the guidelines, clarity of strengths and limitations, and resource implications. The identified shortcomings were in part due to an evaluation of the individual CPG rather than as part of an established set of reports.

Most CPGs were published in 2010 to 2011, and the publications since then were, for the most part, literature reviews and expert opinions. Nelson et al³¹ followed up on earlier reports and recommendations from the IPAL-ICU project. They published a subsequent systematic review to look at the use of recommended screening criteria as a mechanism for engaging palliative care consultants, to assist with care of critically ill patients and their families in the ICU. They concluded that the data and resources that can be used in developing such criteria should be tailored for a specific ICU, implemented through an organized process involving key stakeholders, and evaluated by appropriate measures.³¹

DISCUSSION

Palliative care is increasingly accepted as an essential component of comprehensive care for critically ill patients, regardless of

diagnosis or prognosis, from the time of admission to the ICU.⁴⁵ Hospital palliative care consultation programs have been associated with reductions in patient symptoms and higher family satisfaction with overall care.¹⁴ The underutilization of our existing palliative care team, and the need to improve overall understanding of palliative care and its principles, prompted a literature search for a method in which to initiate a new palliative care program in our unit.

The quantity of literature was extensive, with a considerable number of reports on issues related to the need for improved identification of goals of care and end-of-life care. The publications focused on the various aspects of initiating a palliative care program in an ICU. These included benefits, various models, screening tools, guidelines/standards, evaluation tools, metrics, barriers, and cost. There was also a moderate quantity of data regarding the importance of family satisfaction with the end-of-life care provided for patients.¹⁴⁻²²

A large number of CPGs were noteworthy. Most of these were representative of the standards adopted by the NQF in its Framework and Preferred Practices for Palliative and Hospice Care and were put into operation by the CAPC IPAL-ICU Project.^{15-19,22,23} The IPAL-ICU Project is a Web-based resource sponsored by the National Institute on Aging, the CAPC, and the major critical care societies and other nationally funded groups such as the Robert Wood Johnson Foundation Critical Care End-of-life Peer Workgroup. It was designed to offer a framework, along with practical steps, for the development of a palliative care initiative in an ICU.²⁶⁻²⁹ In addition, the Care and Communication Bundle from the transformation of the ICU program provided validated measures addressing multiple domains of ICU palliative care quality. Together, these resources enable initiatives to be based on the ICU's individual needs, and customized to their specific environment.

CONCLUSION

Despite the numerous resources available, the IPAL-ICU project guidelines were an effective tool and provided specific tailored recommendations toward initiating a palliative care program in an ICU. The successful use of these guidelines resulted in the integration of palliative care standards and the incorporation of basic palliative care principles into the daily routine in our ICU. ❖

Disclosure Statement

The authors have no conflicts of interest to disclose.

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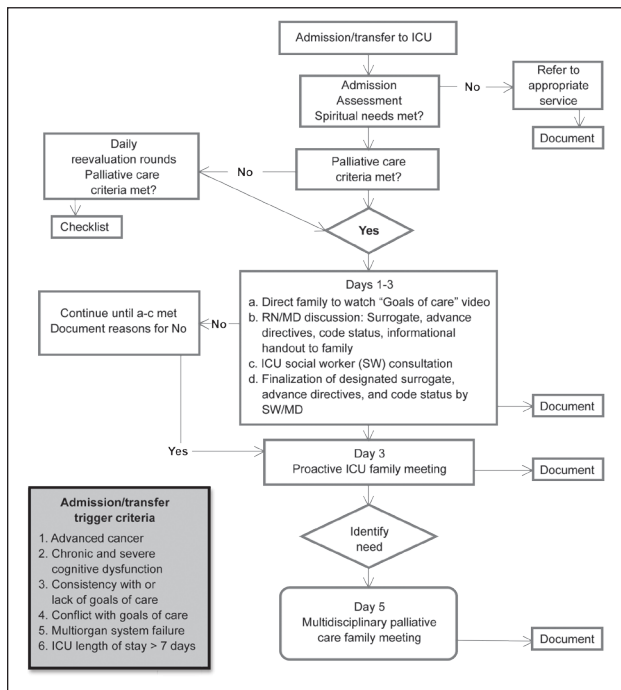


Figure 3. Flowchart: Final workflow that incorporated guidelines from Improving Palliative Care in the ICU (IPAL-ICU) project.

ICU = intensive care unit; MD = physician; RN = registered nurse.

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