Published in final edited form as:

J Med Ethics. 2011 July ; 37(7): 424–428. doi:10.1136/jme.2010.040675.

Authorship policies of bioethics journals

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Abstract

Inappropriate authorship is a common problem in biomedical research and may be becoming one in bioethics, due to the increase in multiple authorship. This paper investigates the authorship policies of bioethics journals to determine whether they provide adequate guidance for researchers who submit articles for publication, which can help deter inappropriate authorship. It was found that 63.3% of bioethics journals provide no guidance on authorship; 36.7% provide guidance on which contributions merit authorship, 23.3% provide guidance on which contributions do not merit authorship, 23.3% require authors to take responsibility for their contributions or for the article as a whole, 20% provide guidance on which contributions merit an acknowledgement but not authorship, 6.7% require authors to describe their contributions, and only 3.3% distinguish between authorship in empirical and conceptual research. To provide authors with effective guidance and promote integrity in bioethics research, bioethics journals should adopt authorship policies that address several important topics, such as the qualifications for authorship, describing authorship contributions, taking responsibility for the research and the difference between authorship in empirical and conceptual research.

Appropriate authorship assignment is an essential part of the responsible conduct of research, promoting honesty and fairness in credit allocation, cooperation and trust among scientists, and accountability for data and results.¹² Making a substantial contribution to a research project is a widely recognised criterion for authorship of a scientific paper.³ To promote responsible authorship, most scientific journals have developed authorship policies or follow guidelines established by the International Committee for Medical Journal Editors (ICMJE) or the Committee on Publication Ethics.³⁴ According to the ICMJE's uniform requirements for manuscripts submitted to biomedical journals:

‘Authorship credit should be based on (1) substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data; (2) drafting the article or revising it critically for important intellectual content; and (3) final approval of the version to be published. Authors should meet conditions 1, 2, and 3.’⁵

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Competing interests None.

Contributors All authors contributed to conception and design, data collection and analysis, and drafting the manuscript.

Provenance and peer review Not commissioned; externally peer reviewed.

Although most scientists recognise the importance of ethical authorship practices, inappropriate authorship is common.^{6–8} Two of the most troublesome types of inappropriate authorship are honorary and ghost authorship. In honorary authorship, a person who has not made a substantial contribution to the research is named as an author. For example, some principal investigators or laboratory directors insist that their name appears on every paper coming out of their laboratory, even if they have not made a substantial contribution to the research beyond the acquisition of funding.³ In ghost authorship, a person who has made a substantial contribution to the research is omitted from the authorship list. For example, pharmaceutical companies sometimes use ghost authors to write manuscripts and conduct studies, and hire scientists from academic institutions to serve as authors, in order to conceal the company's influence on the research.⁹ According to one study of Cochrane review articles in biomedicine, 39% of the publications included honorary authors and 9% had ghost authors.¹⁰ Another study placed the prevalence of honorary authorship at 19% and ghost authorship at 11% in six prominent biomedical journals.¹¹

Additional evidence for inappropriate authorship comes from the steady increase in multi-authored papers in many different scientific disciplines.^{12,13} For example, the number of authors per article published in the journal *Neurosurgery* increased from 1.8 in 1945 to 4.6 in 1995.¹⁴ The number of authors per article in four prestigious medical journals increased from 4.5 in 1980 to 6.9 in 2000.¹⁵ While this trend may be due to the increasing complexity of research, including interdisciplinary work and national and international collaborations, inappropriate authorship is also a significant contributing factor.^{3,12}

In response to problems with inappropriate authorship, several commentators proposed that journals require authors to state their specific contributions to research.¹² A number of journals have taken up this recommendation and now require authors to describe their contributions on a form. However, two studies have shown that requiring authors to state their specific contributions has had little effect on the trend towards multiple authorship.^{16,17} Another study found that authors' descriptions of their contributions to a paper are often unreliable.¹⁸ It is unknown whether journals actively verify authorship contributions against their guidelines when manuscripts are submitted or near publication, or whether listing author contributions serves only as a passive deterrent for unethical authorship and a manner to hold authors accountable in response to potential authorship disputes when they arise. These studies also suggest that requiring authors to sign a form may have little effect on authorship trends, but more research is needed to explore the impact of different authorship policies. Multiple authorship is also on the rise in bioethics. Borry and collaborators¹⁹ found that the number of authors per paper in nine bioethics journals increased from 1.46 in 1990 to 1.85 in 2003, and they postulated that this trend can be explained partly by the increase in empirical research in bioethics. When examining nine bioethics journals from 1990 to 2003, the authors found that publications with an empirical design had a mean of 2.97 authors per article, as compared to conceptual publications, which had a mean of 1.35 authors per article. Three journals in the study that publish a significant amount of empirical research, the *Journal of Clinical Ethics*, the *Journal of Medical Ethics* and *Nursing Ethics*, accounted for most of the increase in authors per article.¹⁹ An important limitation of the study by Borry and colleagues¹⁹ is that the authors did not examine bioethics articles published in biomedical journals. As much of bioethics research is published in biomedical journals, it is possible that Borry and colleagues¹⁹ underestimated the prevalence of multiple authorship in bioethics articles.

The increase in multiple authorship in bioethics is a cause for concern, because it may indicate that inappropriate authorship is occurring. If this trend were due entirely to the increase in empirical research in bioethics, this would not be as worrisome, because it usually takes more people to conduct an empirical study than a conceptual one. In empirical

research, different researchers may contribute to data collection and analysis, for example. However, it is not uncommon to find conceptual papers in bioethics with 10 or more authors, which leads one to question the appropriateness of authorship assignment in these manuscripts. For example, an article on managing incidental findings in human subjects research, published in the *Journal of Law, Medicine and Ethics* in 2008, had 21 authors.²⁰ An article discussing issues of justice in public stem cell banks, published in the *Hastings Center Report* in 2003, had 18 authors.²¹ One wonders how each of the authors in these examples made a substantial contribution to the research. Did each person help write the paper? Were they all involved in constructing and criticising arguments? Did they only attend a meeting and contribute to the discussion?

As inappropriate authorship is a common problem in biomedical research and may become one in bioethics, we decided to investigate the authorship policies of bioethics journals to determine whether they provide adequate guidance for researchers who submit articles for publication. Wager⁴ published a study of the authorship guidelines of 234 biomedical journals and found that 41% provided no guidance on authorship, 29% followed the ICMJE requirements and only 9% required authors to describe their individual contributions. The objectives of the study were to: (1) determine the percentage of journals that have authorship policies; and (2) describe the different provisions contained within journal authorship policies.

MATERIALS AND METHODS

We examined the authorship policies of 30 bioethics journals. Due to the limited number of academic bioethics journals available, journals were not randomly chosen. Instead, we selected journals that predominantly publish articles on core topics in bioethics, including clinical ethics, research ethics, reproductive and genetics ethics, public health ethics, health law and policy and environmental ethics. The journals selected for analysis in this study were: *Accountability in Research*; *American Journal of Bioethics*; *American Journal of Law and Medicine*; *Bioethics*; *Cambridge Quarterly of Healthcare Ethics*; *Christian Bioethics*; *Developing World Bioethics*; *Environmental Ethics*; *Hastings Center Report*; *Healthcare Analysis*; *HEC Forum*; *Houston Journal of Health Law & Policy*; *International Journal of Feminist Approaches to Bioethics*; *IRB*; *Journal of Agricultural and Environmental Ethics*; *Journal of Bioethical Inquiry*; *Journal of Clinical Ethics*; *Journal of Empirical Research on Human Research Ethics*; *Journal of Law, Medicine and Ethics*; *Journal of Medical Ethics*; *Journal of Medicine and Philosophy*; *Kennedy Institute of Ethics Journal*; *Medical Humanities*; *Medicine, Health Care and Philosophy*; *New Genetics and Society*; *Nursing Ethics*; *Philosophy, Ethics, and Humanities in Medicine*; *Science and Engineering Ethics*; *Theoretical Medicine and Bioethics*; and *Yale Journal of Health Policy, Law and Ethics*.

We analysed journal websites to determine whether they provide guidance on six key issues identified in the literature relating to authorship:

1. Contributions that merit authorship
2. Contributions that do not merit authorship
3. Contributions that do not merit authorship but merit an acknowledgement
4. Descriptions of each author's contributions
5. Taking responsibility for the manuscript (in whole or part)
6. The difference between authorship in empirical and conceptual research.³¹³

Journals policies were coded as to whether they provided instructions on each of these six issue categories. A journal was considered to have satisfied: category (1) if instructions were provided describing the contributions necessary to merit authorship, for example research design, data collection, major conceptual revisions; category (2) if instructions were provided describing the contributions that were insufficient to merit authorship, for example obtaining a grant; category (3) if instructions were provided describing the contributions that were insufficient for authorship but sufficient for an acknowledgement, for example editing and making minor revisions; category (4) if instructions were provided that all authors are to describe their contributions either directly in the prepared manuscript or in a note provided to the journal; category (5) if instructions were provided that all authors should take responsibility for just their contributions or for the entire manuscript; and category (6) if instructions on authorship made a distinction between empirical and conceptual research studies. The policies that were analysed were located on the journal's website or on a direct link to the journal's website, such as the publisher's instructions.

Both authors coded the journal guidance documents using the six above categories to ensure consistency. The authors discussed differences in the interpretation of the text to reach a single interpretation. All of the different sections of the journal's websites were analysed for the various instructions. As our sample size for journals was small due to the limited number of bioethics journals, no statistical analysis was performed. Data were counted and presented directly.

RESULTS

Of the 30 bioethics journals examined, 11 (36.7%) had instructions for any of the authorship categories, thus 63.3% of journals provided no guidance on authorship (table 1). Although none of the bioethics journals examined had guidance on all six categories, both the *Journal of Empirical Research on Human Research Ethics* and *Philosophy, Ethics, and Humanities in Medicine* provided instructions on five categories; four journals, *Journal of Bioethical Inquiry*, *Journal of Clinical Ethics*, *Journal of Medical Ethics* and *Medical Humanities* had four categories; only one journal, *Theoretical Medicine and Bioethics*, had three categories; the *American Journal of Bioethics* had two categories; and three journals, *Christian Bioethics*, *Journal of Medicine and Philosophy*, and *New Genetics and Society*, had one category. Of the 11 journals that had any authorship guidance, seven (23.3%) provided guidance on which contributions do not merit authorship, six (20%) provided guidance on which contributions merit an acknowledgement, two (6.7%) required authors to describe their contributions, seven (23.3%) required authors to take responsibility for their contributions or for the article as a whole, and only one (3.3%) distinguished between authorship in empirical and conceptual research (table 1). Two journals, *Bioethics* and *Developing World Bioethics*, had links to the Wiley-Blackwell publication ethics website. However, we did not include these journals as providing authorship guidance because the Wiley-Blackwell publication ethics document provides instructions for journals, not for authors.²²

Guidance on the contributions that merit authorship ranged from brief statements to extensive discussions. The *Journal of Medicine and Philosophy* has a short, general statement about authorship: 'The authorship of the paper should be confined to those who have made a significant contribution to the design and execution of the work described.'²³ The *Journal of Bioethical Inquiry* has a longer statement with specific examples of contributions that merit authorship. According to the journal, authorship should be based on 'conception and design of the article, or acquisition, analysis and interpretation of data, drafting of the article or revising it critically for important intellectual content' similar to the provisions seen in ICMJE.⁵ Interestingly, approximately five of the 11 bioethics journals

that did have authorship policies explained authorship contribution identically or similarly to the ICMJE uniform standards (data not shown).

An example of a policy that discusses contributions that do not merit authorship can be found in *Philosophy, Ethics, and Humanities in Medicine*'s policies: 'Acquisition of funding, collection of data, or general supervision of the research group, alone, does not justify authorship.'²⁴ The *Journal of Medical Ethics* provides an example of guidance on acknowledgements: 'All contributors who do not meet the criteria for authorship should be listed in an Acknowledgements section. Examples of those who might be acknowledged include a person who provided purely technical help, writing assistance or a department chair who provided only general support. Financial and material support should also be acknowledged.'²⁵

An example of a policy that requires authors to describe their contributions can be found in the *Journal of Empirical Research on Human Research Ethics*: 'Multi-authored articles should contain a biographical sketch about each author and conclude with a statement of the role of that author in the work reported.'²⁶ The *American Journal of Bioethics*' policy provided an example of instructions on authorship responsibility: 'Each author should have participated sufficiently in the work to take public responsibility for the content.'²⁷

Only one journal, *Theoretical Medicine and Bioethics*, provided guidance on authorship that distinguished between empirical and conceptual research:

1. For original empirical research papers or review articles regarding empirical research, the journal asks authors to adhere to the authorship criteria of the International Committee of Medical Journal Editors.
2. For philosophical, theological, policy, historical, legal and other theoretical types of papers, criteria for authorship will be based upon the general standards of the humanistic disciplines. Specifically, those who claim authorship should: (a) thoroughly understand the argument of the paper; (b) agree with the argument and its conclusions at least at the level of a consensus among the authors; and (c) have been substantially involved in the writing of the article, generally understood to include at least two of the following: (i) generating the idea for the paper; (ii) outlining the argument; (iii) supplying the abstract; (iv) actual writing of parts of the paper's text; (v) substantial critiquing and editing of drafts.²⁸

DISCUSSION

The most important finding of our research is that 63.3% of the bioethics journals had no authorship policies. As policy guidance plays a key role in preventing inappropriate authorship, this is a worrisome result. As mentioned previously, most scientific journals have developed or adopted authorship policies to promote research integrity, and 59% of biomedical journals have authorship policies.⁴ It is ironic that the field of bioethics, which aspires to promote ethical conduct in medicine and science, lags behind other disciplines when it comes to promoting responsible authorship policies. While there is no conclusive evidence that inappropriate authorship is a problem in bioethics, the trend towards multiple authorship documented by Borry and colleagues,¹⁹ and the examples of multi-authored papers mentioned earlier in this article, suggest that additional guidance on authorship is warranted. We recommend that bioethics journals consider developing their own authorship policies or adopting policies from an organisation that promotes integrity in publication, such as the ICMJE.

Another important finding is that there is considerable variation among bioethics journal policies on authorship. Two journals have policies that address five of the six categories, while other journals vary in which provisions they include in their authorship policies. To maximise the effectiveness of authorship guidance and promote research integrity, journal policies should be robust, addressing several key issues. While short statements about authorship can be helpful, longer statements may be more beneficial because they can address a variety of issues, such as taking responsibility for the research and describing authors' contributions.

A third important finding is that only one journal distinguished authorship between empirical and conceptual research. This is a crucial distinction, especially for bioethics publications because bioethics, although traditionally a normative field, has seen a steady increase in the number of publications with an empirical design, and both forms of research are currently used in bioethics. As empirical research does not involve data acquisition or analysis or hypothesis testing, the criteria for authorship developed for empirical research does not fit easily with contributions made in conceptual research. Conceptual research is primarily concerned with defending one or more theses with implications for human conduct or public policy against potential objections. For example, a conceptual bioethics article might argue for a right to medical assistance in dying or analyse the right to die. As authors are expected to make 'substantive' contributions, it is important to illustrate what is a substantial contribution between the two types of research designs. To promote appropriate authorship in bioethics, journals should consider developing policies that provide guidance for determining authorship on conceptual research projects. Policies should describe the different types of contributions one might make to conceptual/normative research, such as developing positions or recommendations, constructing or critiquing arguments, substantively reviewing the literature, and drafting or editing the manuscript for significant content.

Our study also has some significant limitations. First, as our sample is small and not random, it is not possible to draw any generalisations concerning other professional journals. As mentioned earlier, this limitation is unavoidable as there are not many bioethics journals. However, even though our sample is small and not random, it includes most of the journals that focus on bioethics scholarship. Therefore, our results may be useful to bioethicists who are interested in improving research integrity in their field. Second, because our sample is small and not random, we did not to perform a statistical analysis of the data. Again, the limitation is unavoidable. In the future, a statistical analysis of bioethics journal policies may be possible as the number of publications increases. At this point, however, a statistical analysis would probably yield results that are insignificant and possibly misleading.

In summary, we found that most bioethics journals do not have any authorship policies. To provide authors with effective guidance and promote integrity in bioethics research, bioethics journals should adopt authorship policies that address several important topics, such as qualifications for authorship, describing authorship contributions, taking responsibility for the research, and the difference between authorship in empirical and conceptual research.

Acknowledgments

Funding This research was supported, in part, by the National Institute of Environmental Health Sciences (NIEHS) and National Institutes of Health (NIH). It does not represent the views of the NIEHS, NIH, Health Canada or the US or Canadian governments. At the time of performing this study, ZM was also affiliated with the Sprott Centre for Stem Cell Research and the Regenerative Medicine Program of the Ottawa Hospital Research Institute, University of Ottawa.

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Table 1

Authorship guidelines in 30 bioethics journals

Journal	Author	Not an author	Acknowledge	Describing contribution	Responsibility	Conceptual versus empirical	Total categories
1. <i>Accountability in Research</i>	N	N	N	N	N	N	0
2. <i>American Journal of Bioethics</i>	Y	N	N	N	Y	N	2
3. <i>American Journal of Law and Medicine</i>	N	N	N	N	N	N	0
4. <i>Bioethics</i>	N	N	N	N	N	N	0
5. <i>Cambridge Quarterly of Healthcare Ethics</i>	N	N	N	N	N	N	0
6. <i>Christian Bioethics</i>	Y	N	N	N	N	N	1
7. <i>Developing World Bioethics</i>	N	N	N	N	N	N	0
8. <i>Environmental Ethics</i>	N	N	N	N	N	N	0
9. <i>Hastings Center Report</i>	N	N	N	N	N	N	0
10. <i>Healthcare Analysis</i>	N	N	N	N	N	N	0
11. <i>HEC Forum</i>	N	N	N	N	N	N	0
12. <i>Houston Journal of Health Law & Policy</i>	N	N	N	N	N	N	0
13. <i>International Journal of Feminist Approaches to Bioethics</i>	N	N	N	N	N	N	0
14. <i>IRB</i>	N	N	N	N	N	N	0
15. <i>Journal of Agricultural and Environmental Ethics</i>	N	N	N	N	N	N	0
16. <i>Journal of Bioethical Inquiry</i>	Y	Y	Y	N	Y	N	4
17. <i>Journal of Clinical Ethics</i>	Y	Y	Y	N	Y	N	4
18. <i>Journal of Empirical Research on Human Research Ethics</i>	Y	Y	Y	Y	Y	N	5
19. <i>Journal of Law, Medicine and Ethics</i>	N	N	N	N	N	N	0
20. <i>Journal of Medical Ethics</i>	Y	Y	Y	N	Y	N	4
21. <i>Journal of Medicine and Philosophy</i>	Y	N	N	N	N	N	1
22. <i>Kennedy Institute of Ethics Journal</i>	N	N	N	N	N	N	0
23. <i>Medical Humanities</i>	Y	Y	Y	N	Y	N	4
24. <i>Medicine, Healthcare and Philosophy</i>	N	N	N	N	N	N	0
25. <i>New Genetics and Society</i>	Y	N	N	N	N	N	1
26. <i>Nursing Ethics</i>	N	N	N	N	N	N	0
27. <i>Philosophy, Ethics, and Humanities in Medicine</i>	Y	Y	Y	Y	Y	N	5
28. <i>Science and Engineering Ethics</i>	N	N	N	N	N	N	0

Journal	Author	Not an author	Acknowledge	Describing contribution	Responsibility	Conceptual versus empirical	Total categories
29. <i>Theoretical Medicine and Bioethics</i>	Y	Y	N	N	N	Y	3
30. <i>Yale Journal of Health Policy, Law and Ethics</i>	N	N	N	N	N	N	0
Totals yes (%)	11 (36.7%)	7 (23.3%)	6 (20%)	2 (6.7%)	7 (23.3%)	1 (3.3%)	–

The websites of 30 bioethics journals were analysed for six different categories of authorship guidance. 'Y' refers to 'Yes' — the journal satisfies provides this type of guidance. 'N' refers to 'No' — the journal does not provide this type of guidance. The six categories are: Author, provides instructions on the contributions that merit authorship; Not an author, provides instructions on the contribution(s) that do not merit authorship; Acknowledge, provides instructions on the contribution(s) that merit an acknowledgement; Describing contribution, requires author(s) to describe their contributions to the research; Responsibility, requires author(s) to take responsibility for the entire manuscript or for the entire manuscript; Conceptual versus empirical, provides instructions on authorship for empirical versus conceptual research projects; Total categories, calculates the total number of 'Y' for each journal indicating the number of categories (out of six) each journal has satisfied.