

# Resident Experience and Opinions About Physician-Assisted Death for Cancer Patients

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**Hypothesis:** Surgical residents and staff oncologists (surgical, medical, and radiation therapy) have similar opinions on participation in physician-assisted death for patients with terminal cancer.

**Design:** Prospective survey.

**Setting:** Tertiary care referral center.

**Participants:** Residents undergoing surgical training (n=56) and faculty oncologists (n=24) of all specialties (surgical, medical, and radiation therapy).

**Main Outcome Measures:** Subjects were queried regarding previous experience and willingness to participate (either directly or indirectly) in assisted death for terminal cancer patients.

**Results:** Response rates were 39% (22 of 56) for the resi-

dents and 87% (21 of 24) for the oncologists. Of those who responded, 86% (19 of 22) of the residents would aid any of the hypothetical patients with assisted death, whereas only 19% (4 of 21) of the staff oncologists expressed willingness to perform the same service. Furthermore, 32% (7 of 22) of the residents reported previous involvement in a case of assisted death from any disease, whereas only 19% (4 of 21) of the staff oncologists reported previous direct experience with assisted death in the terminal cancer patient.

**Conclusions:** Surgical residents tend to have more experience with assisted death and are much more willing than staff oncologists to aid terminal cancer patients with this procedure. These opinions and practices are probably not the result of medical education but are developed from personal values.

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**A**S THE average life span of people in industrialized countries lengthens, chronic debilitating illnesses in elderly persons have become more common. As a consequence, the medical community has become more active in clearly defining the physician's role in the process of dying.<sup>1</sup> Before any discussion on assisted death can begin, the terminology must be defined. Assisted-death practices cover a broad spectrum, from direct physician intervention to the provision of information on possible suicide methods. In assisted suicide, a person provides information or the means for the patient to commit suicide but does not play an active role in the death process. Euthanasia is the extreme example in which a person directly acts to end the life of a patient, who may or may not have made the request. The term *euthanasia* has other connotations that do not allow for clear communication of the involvement of the physician in the death

process, and therefore it is not included in the data presented or the ensuing discussion.

Beyond the medical implications of physician-assisted death are the legal implications, which have significant ramifications for the physician participating in a patient's death. Countries such as the Netherlands have enacted legislation that allows for physician-assisted death in cases of terminal illness.<sup>2</sup> Similar legislation in the United States that protects physicians from criminal prosecution has met with much stronger resistance.<sup>3,4</sup> Oregon remains the only state in which physician-assisted suicide has been legalized, despite the 1997 ruling by the US Supreme Court in which the constitutional right to terminal sedation was recognized.<sup>4,5</sup> The Supreme Court was hesitant to protect euthanasia, however, partly because of the moral overtones associated with this process. Recent efforts by members of both the House of Representatives and the Senate have been directed at developing care-

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## MATERIALS AND METHODS

A 25-question survey was developed to explore physician attitudes about the acceptability of physician-assisted death in 5 patient scenarios. Demographic information was collected regarding respondents' age, sex, years of experience, and previous personal experience with any form of assisted death. The 5 clinical scenarios describe patients with advanced cancer and cover a variety of commonly encountered sequelae from diverse primary neoplasms (**Table 1**). All patients described had metastatic disease with few if any treatment options that would prolong survival. Furthermore, the 5 patients ranged from those who were asymptomatic (patient 3) to those who were severely debilitated (patient 2) or depressed (patient 5). For each scenario, the questionnaire posed 5 questions that examine willingness to participate, either directly or indirectly, in administration of narcotics to effect physician-assisted death (**Table 2**). These questions are modifications of a previously published survey on physician attitudes toward terminally ill noncancer patients potentially encountered in internal medicine.<sup>20</sup>

The surveys were distributed in the fall of 1998 to hospital mailboxes of all residents (n=52; post-graduate year 1-7) undergoing general surgery training at the University of California–Davis Medical Center (UCDMC), Sacramento. At the same time, the surveys were distributed via internal mail to all physicians (n=24) at UCDMC who are routinely involved in the treatment of cancer patients. The specialty practices of these staff oncologists included surgical oncology (n=4), radiation oncology (n=4), and medical oncology (n=16). The surveys were returned anonymously, and after 6 weeks the nonrespondents were asked to complete the questionnaire. Results were tabulated 3 months after the distribution of the questionnaire.

fully worded legislation that will limit physician-assisted suicide.<sup>6</sup> The Pain Relief Promotion Act of 1999 has attempted to extend the reach of the Controlled Substances Act by defining violations to include “intentionally dispensing, distributing, or administering a controlled substance for the purpose of causing death or assisting another person in causing death,”<sup>7</sup> although Attorney General Janet Reno has ruled that the Drug Enforcement Agency will not punish those who participate in physician-assisted suicide.<sup>8</sup> Clearly, the legal aspect of physician-assisted death has yet to be determined.

There remains a broad spectrum of potential interventions available to physicians caring for terminally ill patients.<sup>1,9-11</sup> Most physicians strive to relieve pain and suffering in patients during the terminal phases of disease.<sup>12</sup> Beyond this level of treatment lies the hazy arena of physician-assisted death, physician-assisted suicide, and euthanasia. Euthanasia is the most direct of actions, in which an individual deliberately ends the life of a person with an incurable or painful disease. The ethical dilemma that most physicians face is the conflict between

**Table 1. Clinical Scenarios of the 5 Patients Presented in the Questionnaire for Physician-Assisted Suicide**

Patient No.	Characteristics
1	A 45-year-old woman with heavily pretreated metastatic breast cancer who has suffered a pathologic hip fracture.
2	A 56-year-old man with multiple cerebral metastasis from melanoma manifested as a dense hemiplegia.
3	A 63-year-old man with asymptomatic hepatic and pulmonary metastasis from colon cancer treated 2 years ago.
4	A 68-year-old woman with metastatic pancreatic cancer in whom the obstructive jaundice has been completely alleviated with an endoscopic biliary stent.
5	A 25-year-old man with pulmonary metastases from a previous Ewing sarcoma who has failed all previous therapy, is very depressed, and has attempted suicide.

**Table 2. Specific Questions Regarding the Degree of Intervention for Physician-Assisted Suicide in Each of the 5 Clinical Scenarios**

1. Would you directly assist this patient to die upon his/her request?
2. Would you refer this patient to someone to assist him/her to die?
3. Would you provide information to this patient about potential methods of suicide (eg, suitable lethal doses of narcotics)?
4. Would it be acceptable for other physicians to assist similar patients to die?
5. Would it be acceptable for nonphysicians to assist similar patients to die?

the sworn Hippocratic Oath (“I will neither give a deadly drug to anybody if asked for it, nor will I make a suggestion to this effect”) and the desire to end suffering in terminally ill patients for whom no other acknowledged treatment options are available. This has been particularly true in cases of advanced cancer, severe neurologic disorders, and treatment-refractory acquired immunodeficiency syndrome (AIDS).

Unfortunately, physicians are increasingly treating terminally ill patients suffering extreme pain for whom there are no further treatment options.<sup>9,13-15</sup> It is estimated that at least 70% of patients with advanced cancer will require prolonged administration of narcotics and that most terminally ill cancer patients are receiving inadequate pain relief.<sup>12,16</sup> Some opponents of physician-assisted death believe that patient wishes for this procedure may result from inadequate pain relief.<sup>12</sup> These opponents have demonstrated that adequate pain control will result in an increased functional capability and better quality of life. However, advocates of physician-assisted death argue that these measures rarely change the timetable of the inevitable. Physician-assisted death remains an emotionally charged issue, and it is unlikely that generalized treatment algorithms will be available to cover most potential patients with terminal diseases.<sup>9</sup>

Preparing resident physicians to engage in the independent practice of medicine requires education about many aspects of medical diseases. However, usually little if any specific education in ethical issues arises during the treatment of patients. Furthermore, until recently there

**Table 3. Demographics of the Respondents to the Questionnaire**

	Surgical Residents (n = 52)	Oncologists (n = 24)
Response rate, No. (%)	22 (42)	21 (87)
Sex, M:F	16:6	16:5
Mean age, y (range)	29 (26-33)	41 (31-60)
Mean time post-MD degree, y	3	16
Reported prior experience with assisted death	32% (7 of 22)	19% (4 of 21)

has been no defined ethics curriculum for preclinical education of medical students. Although medical schools have now implemented courses in ethics as part of preclinical education, the specifics of the curriculum have not been standardized and are often left to the individual biases of the medical school or course instructor.<sup>17</sup> There has been an interest in standardizing the preclinical education of medical students in the ethics of medicine, and following a National Consensus Conference, the Working Group on the Pre-clinical Years has issued some medical education guidelines for care near the end of life.<sup>18</sup> In addition, the Department of Surgery at Northwestern University (Chicago, Ill) has developed interactive teaching modules that cover areas of ethics education for surgery residents, although physician-assisted death is not among the topics.<sup>19</sup>

Although physician-assisted death remains a controversial issue, both legally and ethically, there is little education about it during either medical school or residency. This lack of education during residency may lead to the development of opinions at odds with those of established faculty. Therefore, we sought to ascertain the experiences and opinions of attending oncology physicians and surgery residents at a university medical center to determine how surgery residents are educated on physician-assisted death. Oncologists were chosen because they frequently deal with dying patients and generally have experience providing terminal care.

## RESULTS

The response rates were 42% (22 of 52) for the surgery residents and 87% (21 of 24) for the oncologists. The significantly lower response rates of the residents may be attributable to the rotations outside of UCDMC in which they were engaged and/or the time constraints of the surgery residents compared with those of the attending oncologists. The demographics of the 2 groups are detailed in **Table 3**. As expected, there were significant differences in the ages and years of experience between the 2 groups, although the sex distribution was similar. Furthermore, 32% (7 of 22) of the surgery residents reported previous involvement in a case of assisted death from any disease. Of the junior residents (postgraduate year 1-3), 4 (36%) of 11 reported previous experience with assisted death, and 3 (27%) of 11 senior residents (postgraduate year 4-6) reported similar involvement. Only 19% (4 of 21) of the staff oncologists reported direct experience with assisted death in the terminal cancer

**Table 4. Willingness to Participate in Physician-Assisted Death in the 5 Clinical Scenarios**

	No. (%)	
	Surgical Residents (n = 22)	Oncologists (n = 21)
Willing to assist any patient	19 (86)	4 (19)
Willing to directly assist any patient	7 (32)	...
Belief in physician-assisted death	19 (86)	4 (19)
Of those willing to assist any patient		
Assist symptomatic patient*	19 (100)	4 (100)
Assist asymptomatic patient†	12 (63)	4 (100)

\*Symptomatic patient indicates patient 1 or 2. For the last 2 rows, surgical resident sample size was 19 and oncologist sample size was 4. Ellipses indicate not applicable.

†Asymptomatic patient indicates patient 3, 4, or 5.

patient. Because the surgical residents reported higher rates of previous experience with assisted death and by definition have not been practicing medicine as long as the oncologists, the residents may have encountered clinical scenarios involving assisted death more recently.

Most surgery residents (86%, or 19 of 22) reported the wish to aid any of the hypothetical patients with some form of assisted death, whereas only 19% (4 of 21) of the staff oncologists expressed a similar willingness (**Table 4**). Although 32% (7 of 22) of residents indicated their willingness to directly perform physician-assisted death, none of the oncologists did. In terms of symptoms, those surgical residents and attending oncologists who were willing to assist in any form would do so for symptomatic patients. Even though the oncologists expressed a low rate of interest in direct intervention, all (100%) of the oncologists reported willingness to assist any of the 5 hypothetical patients through indirect means (eg, provision of information on potential methods of suicide or referral to other physicians who might be willing to assist directly). This response was independent of whether the patient had any symptoms of terminal malignancy, whereas surgical residents clearly differentiated between symptomatic and asymptomatic patients. All (100%) of the surgical residents were willing to assist in any form with death in the symptomatic terminal patient, but only 63% would assist an asymptomatic patient.

## COMMENT

Even though surgery residents tended to have more previous experience with assisted death than staff oncologists (32% vs 19%), it is unlikely that these clinical scenarios were similar. Surgery residents rotate through many specialties, including trauma, vascular, transplant, and cardiothoracic surgery. The limited clinical experience of the surgical residents compared with the staff oncologists may suggest that the residents' previous experience is more recent. Perhaps because the previous experiences of the 2 groups were different, surgery residents were much more willing than staff oncologists to be involved, either directly or indirectly, in the assisted death of terminal cancer patients. Furthermore, almost one third

of the surgery residents expressed willingness to be directly involved in physician-assisted death, whereas none of the attending oncologists had a comparable attitude. Finally, although the vast majority of surgery residents believe in some form of physician-assisted death for the patient with terminal cancer, less than one fifth of attending oncologists hold similar beliefs. Given the current lack of formal education in ethics and end-of-life issues in the residency program within the Department of Surgery at UCDMC, the opinions and practices of the surgery residents are likely not the result of formal postgraduate medical education. One would hope that individual case-management discussions between faculty and trainees take place, yet the surgical residents have developed different beliefs than attending oncologists.

Our findings are similar to those reported by Roberts et al<sup>20</sup> in a survey of internal medicine, psychiatry, and emergency medicine residents. Although the patient scenarios were different, residents were noted to be more accepting of physician-assisted death than faculty physicians. These resident physicians were opposed to nonphysicians (ie, family members, nurses, or others) participating in the assisted death of terminal patients. The current results as well as those of Roberts et al indicate that resident physicians have very different views of assisted death than faculty physicians: residents are more supportive of physician-assisted death and are more willing to be active participants.

There are a variety of potential causes for the disparate beliefs in assisted death between the residents and the faculty physicians. These include previous experience, personal values, expectations of health, previous involvement in treatment planning, practice specialty, religious beliefs, legal implications, length of patient-physician relationship, and a host of other possibilities. Additional surveys of physicians' attitudes toward assisted suicide have inconsistently identified variables associated with the willingness to directly participate in this process. Specialty of practice does not seem to correlate with attitudes toward physician-assisted suicide<sup>13</sup>; therefore, it is unlikely that our results stem from the fact that all residents are from the Department of Surgery, whereas the faculty are principally nonsurgeons. The nature of residency training does not lend itself to the development of long-term patient-physician relationships, but staff oncologists frequently follow patients for many years prior to the terminal phase of cancer. Because these oncologists often have the opportunity to develop long-lasting intimate relationships with patients, personal issues may cause a hesitancy to be directly involved in assisted death. Surgical residents have very brief interactions with patients and are often overworked, so immediate goals of hospital discharge may predispose toward a more liberal interest in assisted death. Such differences in the patient-physician relationship may account for some of the observed variations in attitude about the use of assisted death in terminal cancer patients.

Although personal religious beliefs have been shown to correlate with participation in assisted death,<sup>13,15</sup> the current survey did not specifically address this issue. The ages of the 2 groups are significantly different, and there

may be age-related distinctions in the religious beliefs between surgical residents and staff oncologists. Furthermore, surgical residents in the training program come from all over the United States, representing a broad mix of religious backgrounds, whereas the staff oncologists have chosen to practice in Sacramento, Calif, and the religious environment may be more homogeneous. The religious backgrounds of the surgical residents and staff oncologists may be sufficiently different, either because of age or geography, to account for the disparate beliefs regarding assisted death.

The legality of assisted death is currently undetermined, and the ramifications of legal prosecution may account for some of the differences in beliefs between surgical residents and staff oncologists. Although physician-assisted death has been legalized in Oregon, there has not been a dramatic increase in reports of euthanasia. This may be due to the ambiguous nature of current federal legislation, which does not specifically protect the rights of physicians to perform this service even though Attorney General Reno has indicated that the federal government will not identify or punish physicians engaging in assisted-death practices. However, approximately 40% of physicians in practice for more than 10 years have had direct interaction with legal proceedings related to their profession. Therefore, the staff oncologists have probably had more experience with legal issues of medicine than the surgical residents, and this background may have led to a less enthusiastic support of assisted death in the current ambiguous legal environment.

Given the significant difference in the mean age of the 2 groups, one potential explanation for the beliefs about physician-assisted death may stem from age-related views of personal health. Younger people tend to have a more idealistic view of health, so a major change may be met with the decision to "throw in the towel." However, people who have experienced mild to moderate medical illnesses may be willing to accept a lower level of health and an altered level of function. In other surveys of physician-assisted death, younger age of the respondent was significantly associated with willingness to directly or indirectly aid terminally ill patients.<sup>15,21,22</sup> Staff oncologists are more likely to have developed long-term relationships with terminally ill patients; they may have witnessed the evolution of the disease to an unbearable level but remain unwilling to take an active role in the ultimate outcome. Finally, the previous experience of the surgery residents may have come from situations such as trauma or vascular surgery, in which postoperative complications and mortality are common enough to prompt discussions of patient wishes.

Physician values on assisted suicide span the spectrum from absolute abhorrence to outright support.<sup>5,7,9,21-24</sup> Emanuel et al<sup>23</sup> reported that nearly half of all oncologists in a 6-state survey support some form of physician-assisted death. These data are echoed in a larger national survey of all physicians, with approximately 45% indicating support for some form of assisted death for terminally ill patients.<sup>15</sup> The enthusiasm for physician-assisted death is even greater among patients; almost three quarters of cancer patients indicated that physician-assisted death would be appropriate in some form.<sup>23</sup> In



a survey of physicians from both the United States and the Netherlands about attitudes and practices concerning physician-assisted death, Dutch physicians were more supportive of and more likely to have previously participated in physician-assisted death than US physicians (60% vs 9%).<sup>25</sup> Furthermore, only 48% of US physicians reported having had patients request some form of assisted death, whereas 80% of Dutch physicians reported similar requests. Clearly there are societal differences in the acceptance and implementation of physician-assisted death. The observed differences in the current study of resident and faculty beliefs may represent a societal shift currently taking place in the United States, with a move toward the beliefs of the Dutch, who recognize assisted death as a medical service provided by physicians.

Despite the frequent occurrence of patient requests for information about assisted death and the support by physicians for some form of this procedure, physician-assisted death remains an uncommon occurrence. Although legal in Oregon, only 16 patients in 1998 and 27 patients in 1999 clearly died as a result of administration of a lethal medication under the guidance of a physician.<sup>26,27</sup> This is in vast contrast to the Netherlands, in which approximately 5% of all deaths (6000 cases per year) are directly attributable to active intervention by a physician.<sup>2</sup> Medical assistance in the terminal phases of diseases continues to be requested by patients in states that have not passed legislature supporting physician-assisted death; some physicians in these states have anonymously reported involvement in physician-assisted death.<sup>24</sup> The hesitancy of US physicians to participate in assisted death remains; whether ethical, religious, or legal issues prohibit these actions is unclear. It is clear, however, that terminally ill patients frequently consider suicide, and a variety of nonmedical resources are available for guidance.

Given the increasing frequency of medical care of the terminally ill, surgical residents should undergo formal discussion of assisted-death practices that incorporates medical, ethical, religious, and legal issues. However, the complexity of this subject does not lend itself to the development of a standardized curriculum. Furthermore, the development of such a curriculum is notoriously difficult in light of the staggering clinical demands and broad base of personal ethics that may comprise a residency. In a survey of general surgery residents at a university medical center, Rappaport et al<sup>28</sup> observed that most had received education in medical school on the ethics of dying, but only 34% had any further discussion during residency, and this was always on an informal basis with the surgery faculty. Residents express interest and enthusiasm for the development of a formal curriculum that addresses common ethical dilemmas.<sup>19,28,29</sup> However, formal education as part of a surgical residency cannot impose moral or ethical values but instead should focus on moral reasoning, so that decision making is a dynamic process. Although our results demonstrate a difference between surgical residents and staff oncologists in experience and opinion concerning assisted death, the reasons for this as well as the sources from which the surgical residents developed these beliefs are unclear. The lack of formal education on this is-

sue during residency indicates that this process is personal and informal.

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## REFERENCES

- Gittelman DK. Euthanasia and physician-assisted suicide. *South Med J*. 1999;92:369-374.
- Hendin H, Rutenfrans C, Zyllicz Z. Physician-assisted suicide and euthanasia in the Netherlands: lessons from the Dutch. *JAMA*. 1997;277:1720-1722.
- Wecht CH. The right to die and physician-assisted suicide: medical, legal, and ethical aspects. *Med Law*. 1998;17:581-601.
- Orentlicher D. The Supreme Court and physician-assisted suicide: rejecting assisted suicide but embracing euthanasia. *N Engl J Med*. 1997;337:1236-1239.
- Lee MA, Nelson HD, Tilden VP, Ganzini L, Schmidt TA, Tolle SW. Legalizing assisted suicide: views of physicians in Oregon. *N Engl J Med*. 1996;334:310-315.
- Pear R. House backs ban on using medicine to aid in suicide. *New York Times*. October 28, 1999:A1.
- Pain Relief Promotion Act of 1999*, 106th Cong, 1st Sess (1999).
- Angell M. Caring for the dying: congressional mischief. *N Engl J Med*. 1999;341:1923-1925.
- Siegler M. Is there a role for physician-assisted suicide in cancer? No. In: DeVita VT, Hellman S, Rosenberg SA, eds. *Important Advances in Oncology*. Philadelphia, Pa: Lippincott-Raven Publishers; 1996:281-291.
- Bindels PJE, Krol A, van Ameijden E, et al. Euthanasia and physician-assisted suicide in homosexual men with AIDS. *Lancet*. 1996;347:499-504.
- Sulmasy DP, Linas BP, Gold KF, Schulman KA. Physician resource use and willingness to participate in assisted suicide. *Arch Intern Med*. 1998;158:974-978.
- Mercadante S. Pain treatment and outcomes for patients with advanced cancer who receive follow-up care at home. *Cancer*. 1999;85:1849-1858.
- Cohen JS, Fihn SD, Boyko EJ, Jonsen AR, Wood RW. Attitudes toward assisted suicide and euthanasia among physicians in Washington state. *N Engl J Med*. 1994;331:89-94.
- Emanuel EJ, Daniels ER, Fairclough DL, Clarridge BR. The practice of euthanasia and physician-assisted suicide in the United States: adherence to proposed safeguards and effects on physicians. *JAMA*. 1998;280:507-513.
- Meier DE, Emmons DA, Wallenstein S, Quill T, Morrison RS, Cassel CK. A national survey of physician-assisted suicide and euthanasia in the United States. *N Engl J Med*. 1998;338:1193-1201.
- Chang HM. Cancer pain management. *Med Clin North Am*. 1999;83:711-736.
- Parker MH, Price DA, Harris PG. Teaching of medical ethics: implications for an integrated curriculum. *Med Educ*. 1997;31:181-187.
- Barnard D, Quill T, Hafferty FW, et al. Preparing the ground: contributions of the preclinical years to medical education for care near the end of life. Working Group on the Pre-clinical Years of the National Consensus Conference on Medical Education for Care Near the End of Life. *Acad Med*. 1999;74:499-505.
- Angelos P, DaRosa DA, Derossis AM, Kim B. Medical ethics curriculum for surgical residents: results of a pilot project. *Surgery*. 1999;126:701-705.
- Roberts LW, Roberts BB, Warner TD, Solomon Z, Hardee JT, McCarty T. Internal medicine, psychiatry, and emergency medicine residents' views of assisted death practices. *Arch Intern Med*. 1997;157:1603-1609.
- Suarez-Almazor ME, Belzile M, Bruera E. Euthanasia and physician-assisted suicide: a comparative survey of physicians, terminally ill cancer patients, and the general population. *J Clin Oncol*. 1997;15:418-427.
- Di Mola G, Borsellino P, Brunelli C, et al. Attitudes toward euthanasia of physician members of the Italian Society for Palliative Care. *Ann Oncol*. 1996;7:907-911.
- Emanuel EJ, Fairclough DL, Daniels ER, Clarridge BR. Euthanasia and physician-assisted suicide: attitudes and experiences of oncology patients, oncologists, and the public. *Lancet*. 1996;347:1805-1810.
- Back AL, Wallace JI, Starks HE, Pearlman RA. Physician-assisted suicide and euthanasia in Washington state. *JAMA*. 1996;275:919-925.
- Willems DL, Daniels ER, van der Wal G, van der Maas PJ, Emanuel EJ. Attitudes and practices concerning the end of life: a comparison between physicians from the United States and from the Netherlands. *Arch Intern Med*. 2000;160:63-68.
- Chin AE, Hedberg K, Higginson GK, Fleming DW. Legalized physician-assisted suicide in Oregon: the first year's experience. *N Engl J Med*. 1999;340:577-583.
- Sullivan AD, Hedberg K, Fleming DW. Legalized physician-assisted suicide in Oregon: the second year. *N Engl J Med*. 2000;342:598-604.
- Rappaport W, Prevel C, Witzke D, Fulginiti J, Ballard J, Wachtel T. Education about death and dying during surgical residency. *Am J Surg*. 1991;161:690-692.
- Markakis KM, Beckman HB, Suchman AL, Frankel RM. The path to professionalism: cultivating humanistic values and attitudes in residency training. *Acad Med*. 2000;75:141-150.