Bioethics Education and The Utilization of Ethics Resources in Anesthesiology

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Abstract

Objective: We sought to determine the implementation and content of ethics educational programs and resources utilized by anesthesiology residency programs and private practice anesthesiologists.

Method: The authors surveyed program directors of 132 accredited anesthesia residency programs in the United States identified by ACGME and also surveyed private practice and academic anesthesiologists via The American Society of Anesthesiologists (ASA) ListservTM in 2013. Descriptive statistics compared responses. The chi-squared test compared responses between responding academic and private practice anesthesiologists and program directors.

Results: Forty-three program directors of 132 ACGME accredited anesthesia residency programs responded to the survey (response rate: 32.6%). Of 29,969 ASA active attending physician members, 1166 individuals responded to the survey (response rate: 3.9%). Both academic anesthesiologists (n=108, 76.1%) and program directors (n=19, 46.3%) reported that bioethics education was taught to anesthesia residents most often 1-2 times per year and throughout CA-1 to CA-3 years. Overall, 77.5% (n=31) of program directors and 47.5% (163/343) of academic anesthesiologists did not have an evaluation process for anesthesia residents in the practice of bioethics.

Conclusions: Ethics education and an evaluation process in the practice of bioethics are not completely implemented and that existing surveyed resources for ethics instruction are underutilized.

INTRODUCTION

Ethics education in United States (U.S.) anesthesiology residency programs is a requirement of The Accreditation Council for Graduate Medical Education (ACGME). The ACGME has mandated that “The residency program must work toward ensuring that its residents, by the time they graduate, assume responsibility and act responsibly and with integrity; demonstrate a commitment to excellence and ethical principles of clinical care, including confidentiality of patient information, informed consent, and business practices; demonstrate respect and regard for the needs of patients and society that supersedes self-interest; ”1

Despite this mandate, the implementation of ethics education is still lacking in most training programs. For instance, ethics education has been studied in training programs in surgery and neurology.2-4 Downing et al., in 1997, showed that most general surgery residency programs did not have ethics training in their regularly scheduled educational didactics, yet the program directors did support and favor a standardized curriculum in ethics.2 The paucity of in-depth ethics education training and assessment tools in surgical training programs continued over 10 years later as Helft et al., in 2009, reported that “Most general surgery residencies do not routinely integrate in-depth ethics skills training and assessment into their didactic curricula.”3 Neurology residency programs also appear to lack formal educational programs in ethics. In their study, Wichman and Foa reported that almost 60% of neurology residency programs had no formal ethics educational training.4

While ethics education has been studied in a limited number of training programs, little is known about the implementation and content of ethics educational programs and ethics resources utilized by anesthesiology residency programs and private practice anesthesiology groups. We hypothesized that bioethics education and an evaluation process in the practice of bioethics are not completely

implemented in anesthesia residency programs and the utilization of ethics resources is still underutilized by both private practice and academic anesthesiologists. To prove our hypothesis, we surveyed ACGME accredited anesthesiology residency program directors and American Society of Anesthesiologists (ASA) active academic and private practice anesthesiologists to determine the implementation and content of ethics educational programs and to determine the utilization of existing ethics resources.

METHODS

The University of Illinois at Chicago (UIC) and Cleveland Clinic Institutional Review Boards approved the study which met the criteria of exemption. A literature search of ethics education and ethics resources generated topics that formed the basis of the surveys'content, the creation of survey items was in consultation with a survey specialist, and two faculty with Master of Arts in Bioethics piloted the surveys. Survey participants consented to the study as described below. We developed two surveys as well as collected and managed study data utilizing REDCap (Research Electronic Data Capture). REDCap [(http://project-redcap.org/cite.php) electronic data capture tools is a secure, web-based application designed to support data capture for research studies. The UIC Center for Clinical and Translational Science (CCTS) at the UIC installed REDCap and we consulted CCTS to develop and manage these surveys (grant number UL1RR029879). We prepared one survey for anesthesia residency program directors and a second survey for active attending physician members of the ASA. The coding of the questionnaire protected the confidentiality of the respondents and the entry into the computer database was done anonymously.

In 2013, we e-mailed survey invitations to the program directors of 132 accredited anesthesia residency programs in the U.S. identified by the ACGME.5 Multiple methods were used to identify and contact the program directors, and they were contacted up to five times for a response.

Similarly, a second survey was e-mailed in 2013 by the ASA, via the ASA ListservTM, to 29,969 national active attending physician members. This survey assessed bioethics education and the utilization of ethics resources of those anesthesiologists who practice in an academic setting and those who practice anesthesiology more than 90% in a private setting. We resent the survey to those members who did not respond to the survey on three separate occasions.

An introduction to both surveys explaining their purpose and an invitation to participate in the survey were e-mailed. Only if the participant agreed to participate in the survey would it be displayed and the participant could begin responding.

Data Analysis

Descriptive statistics (frequencies and percentages) were computed for each question. We reviewed, categorized, and referenced qualitatively open-ended responses to questions. We used the chi-squared test to compare responses between responding academic and private practice anesthesiologists and program directors. Statistical analyses were conducted using SAS software, Version 9.2 of the SAS System for Windows. Copyright © 2008 SAS Institute Inc., Cary, NC, USA.

RESULTS

Response Rates

Overall, 43 program directors of 132 ACGME accredited anesthesia residency programs responded to the survey (response rate: 32.6%). Of 29,969 ASA active attending physician members, 1166 individuals responded to the survey (response rate: 3.9%).

Characteristics of Respondents- Academic and Private Practice Anesthesiologists

The majority of academic anesthesiologists were not Anesthesia Residency Program Directors or Associate Program Directors (n=328, 89.9%). Thus, there was little response overlap of program directors to the second survey. Overall, 65.9% (n=712) of respondents spent 90% of their time in a private practice setting.

Formal Teaching in Bioethics-Academic and Program Director Anesthesiologists

Both the majority of academic respondents and program directors (n=132, 87.4% vs. n=24, 92.3% respectively) reported that the formal teaching of bioethics was part of the regular instruction schedule.

For the remainder, informal methods of teaching were implemented and included "..individual discussions as indicated", "institutionally provided", "one lecture in the cardiac anesthesia fellowship", "lecture and special workshops", "case scenario", and "university sponsored panels".

Duration of Formal Teaching in Bioethics-Academic and Program Director Respondents

While most program director respondents reported they had formal teaching in bioethics in their departments for 4 or more years, formal teaching for 1-3 years and >6 years were reported by academic anesthesiologists as the second most common duration of formal teaching.

Frequency of Formal Teaching in Bioethics-Academic and Program Director Anesthesiologists

Both academic anesthesiologists (n=108, 76.1%) and program directors (n=19, 46.3%) reported that bioethics education was taught to anesthesia residents most often 1-2 times per year as well as throughout the CA-1 to CA-3 years.

Methods of Teaching Bioethics-Academic and Private Practice Anesthesiologists, and Program Directors

Both academic anesthesiologists and program directors utilized lectures, grand rounds, and an attending-led case discussion as the most common methods of teaching bioethics (Table 1). Private practice anesthesiologists utilized one-on-one teaching, clinical experience, case discussion with a colleague, and scheduled lectures as the most common methods of teaching residents and students. However, program directors, unlike academic and private practice anesthesiologists, did not utilize a syllabus as a method of teaching. "Other methods" utilized by academic anesthesiologists were "part of an ICU lecture series and during rounds in the ICU", and "graduate medical education office presents a lecture by an ethics specialist in the core competency lecture series once a year".

Bioethics Topics-Academic and Private Practice Anesthesiologists, and Program Directors

Informed consent, perioperative Do Not Resuscitate (DNR)/Do Not Intubate (DNI), and Jehovah's Witness were the most common bioethics topics taught in all respondents' departments (Table 2). "Other" topics included futility, consent/assent, surgical honesty, disruptive behavior/ethical behavior of physicians, physician wellness, and ethics of healthcare business.

Ethics Committee-Academic and Private Practice Anesthesiologists, and Program Directors

Despite the majority of all respondents having an ethics committee in their institution, 63.7% (n=207) of academic anesthesiologists, 76.1% (n=376) of private practice, and 51.4% (n=19) of program directors never utilized the committee. If the institution had no ethics committee, ethical conflicts were resolved by the following methods: "Ignoring such conflicts by making any decision", "Poorly", "on the fly", "Haphazardly. The hospital CEO arbitrates surgeon's conflicts with patients' families", "For profit hospital. All options always exercised for care even when futile", "With great difficulty!..", "Depend on patient/physician relationship to resolve situations", and mediation.

Evaluation of Anesthesia Residents-Academic Anesthesiologists and Program

Directors

Overall, 77.5% (n=31) of program directors and 47.5% (n=163/343) of academic anesthesiologists did not have an evaluation process for anesthesia residents in the practice of bioethics. Of those that did, 66.7% (n=4/6) of program directors and 15.6% (n=5) of academic anesthesiologists reported that their evaluation process did not include an evaluation of the personal character of the residents.

Awareness of Bioethics Resources-Academic and Private Practice Anesthesiologists, and Program Directors (Table 3)

The bioethics resource all respondents were most commonly aware of is The ASA Guidelines for the Ethical Practice of Anesthesiology. Park Ridge, Illinois: ASA: 2011.

Utilization of Bioethics Resources: Academic and Private Practice Anesthesiologists and Program Directors (Table 4)

Academic and private practice anesthesiologists most commonly utilized the bioethics resource, Beauchamp TL, Childress JF. Moral Norms. In: Principles of Biomedical Ethics. 6th ed. New York: Oxford University Press: 2009. Conversely, program directors most commonly utilized, Van Norman GA, Jackson S, Rosenbaum SH, Palmer SK. Clinical Ethics in Anesthesiology. Cambridge University Press, 2010 and Jonsen AR, Siegler M, Winslade WJ. Clinical Ethics: A Practical Approach to Ethical Decisions in Clinical Medicine. 7th Edition. New York: McGraw-Hill: 2010.Academic and private practice anesthesiologists requested additional bioethics resources to aid in their anesthesia practice (Table 5) and program directors requested "on-line resources", "more faculty with interest", "on-line module focused on aspects of anesthesiology/critical care" as ethical resources to aid in their anesthesia practice.

DISCUSSION

Despite ACGME requirements, our survey results indicated

that bioethics education is not completely implemented in anesthesia training programs, the majority of program directors did not have a bioethics evaluation process for anesthesia residents, and ethics resources are not fully utilized with respondents requesting the dissemination of existing and additional ethics resources.

Many methods have been employed to educate resident physicians including didactics (lectures and readings), small-group discussion, simulation, and real-time clinical training. Most of these methods can be used in most specialties, although each specialty may present ethical dilemmas in which specific educational formats may excel.6,7,8,9 In a randomized trial of bioethics teaching methods, Robb et al. found that a traditional seminar significantly taught surgical residents about informed consent better than a standardized patient-based seminar.10 However, Klingensmith et al. found that a case-based format of training ethics to surgical residents was effective.11 While our study also showed that the methods utilized to educate residents in bioethics are varied, the impact of education on the resident's approach to ethical challenges is supported by Sulsamy et al. who showed that intensive care residents who received instruction in bioethics displayed more confidence in addressing end-of-life issues..12,13

Although the majority of academic respondents and program directors in our survey implemented the formal teaching of bioethics, this was not 100% as mandated by ACGME. In terms of the frequency of this teaching, we found that bioethics education is taught most frequently 1-2 times per year. Similarly, Pauls et al. found that 40% of family practice residency programs provided less than six hours of scheduled ethics education per year.14 We speculate that potential barriers to frequent, formal instruction in bioethics may be the lack of faculty with training in bioethics15, scant funding to support bioethics training15, poor resident interest14, and competing learning needs14. Educators should identify barriers in providing ethics education to further the development of ethics curricula.

Our study also showed that 77.5% of program directors and 47.5% of academic anesthesiologists did not have a bioethics evaluation process for anesthesia residents. The implications of this are profound since there is no way to assure that ACGME guidelines are being met or if residents have an understanding of bioethics. Pauls et al. examined the extent of evaluating ethics and professionalism in family medicine residency programs14 and found that the majority of respondents evaluated residents on ethics and professionalism at the completion of their clinical rotations with 86% assessing specific domains.14 Yet, evaluating physicians stated that they lacked an appropriate assessment tool.14 This lack of an assessment tool likely contributes to graduating residents with an incomplete understanding of bioethics. To further substantiate our results, Robin et al. demonstrated that almost half of pediatric surgeons who recently completed their residencies were uncertain or wrong about end-of-life issues. 16 Clearly, evaluation tools need to be developed and implemented.

Our study also demonstrated a paucity of knowledge of and the full utilization of surveyed bioethics resources, which may have been related to an initial lack of bioethics education. This would be magnified with anesthesiologists practicing in smaller institutions where the availability of resources is scant. The value of ethics training and the access to ethics manuals, ethical guidelines, statements from physician and nursing societies, and the knowledge of where to turn for an outside opinion, if needed, can be crucial to the ethical situation and patient care.

Our study is limited by the low response rate, but it is probable that nonresponders may not have ethics educational programs and thus responder bias may be present, leading to an even greater number of those not involved with ethics education or resources. Furthermore, we believe that a few program directors may have responded to the survey sent out to ASA active academic anesthesiology members, potentially leading to some duplication in responses. However, the majority of respondents to the survey sent out via the ASA ListservTM were not Anesthesiology Residency Program Directors or Associate Program Directors.

CONCLUSION

We think our survey of the experiences of physicians in practice and residency programs increases awareness and understanding of the current practice and content of ethics education and the utilization and awareness of ethics resources. Furthermore, we hope this knowledge disseminates information to educators and identifies future research challenges of developing curricula for generalized ethics education and specialty specific education and of formulating tools to evaluate resident physician training in bioethics. The commitment of an institution and practitioner to ethical patient-centered care and to the creation of a culture of ethics will foster ethics education and support physicians and physicians in training to address ethically

challenging situations.

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Other Disclosures:

Barbara G. Jericho MD: American Society of Anesthesiologists (ASA) Committee on Ethics Member during research study, currently Vice-Chairman; Editor

and contributor, ASA Committee on Ethics Syllabus; author, ASA Ethics Module; Editorial Board, Journal of Graduate Medical Education

Jeffrey S. Jacobs MD: Chairman, ASA Committee on Ethics; Editor and

contributor, ASA Committee on Ethics Syllabus; author, ASA Ethics Module

Table 1

Comparison of Methods of Formal Teaching in Bioethics(a)

	Academic	Private Practice	Program Director	P value
Methods of Teaching	**N Row % Column %**	**N Row % Column %**	**N Row% Column%**	
Scheduled Lecture	126 72.0% 65.6%	31 17.7% 40.3%	18 10.3% 69.2%	<0.001
Grand Rounds	108 73.5% 56.3%	26 17.7% 33.8%	13 8.8% 50.0%	0.004
Case discussion with an attending anesthesiologist	92 65.7% 47.9%	36 25.7% 46.8%	12 8.6% 46.2%	0.97
One-on-One Teaching	70 51.9% 36.5%	55 40.7% 71.4%	10 7.4% 38.5%	<0.001
Clinical Experience	68 58.1% 35.4%	42 35.9% 54.6%	7 6.0% 26.9%	<0.01
Case discussion With a Clinical Ethicist	42 70.0% 21.9%	13 21.7% 16.9%	5 8.3% 19.2%	0.65
Simulation	36 66.7% 18.8%	10 18.5% 13.0%	8 14.8% 30.8%	0.12
Ethics Education Sponsored By Other Departments	30 63.8% 15.6%	11 23.4% 14.3%	6 12.8% 23.1%	0.56
Ethics Rounds	33 76.7% 17.2%	7 16.3% 9.1%	3 7.0% 11.5%	0.21
Seminar	16 59.3% 8.3%	9 33.3% 11.7%	2 7.4% 7.7%	0.66
Internet-based Interactive Learning Module	16 61.5% 8.3%	4 15.4% 5.2%	6 23.1% 23.1%	0.02
Syllabus	12 92.3% 6.3%	1 7.7% 1.3%	0 0.00% 0.00%	0.10
Other Methods	3 100.0% 1.6%	0 0.0% 0.0%	0 0.0% 0.0%	0.44

[a] "Check all that apply" survey question

Table 2

Comparison of Bioethics Topics Taught(a)

	Academic	Private Practice	Program Director	P value
Bioethics Topic	**N Row % Column %**	**N Row % Column %**	**N Row% Column%**	**P**
Informed Consent	162 63.0% 84.4%	70 27.2% 90.9%	25 9.7% 96.2%	0.13
Perioperative Do Not Resuscitate (DNR)/Do Not Intubate (DNI)	154 64.4% 80.2%	67 28.0% 87.0%	18 7.5% 69.2%	0.12
Jehovah's Witness	136 63.0% 70.8%	58 26.9% 75.3%	22 10.2% 84.6%	0.29
Withdrawal/ Withholding Care	120 67.0% 62.5%	46 25.7% 59.7%	13 7.3% 50.0%	0.46
Research Ethics	94 69.6% 49.0%	26 19.3% 33.8%	15 11.1% 57.7%	0.03
Organ Transplant	94 75.2% 49.0%	20 16.0% 26.0%	11 8.8% 42.3%	<0.01
Other	11 47.8% 5.7%	10 43.5% 13.0%	2 8.7% 7.7%	0.13

[a] "Check all that apply" survey question

Table 3

Comparison of Recognized Ethics Resources(a)

	Academic	Private Practice	Program Director	P value
Ethics Resource	**N(column%)**	**N(column%)**	**N(column%)**	
American Society of Anesthesiologists (ASA) *Guidelines for the Ethical Practice of Anesthesiology.* Park Ridge, Illinois: ASA: 2011.	219(71.3%)	407(64.9%)	33(82.5%)	0.02
American Society of Anesthesiologists *Committee on Ethics Syllabus.*	89(29.3%)	96(15.3%)	19(47.5%)	<.0001
Journal of Medical Ethics	120(39.5%)	115(18.6%)	17(42.5%)	<.0001
The Journal of Clinical Ethics	101(33.0%)	96(15.5%)	11(28.2%)	<.0001
Council on Ethical and Judicial Affairs, American Medical Association. Code of Medical Ethics: Current Opinions With Annotations. Chicago: American Medical Association: 2006-2007.	105(34.4%)	135(21.5%)	11(27.5%)	0.0001
Beauchamp TL, Childress JF. *Moral Norms.* In: Principles of Biomedical Ethics. 6th ed. New York: Oxford University Press: 2009.	68(22.4%)	54(8.6%)	8(20.0%)	<.0001
The Hastings Center Report	98(32.0%)	72(11.7%)	7(18.4%)	<.0001
Jonsen AR, Siegler M, Winslade WJ. *Clinical Ethics: A Practical Approach to Ethical Decisions in Clinical Medicine.* 7th Edition. New York: McGraw-Hill: 2010.	45(14.9%)	27(4.3%)	6(15.0%)	<.0001
Van Norman GA, Jackson S, Rosenbaum SH, Palmer SK. *Clinical Ethics in Anesthesiology.* Cambridge University Press, 2010.	58(19.1%)	41(6.6%)	5(12.5%)	<.0001
Post, Stephen Gerrard (Ed). *Encyclopedia of Bioethics.* New York:Macmillan Reference USA:2004.	21(6.9%)	14(2.3%)	2(5.0%)	0.002

a"Check all that apply" survey question

Table 4

Comparison of the Utilization of Recognized Ethics Resources(a)

	Academic	Private Practice	Program Director	P value
Ethics Resource	**N(%)**	**N(%)**	**N(%)**	
American Society of Anesthesiologists (ASA). *Guidelines for the Ethical Practice of Anesthesiology.* Park Ridge, Illinois: ASA: 2011.	109(50.7%)	127(31.3%)	13(39.4%)	<.001
American Society of Anesthesiologists *Committee on Ethics Syllabus.*	31(35.6%)	23(25.0%)	8(42.1%)	0.18
Journal of Medical Ethics	38(35.9%)	17(17.9%)	5(33.3%)	0.02
The Journal of Clinical Ethics	45(45.0%)	20(21.3%)	3(30.0%)	0.002
Council on Ethical and Judicial Affairs, American Medical Association. Code of Medical Ethics: Current Opinions With Annotations. Chicago: American Medical Association: 2006-2007.	41(39.1%)	28(20.9%)	6(54.6%)	0.002
Beauchamp TL, Childress JF. *Moral Norms.* In: Principles of Biomedical Ethics. 6th ed. New York: Oxford University Press: 2009.	44(64.7%)	24(45.3%)	4(50.0%)	0.10
The Hastings Center Report	46(47.4%)	17(24.3%)	4(57.1%)	0.01
Jonsen AR, Siegler M, Winslade WJ. *Clinical Ethics: A Practical Approach to Ethical Decisions in Clinical Medicine.* 7th Edition. New York: McGraw-Hill: 2010.	24(54.6%)	9(34.6%)	4(66.7%)	0.18
Van Norman GA, Jackson S, Rosenbaum SH, Palmer SK. *Clinical Ethics in Anesthesiology.* Cambridge University Press, 2010.	25(43.1%)	17(43.6%)	5(100.0%)	0.05
Post, Stephen Gerrard (Ed). *Encyclopedia of Bioethics.* New York:Macmillan Reference USA:2004.	7(33.3%)	5(38.5%)	1(50.0%)	0.87

a"Check all that apply" survey question

Table 5

Other Ethical Resources Requested By Responding ASA Active Academic and Private Practice Members

Edmund Daniel Pelligrino MD, Daniel P. Sulmasy MD, PhD
"Ethics & Medicine: An International Journal of Bioethics"
"CME developed around anesthesia specific ethics situations"
"24 hours a day immediate access for consultation of hopeless cases"
"Hot Line to discuss issues"
"PowerPoint that we can use for residents and med students"
"A connection to get to all the above resources easily. Probably best as an ASA resource"
"A cross reference of topics, particularly related to when the surgeon wants to do something but have the anesthesiologist do it to the patient for them, but we don't think it's in the best interest of the patient."
"A discussion site for ethical dilemma with prompt answer. Maybe in a confidential fashion initially, with the idea of depersonalizing the cases and then release them for the subscribers of the forum."
"A formal ethics training requirement for residents"
"A list of resources"
"A more direct way of accessing tools to discuss peri procedural futility of anesthesia care"
"A recommended curriculum for anesthesiology residents in the area of medical ethics: webcast lecturer (or DVD-based) lectures on medical ethics"
"A Smartphone app"
"ASA Newsletter publishing cases representing ethical principles ASA Refresher Course Lectures"
"ASA Webinar" "ASA online resources"
"Resolving Ethical Dilemmas: A Guide for Clinicians, …by Bernard Lo"
"Video case simulations" "Video from ASA that could be used to educate the department"
"We use extensive keywords on various topics….on our department website to provide institution specific recommendations/education/policy"
Religious resources and religious medical organizations
"Recorded videos of how to approach specific dilemmas"
"PBLDs at national meetings"
"More dissemination of the fact that ethical resources are out there and should be used"
"Institutional Guidelines"
"Simulation program in communication and ethics"
"Mandate surgeon participation in medical ethics"
"..more multidisciplinary ethical resources"
"ASA to intervene in cases where significant unethical practices have come to light"
"Ethics education for professional non-clinical interactions….in the context of dealing with partnerships, ownership, interests and more on the business ethics side.."
"Forgive and Remember: Managing Medical Failure …[by] Charles L. Bosk"
"Introduction to Clinical Ethics ..John C. Fletcher [Editor]" Robert Boyle [Editor]
"Case reports or studies when the outcome was changed after an ethics committee intervention"
"Clearer guidelines on evaluation of personal character of residents, in particular, to allow for intervention/expulsion due to deficiencies-serious concerns of integrity"
"A more direct way of accessing tools to discuss peri procedural futility of anesthesia care"

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