



The Changing Role of Palliative Care in the ICU

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Objectives: Palliative care is an interprofessional specialty as well as an approach to care by all clinicians caring for patients with serious and complex illness. Unlike hospice, palliative care is based not on prognosis but on need and is an essential component of comprehensive care for critically ill patients from the time of ICU admission. In this clinically focused article, we review evidence of opportunities to improve palliative care for critically ill adults, summarize strategies for ICU palliative care improvement, and identify resources to support implementation.

Data Sources: We searched the MEDLINE database from inception through January 2014. We also searched the Reference Library of The Improving Palliative Care in the ICU Project website sponsored by the National Institutes of Health and the Center to Advance Palliative Care, which is updated monthly. We hand-searched reference lists and author files.

Study Selection: Selected studies included all English-language articles concerning adult patients using the search terms "intensive care" or "critical care" with "palliative care," "supportive care," "end-of-life care," or "ethics."

Data Extraction: After examination of peer-reviewed original scientific articles, consensus statements, guidelines, and reviews

resulting from our literature search, we made final selections based on author consensus.

Data Synthesis: Existing evidence is organized to address: 1) opportunities to alleviate physical and emotional symptoms, improve communication, and provide support for patients and families; 2) models and specific interventions for improving ICU palliative care; 3) available resources for ICU palliative care improvement; and 4) ongoing challenges and targets for future research. Key domains of ICU palliative care have been defined and operationalized as measures of quality. There is increasing recognition that effective integration of palliative care during acute and chronic critical illness may help patients and families face challenges after discharge from intensive care.

Conclusions: Palliative care is increasingly accepted as an essential component of comprehensive care for critically ill patients, regardless of diagnosis or prognosis. A variety of strategies to improve ICU palliative care appear to be effective, and resources including technical assistance and tools are available to support improvement efforts. As the longer-term impact of intensive care on those surviving acute critical illness is increasingly documented, palliative care can help prepare and support patients and families for challenges after ICU discharge. Further research is needed to inform efforts to integrate palliative care with intensive care more effectively and efficiently in and after the ICU and to document improvement using valid and responsive outcome measures. (*Crit Care Med* 2014; 42:2418–2428)

Key Words: caregiver, family; communication; intensive care; intensive care units; palliative care; patient-centered care

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Palliative care is a rapidly growing interprofessional specialty as well as an approach to care by all clinicians who care for patients with serious illness. The key domains by patients and families (1) as well as by expert consensus (2, 3), include: effective management of distress from physical, psychological, and spiritual symptoms; timely and sensitive communication about appropriate goals of intensive care in relation to the patient's condition, prognosis, and values; alignment of treatment with patient preferences; attention to families' needs and concerns; planning for care transitions; and support for clinicians. Palliative care is often optimally provided together with life-prolonging care, a coordinated approach that has been supported by major societies representing critical care professionals (4–7) and by

the World Health Organization (8), and that is embraced by patients and families (1). Therefore, palliative care is not a mutually exclusive alternative, nor simply a sequel to failed attempts at life-prolonging care, but rather an integral component of comprehensive care for critically ill patients from the time of ICU admission. Whereas hospice care is based on a terminal prognosis, palliative care is based on need (2) (Table 1).

Patients and families facing critical illness have palliative care needs, regardless of the patient's diagnosis or prognosis. Decreases in hospital mortality from critical illnesses, such as sepsis, acute respiratory distress syndrome (ARDS), and major cardiac and neurologic events, have not diminished the relevance of palliative care in the ICU but, rather, underscored the importance of anticipating and attending to the palliative care needs of those who survive intensive care as well as those who succumb. As ICU survivors increase in number and investigators examine the experience of these patients and their families more fully, the burdens of survivorship are coming into clearer view (9, 10). A broad array of physical and psychological symptoms along with impairments of function and cognition continue to impair the quality of patients' lives (11–22). During the first year after the ICU, ARDS survivors commonly report debilitating insomnia, fatigue, and pain along with emotional lability, depression, and anxiety (12). In addition to ongoing functional limitations and decrements in physical quality of life, these survivors have psychological sequelae for as long as 5 years (13). A systematic review of depression in general ICU survivors found that the median point prevalence of clinically significant depressive symptoms within 14 months of ICU discharge was 28%, and depression in the early post-ICU period predicted longer-term depressive symptoms (21). ICU survivors also struggle with chronic pain that is associated with decrements in health-related quality of life (22). New and clinically significant cognitive impairment follows critical illness for a broad range of survivors (17). Some ICU patients surviving acute critical illness remain critically ill on a chronic basis, with protracted or permanent dependence on mechanical ventilation and other intensive care therapies (23). For this “chronically critically ill” patient group, symptom burden is heavy (24, 25), functional and cognitive outcomes are very poor (12, 26), and 1-year mortality is over 50%, exceeding that for many malignancies (25–27). Families struggle with their own symptoms and with strains of caregiving (9, 12, 28–31). Among family members of critically ill patients, anxiety and depression are common and may persist long after the ICU, along with posttraumatic stress disorder and complicated grief (32–34). Thus, a distinctive “postintensive care syndrome” is now recognized not only in patients but also in families (9). Effective integration of palliative care during the treatment of acute and chronic critical illness may help patients and families prepare more fully for challenges to come in the days, months, and years after discharge from intensive care.

In addition, the use of intensive care for patients approaching the end of life continues. Approximately one in five deaths

TABLE 1. Selected Differences Between Palliative Care and Hospice Care

Palliative Care	Hospice Care
Based on need: For people with serious and complex illness, regardless of prognosis	Based on prognosis: For people expected to live ≤ 6 mo
Can be provided together with appropriate restorative or life-sustaining treatment including intensive care therapy. No limitation on cardiopulmonary resuscitation status or life support is required	Strongly encourages the patient to forego restorative treatment and have concurrent care limitations, such as do-not-resuscitate and no transfer to ICU directives
Provided by ICU team and/or palliative care consultant to primary team	Hospice team assumes primary care responsibility

in the United States occurs during or shortly after intensive care, with more deaths occurring in the ICU than any other setting in the hospital (35). Although Medicare beneficiaries with severe chronic illness are less likely to die in the hospital and more likely to receive hospice care than they were a decade ago, ICU treatment during the last month of life has concurrently increased (36, 37). For Medicare patients receiving ICU treatment, particularly those who are mechanically ventilated, the risk of death within 3 years of discharge is nearly three times that of matched controls in the general population (38). These trends are likely to continue as aggressive medical and surgical treatments are offered to a growing population of older adults with multiple comorbid conditions. For now and the foreseeable future, palliative care will thus remain an essential element of critical care practice.

OPPORTUNITIES AND CHALLENGES FOR ICU PALLIATIVE CARE IMPROVEMENT

In this article, we focus on studies conducted in adult ICUs in North America and Europe, where existing data demonstrate important opportunities to improve all core components of palliative care in the ICU. For example, multiple studies confirm that symptom distress is still prevalent at high levels of severity among critically ill patients (25, 39–41). Communication between clinicians and families is often delayed and fragmented (42–44). When families meet with ICU physicians, they frequently have insufficient time to share their perspectives on the patient's goals and values or express their own concerns (44). ICU physicians may miss opportunities for empathic response to emotions, leaving families too distressed to absorb or integrate information they need for surrogate decision making (45, 46). Some patients spend their last days in the ICU because planning for care in a more suitable or preferred setting is inadequate. In addition, transitions from one

setting to another (e.g., acute care, critical care, long-term care, and home care) are increasingly frequent, but often without adequate support for patients and families (37). Among those who require prolonged mechanical ventilation, data show that during the year subsequent to ICU discharge, patients will make multiple transitions across a variety of facilities, spending an average of 74% of all days alive in a hospital or postacute care facility or dependent on a high level of home healthcare (47). Finally, the need to support clinicians more effectively for the emotional strains of ICU practice is evident from the widespread problems of burnout, depression, moral distress, and conflict across disciplines on the critical care team (48–55).

Ongoing challenges for optimal integration of palliative care in ICU settings have been identified (56–58), as summarized in **Table 2**. In a survey of a large, nationally representative sample of nurse and physician directors of U.S. adult ICUs, respondents reported on perceived barriers at the level of the patient/family, clinician, and institution (56). Important barriers included unrealistic expectations on the part of patients, families, and clinicians about patient prognosis or effectiveness of ICU treatment; inability of patients to participate in treatment discussions; insufficient training of physicians in relevant communication skills; and competing demands for clinicians' time. Similar perspectives have been articulated by critical care professionals in Europe, along with distinct issues facing these clinicians (57).

Special challenges for efforts to integrate palliative care in surgical ICU settings care have been noted. These include surgeons' strong sense of personal responsibility for patient outcomes (59–62), disparate surgical provider opinions about the adequacy of communication regarding prognosis (63), and what has been described as a "covenantal" relationship in which the surgeon is obligated to protect the patient and the patient is committed to undertake and endure all sequelae (59, 64). In a recent national survey of surgeons, more than 40% reported conflict with intensive care physicians and nurses with respect to appropriate goals of postoperative care (65). In addition, many responding surgeons described difficulties in managing clinical aspects of poor outcomes, communicating with the family and patient about such outcomes, and coping with their own discomfort about these outcomes (65).

SURROGATE DECISION MAKING

The vast majority of ICU patients are incapacitated and dependent on family or other surrogates for medical decision making (26, 66). Qualitative studies are increasingly illuminating the perspectives, concerns, and needs of these surrogates (67–69). Most surrogates favor timely discussion of prognosis by ICU clinicians as necessary for decision making for emotional and practical preparation for the possibility that the patient could die (67). Surrogates appear to recognize and accept that uncertainty about prognosis is unavoidable, yet still wish to discuss expected outcomes (70). At the same time, they experience intrapersonal tensions, acknowledging that information about an unfavorable prognosis may be painful as well as helpful (68, 69). Surrogate behaviors in response to these tensions include focusing on details rather than the larger picture, relying on

TABLE 2. Barriers to Better Integration of Palliative Care and Critical Care (56–58)

Unrealistic expectations for intensive care therapies on the part of patients, families, and clinicians
Misperception of palliative care and critical care as mutually exclusive or sequential rather than complementary and concurrent approaches
Conflation of palliative care with end-of-life or hospice care
Concern that incorporation of palliative care will hasten death
Insufficient training of clinicians in communication and other necessary skills to provide high-quality palliative care
Competing demands on ICU clinician effort, without adequate reward for palliative care excellence
Failure to apply effective approaches for system or culture change to improve palliative care

personal instincts or beliefs, and, at times, rejecting prognostic information (68). Awareness of surrogates' perspectives may help ICU clinicians more fully address their concerns and needs, thereby facilitating effective shared decision making.

ICU clinician approaches that maximize family-centered communication, provide support for families, and incorporate active listening are associated with increased family satisfaction, improved surrogate decision making, and psychological well-being of surrogates (44, 45, 71, 72). Based on qualitative research and expert opinion, clinicians are encouraged to help surrogates "plan for the worst" while "hoping for the best" (73). Other communication strategies suggested by existing evidence include explicit expression of empathy (46, 74); affirmative exploration of family concerns and comprehension with adequate time for listening by clinicians (42, 44); assurance that the patient will not be abandoned or allowed to suffer should life-sustaining treatments be withdrawn (71, 72); support for critical decisions made by family members, such as whether the patient would want to limit or continue life-sustaining therapies (71, 75); and, when possible, advance care planning discussions between surrogates and high-risk patients prior to the need for ICU care (76).

OPERATIONALIZING CORE PALLIATIVE CARE COMPONENTS AS MEASURES OF ICU QUALITY

Key domains of ICU palliative care quality have been identified and made operational as specific measures that focus on care processes and outcomes (77, 78). Focusing primarily on processes, the "Care and Communication Bundle" was developed and tested as part of a national performance improvement initiative by the Voluntary Hospital Association (VHA) (79). The measures in this bundle, which were posted by the National Quality Measures Clearinghouse of the Agency for Healthcare Research and Quality (80), are triggered by time periods in the ICU, with emphasis on proactive, early performance of key processes (e.g., identify medical decision maker and resuscitation status before day 2 in the ICU, offer social

work and spiritual care support before day 4, and conduct an interdisciplinary family meeting no later than day 5). Specifications are precise (e.g., the family meeting measure defines “interdisciplinary” as including at least the attending physician, a member of another discipline such as a nurse, social worker, or chaplain, and the patient and/or his or her family, as documented in the medical record, and must include discussion of prognosis, goals of care, and the patient’s and family’s needs and preferences) (79). Similar day 1 and day 3 communication measures were tested in a statewide ICU collaborative project in Rhode Island (81). Significant increases were seen in compliance with these measures, while improvements in compliance varied across ICU type with less improvement in open, nonteaching, and mixed medical-surgical ICUs. Most patient-specific outcome measures were unchanged, although there was an increase in patients discharged from ICU to inpatient hospice (81). Additional studies evaluating performance on ICU palliative care quality measures show wide variation both within and across hospitals and even within individual ICUs, as well as low performance levels overall on most items and little improvement over recent years (82–84).

The quality of ICU palliative care should also be evaluated by structure and outcome measures in addition to process measures (85–87). A recent monograph provides examples of structure and outcome measures, reviews their respective advantages and disadvantages, and discusses implementation as part of a quality improvement effort (88). The relationship of ICU palliative care process measures to desired patient and family outcomes requires further investigation.

CONSULTATIVE AND INTEGRATIVE MODELS FOR IMPROVING ICU PALLIATIVE CARE

Core elements of palliative care, such as basic symptom management and discussion of goals of care in relation to the patient’s prognosis and preferences, should be part of routine critical care practice and within the competency of all ICU clinicians. At times, however, optimal care of a critically ill patient may call for more advanced palliative care skills and interprofessional expert input. Goal-setting with a family experiencing unusual distress or internal conflict, supporting a bereaved family, or providing continuity of care after the patient is discharged from the ICU are examples of clinical challenges for which a critical care clinician might wish to obtain expert contributions from a palliative care team (89). At the present time, physician certification in hospice and palliative medicine in the United States requires completion of a full year of fellowship training that focuses specifically on knowledge and skills for interdisciplinary team care of diverse patients with serious and complex illness across inpatient and ambulatory settings (90, 91). Content areas include management of a broad range of physical and psychological symptoms and of spiritual and existential distress, prognostication of serious illness, communication about care goals in relation to patient values and preferences, ethical and legal aspects of decision making, transition planning, care during the dying process, and family support

including grief and bereavement care. Mastery of related content also supports palliative care specialty certification for qualified professionals in nursing, social work, and chaplaincy, who contribute to the fuller perspective and expertise of the consult team (92–94).

After a decade of rapid expansion, expert palliative care through a palliative care consultation service is now available at the majority of U.S. hospitals, although smaller and/or for-profit hospitals are less likely to have palliative care services available (95–97). Use of such specialists has been termed the “consultative model” for providing and improving palliative care in the ICU, as distinguished from the “integrative model” in which palliative care principles and processes are incorporated as part of routine practice by ICU clinicians (98). Combination of these approaches is referred to as a “mixed model” of ICU palliative care (98). Data suggest that each of these models can achieve success in palliative care improvement, with selection and implementation to be based on factors specific to the resources and needs of individual ICUs and institutions (98, 99). Workforce shortages may limit dependence on palliative care specialists, at least in the near term (95, 100). In addition, excessive reliance on specialty palliative care could fragment care as well as potentially undermine therapeutic relationships between patients and primary providers and diminish impetus for those providers to develop palliative care knowledge and skills (89). However, specific ICU environments or patient and family situations often benefit from specialist palliative care, particularly if palliative care has not already been fully integrated in the routine and culture of an ICU (99). A strong case can be made that the most effective model relies on the primary physician or treating specialist to manage straightforward palliative care problems in combination with referral to a palliative care specialist for more complex or refractory problems (89). This “mixed model” resembles the approach typically used to address infectious disease, cardiology, nephrology, and other specific issues arising in the care of critically ill patients.

Criteria that have been used to screen patients for unmet palliative care needs were recently reviewed (101). A recent analysis of the Project Impact database estimated that 14–20% of ICU patients meet commonly used “triggers” for palliative care consultation (100). Such criteria can “trigger” referral for palliative care consultation and, in addition, can prompt care processes implemented by the ICU team itself (101). To meet palliative needs of critically ill patients and families, it will be important both to increase the capability of ICU clinicians to provide basic palliative care and to expand the specialist palliative care workforce.

EVALUATION OF INTERVENTIONS INTEGRATING PALLIATIVE CARE AND CRITICAL CARE

A variety of interventions have been evaluated as strategies for improving palliative care in the adult ICU (**Appendix A**, Supplemental Digital Content 1, <http://links.lww.com/CCM/B45>).

Structured Approaches to Communication

Interventional research to date has focused mainly on testing proactive, structured approaches to clinician communication with families, implemented either by the interdisciplinary ICU team or by consultants specializing in palliative care or biomedical ethics (102–113). This research has been summarized in several comprehensive reviews (99, 114, 115). Most studies were conducted in a single center using a pre-post design. In those studies, the communication interventions were associated with significant reductions in resource utilization (e.g., shorter ICU length of stay [LOS]) without increases in mortality as well as with decreases in discordance among decision makers for ICU patients (102–104). However, in one of the largest pre-post studies conducted in five ICUs in two academic medical centers which tested the effect of regular, structured family meetings for patients in the ICU for 5 days or more, there was no significant reduction in ICU LOS or other utilization outcomes (112). On the other hand, a multicenter, randomized trial testing a protocol-based strategy for family meetings together with a brochure addressing bereavement found that family members had significant decreases in depression and posttraumatic stress disorder at 3 months after death of a loved one in the ICU (106). Informational brochures have also been independently evaluated and shown in a multicenter, prospective randomized trial to improve family comprehension and satisfaction with information provided by ICU clinicians (116).

Support for Families and Surrogate Decision Making

A number of interventions have been designed to support families of ICU patients through increased involvement of the families or more explicit support for surrogate decision making (117–123). Examples include an intervention promoting greater involvement of family members in patient care rounds (117); a critical care family assistance program (118); a social worker specifically counseling and supporting ICU families (119); and an ICU family clinic (120). These studies suggest such interventions are promising but require further evaluation. Ongoing randomized clinical trials are evaluating the impact of a nurse or social worker acting as a family support coordinator and functioning as a liaison between families and the healthcare team (121–123).

Decision Support Tools

Several tools have been developed to support surrogate decision making in the ICU. For example, a short video to support decision making about resuscitation increased surrogates' knowledge of cardiopulmonary resuscitation and the proportion of patients with do-not-resuscitate (DNR) directives at the time of ICU discharge or death (124). An ICU admission assessment tool to help identify surrogate decision makers and clarify decision-making standards was associated with shorter LOS and lower total hospital charges for patients requiring mechanical ventilation for 4 days or more (125). A decision aid for surrogates of patients on prolonged

mechanical ventilation was associated with less discordance between physicians and surrogates as well as with improved quality of communication as perceived by families and lower hospital costs (126).

Surgical ICU Interventions

A single center, before-after study tested a multifaceted, interdisciplinary intervention to integrate palliative care into standard care in a trauma ICU (127). After the intervention, symptom management and goals of care were discussed more frequently on rounds and, while ICU mortality was unchanged, the intervention was associated with shorter lengths of stay in the ICU and hospital for patients who died (127). A similar intervention at the same institution for liver transplant surgical ICU patients was associated with earlier consensus around goals of care, earlier and more frequent use of DNR and withdrawal of life-sustaining treatment orders, and shorter surgical ICU LOS, with unchanged mortality (128).

ICU Diaries, Order Sets, and “Death Rounds”

Some additional tools have been evaluated to support patients, families, and clinicians. A randomized, controlled multicenter study in Europe evaluated an intervention in which healthcare staff and family contributed to a handwritten diary including photographs that recorded events and experiences on a daily basis during the patient's ICU stay and was provided to the patient 1 month after ICU discharge (129). As measured at 3 months after the ICU, this intervention significantly reduced the incidence of new-onset post-traumatic stress disorder among survivors of critical illness when compared to usual care (129). Another tool included the development of standardized order sets to support clinicians, prepare families, and ensure patient comfort during limitation of life support (130, 131). Regular sessions for ICU clinician debriefing after patient deaths have been evaluated for supporting clinicians (132).

Multifaceted Quality Improvement

Multifaceted quality improvement approaches have also been used to improve palliative care in the ICU. The largest and most rigorous study to date was a multicenter, cluster-randomized controlled trial that tested a multicomponent intervention comprising education of ICU clinicians, identification of local palliative care “champions” in the ICU, standardization of palliative care order sets, and feedback to ICU clinicians about palliative care–related outcomes. Although this intervention was initially successful at the investigators' own center (133), the multicenter cluster-randomized trial found no differences in outcomes including quality of dying as assessed by families or nurses, family satisfaction, ICU LOS before death, or time from ICU admission to withdrawal of life-sustaining therapies (134). These studies suggest that such interventions may be more successful when generated by and targeted for the needs of each institution.

RESOURCES AVAILABLE TO SUPPORT INTEGRATING PALLIATIVE CARE AND CRITICAL CARE

Training Opportunities for ICU Clinicians

Several interventions have focused on training ICU clinicians to deliver palliative care more effectively. Some approaches include communication skills training (102, 103, 106, 107) and education on ethics and conflict resolution (104, 108, 135). For intensivists and hospitalists, the Harvard Medical School Center for Palliative Care offers an annual two-and-one-half-day course that provides clinicians with information and skills needed to offer high-quality palliative care to critically ill patients and their families (136). “Critical Care Communication” (C3), another intensive course focusing specifically on communication skills, was offered to physicians training in critical care at the University of Pittsburgh (137). In workshops for pediatric critical care providers, the “Program to Enhance Relational and Communication Skills” used “parent-actors” to simulate pediatric, values-based and/or end-of-life conversations (135, 138). The IntensiveTalk program, which trains ICU clinicians to teach palliative care communication skills to ICU fellows and colleagues, has been initiated on a pilot basis (139). A 1-day workshop was developed specifically to train bedside critical care nurses in skills they need for active and effective participation along with physicians in interdisciplinary meetings with ICU families (140). Of nurses receiving this training and surveyed before and after it ($n = 74$), the average proportion self-rating skills as “very good/excellent” rose significantly, and almost all nurses reported that, after training, they had an increased awareness of special contributions they could make and felt more able to initiate interdisciplinary family meetings (140). The End-of-Life Nursing Education Consortium, a national education initiative to improve palliative care, has developed a critical care–specific course for nurses (141). A before-after study in three medical and surgical ICUs in a single community hospital tested a 90-minute program of multidisciplinary team training to enhance communication with ICU families (142). Along with clinicians’ confidence in communication with families, family satisfaction with ICU communication improved significantly (142). A recent randomized trial of a communication skills building workshop for residents and nurse practitioners did not show an improvement in the patient- and family-level outcomes (143). These studies identify questions and challenges in showing improvements in patient and family outcomes with educational interventions.

Web-Based Resources

Extensive resources for use in ICU palliative care improvement efforts are readily accessible (Table 3). Many of these are available on the website of The Improving Palliative Care in the ICU (IPAL-ICU) Project, which is sponsored by the National Institutes of Health and the Center to Advance Palliative Care (144). This website provides a current library of relevant references, a variety of practical improvement tools (e.g., family meeting planner and documentation template, data collection

TABLE 3. Resources to Improve ICU-Based Palliative Care

Type	Resources
Web-based repository of clinical tools, curricula, expert guidance, and other resources for palliative care in the ICU	The Improving Palliative Care in the ICU Project (144)
Web-based repository of tools, resources, and educational materials for palliative care in VA facilities. Located on the VA’s Intranet, with access limited to VA employees	Implementation Center SharePoint, “Integrating Palliative Care in ICU”
Ongoing palliative care and communication training programs	Harvard Medical School Palliative Care for Hospitalists and Intensivists course (136)
	End-of-Life Nursing Education Consortium—Critical Care Program (141)
	Program to enhance relational and communication skills (135, 138)
	IntensiveTalk (139)

VA = Veterans Affairs.

instrument for quality monitoring, and pocket cards for guidance on symptom management and communication), materials for patients and families (e.g., family meeting brochure), and links to curricula for professional education. In addition, the IPAL-ICU Advisory Board has published an expanding series of articles addressing key issues for efforts to improve palliative care in critical care settings (98, 101, 145–148).

Professional Practice Recommendations

Multiple societies representing critical care professionals have published practice recommendations and/or guidelines related to important aspects of ICU palliative care, and these are evidence-based and extensively referenced (4–7, 149–154). For example, the American College of Critical Care Medicine has published consensus recommendations for end-of-life care in the ICU (6) as well as clinical practice guidelines for support of the family in the patient-centered ICU (149) and for management of pain, agitation, and delirium (150). Similarly, the American Thoracic Society (ATS) published a clinical policy statement on palliative care for patients with respiratory diseases and critical illnesses (4). The American College of Chest Physicians (ACCP) published a position statement on palliative and end-of-life care for patients with cardiopulmonary diseases (5). In addition, both ATS and ACCP have specifically addressed the management of dyspnea (151, 152). The American Heart Association (AHA) and American College of Cardiology Foundation included palliative care in their management plan for patients with severe congestive heart

failure (153), and the AHA and American Stroke Association have a recently published statement advocating for palliative care for stroke patients (154). Finally, among five recommendations published as part of the “Choosing Wisely” campaign, the Critical Care Societies Collaborative recommends that clinicians not “continue life support for patients at high risk for death or severely impaired functional recovery without offering patients and their families the alternative of care focused entirely on comfort” (155). These and other resources can help ICU clinicians to strengthen their knowledge and skills and to obtain guidance for providing palliative care as a routine part of their critical care practice.

TARGETS FOR FUTURE RESEARCH

Little more than a decade ago, palliative care and intensive care were seen as mutually exclusive approaches to care of the critically ill. Although it is now recognized that palliative care is an essential component of comprehensive care for critically ill patients, further research is needed to understand how to provide this care most effectively and efficiently in the ICU and how to support ICU survivors with palliative care after ICU discharge. To evaluate the quality of existing palliative care and to measure the impact of future interventions designed to improve care, it will be important to identify and validate outcomes that are patient and/or family centered and that are sensitive to ICU-based palliative care practice and variation (78). Identifying and validating outcomes for ICU palliative care raises challenges, but these challenges must be addressed if we are to document improvements in the quality of palliative care for the critically ill. As the sequelae of critical illness and ICU treatment become clearer (9, 10), the long-term impact of interventions initiated in and after the ICU will need additional study (156). Future research should evaluate the effects of such interventions on diverse long-term patient- and family-centered outcomes, including physical and psychological distress, quality of life, and decisional regret.

SUMMARY

Palliative care evaluates and treats patient symptoms, provides psychosocial support for patients and families, and identifies and integrates a patient’s personal goals into medical treatment. Over the last 2 decades, intervention studies have explored how to better provide palliative care together with critical care, including incorporating palliative care specialists and supporting critical care clinicians in the delivery of primary palliative care. These studies suggest benefits of palliative care, although the most effective and efficient ways to achieve these benefits are not yet clear. Critical care professional society statements call for delivery of primary palliative care by ICU clinicians as well as provision of specialist palliative care, when needed. Existing educational tools and resources enable ICU providers to improve their palliative care knowledge and skills. Future research is needed to better determine how best to provide palliative care to critically ill patients and their families both in the ICU and beyond.

REFERENCES

1. Nelson JE, Puntillo KA, Pronovost PJ, et al: In their own words: Patients and families define high-quality palliative care in the intensive care unit. *Crit Care Med* 2010; 38:808–818
2. National Consensus for Quality Palliative Care: Clinical Practice Guidelines for Quality Palliative Care, Third Edition. Available at: <http://www.nationalconsensusproject.org>. Accessed May 5, 2014
3. Clarke EB, Curtis JR, Luce JM, et al; Robert Wood Johnson Foundation Critical Care End-Of-Life Peer Workgroup Members: Quality indicators for end-of-life care in the intensive care unit. *Crit Care Med* 2003; 31:2255–2262
4. Lanken PN, Terry PB, Delisser HM, et al; ATS End-of-Life Care Task Force: An official American Thoracic Society clinical policy statement: Palliative care for patients with respiratory diseases and critical illnesses. *Am J Respir Crit Care Med* 2008; 177:912–927
5. Selecky PA, Eliasson CA, Hall RI, et al; American College of Chest Physicians: Palliative and end-of-life care for patients with cardiopulmonary diseases: American College of Chest Physicians position statement. *Chest* 2005; 128:3599–3610
6. Truog RD, Campbell ML, Curtis JR, et al; American Academy of Critical Care Medicine: Recommendations for end-of-life care in the intensive care unit: A consensus statement by the American College [corrected] of Critical Care Medicine. *Crit Care Med* 2008; 36:953–963
7. Carlet J, Thijs LG, Antonelli M, et al: Challenges in end-of-life care in the ICU. Statement of the 5th International Consensus Conference in Critical Care: Brussels, Belgium, April 2003. *Intensive Care Med* 2004; 30:770–784
8. World Health Organization: Palliative Care Is an Essential Part of Cancer Control. Available at: <http://www.who.int/cancer/palliative/en/>. Accessed May 5, 2014
9. Needham DM, Davidson J, Cohen H, et al: Improving long-term outcomes after discharge from intensive care unit: Report from a stakeholders’ conference. *Crit Care Med* 2012; 40:502–509
10. Stevens RD, Hart N, Herridge MS (Eds): *A Textbook of Post-ICU Medicine: The Legacy of Critical Care*. Oxford, Oxford University Press, 2014
11. Choi J, Hoffman LA, Schulz R, et al: Self-reported physical symptoms in intensive care unit (ICU) survivors: Pilot exploration over four months post-ICU discharge. *J Pain Symptom Manage* 2014; 47:257–270
12. Cox CE, Docherty SL, Brandon DH, et al: Surviving critical illness: Acute respiratory distress syndrome as experienced by patients and their caregivers. *Crit Care Med* 2009; 37:2702–2708
13. Herridge MS, Tansey CM, Matté A, et al; Canadian Critical Care Trials Group: Functional disability 5 years after acute respiratory distress syndrome. *N Engl J Med* 2011; 364:1293–1304
14. Adhikari NK, Tansey CM, McAndrews MP, et al: Self-reported depressive symptoms and memory complaints in survivors five years after ARDS. *Chest* 2011; 140:1484–1493
15. Herridge MS, Cheung AM, Tansey CM, et al; Canadian Critical Care Trials Group: One-year outcomes in survivors of the acute respiratory distress syndrome. *N Engl J Med* 2003; 348:683–693
16. Dowdy DW, Eid MP, Sedrakyan A, et al: Quality of life in adult survivors of critical illness: A systematic review of the literature. *Intensive Care Med* 2005; 31:611–620
17. Pandharipande PP, Girard TD, Jackson JC, et al; BRAIN-ICU Study Investigators: Long-term cognitive impairment after critical illness. *N Engl J Med* 2013; 369:1306–1316
18. Iwashyna TJ, Ely EW, Smith DM, et al: Long-term cognitive impairment and functional disability among survivors of severe sepsis. *JAMA* 2010; 304:1787–1794
19. Jones C, Griffiths RD, Humphris G, et al: Memory, delusions, and the development of acute posttraumatic stress disorder-related symptoms after intensive care. *Crit Care Med* 2001; 29:573–580
20. Davydow DS, Gifford JM, Desai SV, et al: Posttraumatic stress disorder in general intensive care unit survivors: A systematic review. *Gen Hosp Psychiatry* 2008; 30:421–434
21. Davydow DS, Gifford JM, Desai SV, et al: Depression in general intensive care unit survivors: A systematic review. *Intensive Care Med* 2009; 35:796–809

22. Boyle M, Murgo M, Adamson H, et al: The effect of chronic pain on health related quality of life amongst intensive care survivors. *Aust Crit Care* 2004; 17:104–106, 108–113
23. Nelson JE, Cox CE, Hope AA, et al: Chronic critical illness. *Am J Respir Crit Care Med* 2010; 182:446–454
24. Jubran A, Lawm G, Kelly J, et al: Depressive disorders during weaning from prolonged mechanical ventilation. *Intensive Care Med* 2010; 36:828–835
25. Nelson JE, Meier DE, Litke A, et al: The symptom burden of chronic critical illness. *Crit Care Med* 2004; 32:1527–1534
26. Nelson JE, Tandon N, Mercado AF, et al: Brain dysfunction: Another burden for the chronically critically ill. *Arch Intern Med* 2006; 166:1993–1999
27. Carson SS, Kahn JM, Hough CL, et al; ProVent Investigators: A multicenter mortality prediction model for patients receiving prolonged mechanical ventilation. *Crit Care Med* 2012; 40:1171–1176
28. Swoboda SM, Lipsett PA: Impact of a prolonged surgical critical illness on patients' families. *Am J Crit Care* 2002; 11:459–466
29. Van Pelt DC, Milbrandt EB, Qin L, et al: Informal caregiver burden among survivors of prolonged mechanical ventilation. *Am J Respir Crit Care Med* 2007; 175:167–173
30. Choi J, Donahoe MP, Zullo TG, et al: Caregivers of the chronically critically ill after discharge from the intensive care unit: Six months' experience. *Am J Crit Care* 2011; 20:12–22; quiz 23
31. de Miranda S, Pochard F, Chaize M, et al: Postintensive care unit psychological burden in patients with chronic obstructive pulmonary disease and informal caregivers: A multicenter study. *Crit Care Med* 2011; 39:112–118
32. Pochard F, Darmon M, Fassier T, et al; French FAMIREA study group: Symptoms of anxiety and depression in family members of intensive care unit patients before discharge or death. A prospective multicenter study. *J Crit Care* 2005; 20:90–96
33. Anderson WG, Arnold RM, Angus DC, et al: Posttraumatic stress and complicated grief in family members of patients in the intensive care unit. *J Gen Intern Med* 2008; 23:1871–1876
34. Siegel MD, Hayes E, Vanderwerker LC, et al: Psychiatric illness in the next of kin of patients who die in the intensive care unit. *Crit Care Med* 2008; 36:1722–1728
35. Angus DC, Barnato AE, Linde-Zwirble WT, et al; Robert Wood Johnson Foundation ICU End-Of-Life Peer Group: Use of intensive care at the end of life in the United States: An epidemiologic study. *Crit Care Med* 2004; 32:638–643
36. Goodman DC, Esty AR, Fisher ES, et al: Trends and Variation in End-of-Life Care for Medicare Beneficiaries With Severe Chronic Illness. The Dartmouth Institute for Health Policy & Clinical Practice. April 12, 2011. Available at: http://www.dartmouthatlas.org/downloads/reports/EOL_Trend_Report_0411.pdf. Accessed May 5, 2014
37. Teno JM, Gozalo PL, Bynum JP, et al: Change in end-of-life care for Medicare beneficiaries: Site of death, place of care, and health care transitions in 2000, 2005, and 2009. *JAMA* 2013; 309:470–477
38. Wunsch H, Guerra C, Barnato AE, et al: Three-year outcomes for Medicare beneficiaries who survive intensive care. *JAMA* 2010; 303:849–856
39. Nelson JE, Meier DE, Oei EJ, et al: Self-reported symptom experience of critically ill cancer patients receiving intensive care. *Crit Care Med* 2001; 29:277–282
40. Puntillo KA, Arai S, Cohen NH, et al: Symptoms experienced by intensive care unit patients at high risk of dying. *Crit Care Med* 2010; 38:2155–2160
41. Puntillo KA, Max A, Timsit JF, et al: Determinants of procedural pain intensity in the intensive care unit. The Europain® study. *Am J Respir Crit Care Med* 2014; 189:39–47
42. Azoulay E, Chevret S, Leleu G, et al: Half the families of intensive care unit patients experience inadequate communication with physicians. *Crit Care Med* 2000; 28:3044–3049
43. White DB, Braddock CH III, Bereiknyei S, et al: Toward shared decision making at the end of life in intensive care units: Opportunities for improvement. *Arch Intern Med* 2007; 167:461–467
44. McDonagh JR, Elliott TB, Engelberg RA, et al: Family satisfaction with family conferences about end-of-life care in the intensive care unit: Increased proportion of family speech is associated with increased satisfaction. *Crit Care Med* 2004; 32:1484–1488
45. Curtis JR, Engelberg RA, Wenrich MD, et al: Missed opportunities during family conferences about end-of-life care in the intensive care unit. *Am J Respir Crit Care Med* 2005; 171:844–849
46. Selph RB, Shiang J, Engelberg R, et al: Empathy and life support decisions in intensive care units. *J Gen Intern Med* 2008; 23:1311–1317
47. Unroe M, Kahn JM, Carson SS, et al: One-year trajectories of care and resource utilization for recipients of prolonged mechanical ventilation: A cohort study. *Ann Intern Med* 2010; 153:167–175
48. Azoulay E, Timsit JF, Sprung CL, et al; Conflicus Study Investigators and for the Ethics Section of the European Society of Intensive Care Medicine: Prevalence and factors of intensive care unit conflicts: The conflicus study. *Am J Respir Crit Care Med* 2009; 180:853–860
49. Studdert DM, Mello MM, Burns JP, et al: Conflict in the care of patients with prolonged stay in the ICU: Types, sources, and predictors. *Intensive Care Med* 2003; 29:1489–1497
50. Breen CM, Abernethy AP, Abbott KH, et al: Conflict associated with decisions to limit life-sustaining treatment in intensive care units. *J Gen Intern Med* 2001; 16:283–289
51. Piers RD, Azoulay E, Ricou B, et al; APPROPRIATUS Study Group of the Ethics Section of the ESICM: Perceptions of appropriateness of care among European and Israeli intensive care unit nurses and physicians. *JAMA* 2011; 306:2694–2703
52. Poncet MC, Toullic P, Papazian L, et al: Burnout syndrome in critical care nursing staff. *Am J Respir Crit Care Med* 2007; 175:698–704
53. Curtis JR, Burt RA: Why are critical care clinicians so powerfully distressed by family demands for futile care? *J Crit Care* 2003; 18:22–24
54. Embriaco N, Azoulay E, Barrau K, et al: High level of burnout in intensivists: Prevalence and associated factors. *Am J Respir Crit Care Med* 2007; 175:686–692
55. Embriaco N, Hraiech S, Azoulay E, et al: Symptoms of depression in ICU physicians. *Ann Intensive Care* 2012; 2:34
56. Nelson JE: Identifying and overcoming the barriers to high-quality palliative care in the intensive care unit. *Crit Care Med* 2006; 34:S324–S331
57. Fassier T, Lautrette A, Ciroldi M, et al: Care at the end of life in critically ill patients: The European perspective. *Curr Opin Crit Care* 2005; 11:616–623
58. Kirchhoff KT, Beckstrand RL: Critical care nurses' perceptions of obstacles and helpful behaviors in providing end-of-life care to dying patients. *Am J Crit Care* 2000; 9:96–105
59. Cassell J, Buchman TG, Streat S, et al: Surgeons, intensivists, and the covenant of care: Administrative models and values affecting care at the end of life—Updated. *Crit Care Med* 2003; 31:1551–1557; discussion 1557–1559
60. Buchman TG, Cassell J, Ray SE, et al: Who should manage the dying patient? Rescue, shame, and the surgical ICU dilemma. *J Am Coll Surg* 2002; 194:665–673
61. Nuland S: *How We Die*. New York, Knopf, 1993
62. Schwarze ML, Bradley CT, Brasel KJ: Surgical “buy-in”: The contractual relationship between surgeons and patients that influences decisions regarding life-supporting therapy. *Crit Care Med* 2010; 38:843–848
63. Aslakson RA, Wyskiel R, Shaeffer D, et al: Surgical intensive care unit clinician estimates of the adequacy of communication regarding patient prognosis. *Crit Care* 2010; 14:R218
64. Buchman TG: Surgeons and their patients near the end of life. *Crit Care Med* 2010; 38:995–996
65. Paul Olson TJ, Brasel KJ, Redmann AJ, et al: Surgeon-reported conflict with intensivists about postoperative goals of care. *JAMA Surg* 2013; 148:29–35
66. Prendergast TJ, Luce JM: Increasing incidence of withholding and withdrawal of life support from the critically ill. *Am J Respir Crit Care Med* 1997; 155:15–20
67. Apatira L, Boyd EA, Malvar G, et al: Hope, truth, and preparing for death: Perspectives of surrogate decision makers. *Ann Intern Med* 2008; 149:861–868
68. Schenker Y, White DB, Crowley-Matoka M, et al: “It hurts to know, and it helps”: Exploring how surrogates in the ICU cope with prognostic information. *J Palliat Med* 2013; 16:243–249

69. Schenker Y, Crowley-Matoka M, Dohan D, et al: I don't want to be the one saying 'we should just let him die': Intrapersonal tensions experienced by surrogate decision makers in the ICU. *J Gen Intern Med* 2012; 27:1657–1665
70. Evans LR, Boyd EA, Malvar G, et al: Surrogate decision-makers' perspectives on discussing prognosis in the face of uncertainty. *Am J Respir Crit Care Med* 2009; 179:48–53
71. Stapleton RD, Engelberg RA, Wenrich MD, et al: Clinician statements and family satisfaction with family conferences in the intensive care unit. *Crit Care Med* 2006; 34:1679–1685
72. West HF, Engelberg RA, Wenrich MD, et al: Expressions of nonabandonment during the intensive care unit family conference. *J Palliat Med* 2005; 8:797–807
73. Back AL, Arnold RM, Quill TE: Hope for the best, and prepare for the worst. *Ann Intern Med* 2003; 138:439–443
74. Pollak KI, Arnold RM, Jeffreys AS, et al: Oncologist communication about emotion during visits with patients with advanced cancer. *J Clin Oncol* 2007; 25:5748–5752
75. Back AL, Arnold RM, Baile WF, et al: Approaching difficult communication tasks in oncology. *CA Cancer J Clin* 2005; 55:164–177
76. Majesko A, Hong SY, Weissfeld L, et al: Identifying family members who may struggle in the role of surrogate decision maker. *Crit Care Med* 2012; 40:2281–2286
77. Mularski RA, Curtis JR, Billings JA, et al: Proposed quality measures for palliative care in the critically ill: A consensus from the Robert Wood Johnson Foundation Critical Care Workgroup. *Crit Care Med* 2006; 34:S404–S411
78. Aslakson RA, Bridges JF: Assessing the impact of palliative care in the intensive care unit through the lens of patient-centered outcomes research. *Curr Opin Crit Care* 2013; 19:504–510
79. Nelson JE, Mulkerin CM, Adams LL, et al: Improving comfort and communication in the ICU: A practical new tool for palliative care performance measurement and feedback. *Qual Saf Health Care* 2006; 15:264–271
80. National Quality Measures Clearinghouse sponsored by the Agency for Healthcare Research and Quality: Care and Communication Quality Measures [set] at the National Quality Measures Clearinghouse. Available at: <http://www.qualitymeasures.ahrq.gov>. Accessed May 5, 2014
81. Black MD, Vigorito MC, Curtis JR, et al: A multifaceted intervention to improve compliance with process measures for ICU clinician communication with ICU patients and families. *Crit Care Med* 2013; 41:2275–2283
82. Penrod JD, Pronovost PJ, Livote EE, et al: Meeting standards of high-quality intensive care unit palliative care: Clinical performance and predictors. *Crit Care Med* 2012; 40:1105–1112
83. DeCato TW, Engelberg RA, Downey L, et al: Hospital variation and temporal trends in palliative and end-of-life care in the ICU. *Crit Care Med* 2013; 41:1405–1411
84. Penrod JD, Luhrs CA, Livote EE, et al: Implementation and evaluation of a network-based pilot program to improve palliative care in the intensive care unit. *J Pain Symptom Manage* 2011; 42:668–671
85. Donabedian A: Evaluating the quality of medical care. *Milbank Mem Fun Q* 1966; 44(Suppl):166–206
86. Pronovost PJ, Miller MR, Dorman T, et al: Developing and implementing measures of quality of care in the intensive care unit. *Curr Opin Crit Care* 2001; 7:297–303
87. Curtis JR, Cook DJ, Wall RJ, et al: Intensive care unit quality improvement: A "how-to" guide for the interdisciplinary team. *Crit Care Med* 2006; 34:211–218
88. Improving Palliative Care in the ICU (IPAL-ICU): Evaluation of ICU Palliative Care Quality. Available at: <http://ipal.ccapc.org/downloads/ipal-icu-evaluation-of-icu-palliative-care-quality.pdf>. Accessed May 5, 2014
89. Quill TE, Abernethy AP: Generalist plus specialist palliative care—Creating a more sustainable model. *N Engl J Med* 2013; 368:1173–1175
90. Accreditation Council for Graduate Medical Education: ACGME Program Requirements for Graduate Medical Education in Hospice and Palliative Medicine. Available at: http://www.acgme.org/acgmeweb/Portals/0/PFAssets/ProgramRequirements/540_hospice_and_palliative_medicine_07012014_1-YR.pdf. Accessed August 1, 2014
91. American Board of Internal Medicine: Hospice and Palliative Medicine Policies. Available at: <http://www.abim.org/certification/policies/imss/hospice.aspx#ccr>. Accessed August 1, 2014
92. Board of Chaplaincy Certification Inc: Hospice & Palliative Care Specialty Certification. Available at: <http://bcciprofessionalchaplains.org/content.asp?contentid=45>. Accessed August 1, 2014
93. National Board for Certification of Hospice and Palliative Nurses. Available at: <http://www.nbchpn.org/>. Accessed August 1, 2014
94. National Board for Certification of Hospice and Palliative Care Nurses: National Association of Social Workers: The Certified Hospice and Palliative Social Worker (CHP-SW). Available at: <http://www.socialworkers.org/credentials/credentials/chpsw.asp>. Accessed August 1, 2014
95. Goldsmith B, Dietrich J, Du Q, et al: Variability in access to hospital palliative care in the United States. *J Palliat Med* 2008; 11:1094–1102
96. Center to Advance Palliative Care: Growth of Palliative Care in U.S. Hospitals 2012 Snapshot. Available at: <http://www.ccapc.org/capc-growth-analysis-snapshot-2011.pdf>. Accessed May 5, 2014
97. Center to Advance Palliative Care: A State-by-State Report Card on Access to Palliative Care in Our Nation's Hospitals. Available at: <http://reportcard.ccapc.org/pdf/state-by-state-report-card.pdf>. Accessed August 1, 2014
98. Nelson JE, Bassett R, Boss RD, et al: Improve Palliative Care in the Intensive Care Unit Project: Models for structuring a clinical initiative to enhance palliative care in the intensive care unit: A report from the IPAL-ICU Project (Improving Palliative Care in the ICU). *Crit Care Med* 2010; 38:1765–1772
99. Aslakson R, Cheng J, Vollenweider D, et al: Evidence-based palliative care in the intensive care unit: A systematic review of interventions. *J Palliat Med* 2014; 17:219–235
100. Hua MS, Li G, Blinderman CD, et al: Estimates of the need for palliative care consultation across united states intensive care units using a trigger-based model. *Am J Respir Crit Care Med* 2014; 189:428–436
101. Nelson JE, Curtis JR, Mulkerin C, et al: Improving Palliative Care in the ICU (IPAL-ICU) Project Advisory Board: 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. *Crit Care Med* 2013; 41:2318–2327
102. Lilly CM, De Meo DL, Sonna LA, et al: An intensive communication intervention for the critically ill. *Am J Med* 2000; 109:469–475
103. Lilly CM, Sonna LA, Haley KJ, et al: Intensive communication: Four-year follow-up from a clinical practice study. *Crit Care Med* 2003; 31:S394–S399
104. Schneiderman LJ, Gilmer T, Teetzel HD, et al: Effect of ethics consultations on nonbeneficial life-sustaining treatments in the intensive care setting: A randomized controlled trial. *JAMA* 2003; 290:1166–1172
105. Campbell ML, Guzman JA: Impact of a proactive approach to improve end-of-life care in a medical ICU. *Chest* 2003; 123:266–271
106. Lautrette A, Darmon M, Megarbane B, et al: A communication strategy and brochure for relatives of patients dying in the ICU. *N Engl J Med* 2007; 356:469–478
107. Norton SA, Hogan LA, Holloway RG, et al: Proactive palliative care in the medical intensive care unit: Effects on length of stay for selected high-risk patients. *Crit Care Med* 2007; 35:1530–1535
108. Holloran SD, Starkey GW, Burke PA, et al: An educational intervention in the surgical intensive care unit to improve ethical decisions. *Surgery* 1995; 118:294–298; discussion 298–299
109. Dowdy MD, Robertson C, Bander JA: A study of proactive ethics consultation for critically and terminally ill patients with extended lengths of stay. *Crit Care Med* 1998; 26:252–259
110. Medland JJ, Ferrans CE: Effectiveness of a structured communication program for family members of patients in an ICU. *Am J Crit Care* 1998; 7:24–29
111. Carlson RW, Devich L, Frank RR: Development of a comprehensive supportive care team for the hopelessly ill on a university hospital medical service. *JAMA* 1988; 259:378–383
112. Daly BJ, Douglas SL, O'Toole E, et al: Effectiveness trial of an intensive communication structure for families of long-stay ICU patients. *Chest* 2010; 138:1340–1348
113. Andereck WS, McGaughy JW, Schneiderman LJ, et al: Seeking to reduce nonbeneficial treatment in the ICU: An exploratory trial of proactive ethics intervention. *Crit Care Med* 2014; 42:824–830

114. Scheunemann LP, McDevitt M, Carson SS, et al: Randomized, controlled trials of interventions to improve communication in intensive care: A systematic review. *Chest* 2011; 139:543–554
115. Schaefer KG, Block SD: Physician communication with families in the ICU: Evidence-based strategies for improvement. *Curr Opin Crit Care* 2009; 15:569–577
116. Azoulay E, Pochard F, Chevret S, et al: Impact of a family information leaflet on effectiveness of information provided to family members of intensive care unit patients: A multicenter, prospective, randomized, controlled trial. *Am J Respir Crit Care Med* 2002; 165:438–442
117. Jacobowski NL, Girard TD, Mulder JA, et al: Communication in critical care: Family rounds in the intensive care unit. *Am J Crit Care* 2010; 19:421–430
118. Dowling J, Vender J, Guilianelli S, et al: A model of family-centered care and satisfaction predictors: The critical care family assistance program. *Chest* 2005; 128:81S–92S
119. Burns JP, Mello MM, Studdert DM, et al: Results of a clinical trial on care improvement for the critically ill. *Crit Care Med* 2003; 31:2107–2117
120. Steel A, Underwood C, Notley C, et al: The impact of offering a relatives' clinic on the satisfaction of the next-of-kin of critical care patients—A prospective time-interrupted trial. *Intensive Crit Care Nurs* 2008; 24:122–129
121. Shelton W, Moore CD, Socaris S, et al: The effect of a family support intervention on family satisfaction, length-of-stay, and cost of care in the intensive care unit. *Crit Care Med* 2010; 38:1315–1320
122. White DB, Cua SM, Walk R, et al: Nurse-led intervention to improve surrogate decision making for patients with advanced critical illness. *Am J Crit Care* 2012; 21:396–409
123. Curtis JR, Ciechanowski PS, Downey L, et al: Development and evaluation of an interprofessional communication intervention to improve family outcomes in the ICU. *Contemp Clin Trials* 2012; 33:1245–1254
124. McCannon JB, O'Donnell WJ, Thompson BT, et al: Augmenting communication and decision making in the intensive care unit with a cardiopulmonary resuscitation video decision support tool: A temporal intervention study. *J Palliat Med* 2012; 15:1382–1387
125. Hatler CW, Grove C, Strickland S, et al: The effect of completing a surrogacy information and decision-making tool upon admission to an intensive care unit on length of stay and charges. *J Clin Ethics* 2012; 23:129–138
126. Cox CE, Lewis CL, Hanson LC, et al: Development and pilot testing of a decision aid for surrogates of patients with prolonged mechanical ventilation. *Crit Care Med* 2012; 40:2327–2334
127. Mosenthal AC, Murphy PA, Barker LK, et al: Changing the culture around end-of-life care in the trauma intensive care unit. *J Trauma* 2008; 64:1587–1593
128. Lamba S, Murphy P, McVicker S, et al: Changing end-of-life care practice for liver transplant service patients: Structured palliative care intervention in the surgical intensive care unit. *J Pain Symptom Manage* 2012; 44:508–519
129. Jones C, Bäckman C, Capuzzo M, et al; RACHEL group: Intensive care diaries reduce new onset post traumatic stress disorder following critical illness: A randomised, controlled trial. *Crit Care* 2010; 14:R168
130. Treece PD, Engelberg RA, Crowley L, et al: Evaluation of a standardized order form for the withdrawal of life support in the intensive care unit. *Crit Care Med* 2004; 32:1141–1148
131. Improving Palliative Care in the ICU (IPAL-ICU): Improvement Tools. Available at: <http://www.ccapc.org/ipal/ipal-icu/improvement-and-clinical-tools>. Accessed May 5, 2014
132. Hough CL, Hudson LD, Salud A, et al: Death rounds: End-of-life discussions among medical residents in the intensive care unit. *J Crit Care* 2005; 20:20–25
133. Curtis JR, Treece PD, Nielsen EL, et al: Integrating palliative and critical care: Evaluation of a quality-improvement intervention. *Am J Respir Crit Care Med* 2008; 178:269–275
134. Curtis JR, Nielsen EL, Treece PD, et al: Effect of a quality-improvement intervention on end-of-life care in the intensive care unit: A randomized trial. *Am J Respir Crit Care Med* 2011; 183:348–355
135. Browning DM, Meyer EC, Truog RD, et al: Difficult conversations in health care: Cultivating relational learning to address the hidden curriculum. *Acad Med* 2007; 82:905–913
136. Harvard Medical School—Center for Palliative Care: Palliative Care for Hospitalists and Intensivists (PCFHI). Available at: <http://www.hms.harvard.edu/pallcare/PCFHI/PCFHI.htm>. Accessed May 5, 2014
137. Arnold RM, Back AL, Emler LL, et al: A communication course for intensive care unit fellows: *Med Encounter* 2010; 24:189 (abstract)
138. Meyer EC, Sellers DE, Browning DM, et al: Difficult conversations: Improving communication skills and relational abilities in health care. *Pediatr Crit Care Med* 2009; 10:352–359
139. The University of Pittsburgh and the University of Washington: Intensive talk: Communication Skills for Critical Care Physicians. Available at: <http://depts.washington.edu/icutalk/>. Accessed May 5, 2014
140. Krimshtein NS, Luhrs CA, Puntillo KA, et al: Training nurses for interdisciplinary communication with families in the intensive care unit: An intervention. *J Palliat Med* 2011; 14:1325–1332
141. American Association of Colleges of Nursing: The End of Life Nursing Education Consortium—Critical Care Training Program. Available at: <http://www.aacn.nche.edu/ELNEC/CriticalCare.htm>. Accessed May 5, 2014
142. Shaw DJ, Davidson JE, Smilde RI, et al: Multidisciplinary team training to enhance family communication in the ICU. *Crit Care Med* 2014; 42:265–271
143. Curtis JR, Back AL, Ford DW, et al: Effect of communication skills training for residents and nurse practitioners on quality of communication with patients with serious illness: A randomized trial. *JAMA* 2013; 310:2271–2281
144. Center to Advance Palliative Care: Improving Palliative Care in the ICU (IPAL-ICU). Available at: <http://www.ccapc.org/ipal-icu/>. Accessed May 5, 2014
145. Mosenthal AC, Weissman DE, Curtis JR, et al: Integrating palliative care in the surgical and trauma intensive care unit: A report from the Improving Palliative Care in the Intensive Care Unit (IPAL-ICU) Project Advisory Board and the Center to Advance Palliative Care. *Crit Care Med* 2012; 40:1199–1206
146. Nelson JE, Cortez TB, Curtis JR, et al; The IPAL-ICU Project™: Integrating Palliative Care in the ICU: The nurse in a leading role. *J Hosp Palliat Nurs* 2011; 13:89–94
147. Lustbader DR, Nelson JE, Weissman DE, et al; IPAL-ICU Project: Physician reimbursement for critical care services integrating palliative care for patients who are critically ill. *Chest* 2012; 141:787–792
148. Puntillo K, Nelson JE, Weissman D, et al: Palliative care in the ICU: Relief of pain, dyspnea, and thirst—A report from the IPAL-ICU Advisory Board. *Intensive Care Med* 2014; 40:235–248
149. Davidson JE, Powers K, Hedayat KM, et al; American College of Critical Care Medicine Task Force 2004-2005, Society of Critical Care Medicine: Clinical practice guidelines for support of the family in the patient-centered intensive care unit: American College of Critical Care Medicine Task Force 2004-2005. *Crit Care Med* 2007; 35:605–622
150. Barr J, Fraser GL, Puntillo K, et al; American College of Critical Care Medicine: Clinical practice guidelines for the management of pain, agitation, and delirium in adult patients in the intensive care unit. *Crit Care Med* 2013; 41:263–306
151. Mahler DA, Selecky PA, Harrod CG, et al: American College of Chest Physicians consensus statement on the management of dyspnea in patients with advanced lung or heart disease. *Chest* 2010; 137:674–691
152. Mularski RA, Reinke LF, Carrieri-Kohlman V, et al; ATS Ad Hoc Committee on Palliative Management of Dyspnea Crisis: An official American Thoracic Society workshop report: Assessment and palliative management of dyspnea crisis. *Ann Am Thorac Soc* 2013; 10:S98–S106
153. Yancy CW, Jessup M, Bozkurt B, et al: 2013 American College of Cardiology Foundation/American Heart Association guideline for the management of heart failure. *Circulation* 2013; 128:e240–e327
154. Holloway RG, Arnold RM, Creutzfeldt CJ, et al; American Heart Association Stroke Council, Council on Cardiovascular and Stroke

- Nursing, and Council on Clinical Cardiology: Palliative and end-of-life care in stroke: A statement for healthcare professionals from the American Heart Association/American Stroke Association. *Stroke* 2014; 45:1887–1916
155. Choosing Wisely Campaign: Critical Care Societies Collaborative. Critical Care—Five Things Physicians and Patients Should Question. Available at: <http://www.choosingwisely.org/wp-content/uploads/2014/01/SCCM-5things-List-012014.pdf>. Accessed May 5, 2014
156. Cox CE, Porter LS, Buck PJ, et al: Development and preliminary evaluation of a telephone-based mindfulness training intervention for survivors of critical illness. *Ann Am Thorac Soc* 2014; 11:173–181