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End-of-Life Training in US Internal Medicine Residency Programs: A National Study

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Abstract

Background: End-of-life care is a required and important component of medical training for internal medicine residents; many of whom will go on to provide care for adults at the end-of-life stage. Although a body of past research suggests that physician training in end-of-life care needs significant improvement, a comprehensive national study of end-of-life education within US internal medicine residency programs has never been published.

Objective: To determine the status of end-of-life education in internal medicine residency programs in the United States.

Method: The study was a cross-sectional, observational study of all internal medicine Residency Program Directors in the US as of May 2015. Postal mail and email were used to disseminate a multi-wave survey to program directors.

Results: More than half (52%) of all program directors completed the survey. Although directors strongly believed in the benefits of residents integrating end-of-life care components into clinical practice, only 36% of programs reported having formal end-of-life curriculum in place for more than three years. Of those programs that taught end-of-life topics or skills, the majority did not formally evaluate residents' competence. Moreover, 24% of residency programs did not have an end-of-life curriculum; 34% did not offer a rotation in hospice care; and 31% did not have structured conference teaching on topics dealing with end-of-life.

Conclusions: Although end-of-life training of physicians has improved over the years, deficiencies remain within US internal medicine residency programs.

Keywords: End-of-Life Care; Residency Directors; Internal Medicine; Graduate Medical Training; Graduate Medical Education

Introduction

Internists are seeing increasing numbers of older patients with comorbidities [1]. Many of these patients are living with life-threatening illness. Therefore, internal medicine residency programs should be active in preparing future internists to handle the challenges of caring for patients at the end-of-life stage.

Past research shows a perceived lack of preparedness for several aspects of end-of-life care during residencies [2-4]. The Institute of Medicine (now the National Academy of Medicine) reported ongoing problems with end-of-life care including lack of medical training in end-of-life care, lack of physician training in communication, and lack of clear communication between physicians and patients [5]. In the past, physicians often lacked training and expertise in end-of-life communication, symptom assessment and management, psychosocial care/spiritual support, and bereavement care for patients and their families [6,7].

In a study of residents' experiences with end-of-life care education in the intensive care unit (ICU), Chen and colleagues [8] reported that internal medicine residents had significantly more encounters with death and dying compared to residents in surgery or anesthesia. However, residents reported being only moderately comfortable dealing with end-of-life issues and with the training that they received. Similarly, physicians reported in the past that they received inadequate learning opportunities in end-of-life skills during training [9]. Moreover, residents in internal and family practice reported that they needed more information on communication skills and felt uncomfortable with having end-of-life discussions with their patients [10-12]. Even residency faculty members revealed a lack in overall knowledge in end-of-life concepts [13].

Pain and symptom management at the end of life is highly important and highly valued during the end-of-life stages; patients consistently rank effective communication as their top priority [14-16]. Yet researchers report that miscommunication and misunderstandings between patients and physicians are common at the end-of-life stage [17]. The discomfort that some physicians have with end-of-life communication may contribute to the dissatisfaction that patients and families feel regarding how some physicians' handle end-of-life issues [14].

Aim

A body of past research indicates that physician training in end-of-life care may be inadequate. However, a comprehensive, national study of end-of-life education within US internal medicine residency programs has never been published. Therefore, the aim of the current study was to assess the status of end-of-life care education within US internal medicine residency programs.

Methods

The study was a cross-sectional, observational study featuring survey research methods. Subjects included all 403 internal medicine Residency Program Directors in the United States as of May 2015. Program directors were surveyed using a questionnaire that was designed using three theories/models: The Precaution Adoption Process Model (PAPM) is a stage theory that provides the necessary framework in understanding how to change behavior [18]. The PAPM suggests that individuals might be at different points in changing behavior [18] The PAPM was used to identify residency programs' stage of readiness to implement an end-of-life curriculum. A 3-year time period was used for the PAPM stage question (i.e. "in the last 3 years"). Three years was chosen to give residency programs a generous time window of reporting since the process of implementing a new component within a residency curriculum typically requires considerable time to complete tasks such as needs assessment, curriculum design, pilot testing, revisions, and full implementation.

The Health Belief Model (HBM) helps explain and predict certain health behaviors by focusing on the individual's attitudes and beliefs [19]. The perceived barriers construct from the HBM [19] was used to identify program directors' perceived barriers to teaching end-of-life

topics. The Social Cognitive Theory (SCT) was used to understand behavioral change based on the behavior itself or any cognitive or emotional characteristics behind the behavior [20]. The outcome expectations construct from the SCT [20] was used to assess how strongly program directors associated residents' specific clinical actions with the likelihood of improved quality of care for patients during the end-of-life phase.

The survey instrument was designed after a comprehensive literature review on the topics of death and dying, end-of-life medical care, physicians' education in end-of-life care, and graduate medical education. Ideas for survey design were derived from several different studies that assessed medical curricula.

Program directors were asked to report the amount of instructional time their programs invested in five curricular content areas recommended by the Accreditation Council for Graduate Medical Education (ACGME), American Board of Internal Medicine (ABIM), Hospice and Palliative Nurses Association, and researchers who have published their work regarding graduate medical education and end-of-life issues. Those five curricular areas were: 1) communication skills, 2) ethical issues, 3) socio-cultural aspects, 4) patient care and, 5) professionalism [5,6,21-24].

Within each of the five curricular content areas, specific teaching topics and skills were listed. Directors were asked to indicate whether the residency program taught each topic/skill. If the topic/skill was taught, directors were asked to indicate how much teaching time was invested in each topic during the entire residency training period and whether residents' competence was formally evaluated in those skills.

To establish the content validity of the survey, the investigators conducted a comprehensive review of research literature regarding end-of-life education during residency and consulted with a university-based residency program director. In addition, the proposed survey was reviewed by five external experts in survey design and end-of-life education (based on their publication record).

Only one of the theoretical scales featured the appropriate response scale format for additional testing. Construct validity of the outcome expectations scale was established via a principal components analysis. All seven items on the outcome expectations scale loaded strongly on the same factor with eigenvalues of .71 or higher. The internal reliability (Cronbach alpha method) of the scale was .91. After revisions, the final survey consisted of 46 items.

Data Collection

Prior to data collection, the investigators obtained approval from the Institutional Review Board/Human Subjects Committee at the university where they were employed. Program directors' names and contact information were obtained from American Medical Association Graduate Medical Education program electronic data base. Various survey research techniques were used to maximize the return rate including printing the survey in booklet style on pastel color paper, hand-signing the cover letter, mailing in multiple waves, using a unique and colorful outgoing stamp, including a self-addressed, stamped return envelope, and including a monetary incentive in the first wave mailing [25,26]. The third wave mailing included an online survey option. A fourth wave was done by email and telephone.

Data Analysis

Data analysis was conducted using IBM Statistical Package for the Social Sciences (SPSS), Version 19.0 (Armonk, NY: IBM Corp). Descriptive statistics were used to describe the status of end-of-life training within the residency programs.

Results

A total of 211 of 403 directors returned completed surveys (52.4%). The directors were white (70%), male (68%), average age of 53 years (SD=9), with an age range of 35 to 80 years. Most programs (66%) were in urban settings and were community based programs (53%) versus academic programs.

Presence of an end-of-life curriculum and the PAPM stage of implementation

Approximately 1 in 4 residency programs (24%) reported *not* having a formal end-of-life curriculum in place. Another 39% had either just decided to implement an end-of-life curriculum or had implemented a curriculum in the last 3 years. Thus, 63% of residency programs either did not have a formal end-of-life curriculum in place or had just recently implemented one. Only 36% of programs reported having formal end-of-life curriculum in place for more than three years. Slightly more than 1 in 3 programs (34%) did not offer any type of rotation in hospice care; 31% did not have a structured conference curriculum in end-of-life care topics, and 13% did not offer a rotation in palliative care (Figure 1).

End-of-life curricular content and teaching time

Communication topics and skills: A plurality of directors (46%) reported that their faculty spent 0 to 9 hours teaching end-of-life communication skills during the 3-year residency term. The communication topic taught by most programs was "*How to deliver bad news in a sensitive way to patients and family members"* (Table 1).

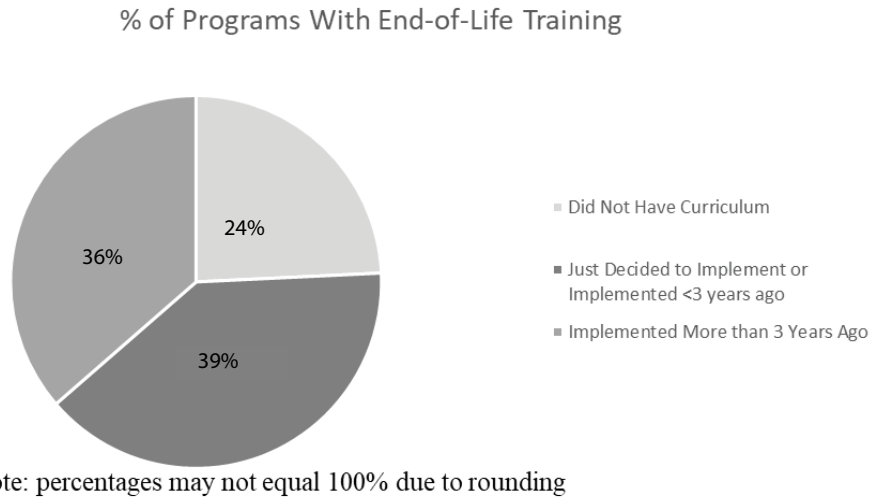

Figure 1: Proportion of US Internal Medicine Residency Programs with an End-of-Life Curriculum.

Medical ethics topics related to end-of-life: A minority of programs taught residents how to explain to patients that in certain situations, future medical treatment would be unlikely to extend life or yield benefits. Half of programs invested 0 to 9 hours in teaching ethical issues/topics during the 3-year residency period (Table 2).

Socio-cultural topics and skills: Of the five curricular content areas, this area received the least amount of teaching time among US residency programs. About 70% of programs invested less than 10 hours in teaching these topics (Table 3).

Patient care topics and skills: Although a majority of residency programs taught residents the clinical skills listed in this content area, only 36% of programs formally evaluated residents' competence to perform these skills (Table 4).

Table 1: Communication Topics/Skills in End-of-Life Curricula: Topics Taught and Time Invested.

Item				N	%
Estimated # of hours invested in communication skills during the 3-year residency					
	0-9			96	46%
	10-19			42	20%
	20-29			19	9%
	30+			54	26%
Communication Topics Taught					
	How to deliver bad news in a sensitive way to patients and family members			167	79%
	How to make a referral for hospice or palliative care and discuss it			161	76%
	How to discuss prognosis with patient and family members			146	69%
	How to establish patient centered goals of care for seriously ill patients			143	68%
Formally evaluate residents' competence in these topics?					
	Yes			106	50%
	No			97	46%

Note: percentages may not equal 100% due to rounding and due to non-responses for specific survey items

Table 2: Ethical Issues Topics/Skills for End-of-Life Curricula: Topics Taught and Time Invested.

Item				N	%
Estimated # of hours invested in Ethical Issues during the 3-year residency					
	0-9			106	50%
	10-19			43	20%
	20-29			14	7%
	30+			48	23%
Ethical Topics Taught					
	How to discuss the withdrawal of life sustaining treatments			158	75%
	How to discuss advance care planning with patients and family members			154	73%
	How to explain to the patient and family members that future treatment is unlikely to benefit or extend life			142	37%
Formally evaluate residents' competence in these topics?					
	Yes			85	40%
	No			115	55%

Note: percentages may not equal 100% due to rounding and due to non-responses for specific survey items

Table 3: Socio-Cultural Aspect Topics/Skills for End-of-Life Curricula: Topics Taught/Time Invested.

Item				N	%
Estimated # of hours invested in Socio-Cultural Aspects during the 3-year residency					
	0-9			149	71%
	10-19			18	9%
	20-29			3	1%
	30+			41	19%
Socio-Cultural Topics Taught					
	Knowledge of bereavement, grief, and mourning			92	44%
	Knowledge of psychological aspects of dying for the patient and family members			90	43%
	Knowledge of religious and cultural aspects of dying			84	40%
Formally evaluate residents' competence in these topics?					
	Yes			39	19%
	No			162	77%

Note: percentages may not equal 100% due to rounding and due to non-responses for specific survey items

Table 4: Patient Care Topics/Skills for End-of-Life Curricula: Topics Taught and Time Invested.

Item				N	%
Estimated # of hours invested in Patient Care topics during the 3-year residency					
	0-9			119	56%
	10-19			24	11%
	20-29			12	6%
	30+			56	27%
Patient Care Topics Taught					
	How to provide symptom management in the final months/weeks of life			155	74%
	How to manage pain in the final months/weeks of life			161	76%
	How to manage nutrition in the final months/weeks of life			119	56%
	How to manage hydration in the final months/weeks of life			116	55%
Formally evaluate residents' competence in these topics?					
	Yes			75	36%
	No			126	60%

Note: percentages may not equal 100% due to rounding and due to non-responses for specific survey items

Table 5: Professionalism Topics/Skills for End-of-Life Curricula: Topics Taught and Time Invested.

Item				N	%
Estimated # of hours invested in Professionalism during the 3-year residency					
	0-9			113	54%
	10-19			32	15%
	20-29			10	5%
	30+			56	27%
Professionalism Topics Taught					
	How to provide care and communication that features respect, compassion, and empathy			156	74%
	How to refer to and use other health care resources and personnel			159	75%
	How to stay current in your knowledge and skills to care for patients at end-of-life			89	42%
Formally evaluate residents' competence in these topics?					
	Yes			103	49%
	No			95	45%

Note: percentages may not equal 100% due to rounding and due to non-responses for specific survey items

Professionalism topics and skills: The skill most likely to be taught (74% of programs) in this content area was *how to provide care and communication that features respect, compassion, and empathy.* However, less than half of programs formally evaluated residents' competence to communicate in such a way (Table 5).

Outcome expectations

To assess program directors' outcome expectations, we asked directors to rate the likelihood that specific end-of-life clinical behaviors performed by residents would improve the quality of care for patients. More than 90% of directors believed that if their residents performed the following behaviors that the quality of patient care would improve: a) integrating palliative care and/or hospice care within treatment options for patients nearing end-of-life, b) communicating with the patient and his/her family members to establish patient-centered goals of care for patients nearing the end-of-life and, c) discussing advance care planning with the patient and family members.

Perceived barriers to implementation

Directors' perceived the following barriers to incorporating more end-of-life teaching into their programs: 1) insufficient time in the residency teaching schedule (46%), 2) lack of faculty members certified in hospice and palliative medicine (26%) and, 3) and lack of rotation sites/lack of preceptors with needed expertise (15%).

Discussion

Although program directors strongly believed in the benefits of residents performing specific end-of-life clinical actions, approximately 1 in 4 programs did not have a formal end-of-life curriculum in place. Another 39% of programs had either just decided to start the implementation process or had implemented such a curriculum in the last 3 years. Furthermore, 31% of programs did not provide organized conference style teaching on end-of-life topics and 50% or less formally evaluated residents' competence in the five curricular areas assessed.

Weak training and evaluation during residency training can certainly lead to a variety of problems. For example, miscommunication and misunderstandings between patients and physicians about prognoses and care options are common at end-of-life [27]. Lack of training and weak evaluation can cause physicians to avoid end-of-life conversations with patients, communicate euphemistically, be overly optimistic, or delay discussions until patients are close to death [28].

Having difficulty talking to patients and their family members about death or avoiding such conversations is likely rooted in the avoidance of death seen in American culture, especially in the culture of medicine [29]. In the culture of medicine, death is often viewed as failure and dying patients are not considered "good teaching cases" [30,31]. Such negative attitudes toward death and dying learned in medical school and residency can shape future practice patterns that tend to devalue

the provision of end-of-life care, even though the public increasingly states their desire for such humane medical care at the end of life [32].

Didactic lecture-style teaching is typically passive and lacks the interactivity and learner engagement needed change learner behavior. For example, past research has demonstrated that didactic style teaching commonly found in conference style teaching was not enough to increase physician's skills in conducting DNR discussions with patients [33].

Another challenge for residency directors and faculty members in residency programs is that the content of the experiential curriculum is dependent on the pathology encountered in patients. Therefore, one of the weaknesses in relying on clinical rotations, particularly inpatient rotations, is that the lessons learned by residents are contingent on the diagnoses of those patients who are hospitalized. If the resident sees few patients at the end-of-life stage during that rotation, he/she may not receive adequate exposure in end-of-life topics. This weakness points to the importance of including supplemental end-of-life readings, discussions, and on-line modules during mandatory inpatient rotations in intensive care units and oncology.

One way to ensure that end-of-life topics are taught to all residents is to advocate that the Accreditation Council for Graduate Medical Education and the corresponding Residency Review Committee for internal medicine programs develop specific curricular requirements and guidelines for end-of-life topics.

At present, neither the Accreditation Council for Graduate Medical Education nor the Residency Review Committee for internal medicine residency programs has specific curricular guidelines for end-of-life care. Furthermore, the American Medical Association does not have specific curricular guidelines for end-of-life care.

This lack of emphasis on end-of-life curricular content is also found on the medical licensure exam and the specialty board certification examination. There are few questions on end-of-life topics on the current US Medical Licensing Examination [34]. A "blueprint" which provides an overview of 15 areas for the three step examination of licensure does include a few items related to terminal phases of illness, but overall, the content of the exam is lacking in the end-of-life care domain. This is also true of the board certification exam for internal medicine. At present, test items related to hospice and palliative medicine make up only 3% of the total exam items [23]. Currently, hospice and palliative medicine items make up only 2% of the oncology board exams [23]. For cardiology certification, hospice and palliative medicine makes up only 1.5% of the total examination and is found within a "miscellaneous" portion [23]. Based on these statistics, it is easy to see why end-of-life education is a minor priority in residency training.

According to program directors, the primary barriers to providing more end-of-life training were lack of time, lack of qualified teachers, and lack of appropriate rotation sites. These perceived barriers speak to the importance and benefits of residency programs using external resources, including interdisciplinary, team-based education [5,35-37]. The Academy of Medicine recommends such an educational approach to improving end-of-life education for physicians [5].

Residency programs can also look to external sources for potential rotation sites. In addition to inpatient wards and intensive care units, potential rotation sites for learning about end-of-life issues can be found at hospice organizations, palliative care agencies, and home health care agencies. Program directors should also consider using the expertise of local university professors of Medical Ethics and Thanatology/Death and Dying. In addition, residents would likely learn helpful information from grief counselors, funeral directors, medical social workers, and hospital chaplains. Lastly, residency programs should explore creative ways to learn from the perspectives and experiences of family members of patients who died in the ICU or in the internal medicine wards.

Potential Limitations

The results of this study should be viewed with its potential limitations in mind. First, although the 52% response rate is stronger than many published research studies with physician administrators, it is possible that non-response bias could have influenced the validity of the results. Second, social desirability bias may have also impacted the internal validity of the results. Hence, the presence of end-of-life curricula and the amount of teaching may have been over-reported. Third, the monothematic nature of the survey may have resulted in response bias, which would be a threat to internal validity. Fourth, the survey was closed format and did not allow for elaboration of information from respondents, which could have resulted in a threat to internal validity.

Conclusion

Although end-of-life training of physicians has improved over the years, deficiencies remain within US internal medicine residency programs.

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