Original Article

Delays in Palliative Care Referral Among Surgical Patients: Perspectives of Surgical Residents Across the State of Michigan

Christina W. Lee, MD, C. Ann Vitous, MA, MPH, CPH, Maria J. Silveira, MD, MPH, Jane Forman, ScD, MHS, Lesly A. Dossett, MD, MPH, FACS, Lona Mody, MD, MSc, Justin B. Dimick, MD, MPH, FACS, and Pasithorn A. Suwanabol, MD, MS, FACS, FASCRS

Department of Surgery (C.W.L.), University of Wisconsin, Madison, Wisconsin; Center for Healthcare Outcomes and Policy (C.A.V., L.A.D., J.B.D., P.A.S.), Institute for Healthcare Policy and Innovation, University of Michigan; Division of Geriatric and Palliative Medicine (M.J.S., L.M.), Department of Internal Medicine, University of Michigan; Geriatric Research, Education and Clinical Center (GRECC) (M.J.S., L.M.), Veterans Affairs Health Affairs, VA Ann Arbor Health Care System; Center for Clinical Management Research (J.F.), Veterans Affairs Health Services Research & Development, VA Ann Arbor Health Care System; and Department of Surgery (L.A.D., J.B.D., P.A.S.), University of Michigan, Ann Arbor, Michigan, USA

Abstract

Context. Palliative care services (PCS) are underutilized and frequently delayed among surgical patients. Surgical residents often serve at the forefront for patient issues, including conducting conversations regarding prognosis and goals of care.

Objectives. This qualitative study identifies critical barriers to palliative care referral among seriously ill surgical patients from the perspective of surgical residents.

Methods. We conducted semistructured interviews with surgical residents ($n = 18$) across the state of Michigan, which focused on experiences with seriously ill surgical patients and PCS. Inductive thematic analysis was used to establish themes based on the research objectives and data collected.

Results. Four dominant themes of resident-perceived barriers to palliative care referral were identified: 1) challenges with prognostication, 2) communication barriers, 3) respect for the surgical hierarchy, and 4) surgeon mentality. Residents consistently expressed challenges in predicting patient outcomes, and verbalizing this to both attendings and families augmented this uncertainty in seeking PCS. Communicative challenges included managing discordant provider opinions and the stigma associated with PCS. Finally, residents perceived that an attending surgeon's decisive authority and mentality negatively influenced the delivery of PCS.

Conclusions. Among resident trainees, unpredictable patient outcomes led to uncertainty in the timing and appropriateness of palliative care referral and further complicated communicating plans of care. Residents perceived and relied on the attending surgeon as the ultimate decision maker, wherein the surgeon's sense of responsibility to the patient was identified as a significant barrier to PCS referral. Further studies are needed to test surgeon-specific interventions to improve access to and delivery of PCS. J Pain Symptom Manage 2019;57:1080–1088. *Published by Elsevier Inc. on behalf of American Academy of Hospice and Palliative Medicine.*

Key Words

Palliative care, surgical patients, palliative surgery

Meeting Presentation: Oral Presentation—American College of Surgeons Symposium for Surgical Palliative Care, San Diego, CA, October 2017.

Address correspondence to: Pasithorn A. Suwanabol, MD, MS, FACS, FASCRS, Division of Colorectal Surgery, Department of Surgery, University of Michigan, 2124 Taubman Center, 1500 E. Medical Center Drive, Ann Arbor, MI 48109, USA. E-mail: pasuwan@med.umich.edu

Accepted for publication: January 31, 2019.

0885-3924/$ - see front matter
https://doi.org/10.1016/j.jpainsymman.2019.01.018

Introduction

Although the benefits of palliative care are clear,[1–3] surgical patients seldom receive such services despite serious, life-limiting illness, and burdensome symptoms.[4,5] A study of medical and surgical patients' use of palliative care found that surgical patients are less likely than their medical counterparts to receive palliative care services (PCS).[4] Surgical patients who did receive PCS lived on average three days longer, suggesting a period of unmet need and unnecessary suffering including psychological and emotional distress.[4] Furthermore, receipt of PCS among surgical patients frequently occurs within 24–48 hours of death, limiting the potential benefits of care in the dying phase.[4,6,7] The factors influencing the underuse and delay of PCS remain unclear, though early studies attribute a rescue culture in surgery and surgeons' sense of responsibility for patient outcomes.[5,8,9]

Surgical residents assume a substantial amount of such responsibility, frequently serving at the forefront for all patient issues.[10] Therefore, trainees are often subject to the challenges of conversations involving prognosis and goals of care. To date, the evaluation of resident experiences caring for seriously ill patients and in seeking palliative care consultation is limited to survey-based data,[1,2,11–17] wherein an in-depth understanding of their perceived barriers, behaviors, and decision making is lacking. A clearer understanding of these experiences may inform the development of novel interventions and training strategies aimed at earlier referral to PCS for surgical patients.

In this context, we conducted semistructured interviews with surgical trainees to better understand factors related to the decision to pursue surgery in the preoperative setting or to pursue aggressive care after a serious complication. Specifically, we sought to explore the delay and underuse of PCS among surgical patients.

Methods

This report represents part of a mixed-methods study designed to gain a comprehensive understanding of resident experiences, attitudes, and training in caring for seriously ill and dying patients. In the first phase, participants completed a survey based on the Canadian Researchers at the End of Life Network instrument, which has been previously validated among nonsurgeon trainees.[18] In the second phase, we conducted semistructured interviews with a subset of surgical resident survey respondents who agreed to participate after completion of the survey. These interviews explored experiences shared in the surveys and are the focus of this qualitative report.

Palliative care was defined as "care that focuses on relief from suffering and providing the best quality of life possible for patients with serious or potentially life-threatening illness at all stages of disease, through the assessment and treatment of physical, psychosocial, and spiritual problems."[1] Palliative care referred to care provided by specialty palliative care teams and not primary palliative care provided by the surgical team (e.g., basic management of pain and symptoms, depression, and anxiety; discussions about prognosis; and goals of treatment).[19] The surgical patient referred to any patient who was under the care of a surgeon at the time of intervention,[3] including patients who had undergone surgery or were under consideration for a surgical procedure. This study was deemed exempt by the University of Michigan Institutional Review Board.

Participants

All general surgery residency programs in the state of Michigan ($n = 10$) were invited to participate in this study. Five programs allowed their residents to participate. Participation was not limited by postgraduate year (PGY), level of experience, or categorical or preliminary position to maximize the variability in responses across experience level.

Purposive sampling was used to obtain broad representation of PGY level of training from academic and community training programs. Residents who expressed interest were invited to undergo semistructured interviews. A total of 41 residents were invited to participate, 24 of whom expressed interest, and 18 completed interviews. Interviews were conducted over the telephone with a member of the research team. A $50 gift card incentive was provided to all participants. Interviews were audio-recorded, transcribed verbatim, and deidentified to protect participant confidentiality. Transcripts were not returned to participants for review.

Interviews were conducted by two authors: P.A.S. (MD, MS), an attending surgeon who was guided by J.F. (ScD, MHS), an expert on the design and conduct of qualitative and mixed-methods projects, and C.A.V. (MA, MPH), a qualitative analyst with extensive experience interviewing surgeons. Sampling ceased once thematic saturation was achieved. Thematic saturation was determined when new themes emerged infrequently and the code definitions remained stable.[20] Each interview lasted 45–60 minutes and began with the main research question: to identify the main barriers and facilitators to PCS referral among seriously ill surgical patients. The interview guide focused on the following domains: knowledge and experience; attitudes and perceptions; communication; and challenges (Appendix 1). Interviews were completed between December 2016 and July 2017.

Analyses

Deidentified interview transcripts were analyzed using inductive thematic analysis, focused on providing rich thematic descriptions on the main research question, and devised under the guidance as described by Braun et al.[21] First, the PI and two research assistants read transcripts to familiarize themselves with the data. Next, each of the researchers independently searched for and identified initial codes. The group came together to search for themes, collating codes into categories. Through an iterative process of consensing building, these themes were reviewed and organized into a thematic map. The process of defining and naming themes was an ongoing process that occurred throughout the analytic phase. All team members were actively involved in the production of the final report, including the final analysis of the selected exemplary quotes. Each transcript was coded by two coders blinded to the other's work, and discrepancies were discussed until consensus was reached. Organization of the semistructured interviews was completed using qualitative software, NVivo (version 11.4.2; QSR International, Doncaster, Australia). A consolidated criterion for reporting qualitative research (COREQ) checklist is included as Appendix 2.

Table 1
Interview Participant Demographics, $N = 18$

Category	Distribution (%)
Gender	
Male	12 (67)
Female	6 (33)
Age	
18–24	0 (0)
25–34	18 (100)
35–74	0 (0)
≥75	0 (0)
Race	
White/Caucasian	9 (50)
Black/African American	0 (0)
Asian or Pacific Islander	5 (28)
Arab or Arab-American	1 (5)
American Indian or Alaska Native	0 (0)
Other	3 (17)
Religion	
Christian	8 (44)
Jewish	0 (0)
Hindu	1 (6)
Buddhist	1 (6)
Muslim	1 (6)
No affiliation	5 (28)
Other	2 (11)
Institution	
Henry Ford Hospital, Detroit, MI	4 (22)
Michigan State University, Lansing, MI	2 (11)
Spectrum Health, Grand Rapids, MI	4 (22)
St. Joseph Mercy, Ann Arbor, MI	3 (17)
University of Michigan, Ann Arbor, MI	5 (33)
Current position	
Postgraduate Year 1 + 2	7 (39)
Postgraduate Year ≥ 3	11 (61)
Months completed of ICU rotation	
None	1 (11)
1 month	3 (17)
2 months	2 (11)
3 months	3 (17)
≥4 months	9 (50)
Did the resident receive training regarding the appropriateness and timing for palliative care referral?	
Yes	9 (50)
No	9 (50)
Degree of subjective resident preparedness in caring for terminally ill patients	
Not at all prepared	1 (6)
Somewhat prepared	11 (61)
Prepared	4 (22)
Very prepared	2 (11)

Results

Interviewee characteristics and demographics are provided in Table 1. Four themes emerged with regard to resident-perceived barriers to palliative care consultation:

1) Challenges with prognostication: the skill and inherent difficulty with predicting outcomes or future states.
2) Communication barriers: the challenges associated with knowing when and how to communicate with the patient and/or families.
3) Respect for the surgical hierarchy: implications of the trainee position within the surgical team and organization.
4) Surgeon mentality: the residents' perceptions of how attending surgeons' traits and attitudes impacted their ability to view patient trajectories objectively.

In addition, distinct patterns that emerged within each major theme were further categorized into subthemes. A display of resident quotes is provided in Table 2.

Challenges With Prognostication

Residents consistently described difficulties in accurately predicting outcomes both from the primary disease and following critical illness and/or surgery, which was an important barrier to seeking palliative care consultation. Unpredictability, and therefore uncertainty, led to ambiguity in knowing if and when to involve PCS. As one resident explained, "the biggest difficulty is trying to recognize when the time is to involve palliative care ..." For some residents, unanticipated outcomes led to a realization of missed earlier referral to PCS. For others, continuing life-sustaining interventions led trainees to reevaluate and reflect on the opportunities for changes in management by, "taking a step back, and asking, 'where are we going with this?'."

Table 2
Major Themes Identified as Barriers to Palliative Care Referral Among Surgeons as Reported by Resident Trainees

Theme	Subtheme	Representative Quotes From Resident Trainees
Challenges with prognostication	Uncertainty	*"Trying to figure out when exactly is the most appropriate time" — Interviewee ID 16*
		"I mean, you can't be certain about any of these things." — Interviewee ID 5
		"I wish there was objective criteria." — Interviewee ID 2
		"The more difficult part is when we're unable to give them a quantification. We don't know how they will recover, and that makes it hard on us …" — Interviewee ID 9
Communication barriers	Discordant provider opinions	*"It's nice to have another service on board just to sometimes, reiterate what the surgical team is saying in a different way, just so they know that this is collaborative with another doctor, another physician." — Interviewee ID 18*
		"… with communication, also comes building consensus." — Interviewee ID 5
		"If we don't agree upon a final plan I definitely think that the patient-physician relationship suffers." — Interviewee ID 2
		"That's one thing that I hear a lot is that families get confused about the information that's getting relayed" — Interviewee ID 17
	Lack of communication skills	*"You're going to talk to people at their worst, at their most stressed, at their highest level of anxiety." — Interviewee ID 3*
		"It is partially because of the stigma behind it. That palliative care is sometimes, kind of equated with a hospice-type situation." — Interviewee ID 4
		"The family gets too focused on the idea that a palliative care consult means that they're giving up on their family member, as opposed to switching the conversation to, 'how do we get the most out of the life they have left?" In terms of quality of life and eventually even getting out of the hospital to enjoy life in more positive ways for the patient." — Interviewee ID 16
		"There's this aversion from thinking that you don't want to scare the patient …" — Interviewee ID 6
		"It's challenging in all aspects, including the nontechnical aspect of having to communicate with a wide range of people in a limited amount of time." — Interviewee ID 18
		"Part of being a physician and a resident is learning how to have these in-depths discussions within the context of the time limitations you're given." — Interviewee ID 16
Respect for the surgical hierarchy	Undermining the attending	*"It's knowing when to call palliative care and not feeling like you're going to undermine the attending, the patient, or the plan of care …" — Interviewee ID 14*
		"It's hard from a resident perspective because we always have to run everything past our attending." — Interviewee ID 12
	Ownership	*"A lot of times with those conversations, the attending wouldn't want us to breach any information, but they want to be the ones that lead that charge" — Interviewee ID 12*
		"You, being the hand that did [the surgery], certainly makes you want to be able to correct it by any means and not go down the palliative route as quickly." — Interviewee ID 4
		"Extra level of ownership that permeates the whole culture." — Interviewee ID 17
		"Being able to pick and choose who you decide to operate on plays a role in the ownership that you take over it." — Interviewee ID 8
Surgeon mentality	Hope	*"The denial perspective of what's going on with the patient. Sometimes, the surgeon is the barrier to getting palliative care involved because we don't want to admit that what we did failed the patient yet." — Interviewee ID 2*
		"Sometimes physicians are reluctant to accept that a complication is something the patient will not recover from …" — Interviewee ID 9
		"We have this feeling of pushing and give them every chance to make the turn." — Interviewee ID 16
		"It's a different story when someone voluntarily walks in and enters into this relationship with you and says I trust you to do the right thing for me." — Interviewee ID 17
		"We knew it was a possibility going in, but we were always hopeful it wouldn't happen to that patient." — Interviewee ID 10
		"They want to have hope … and then treatment tends to go on …" — Interviewee ID 14
	"Fix-it" mentality	*"Surgeons in general are very, 'I can fix this', and when you bring palliative in, there's a tone of, 'I'm not fixing this', so now we have to discuss what are we going to do because I can't fix this. I think there's an element of failure that can play a role in the thought that, we don't need palliative yet, we can still get through this." — Interviewee ID 11*
		"To some degree, surgery lends itself to getting an immediate problem fixed and getting immediate results which in a sense conveys requiring less palliative care." — Interviewee ID 10
		"There's a personal element to this that calling palliative care is a failure. So it's a very internal thing that surgeons and residents feel. Probably more so for the attendings because they're all ultimately responsible." — Interviewee ID 11

Accurate prognostication and risk quantification varied in difficulty depending on the clinical scenario. This was exemplified in cases when outcomes were seemingly more predictable, yet residents acknowledged the possibility that a patient may recover against all odds. Late triggers were easily identifiable, whereas early triggers were not, leading to delayed referrals to PCS. In most situations, however, PCS referral was obtained only by "definitive change" such that "we didn't see a light at the end of the tunnel."

In addition, residents suggested a lack of tools to assist with uncertainty including the absence of clear clinical indicators and prompts to initiate palliative care consultation. Without objective prognostic criteria, opportunities for reflection were often late in the patient's hospital course and most frequently when the patient was at a high risk of death.

Communication Barriers

Residents described challenges in communication as a major deterrent to seeking PCS. Two major subthemes of this barrier included: managing discordant provider opinions and the lack of communication skills.

Residents acknowledged the usefulness of involving PCS, however, discordant provider opinions regarding prognosis led to confusion about when and how palliative care should be introduced as well as difficulty in articulating treatment plans and illness trajectories. For example, "one thing that I hear a lot is families getting confused about the information that's getting relayed." Prognostic uncertainty permitted discordant opinions among providers, creating an impasse to seeking PCS referral. By contrast, residents derived clarity and confidence in PCS referral when ambiguity was minimized and uniformity was achieved among the providers involved.

Although residents acknowledged the "need to clarify to the patient and family about the importance of palliative care," trainees were poorly equipped to lead these difficult conversations, suggesting a lack of communication skills. As one resident explained, "we don't do a great job sometimes at explaining what [palliative care's] role is going to be," which at times, led to patient and family refusal of PCS. Residents believed that families' misunderstanding of PCS was "almost always because of the delivery." For example, one resident described their approach to introducing PCS as inadvertently conveying PCS as synonymous with end-of-life care and identified this as a personal failure of communication. The lack of "ingrained" acceptance of PCS among the surgical community led to an observed unfamiliarity with PCS, poorly positioning a surgeon to refute the stigma, and inaccurate portrayals of the purposes of PCS to patients and families.

Despite these challenges, residents viewed PCS as an important component of caring for seriously ill patients, drawing on understanding the patient's goals and effectively serving to "crystallize" family decisions. As such, these reflections address one of the fundamental causes to delayed PCS referral; the gap in knowledge among trainees about PCS and the communication approaches used among palliative specialists to facilitate conversations.

Respect for the Surgical Hierarchy

Training within a surgical hierarchy was frequently viewed as a deterrent to the timing and appropriateness of palliative care consultation. Two predominant subthemes emerged: residents' hesitancy to undermine the attending's authority and acceptance of the attending's ownership of the patient.

Some trainees reported conflict in balancing their own impression of a patient's prognosis with the attending's presumed care plan; noting a conflict between their role as a trainee, whose responsibility is to perform patient assessments and formulate clinical plans without undermining the attending's authority. While residents remained cognizant of abiding by a customary hierarchy, some residents reported potential repercussions of involving palliative care even after approval by the attending surgeon due to, "worrying about themselves having conversations that the attending surgeon doesn't think is appropriate."

Residents also described varying levels of authority within surgery, particularly at the junior level, where responsibilities consisted of, "clearing it with the attending .... making sure to reach an agreement," followed by another series of approvals by, "one of the more senior residents who then goes back to discuss it with the family before placing the consult, or placing the consult, then discussing it with the family." In effect, a temporal delay to PCS referral and in executing care plans resulted from this systematic approach to surgical care.

Despite acknowledging a fear of undermining the attending surgeon, many empathized with attendings, rationalizing that attendings feel a great deal of responsibility to their patients, indicating a sense of patient ownership. The desire to "manage every part of that patient's care" suggests that conversations on the direction of care hold weight and importance. In effect, the individual responsible for conducting these conversations was the provider who assumed the largest risk and possessed ultimate ownership for the patient's medical course, the attending surgeon.

Surgeon Mentality

Surgeon mentality was frequently perceived as a strong deterrent to palliative care consultation. Prominent subthemes included generating a false sense of hope for a positive outcome, as well as an ingrained fix-it mindset.

Residents described how the challenges associated with uncertainty and the possibility of complications or death necessitated hope from a surgeon for positive outcomes. Although the hope for recovery after a complication may offer psychological benefit to both the surgeon and the patient, residents stated it can also obscure the surgeon's perception of the need for PCS, regardless of the patient's condition because, "they don't want this to happen and it's more of their perspective than anything else." Delaying referral permitted surgeons to garner hope for their patients "to turn the corner and get better." Hope not only created time delays for involving palliative care consultants from the "wait-and-see approach" but also created the notion of possibility and optimism by "pushing and giving them every chance to make the turn."

Delays in palliative care referral were often attributed to an ingrained "fix-it" mentality among surgeons. Some trainees associated a surgeon's delay in seeking PCS as a means of deflecting defeat, "because [surgeons] don't want to admit that what they did failed the patient." These observations were connected to the perception that surgeons had a tendency to express overconfidence in their skill and/or predicting outcomes. For example, one resident described how surgeons accept their chosen specialty as one with tremendous responsibility, that surgery requires one to "be reasonably sure that you can have a successful surgical outcome for this person." This suggests that a surgeon's success was related to skillfulness, wherein skillfulness would technically obviate the need for PCS as the disease could be "fixed." This phenomenon is credited to the cultivated personality among surgeons, culminating from the perception that many medical students, "go into surgery because they want to know how to cut and fix things."

Discussion

This is the first study aimed at characterizing barriers to palliative care use perceived by surgical residents. Multiple types of barriers were identified, including: 1) challenges with prognostication, 2) communication barriers, 3) respect for the surgical hierarchy, and 4) surgeon mentality. Uncertainty in knowing patient trajectories led to difficulty communicating with both attendings and families as well as knowing when and how to consult PCS. Furthermore, working and training within a culture where attendings assumed primary responsibility and therefore sanctioned care plans were perceived as additional barriers to the referral and delivery of PCS.

Residents consistently reported a major barrier to introducing PCS was obtaining and providing accurate prognostic information. Difficulty in prognostication has been previously reported as an obstacle to palliative care referral among medical providers,[22,23] and this study demonstrates that surgeons are similarly subjected to this challenge. Furthermore, opening the doors of communication by providing probabilistic information was viewed as "tak[ing] away hope." This study identified a paradoxical phenomenon—surgeons delay palliative care consultation due to uncertainty, yet the recognition of uncertainty itself could serve as a learned prompt for earlier utilization of PCS.

Residents alluded to the absence of triggers or prompts that contributed to delays in palliative care referral. There is inconsistency in the literature supporting the use of triggers for screening a population of critically ill patients to proactively increase the frequency and timeliness to palliative care referral.[21−23] The lack of triggers alone was likely not the only source of confusion as to prompt PCS referral. This conflicting dynamic among providers has been previously described in scenarios where surgical treatments were misaligned with patient goals.[24,25] From a resident's viewpoint, reticence to palliative care consultation was rooted in prognostic uncertainty.

For surgical residents, being part of a surgical team implied acceptance of hierarchical training, which was frequently attributed to delays to PCS referrals. Enacting formalized treatment plans that may substantially alter the patient's clinical course was the product of processes requiring daily authorization by the attending surgeon, while simultaneously managing the clinical demands as a surgical trainee. The trainee's goal to accomplish safe and effective work is time consuming. For the patient, this may accentuate angst and anxiety as the role of the resident, who even as a physician, may appear ambiguous as neither the "decider" nor "nondecider." This adds to the complexity of communication within training institutions where the role of residents in surgery is not always clear to patients. However, an evaluation of the patient perceptions of residents in surgery revealed that, when explained, patients supported residents' educational needs and demonstrated trust in the medical system.[26]

Trainee reluctance to introduce PCS was rooted in fears of "undermining" the plan of the attending surgeon who was viewed as the final authority in a patient's care. Specifically, decisive authority equated to patient ownership, characterized by a relationship established at the time of consultation and/or on trust established during the preoperative period between a surgeon and his/her patient. This relationship fosters the surgeon's sense of commitment and goal-directedness toward care. This observation confirms prior data demonstrating blunted clinical prognostic accuracy when the relationship between the physician and patient was strong.[27] Regardless of probabilities, the process of involving consultants was dependent on the resident's perception of appropriateness by the attending surgeon, which in turn limited their sense of empowerment and professional growth.

Surgeons presented themselves as apt to overcome complications as a result of the values fostered through surgical training. These values were conveyed in a surgeon's reflections,[8] which in the culture of training, lies an ingrained attitude of authority, power, and certainty that most surgeons consider critical to their ability to cure disease. Perhaps, this notion is best described as the mentality that, "to cut is to cure," and all remaining aspects of care thereafter are independently assumed by the surgeon. These values, ingrained in surgical culture and readily accepted upon entry into surgical residency, personifies the "fix-it" mentality.[28] This work validates prior research revealing that surgeons feel an absolute responsibility for the patient,[29] portrayed by autonomous decision making. Therefore, complications and death become viewed as personal failures such that withdrawal of life-sustaining treatment equates to declaring defeat.

These observations point to poorly understood influences on the acquisition of and reliance on nontechnical skills, such as gestalt, to direct care as in when to involve PCS.[30] Over time, these self-imposed responsibilities carry the risk of surgeon fatigue and burnout.[31,32] In effect, taking care of a single patient may draw on emotionally and physically taxing demands, let alone those of multiple patients. Prior authors have proposed surgeon depersonalization, and poor technical performance as an ill-fated consequence of the surgical personality.[32,33] Perhaps, the resident reflections presented here summarize new and old findings that the surgeon personality impacts the delivery of care and predisposes surgeons to distress, obscuring the needs of patients when surgical cure is no longer effective. Our findings are consistent with prior work that highlights the differences in priority among surgeons and nonsurgeons alike, emphasizing the goal of surgery is to defeat death, whereas those of medical intensivists focus on optimizing quality of life in consideration of resource utilization.[29]

Although this study allowed for improved understanding of the influences to palliative care referral patterns among surgeons in training institutions, we acknowledge the limitations introduced by institutional culture, such that residents may be bound to experiences by institution-wide protocols. Variations in institutional resource and service availability likely played a role in the breadth of resident experiences with PCS. The reflections presented in this study highlight the most memorable resident experiences with seriously ill patients that may not encompass the breadth of clinical scenarios. We purposely sampled residents across diverse patient populations and settings and found persistent themes across different institutions and PGY levels. Still, these findings are consistent with prior work, namely the subthemes relating to the role of the surgeon in death and dying.[34] We highlighted these prominent themes, which provide critical insight into the processes of pursuing PCS among surgical patients.

By identifying trainees' perceived barriers to palliative care consultation, we provide opportunities for improvement. Our resident reflections are consistent with prior work where nearly 40% of residents felt inadequately trained to discuss the processes in withdrawal of life-sustaining therapy.[35] The authors propose resident and attending empowerment through formalized training curricula in primary palliative care skills with explicit training on when and how to introduce PCS. The lack of formalized curricula likely contributes to why surgeons are poorly equipped to recognize appropriate timing to palliative care consultation.[35,36] The gap in familiarity and understanding of PCS may be addressed by adopting structured curricula aimed at palliative care approaches, which encompass pain and symptom management, conducting difficult conversations while navigating challenging family dynamics, providing end-of-life care, and increasing awareness and knowledge of specialty palliative care.[13,36,37] Furthermore, education and training in PCS among surgeons will prioritize patients' physical, emotional, psychosocial well-being, and quality of life equally alongside surgical treatment. It may further facilitate the integration of palliative care with surgical treatment and obviate the misconception that PCS equates to end-of-life care. Finally, training in palliative care conversations may strengthen the providers' communication skills and comfort level in discussing challenging clinical scenarios.

Conclusions

For surgical trainees, the challenges of anticipating outcomes and articulating uncertainty within a customary surgical hierarchy contributed to delays in seeking PCS for seriously ill surgical patients. A clearer understanding of resident experiences and perceptions informs potential surgeon-directed interventions aimed at promoting earlier palliative care referral.

Disclosures and Acknowledgments

The authors would like to thank Paul G. Gauger, MD, Edward D. Kreske, MD, Mathew H. Chung, MD, Robert Osmer, MD, and Scott A. Dulchavsky MD, PhD, general surgery program directors, for their participation in this study. The authors would also like to thank Arielle E. Kanters, MD, MS, for her critical review of this manuscript.

This work is funded by the Division of Geriatric and Palliative Medicine at the University of Michigan. Pasithorn A. Suwanabol is also currently funded by the American College of Surgeons Thomas R. Russell Faculty Research Fellowship, and the Society of Surgery of the Alimentary Tract and Research Foundation of the American Society of Colon and Rectal Surgeons Joint Faculty Research Award. Lona Mody is supported by R01AG032298, K24 AG05068, and by the Claude D. Pepper Older American Independence Centers funding from the National Institute on Aging.

The authors have no conflicts or disclosures to report.

Supplementary Data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jpainsymman.2019.01.018.

References

1. Smith TJ, Temin S, Alesi ER, et al. American Society of Clinical Oncology provisional clinical opinion: the integration of palliative care into standard oncology care. J Clin Oncol 2012;30:880–887.

2. Kamal AH. Time to define high-quality palliative care in oncology. J Clin Oncol 2013;31:3047.

3. Lilley EJ, Khan KT, Johnston FM, et al. Palliative care interventions for surgical patients: a systematic review. JAMA Surg 2016;151:172–183.

4. Olmsted CL, Johnson AM, Kaboli P, et al. Use of palliative care and hospice among surgical and medical specialties in the Veterans Health Administration. JAMA Surg 2014;149: 1169–1175.

5. 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.

6. Rodriguez R, Marr L, Rajput A, et al. Utilization of palliative care consultation service by surgical services. Ann Palliat Med 2015;4:194–199.

7. Wilson DG, Harris SK, Peck H, et al. Patterns of care in hospitalized vascular surgery patients at end of life. JAMA Surg 2017;152:183–190.

8. Nuland SB. A surgeon’s reflections on the care of the dying. Surg Oncol Clin N Am 2001;10:1–5.

9. Kruser JM, Pecanac KE, Brasel KJ, et al. “And I think that we can fix it”: mental models used in high-risk surgical decision making. Ann Surg 2015;261:678–684.

10. Devitt KS, Kim MJ, Gotlib Conn L, et al. Understanding the multidimensional effects of resident duty hours restrictions: a thematic analysis of published viewpoints in surgery. Acad Med 2018;93:324–333.

11. Galante JM, Bowles TL, Khatri VP, et al. Experience and attitudes of surgeons toward palliation in cancer. Arch Surg 2005;140:873–878; discussion 878-880.

12. Klaristenfeld DD, Harrington DT, Miner TJ. Teaching palliative care and end-of-life issues: a core curriculum for surgical residents. Ann Surg Oncol 2007;14:1801–1806.

13. Pernar LI, Peyre SE, Smink DS, et al. Feasibility and impact of a case-based palliative care workshop for general surgery residents. J Am Coll Surg 2012;214:231–236.

14. Zimmermann C, Swami N, Krzyzanowska M, et al. Early palliative care for patients with advanced cancer: a cluster-randomised controlled trial. Lancet 2014;383:1721–1730.

15. Amini A, Miura JT, Larrieux G, et al. Palliative care training in surgical oncology and hepatobiliary fellowships: a national survey of the fellows. Ann Surg Oncol 2015;22: 1761–1767.

16. Raoof M, O’Neill L, Neumayer L, et al. Prospective evaluation of surgical palliative care immersion training for general surgery residents. Am J Surg 2017;214:378–383.

17. Thirunavukarasu P, Brewster LP, Pecora SM, et al. Educational intervention is effective in improving knowledge and confidence in surgical ethics-a prospective study. Am J Surg 2010;200:665–669.

18. Schroder C, Heyland D, Jiang X, et al. Educating medical residents in end-of-life care: insights from a multicenter survey. J Palliat Med 2009;12:459–470.

19. Quill TE, Abernethy AP. Generalist plus specialist palliative care–creating a more sustainable model. N Engl J Med 2013;368:1173–1175.

20. Guest G, Bunce A, Johnson L. How many interviews are enough?: an experiment with data saturation and variability. Field Methods 2006;18:59–82.

21. Braun V, Clarke V. Using thematic analysis in psychology. Qual Res Psychol 2006;3:77–101.

22. Feeg VD, Elebiary H. Exploratory study on end-of-life issues: barriers to palliative care and advance directives. Am J Hosp Palliat Care 2005;22:119–124.

23. Hui D, Kilgore K, Nguyen L, et al. The accuracy of probabilistic versus temporal clinician prediction of survival for patients with advanced cancer: a preliminary report. Oncologist 2011;16:1642–1648.

24. Suwanabol PA, Kanters AE, Reichstein AC, et al. Characterizing the role of U.S. Surgeons in the provision of palliative care: a systematic review and mixed-methods meta-synthesis. J Pain Symptom Manage 2018;55:1196–1215.

25. Berlin A, Kunac A, Mosenthal AC. Perioperative goal-setting consultations by surgical colleagues: a new model for supporting patients, families, and surgeons in shared decision making. Ann Palliat Med 2017;6:178–182.

26. Knifed E, July J, Bernstein M. Neurosurgery patients’ feelings about the role of residents in their care: a qualitative case study. J Neurosurg 2008;108:287–291.

27. Christakis NA, Lamont EB. Extent and determinants of error in doctors’ prognoses in terminally ill patients: prospective cohort study. BMJ 2000;320:469–472.

28. Lynn J, DeGrazia D. An outcomes model of medical decision making. Theor Med 1991;12:325–343.

29. 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.

30. Yule S, Parker SH, Wilkinson J, et al. Coaching non-technical skills improves surgical residents' performance in a simulated operating room. J Surg Educ 2015;72: 1124−1130.

31. Balch CM, Shanafelt TS. Dynamic tension between success in a surgical career and personal wellness: how can we succeed in a stressful environment and a "culture of bravado"? Ann Surg Oncol 2011;18:1213−1216.

32. Guest RS, Baser R, Li Y, et al. Cancer surgeons' distress and well-being, I: the tension between a culture of productivity and the need for self-care. Ann Surg Oncol 2011;18: 1229−1235.

33. Page DW. Are surgeons capable of introspection? Surg Clin North Am 2011;91:293−304. vii.

34. Zambrano SC, Chur-Hansen A, Crawford GB. How do surgeons experience and cope with the death and dying of their patients? A qualitative study in the context of life-limiting illnesses. World J Surg 2013;37:935−944.

35. Cooper Z, Meyers M, Keating NL, et al. Resident education and management of end-of-life care: the resident's perspective. J Surg Educ 2010;67:79−84.

36. Newcomb AB, Trickey AW, Porrey M, et al. Talk the talk: implementing a communication curriculum for surgical residents. J Surg Educ 2017;74:319−328.

37. Wancata LM, Hinshaw DB, Suwanabol PA. Palliative care and surgical training: are we being trained to be unprepared? Ann Surg 2017;265:32−33.

Appendix 1

Interview Questions	Probes
To start, could you describe the palliative care services available to you at your institution?	• How are the services helpful or beneficial? • How are the services not helpful? • How do they typically get involved in the care of your patients?
Tell me about a patient who underwent an elective operation and had a complication requiring ICU admission. Here, we are less interested in the clinical details and more about the processes of care.	• What went well? • What did not go well? • How did palliative care get involved? • What happened when they got involved?
Tell me about a patient who came in emergently and required ICU admission. Here, we are less interested in the clinical details and more about the processes of care.	• What went well? • What did not go well? • How did palliative care get involved? • What happened when they got involved?
In thinking about those above two scenarios, what are some of the barriers you experienced or witnessed?	• Lack of education and training by the surgeon (poor communication, unknown benefits of palliative care) • Attitudes about palliative care (do not find value in palliative care services) • Patient and family factors (conflict within families, poor communication, unrealistic expectations, poor understanding) • Ethical conflict (obligation to limit burdens of surgery with their duty to rescue the patient) • Personal conflict (how to maintain hope while being realistic and honest, personal reaction to death and dying) • Systemic issues (lack of appropriate and/or timely services available, fragmented care, time constraints, expectations of consultants, lack of appropriate documentation such as advance directives or surrogate decision maker) • Culture of continuing all life-sustaining treatment (societal, institutional, surgical)
How do you communicate to patients before surgery about potential complications?	• How do advance directives affect your discussions? If they do not exist, how do you present them to patients?
How are complications managed?	• How do you discuss quality of life issues such as functional status and cognitive status? • What challenges do you face? • When do you start thinking about limiting ongoing care?
What do you view as the biggest challenges in providing palliative care?	• Clinician barriers (lack of training or comfort, burnout, time constraints) • Family and surrogate barriers • Institutional barriers
Tell me about your training in palliative and end-of-life care.	• Comfort level • Knowledge and experience • Learning from past experiences or other colleague's experiences (M&M or case conferences)
Why do you think surgical patients receive fewer palliative care services than medical patients?	• See barriers probes from Q4
What do you think could be improved in how we care for our patients who experience a postoperative complication? How do we do this better?	• Training and education • Attitudes and culture • Available resources • Process or system level