An 'ethics gap' in writing about bioethics: a quantitative comparison of the medical and the surgical literature

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Abstract

In order to determine whether there is a significant difference between the medical literature and the surgical literature in terms of their bioethics content, we conducted a computerized search of the MEDLINE database. The journals searched were selected from the 'Medicine' and 'Surgery' sections of the 'Brandon-Hill List', and the search was limited to 1992 issues of these journals. Three hundred and seven bioethics bibliographic records (out of a total of 11,239 articles indexed) were retrieved from the 15 medical journals searched, while 17 bioethics bibliographic records (out of a total of 2,645 articles indexed) were retrieved from the 12 surgical journals searched. We conclude that there is a statistically significant ($p < 0.001$) difference between the medical literature and the surgical literature with respect to their quantitative bioethics content.

Introduction

We have observed that surgeons are substantially less likely than physicians – or internists as they are known in the US, to attend educational programmes sponsored by our institutional bioethics committee and less likely to avail themselves of the clinical ethics consultation service available at our institution. Thus, out of a total of 32 clinical ethics consultations done at the Nassau County Medical Center between November 1991 and November 1992, 26 (81 per cent) were done on medical patients, while only three (9 per cent) involved patients on surgical services (1). Discussions with members of other area bioethics committees suggest that this is not merely an institutional phenomenon.

Likewise, Simpson (2), drawing upon data collected over a two-year period as an ethics consultant at a Chicago community hospital, reported that 53 out of 59 (90 per cent) of requests for ethics consultations came from internists, and only five (9 per cent) from surgeons.

Key words

Ethics; bioethics; internal medicine; surgery.

Table 1

Surgical journals searched

1. American Journal of Surgery
2. Annals of Surgery
3. Annals of Thoracic Surgery
4. Archives of Surgery
5. British Journal of Surgery
6. Journal of Thoracic and Cardiovascular Surgery
7. Journal of Trauma
8. Journal of Vascular Surgery
9. Plastic & Reconstructive Surgery
10. Surgery
11. Surgery, Gynecology and Obstetrics
12. Surgical Clinics of North America

In order to determine whether the medical literature and the surgical literature reflect this 'ethics gap', we compared the number of bioethics articles published in 1992 in the medical and surgical literature.

Methods

Since the field of medical librarianship uses the 'Brandon-Hill List' (3) as one of its core acquisitions and collection development tools, the journals searched were selected from the 'Medicine' and 'Surgery' sections of this title. Two separate searches were run on a CD ROM version of the MEDLINE database, one for the number of articles dealing with bioethics in the medical journal titles, and one for the number in the surgical journals. The searches were limited to articles in the 1992 issues of all journals.

Twelve journal titles in surgery (Table 1) and 15 journal titles in medicine (Table 2) were searched. Both searches were run against ETHICS and BIOETHICS MeSH (Medical Subject Headings), the controlled indexing vocabulary of the National Library of Medicine. These subject headings were 'exploded', a function that includes not only the terms searched but all subject headings indexed under them in the indexing hierarchy (for example,

Table 2
Medical journals searched

1.	American Journal of the Medical Sciences
2.	American Journal of Medicine
3.	Annals of Internal Medicine
4.	Archives of Internal Medicine
5.	British Medical Journal
6.	Canadian Medical Association Journal
7.	Critical Care Medicine
8.	Disease-a-Month
9.	Journal of the American Medical Association
10.	Journal of Clinical Investigation
11.	Lancet
12.	Medical Clinics of North America
13.	Medicine
14.	New England Journal of Medicine
15.	Postgraduate Medicine

animal welfare, animal testing alternatives, altruism, conflict of interest, institutional ethics, professional ethics, humanism, morals, and scientific misconduct). The terms BIOETHIC and ETHIC were searched as text words, from the title and abstract of the bibliographic records, and were truncated (for example, BIOETHIC:, ETHIC:) to retrieve any form of the text words beyond those prefixes. The search strategies are depicted in Tables 3 and 4.

Each bibliographic record retrieved was then categorized as either an article proper, an editorial, a letter to the editor, a news item, or a policy statement/position paper (Table 5).

Next, the first author of each article was categorized according to specialty. The specialty was determined by locating the author in the *American Medical Directory*, (4). Where the directory was not helpful, the original article was consulted for the author's affiliation in order to determine his/her specialty. In those cases where the author's specialty could not be ascertained, the author's specialty was listed as 'unspecified'; no effort was made to contact the involved authors.

Results

The total number of bibliographic records indexed on the CD ROM version of the MEDLINE database for 1992 from the 15 medical journal titles searched was 11,239. The total number of bibliographic records indexed on the same database in the 12 surgical journal titles searched was 2,645.

As Table 5 indicates, 307 bioethical bibliographic records were retrieved from the 15 medical journals searched, while 17 bioethical bibliographic records were retrieved from the 12 surgical journals. The difference between the medical and surgical bodies of literature, in terms of the proportion of the literature

dealing with bioethics (307/11,239 v 17/2,645), was statistically significant ($p<0.001$). Where the only bioethical bibliographic records considered in the medical literature were those generated by internists, and the only bibliographic records considered in the surgical literature were those generated by surgeons, the difference (77/11,239 v 14/2,645) did not reach statistical significance.

SPECIALTY OF THE FIRST AUTHORS – SURGICAL V MEDICAL LITERATURE

A total of 17 authors with 21 specialties (some authors designated more than one specialty) were obtained in our search of the surgical literature. The distribution of these specialties is depicted in Table 6.

A total of 307 authors with 345 specialties was obtained in our search of the medical literature. Their distribution is depicted in Table 7.

Discussion

We found, under the conditions of this search, a statistically significant difference between the medical and the surgical literatures in terms of the fraction of each literature devoted to bioethics (5).

Table 3
Surgical search strategy

Search statement	References retrieved
01 American Journal of Surgery	1,185
02 Annals of Surgery	860
03 Annals of Thoracic Surgery	2,369
04 Archives of Surgery	1,159
05 British Journal of Surgery	1,971
06 Journal of Thoracic & Cardiovascular Surgery	1,569
07 Journal of Trauma	1,281
08 Journal of Vascular Surgery	1,160
09 Plastic and Reconstructive Surgery	1,846
10 Surgery	1,280
11 Surgery, Gynecology and Obstetrics	961
12 Surgical Clinics of North America	393
13 1 and 2 and 3 and 4 and 5 and 6	9,113
14 7 and 8 and 9 and 10 and 11 and 12 and 13	6,921
15 13 and 14	16,034
16 bioethic: (ti)	1,246
17 bioethic: (ab)	149
18 exp ethics	123
19 ethic: (ti)	10,519
20 ethic: (ab)	3,087
21 exp bioethics	2,496
22 16 or 17 or 18 or 19 or 20 or 21	11,648
23 15 and 24	71
24 limit 23 to yr=92	17

Since a substantial number of bibliographic records retrieved from the medical journals were

Table 4
Medical search strategy

Search statement	References retrieved
01 American Journal of the Medical Sciences	601
02 American Journal of Medicine	2,331
03 Annals of Internal Medicine	2,357
04 Archives of Internal Medicine	1,777
05 British Medical Journal	7,558
06 Canadian Medical Association Journal	2,308
07 Critical Care Medicine	1,560
08 Disease-a-Month	49
09 Journal of the American Medical Association	5,854
10 Journal of Clinical Investigation	2,477
11 Lancet	11,389
12 Medical Clinics of North America	415
13 Medicine	129
14 New England Journal of Medicine	4,779
15 Postgraduate Medicine	1,282
16 1 and 2 and 3 and 4 and 5 and 6 and 7	18,492
17 8 and 9 and 10 and 11 and 12 and 13 and 14 and 15	26,374
18 16 and 17	44,866
19 exp bioethics	1,246
20 bioethic: (ti)	149
21 bioethic: (ab)	123
22 exp ethics	10,519
23 ethic: (ti)	3,087
24 ethic: (ab)	2,496
25 19 or 20 or 21 or 22 or 23 or 24	11,648
26 18 and 25	1,068
27 limit 26 to yr=92	307

'letters to the editor' or 'news items', and since each of these was given the same weight in our study as articles proper – despite the fact that articles would generally tend to be longer – one might legitimately argue that our methods tended to 'inflate' the bioethics content of the medical literature. However, even when the letters and news items were discounted, there remained a statistically significant difference between the two bodies of literature.

We make no assumptions here about which body of literature contains the more 'appropriate' amount of bioethics. Perhaps the medical literature contains too much ethics, or perhaps the surgical literature too little. Perhaps both statements are true, or perhaps neither is true. Our concern now is simply this: Why does this disparity exist? Why are fewer articles (as a percentage of the all articles being published) dealing with bioethical issues being published in the surgical journals than in the medical journals?

Intuitively, it seems that this might happen either because a smaller fraction of bioethics articles received are actually accepted for publication by surgical journal editors, or because fewer such articles are being submitted to begin with. Clearly, these two possibilities are not mutually exclusive.

While we cannot exclude with confidence the first possibility without accessing a representative sample of the manuscripts received and rejected by the above surgical journals, we doubt that it played a *major* part in the observed discrepancy. Had it done so, we might have expected that these rejected articles would find their way into the medical literature. Perhaps some of them did; as can be seen from Table 7, 20 (about 6 per cent) of the bioethics articles in the medical journals were generated by surgeons. However, even if all 20 of these articles had been published in the surgical journals instead of the medical journals, a statistically significant difference ($p<0.001$) between the two bodies of literature would *still* remain.

We are left to presume, therefore, that fewer articles dealing with bioethics are being written by

Table 5
Nature of the bioethics articles

	Surgical journals		Medical journals	
	#	%	#	%
Articles	8	47	100	33
Editorials/commentaries	4	23	32	10
Letters	3	18	142	46
News	0	0	26	9
Policy statements/position papers	2	12	7	2
Total	17	100	307	100

surgeons than by contributors to the medical literature (6). Why might this be the case? Again, several possibilities come to mind.

One possibility is that fewer 'bioethical' issues arise in the day-to-day practice of surgery than in the day-to-day practice of internal medicine and other non-surgical specialties. We reject this idea. Intuitively, it seems only logical that surgeons are confronted daily with the same ethical issues that confront their medical counterparts: 'Is surgery futile in this patient?'; 'Is the promised benefit of surgery in this patient outweighed by its attendant burdens?'; 'Does my patient have the capacity to refuse, or consent to, surgery?'. The list goes on and on. There is simply no *a priori* reason to believe that the care of the surgical patient is ethically any less complex or interesting than the care of the medical patient.

Rather, we believe that the observed discrepancy is better explained by one or both of the following hypotheses.

First, the relative paucity of bioethical dialogue in the surgical literature may reflect a relatively lesser importance ascribed by surgeons to the bioethics debate. Thus, it may be that due to the procedure-oriented, high-tech nature of surgery, there is simply less time in the surgical day and less space in the surgical journals that can be set aside for bioethical discussion.

Still another possible explanation for the discrepancy might be found in the so-called 'surgical personality' (7). Thus, surgeons have been described as being more 'domineering' and 'autocratic' than other physicians (8). Of specific interest to us is a study by Eisenberg (9) comparing the decision-making processes of medical and surgical residents, a work cited by Yurt in his Presidential Address to the Surgical Infection Society in 1991:

'[m]edical and surgical residents early on found

Table 6		
Specialty of the first author of bioethics articles: surgical journals		
	#	%
Surgery:		
General	7	33
Head and Neck	1	4.75
Vascular	3	14
Plastic	5	24
Thoracic	1	4.75
All Surgery	17	80.5
Internal medicine	1	4.75
Author anonymous	2	10
Unspecified specialty	1	4.75
Total	21	100

Table 7		
Specialty of the first author of bioethics articles: medical journals		
	#	%
Internal Medicine		
General	52	15
Geriatrics	7	2
Pulmonary	6	2
Nephrology	5	1
Cardiology	4	1
Gastroenterology	3	<1
Infectious Disease	3	<1
Endocrinology	3	<1
Oncology	3	<1
House Officer	2	<1
All Internal Medicine	87	25
Surgery		
Ob-Gyn	8	2
General	5	1
Neurosurgery	3	<1
Cardiothoracic	1	<1
Orthopaedic	1	<1
Trauma	1	<1
Paediatric	1	<1
All Surgery	20	6
Public Health	18	5
Anaesthesia	12	3
Psychiatry	11	3
Critical care med	10	3
Gen/family practice	9	3
Pathology	7	2
Paediatrics	6	2
Neurology	4	1
Emergency med	3	<1
Preventive med	3	<1
Rehab	1	<1
Radiology	1	<1
Ophthalmology	1	<1
'Other'		
Correspondent	28	8
Lawyer	15	4
Basic Scientist	10	3
Ethicist	9	3
Medical historian	3	<1
Philosopher	3	<1
Nurse	2	<1
Veterinarian	1	<1
Medical student	1	<1
Economist	1	<1
Auditor	1	<1
Total 'other'	74	21
Author anonymous	13	4
Unspecified specialty	64	19
Total	345	100

group decision-making equally acceptable. The medical residents did not change between years 1 and 3, while surgical residents became significantly more oriented toward independent decision-making ... [S]urgical residents also became less tolerant of subordinate decisions; that is, they preferred to make decisions themselves. ... These data document a ... more authoritarian attitude in the developing surgeons than in their medical counterparts (10).

The above characterizations of the 'surgical personality' and surgical decision-making, if accurate, might help explain the relative lack of bioethical dialogue in the surgical literature in a number of ways.

First, it does not seem unreasonable to conjecture that surgeons such as those described above might be more likely than internists to reason and behave paternalistically. Since paternalism 'consists in the judgment that beneficence takes priority over autonomy' (11), one might expect surgeons to identify fewer 'ethical dilemmas' when these two ethical principles come into conflict clinically; and it follows that unidentified ethical dilemmas are not likely to find their way into the literature.

Second, it occurs to us that to the extent that the above characterization of surgeons is true, those surgeons might feel disenfranchised by the present-day bioethics debate, a debate which has branded medical paternalism as 'ethically suspect' (12), a debate in which the ethical pendulum has swung (perhaps too far?) in the direction of the principle of respect for autonomy at the expense of the beneficence principle. In such an atmosphere, surgeons such as those above might perceive themselves to be members of an insular minority, and might be uncomfortable expressing views on bioethics that are at odds with the dominant medical ethos of patient autonomy. Under such conditions, the following statement by Beauchamp and Childress tends to become, in effect, a self-fulfilling prophecy: '[s]o influential is th[e] autonomy model at the present time that it has become difficult to find clear commitments to the traditional beneficence model in contemporary biomedical ethics' (13).

We look forward to future studies designed to elucidate the cause(s) of the observed 'ethics gap', and look forward also to commentary by our surgical colleagues. We believe they have much to contribute to the rapidly changing field of bioethics, particularly in helping to define the concept of medical futility.

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- (6) Another possibility which we considered was that surgeons might be writing articles on bioethics and submitting them to ethics journals. Towards that end, we began our research on the BIOETHICS database. Based on several 'key word' and 'subject concept' searches, we concluded that surgeons are contributing less than ten per cent of the total bioethics articles on that database involving the field of surgery.
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