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Becoming a Good Doctor: Perceived Need for Ethics Training Focused on Practical and Professional Development Topics

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Abstract

Objective—Ethics training has become a core component of medical student and resident education. Curricula have been developed without the benefit of data regarding the views of physicians-in-training on the need for ethics instruction that focuses on practical issues and professional development topics.

Methods—A written survey was sent to all medical students and PGY1-3 residents at the University of New Mexico School of Medicine. The survey consisted of eight demographic questions and 124 content questions in 10 domains. Responses to a set of 24 items related to ethically important dilemmas, which may occur in the training period and subsequent professional practice, are reported. Items were each rated on a 9-point scale addressing the level of educational attention needed compared to the amount currently provided.

Results—Survey respondents included 200 medical students (65% response) and 136 residents (58% response). Trainees, regardless of level of training or clinical discipline, perceived a need for more academic attention directed at practical ethical and professional dilemmas present during training and the practice of medicine. Women expressed a desire for more education directed at both training-based and practice-based ethical dilemmas when compared to men. A simple progression of interest in ethics topics related to level of medical training was not found. Residents in diverse clinical specialties differed in, perceived ethics educational needs. Psychiatry residents reported a need for enhanced education directed toward training stage ethics problems.

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Conclusions—This study documents the importance placed on ethics education directed at practical real-world dilemmas and ethically important professional developmental issues by physicians-in-training. Academic medicine may be better able to fulfill its responsibilities in teaching ethics and professionalism and in serving its trainees by paying greater attention to these topics in undergraduate and graduate medical curricula.

How does one become a good doctor? Mastery of knowledge and acquisition of technical skill are the principal emphases of formal medical training, but it is clear that these achievements, while necessary, are not sufficient (1,2). It is the ability to make and enact sound decisions with professionalism that defines the truly good doctor (3,4). Preparing physicians-in-training to become independent decision makers dedicated to the well-being of their patients is the central task of clinical education (5,6). Toward this goal, medical learning traditionally has been based on an apprenticeship model in which more experienced physicians transmit essential knowledge and skills of clinical practice and provide mentoring in everyday medical decision making (7). In recent years, there has been a growing sense that formal ethics curricula should help inculcate the clinical and ethical decision making skills and professional values needed to be a good doctor (8,9).

The emergence of ethics curricula in medical education over the past three decades has been dramatic (10). Ethics education has become a universal component of undergraduate and graduate clinical training (11). In these activities, it has been increasingly recognized that effective preparation in ethics will be attuned to the professional developmental level of the trainee, oriented to authentic ethical dilemmas experienced by the trainee, and employ diverse methods such as individual clinical supervision and mentoring, consultation with experts, didactic and small group learning, and formal evaluation (12). Nevertheless, it appears that ethics curricula have often focused on what one author has called the “neon issues” of health care such as abortion, euthanasia, and global health care resource allocation rather than the day-to-day moral struggles faced by early career physicians (13). Similarly, ethics curricula have often been “top down,” i.e., structured in relation to abstract bioethical principles, rather than by trainee experiences and self-identified educational needs, representing a more “bottom-up” approach (14). Learning how to respond when a family member asks for a medication prescription, or how to handle a mistake that has been made in the care of a patient, or how to weigh information provided by a pharmaceutical company about its products, or how to manage a request from a supervisor to perform a procedure for which one feels unqualified, or how to deal with a colleague with an alcohol problem—it is these practical ethics issues that may receive little attention in formal bioethics curricula (13).

Beyond the task of preparing early career physicians for these dilemmas, there is also the question of how they transition into their new-found identities within society as clinicians (15). This professional development step has ethically important attitudinal components. Some of these pertain to the physician-in-training’s understanding of the physician’s professional duties in society and his or her self-understanding as a health professional (16). Key questions that the early career clinician must grapple with are as abstract as the allocation of scarce resources in society and earthy as developing friendships or personal relationships with patients. Compared with later career physicians, recent studies show that younger physicians place a priority on quality-of-life and balancing family and professional responsibilities (17). How these changing life style priorities will affect the practice of medicine and how the ethics educators can best prepare clinicians to manage the various aspects of their lives in a healthy and fulfilling way has received little attention. It can however be anticipated that this shift in practice patterns and work habits will involve more collaboration and shared care with both other physicians and a variety of allied health practitioners. The tenor of the patient-physician relationship may also change in parallel with this progression. Professional boundaries may

become more complex and diffuse over time, as may attitudes toward social justice, professional duties, and other profession-related concerns.

To our knowledge, there has not been a systematic study assessing the views of medical students and residents on the need for ethics training focusing on practical ethics and professional development topics. These topics are diverse, encompassing ethical considerations in practicing procedures on cadavers, accepting gifts from patients, physicians' societal duties, and the self-care of physicians. In this report, we describe a study in which we sought to examine whether physicians-in-training would identify the need for more curricular attention to these issues. We wondered whether these needs would be greater at certain stages of training and for women, as has been suggested in prior work (18). This work is predicated on the belief that understanding the perspectives of medical students and residents regarding ethics training will help in our efforts to create effective, valuable ethics preparation that, in turn, may foster the development of good doctors.

Method

Participants and Context

All medical students (N = 308) and PGY1-3 residents (N = 233) at the University of New Mexico School of Medicine were invited to participate in this Institutional Review Board (IRB)-approved, confidential survey.

For medical students, the domain of "Ethics and Professionalism" has been recognized as a core competency for 10 years. It is taught in an integrated and longitudinal fashion through didactic sessions, small groups and individual supervision, and special activities (e.g., the White Coat ceremony). We estimate that medical students each year received 4–12 hours and residents 2–4 hours of formal instruction on ethics and professionalism-related topics; we cannot accurately quantify the hours of small group discussion and individual supervision focusing on ethics and professionalism for either medical students or residents. Medical students generally receive ethics and professionalism teaching from a diverse set of multidisciplinary faculty, whereas residents more commonly receive instruction from a narrower set of faculty within their own discipline or specialty.

At the time of this study, medical student competence in this area was formally evaluated alongside communication skills, clinical skills, critical reasoning, and self-assessment competencies during three mandatory performance-based examinations (19). These examinations covered topics such as confidentiality, informed consent, health disparities, and access to care. For both medical students and residents, all evaluations by supervisors included explicit assessment of trainee professionalism and ethical conduct, consistent with national guidelines (20).

Survey

Three of us (LR, TW, CG) developed a survey to assess views of professionalism and ethics preparation and their evaluation in medical education. The survey included 8 demographic questions and 124 content items organized by 10 domains. Curricular content items were each rated on 9-point scales appropriately labeled. Responses to a domain of 24 items related to ethically important professional practices during and after training are reported here.

Procedure

The survey was sent via campus mail with a cover letter describing the purpose of the study, confidentiality procedures, and institutional review board approval. Two follow-up mailings

were sent to nonrespondents at 1-month intervals. Medical students received \$10 in compensation for time and effort, and residents received \$20.

Hypotheses and Data Analysis

Based on our prior work and the existing empirical literature suggesting that ethics education is underdeveloped in many if not most medical schools, especially during the clinical training years (11,21), that women health professionals and trainees are particularly positive in endorsing the importance of ethics education and that psychiatry residents have a strong interest in ethics (22–25). We generated four hypotheses: 1) medical students and residents will identify the need for greater curricular attention for most or all topics presented; 2) women respondents will express greater need than their male colleagues; 3) more advanced trainees, i.e., clinical medical students and residents, will express greater need than their preclinical student colleagues; and 4) psychiatry residents will express greater need than primary care program or other specialty program residents.

To test these hypotheses, responses were subjected to repeated measure multivariate analyses of variance (MANOVA) with Items as a repeated measure and Gender and Training Level (preclinical medical students versus clinical medical students versus residents) as independent variable. Further analyses examined residency program group (Psychiatry versus Primary care versus Other specialty programs) as an additional independent variable.

Reliability

A random subset of 30 respondents completed the survey 7 weeks later to assess reliability. Retest correlations ranged from 0.03 to 0.67 (mean $r = 0.47$, $p < 0.05$) with correlations above 0.30 for 20 of 24 items. Single rating scale items generally do not have as high reliability as instruments that are based on composites of multiple items (26).

Results

Respondent Characteristics

Sixty-two percent ($N = 336$) of the trainees invited to participate elected to respond to our survey. As shown in Table 1, respondents were 51% women, and were 20% Hispanic American, 61% Anglo/white, 9% unreported, 5% Asian American, 4% Native American, and 1% African American. Fifty percent of residents were in primary care departments, 13% in psychiatry, and 38% in other specialty departments.

Training level groups did not differ significantly by gender or ethnicity. The proportion of respondents married or living with a partner increased with advancing training level (40% for preclinical students, 61% for clinical students, 63% for residents, $p < 0.01$) as did mean age (means = 27.8 [SD = 4.0], 29.5 [SD = 4.7], and 32.5 [SD = 4.8], respectively, $p < 0.01$).

Reported Needs Concerning Additional Training on Topics Pertaining to Ethically Important Practices and Behaviors During the Training Period—

Trainees rated (on a scale of 1 = “much less” to 5 = “same” to 9 = “much more”) educational attention needed, compared to the amount now provided, concerning dilemmas arising from trainee status.

As shown in Table 2, trainees indicated need for more attention to all topics (overall mean = 6.25). The topics with the most additional attention requested were trainee health care, resolving conflicts with attendings, and performing work beyond one’s competence (means = 6.46 to 6.62), and, some additional attention was requested for mistreatment of trainees,

learning procedures on cadavers, and students introduced to patients as doctors (means = 5.80 to 6.26; Item main effect: $F = 21.77$, $df = 5$, 324, $p < 0.0001$, maximum Cohen's $d = 0.54$).

Women expressed slightly greater need for additional educational attention to trainee status dilemmas than did men (means = 6.39 versus 6.11, Gender effect $F = 6.45$, $df = 1$, 328, $p < 0.02$, $d = 0.28$), with the greatest difference on the topic of resolving conflicts between attendings and trainees (means = 6.74 versus 6.26, $d = 0.31$).

Medical students expressed greater need for additional education on trainee status dilemmas than did residents (means = 6.31 to 6.39 versus 6.06; Training Level effect $F = 3.39$, $df = 2$, 328, $p < 0.04$, maximum $d = 0.33$). Preclinical medical students consistently expressed greater need for additional education concerning trainee status dilemmas than did residents; clinical medical students indicated greater need for additional attention to learning procedures on cadavers than did either preclinical students or residents (mean = 6.14 versus 5.55 to 5.93, maximum $d = 0.39$) and less need for attention to mistreatment of trainees (mean = 6.02 versus 6.16 to 6.62, maximum $d = -0.39$; Item X Training Level interaction $F = 2.12$, $df = 10$, 648, $p < 0.03$).

Residency Program Comparisons—Resident responses were analyzed with Residency program group (Psychiatry versus Primary Care Specialties versus Other Specialties) and Gender as independent variables.

As shown in Figure 1, psychiatry residents indicated greater need than did residents in other program groups for additional educational attention to some of the ethical dilemmas of special importance arising during training (Table 2). Psychiatry residents indicated more attention needed concerning conflicts between attendings and trainees (means = 7.20 versus 6.10 to 6.51, maximum $d = 0.70$), performing work beyond one's competence (means = 6.85 versus 6.07 to 6.28, maximum $d = 0.49$), and students introduced to patients as doctors (means = 6.50 versus 5.31, $d = 0.76$), (Item X Residency program group interaction $F = 2.95$, $df = 10$, 248, $p < 0.01$). For practice- and profession-related topics (Table 3), psychiatry residents indicated greater need for additional education than did primary care or other specialty residents (respective means = 6.49, 6.22, and 5.96, maximum $d = 0.59$) although the difference was only marginally significant (Residency program main effect $F = 2.35$, $df = 2$, 124, $p < 0.10$).

Educational Needs Concerning Ethically Important Practices and Behaviors—Trainees rated (on a scale of 1 = “much less” to 5 = “same” to 9 = “much more”) educational attention needed, compared to the amount now provided, concerning several ethically important topics pertaining to clinical practice and the profession of clinical medicine.

As shown in Table 3, trainees indicated need for more attention to all topics (overall mean = 6.24). The most additional attention was requested for reporting and coping with medical mistakes, balancing personal and professional life, and allocation of health care resources (means 6.60 to 7.10), and the least additional attention was requested for sexual harassment, accepting gifts from patients, and sexual contact between patients and physicians (means = 5.41 to 5.69) (Item main effect $F = 31.67$, $df = 16$, 306, $p < 0.0001$, maximum $d = 1.17$).

Women expressed greater need for additional educational attention to practice- and profession-related topics than did men (means = 6.42 versus 6.06, Gender effect $F = 13.23$, $df = 1$, 321, $p < 0.001$, $d = 0.40$), particularly concerning gender bias in clinical care (means = 6.62 versus 5.83, $d = 0.55$) and reporting of medical mistakes (means = 7.48 versus 6.72, $d = 0.53$) (Item X Gender interaction $F = 3.69$, $df = 16$, 306, $p < 0.001$).

Preclinical medical students overall expressed greater need for additional education on practice- and-profession-related topics than did clinical phase medical students or residents

(respective means = 6.42 versus 6.17 versus 6.14, Training Level main effect $F = 3.02$, $df = 2$, 321 , $p \leq 0.05$, maximum $d = 0.31$). In addition, an Item X Training Level interaction ($F = 2.13$, $df = 32$, 612 , $p < 0.001$) revealed a very complex pattern of item mean differences across the groups of preclinical medical students versus clinical medical students versus residents. However, simple effects analyses revealed no statistically significant differences between any two means for any single practice or behavior item.

Discussion

This study affirms the value of ethics preparation in the eyes of medical students and residents, and it documents the perceived need for greater curricular attention to practical ethics and ethically important professional development topics during medical training. As hypothesized, preclinical students compared to clinical students and residents more strongly endorse the need for substantive ethics preparation related to these topics. Similarly, women of all levels of training report greater need for additional ethics training. In comparing trainees across specialty programs, psychiatry residents express greater need for training-related ethics topics than their primary care and other specialty colleagues, and this trend tends to hold for practice- and profession-related topics as well. Further study is needed to evaluate the meaning of these patterns and to determine whether they represent generalizable phenomena that reflect consistent differences among medical specialty groups.

The most important initial observation regarding these findings is that no topic is seen to merit less curricular attention, and this is true for men and women respondents, for individuals at all levels of training, and for residents in diverse clinical disciplines. On one hand, this may signal, quite simply, inadequate ethics curricula for physicians-in-training at all phases at our survey institution; on the other hand, it appears likely that trainees continue to perceive significant ethics preparation needs as they progress through their medical education. To highlight one topic in particular, the interest from all levels of trainees in dealing with medical mistakes is heartening as medicine as a profession is attempting to move from a culture of blame to a human endeavor requiring diligence and protections to safeguard vulnerable individuals from harm.

In sum, students' and residents' strong endorsement of the need for more ethics instruction on almost every subject and the preference for a practical rather than theoretical approach may reflect their sense of the power and pervasiveness of the hidden curriculum and a wish to have the skills to manage the moral pressures inherent in professionalization in medicine (27).

Second, as with previous studies (28), women perceive greater curricular needs than did men respondents, and this gender difference was consistent across training-related ethics and practice- and profession-related domains. Despite this moderate size main effect of gender, the only individual item to which women and men responded significantly differently, however, was the need for additional training related to gender bias inpatient care. The reasons behind this result are unclear. Are women physicians-in-training more sensitive to gender bias in the environment? Have they personally experienced disparate care (29)? Because women represent 48% of all medical school applicants, 44% of all graduating medical students, and as many as 74% of residents in certain specialty areas, it will be important to determine the pattern of and reasons for differential views of women and men physicians-in-training related to ethics (30).

Third, as medical students and residents progress through training, they are continually confronted by a variety of ethical challenges. How one learns to identify and address these dilemmas is an important educational milestone in becoming a competent ethical physician. An educator's ability to identify what knowledge students, in various stages of development, find valuable is a significant motivational tool for the teacher. By attempting to address the

student's educational requests, as part of a complete curriculum, the role of teacher and student may be more valuable for all involved. This survey study attempts to identify those key issues.

In this study, interesting findings related to level of training and perceived ethics curricular needs were found. As expected, preclinical medical students identified greater need for additional curricular attention to ethics topics overall or, stated more negatively, they perceived greater deficiencies in the existing curriculum. This result may represent professional anxiety as preclinical medical students begin to speculate about what ethical problems they may face in their future professional career as physicians. It may also represent the fact that they have not yet been exposed to enough teaching surrounding the topics specifically emphasized in the survey. The highly significant training group by item interaction effect we detected suggests that training groups have a complex pattern of differential needs across the specific practices and behaviors.

In any case, for residents and clinical medical students, the overall gap between what is needed and what exists is less than for the preclinical medical students. These findings may be the expression of increasing clinical exposure and responsibilities, knowledge base, and societal expectations related to their professional identities. It is interesting that our findings on level of training did not represent a simple progression. In other words, clinical medical students were not intermediate between preclinical students and residents in their responses, but rather appeared to resemble one or the other group depending on the ethics topic domain. To better understand this pattern of findings regarding level of training, it will be essential to perform other cross-sectional and longitudinal studies in other settings, ideally including both quantitative and qualitative assessments.

Fourth, residents in different fields encounter different kinds of ethical dilemmas and may experience different needs for ethics preparation (31). In addition, differential emphasis is placed on ethics across diverse disciplines, although recent ACGME requirements have highly rated the importance of professionalism as a core competency for all physicians (32). In this preliminary study, psychiatry residents express strong needs for enhanced preparation pertaining to training-related ethics topics. The specific topics that they were most interested in were natural extensions of psychiatrists' everyday work—resolving interpersonal conflict, defining boundaries for scope of practice, and establishing an appropriate therapeutic-relationship framework. The different curricular needs of residents in diverse specialties continues to be an interesting area for study.

The strengths of this study are its focus on salient practical ethics and ethically important professional development issues. Its cross-sectional design permitted hypothesis-driven analyses to compare perspectives of preclinical and clinical physicians-in-training and of residents in diverse training programs. It is important to note that the perspectives of learners cannot and should not be the sole guide to curricular content; nevertheless, it is clear that for teaching to be effective, it must be meaningful—relevant, salient, useful, and connected to the ecological experience of learners. For these reasons, we suggest that the approach of this survey has value in informing curricular design.

Nevertheless, this survey study has several limitations. It relies on self-report, and it involved a sample at a single institution. The response rate of 62% was high, but does not prevent sampling bias. In addition, the number of residents in the study did not provide sufficient power to permit additional more detailed analyses. For example, it appears that psychiatry residents see the greatest need for additional ethics education in relation to several specific topics and, possibly, overall, in comparison with their colleagues in other training areas. Whether this is an index of a higher ethical sensitivity, of greater perceived ethical complexity in mental health work, of lesser prominence of psychiatric ethics in training, or other explanations is unknown.

but worthy of further investigation. For these reasons, we suggest that this initial project should serve as a springboard for future studies involving multiple centers and quantitative and qualitative elements with additional assessments and methodologies. Parallel work inquiring about the curricular content recommendations and about the professional development needs of academic faculty entrusted with implementing ethics and professionalism preparation would be especially worthwhile. Such efforts are essential as we seek to develop ethics preparation that is both attuned to the needs of learners and the experiences and hard-earned wisdom of their more senior faculty colleagues.

Conclusion

Learning to handle practical ethics issues and developing one's professional identity as a physician are essential steps in becoming a good doctor. Innovative leaders in medical education have moved to create new models for ethics preparation that are responsive to the views of physicians-in-training to complement valuable traditional methods of learning. There has been a gradual trend toward more developmental attunement in ethics education. However, the majority of ethics and professionalism teaching at the undergraduate and even postgraduate level is still broad and general. The results of this study point to a need for greater specialization in ethics particularly for residents and those in highly patient-centered disciplines. Different content and formats may be needed for preclinical and clinical students and future ethics programs may want to consider the varying ethical values and attitudes of women and men. These new approaches will benefit from the guidance offered by the contributions of physicians-in-training who are entrusted with tremendous responsibilities in fulfilling their own objectives for learning on their way to becoming good doctors for their patients.

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References

1. Drane, JF. Kansas City, MO: Sheed & Ward; 1988. *Becoming a Good Doctor: The Place of Virtue and Character in Medical Ethics*.
2. Wallace AG. Educating tomorrow's doctors: the thing that really matters is that we care. *Acad Med* 1997;72:253–258. [PubMed: 9125939]
3. Inui, TS. Association of American Medical Colleges; 2003. *Flag in the Wind: Educating for Professionalism in Medicine*.
4. Feudtner C, Christakis DA. Making the rounds: the ethical development of medical students in the context of clinical rotations. *Hastings Cent Rep* 1994;24:6–12. [PubMed: 8045775]
5. Ginsburg S, Regehr G, Lingard L. The disavowed curriculum: understanding student's reasoning in professionally challenging situations. *J Gen Intern Med* 2003;18:1015–1022. [PubMed: 14687260]
6. Bryant JH. Educating tomorrow's doctors. *World Health Forum* 1993;14(3):217–230. [PubMed: 8397729]discussion 231–252
7. Farnsworth WE. Training physicians to be doctors-teachers and healers, problem-solvers and decision-makers. *J Am Osteopath Assoc* 1991;91:1005–1018. [PubMed: 1748581]
8. Robins LS, Braddock CH, Fryer-Edwards KA. Using the American Board of Internal Medicine's "Elements of Professionalism" for undergraduate ethics education. *Acad Med* 2002;77:523–531. [PubMed: 12063196]
9. Miles SH, Lane LW, Bickel J, et al. *Acad Med* 1989;64:705–714. [PubMed: 2686674]
10. Culver CM, Clouser KD, Gert B, et al. *N Engl J Med* 1985;312:253–256. [PubMed: 3965960]

11. DuBois JM, Burkemper J. Ethics education in US medical schools: a study of syllabi. *Acad Med* 2002;77:432–437. [PubMed: 12010705]
12. Christakis DA, Feudtner C. Ethics in a short white coat: the ethical dilemmas that medical students confront. *Acad Med* 1993;68:249–254. [PubMed: 8466599]
13. Braunack-Mayer AJ. What makes a problem an ethical problem? an empirical perspective on the nature of ethical problems in general practice. *J Med Ethics* 2001;27:98–103. [PubMed: 11314166]
14. Hundert EM, Douglas-Steele D, Bickel J. Context in medical education: the informal ethics curriculum. *Med Educ* 1996;30:353–364. [PubMed: 8949475]
15. Hafferty FW, Franks R. The hidden curriculum, ethics teaching, and the structure of medical education. *Acad Med* 1994;69:861–871. [PubMed: 7945681]
16. Geppert CM. The last physician? “The parable of the last physician”. *Pharos* 1997;60:15–20. [PubMed: 9197139]
17. Adams D. Generation gripe: young doctors less dedicated, hardworking? *Am Med News*. 2004
18. Patenaude J, Niyonsenga T, Fafard D. Changes in the components of moral reasoning during students’ medical education: a pilot study. *Med Educ* 2003;37:822–829. [PubMed: 12950947]
19. Roberts LW. Sequential assessment of medical student competence with respect to professional attitudes, values, and ethics, subcommittee on professional attitudes and values, student progress assessment. *Acad Med* 1997;72:428–429. [PubMed: 10676351]
20. Accreditation Council for Graduate Medical Education. 1999. ACGME Outcome Project: General Competencies. 2000 (Dec 30, 2000)
21. Lehmann LS, Kasoff WS, Koch P, Federman DD. A survey of medical ethics education at US and Canadian medical schools. *Acad Med* 2004;79:682–689. [PubMed: 15234922]
22. Bickel J, Ruffin A. Gender-associated differences in matriculating and graduating medical students. *Acad Med* 1995;70:552–559. [PubMed: 7786380]
23. Shapiro J, Miller R. How medical students think about ethical issues. *Acad Med* 1994;69:591–593. [PubMed: 8054065]
24. Eldridge JJ, Gluck JP. Gender differences in attitudes toward animal research. *Ethics Behav* 1996;6:239–256. [PubMed: 11654977]
25. Moffic HS, Coverdale J, Bayer T. Ethics education for psychiatry. *J Clin Ethics*. 1991;2:161–166.
26. Nunnally, JC.; Bernstein, IH. *Psychometric Theory*. New York: McGraw-Hill; 1994.
27. Brownell AK, Cote L. Senior residents’ views on the meaning of professionalism and how they learn about it. *Acad Med* 2001;76:734–737. [PubMed: 11448832]
28. Roberts L, Teresita M, Lyketsos C, et al. how psychiatry residents at ten training programs wish to learn ethics. *Acad Psychiatry* 1996;20:131–143.
29. Hojat M, Gonnella JS, Xu G. Gender comparisons of young physicians’ perceptions of their medical education, professional life, and practice: a follow-up study of Jefferson Medical College graduates. *Acad Med* 1995;70:305–312. [PubMed: 7718063]
30. Wertz DC. Is there a “women’s ethic” in genetics: a 37-nation survey of providers. *J Am Med Womens Assoc* 1997;52:33–38. [PubMed: 9033171]
31. Diekema DS, Shugerman RP. An ethics curriculum for the pediatric residency program: confronting barriers to implementation. *Arch Pediatr Adolesc Med* 1997;151:609–614. [PubMed: 9193248]
32. Leach DC. The ACGME competencies: substance or form? accreditation council for graduate medical education. *J Am Coll Surg* 2001;192:396–398. [PubMed: 11245382]

FIGURE 1.

Residents Perceptions of Additional Curricular Attention Needed During Training on Topics of Ethical Importance by Residency Program Groups

(a) Primary Care Specialty Departments are Family Practice, Pediatrics, and Internal Medicine; Other Specialty Departments are Anesthesiology, Emergency Medicine, Obstetrics/Gynecology, Pathology, Radiology, and Surgery.

TABLE 1

Characteristics of Respondents

Characteristic	Training Level					
	Medical Students					
	Preclinical (N = 98)		Clinical (N = 102)		Residents (N = 136)	
	N	%	N	%	N	%
Response rate		63%		67%		58%
Gender						
Women	59	60%	50	49%	62	46%
Men	39	40%	52	51%	74	54%
Resident department						
Primary care ^a					68	50%
Psychiatry					17	13%
Other specialties ^b					51	38%

^a Primary care departments are Family Practice, Internal Medicine, and Pediatrics.

^b Other specialty departments are Anesthesiology, Emergency Medicine, Obstetrics/Gynecology, Pathology, Radiology, and Surgery.

TABLE 2
Medical Student and Resident Reported Needs for Additional Training on Topics Pertaining to Ethically Important Practices and Behaviors During the Training Period

Ethics Topic ^{1, 2, 3} (Chronbach's α = 0.74)	Gender		Training Level			Overall (N = 334)	
	Women (N = 171)	Men (N =163)	Medical Students		Residents (N = 134)	Mean	SD
			Predclinical (N = 98)	Clinical (N = 102)			
Trainee health care Resolving conflicts between attendings and trainees Performing work beyond one's competence Mistreatment of trainees Learning procedures on cadavers Students introduced to patients as doctors Group Means	6.81	6.42	6.61	6.74	6.51	6.62	1.54
	6.74 ^A	6.26 ^A	6.62	6.43	6.45	6.50	1.52
	6.50	6.42	6.52	6.60	6.26	6.46	1.39

¹ Rated on a scale from 1 = "much less" to 5 = "same" to 9 = "much more" attention needed compared to now.

² Means are from a MANOVA with Ethics Topic Item as a repeated measure and Training Level and Gender as independent variables. Main effect for Item $p < 0.0001$; Gender $p < 0.02$; Training Level $p < 0.04$; Item X Training Level interaction $p < 0.03$; pooled SD = 1.53; differences in overall Item means ≥ 0.19 , Item means within Genders ≥ 0.27 , and Item means within Training Levels ≥ 0.34 are significant, $p < 0.05$, by Fisher's LSD.

³ Row means with the same subscript are significantly different, $p < 0.05$ for uppercase and $p < 0.10$ for lower case, by Fisher's LSD.

MANOVA = multivariate analysis of variance

LSD = least significant difference

Medical Student and Resident Reported Needs for Additional Training on Topics Pertaining to Ethically Important Professional Practices and Behaviors

TABLE 3

Practices and Behaviors ^{1, 2, 3} ($\alpha = 0.90$)	Gender		Training Level			Overall (N = 327)	
	Women (N = 166)	Men (N = 161)	Medical Students		Residents (N = 130)	Mean	SD
			Preclinical (N = 96)	Clinical (N = 101)			
Reporting of medical mistakes	7.48 ^A	6.72 ^A	7.29	7.03	6.98	7.10	1.25
Coping with mistakes in clinical care	7.33	6.79	7.16	6.87	7.14	7.06	1.26
Balancing one's personal and professional life	6.85	6.64	6.94	6.57	6.72	6.75	1.68
Allocation of health care resources	6.74	6.46	6.59	6.50	6.70	6.60	1.48
Physician's social and political responsibilities	6.57	6.32	6.73	6.18	6.41	6.44	1.61
Giving medical advice to friends and family	6.67	6.19	6.41	6.56	6.33	6.43	1.38
Resolving conflicts between allied health professionals	6.52	6.23	6.48	6.14	6.50	6.38	1.47
Interacting with patients' families	6.43	6.14	6.52	6.25	6.09	6.28	1.37
Responding to an impaired colleague	6.51	6.04	6.22	6.35	6.26	6.28	1.35
Gender bias in clinical care	6.62 ^A	5.83 ^A	6.52	5.97	6.19	6.23	1.48
Being asked to falsify clinical information	6.37	6.00	6.35	6.16	6.04	6.18	1.52
Drug companies supplying gifts and lunches	5.93	5.98	6.21	6.16	5.50	5.96	1.78
Confidentiality of medical records	5.84	5.98	6.06	5.87	5.81	5.91	1.41
Personal relationships with patients	6.04	5.71	6.17	5.71	5.75	5.87	1.32
Sexual harassment	6.00	5.38	6.08	5.41	5.58	5.69	1.44
Accepting gifts from patients	5.83	5.33	5.79	5.58	5.37	5.58	1.34
Sexual contact between patients and physicians	5.49	5.33	5.60	5.56	5.08	5.41	1.41
Group means	6.42 ^A	6.06 ^A	6.42 ^{B,C}	6.17 ^B	6.14 ^C	6.24	0.89

¹ Rated on a scale from 1 = "much less" to 5 = "same" to 9 = "much more" attention needed compared to now.

² Means are from a MANOVA with Practices and Behaviors Item as a repeated measure and Training Level and Gender as independent variables. Main effect for Item $p < 0.0001$; Gender $p < 0.001$; Training Level $p \leq 0.05$; Item X Gender $p < 0.0001$; Item X Training Level $p < 0.001$; pooled SD = 1.45; differences in overall Item means ≥ 0.20 , Item means within Genders ≥ 0.28 , and Item means within Training Levels ≥ 0.34 are significant, $p < 0.05$, by Fisher's LSD.

³ Row means with the same subscript are significantly different, $p < 0.05$ for upper case and $p < 0.10$ for lowercase, by Fisher's LSD.

MANOVA = multivariate analysis of variance

LSD = least significant difference