AMERICAN JOURNAL OF
Public Health

Editorials

April 1990 Established 1911
Volume 80, Number 4

Editor's Report: Scientific Misconduct and the Responsibility of Journal Editors

In 1989, for the second year in a row, the Journal received more than 1,000 unsolicited manuscripts, 1,043 to be exact; we published 145 articles, 76 public health briefs, and 13 commentaries, about 20 percent of the unsolicited manuscripts we receive. In addition to the unsolicited manuscripts, we published 27 editorials, 71 letters, and 18 other manuscripts in our four special sections, each with its own editor: Public Health Then and Now, Public Health and the Law, Notes from the Field, and New from NCHS. In 1990 we have a new editor of our historical section, Deborah Dwork, who succeeds Barbara Rosenkrantz.

Nineteen eighty-nine was an eventful year for journal editors, notable for the efforts made to assess journal peer review and for steps taken by the federal government to deal with scientific misconduct.

In May, the Journal of the American Medical Association (JAMA) sponsored the First International Congress on Peer Review in Biomedical Publication, held in Chicago. Many of the 1989 anonymous reviewers for this Journal, listed on page 491 of this issue, will have participated in a study I presented at that Congress.[1] The Congress was notable for the number of studies it stimulated, a contrast with past opinion and anecdote (although there was plenty of heated comment as well).[2] Some of the papers are to be published by JAMA and all of them are to form a book to be published by the Council of Biology Editors. The completed studies only begin to tap a process about which little is known, not even the extent to which the process differs from journal to journal.

Shortly before the Peer Review Congress, reacting perhaps to media attention and the threat of federal legislation, two new offices to deal with scientific misconduct had been established in the US Department of Health and Human Services.[3] Not long thereafter, the responsibilities of National Institutes of Health awardee and applicant institutions were set forth in a series of regulations.[4] The regulations require grantee institutions to have policies and procedures in place to detect and report possible scientific misconduct, and to "foster a research environment that discourages misconduct in all research." Although current regulations deal in detail with a narrow definition of scientific misconduct, i.e., fraud and plagiarism, the stated definition is broader and includes ". . . practices that deviate from those that are commonly accepted by the scientific community for proposing, conducting, or reporting research." Moreover, the preamble promises to address such issues as "retention of laboratory data and authorship practices," an interpretation of federal responsibility that has aroused considerable concern among some scientists.[5-7]

As others have noted,[8] journal editors must rely on institutions to detect fraudulent data in the papers they receive. Moreover, it is only the institution where the work was done that can investigate and take appropriate action in cases of possible scientific misconduct of any sort including "authorship practices."

"Authorship practices" presumably include "reporting research," and it is at this point that editors and reviewers have a role to play. I have commented before on excessive authors,[9] prior publication,[10] duplicate submission, and redundant publication.[11] Last year, in discussing our new manuscript requirements, I pointed to some of the steps we have taken to address these vexing problems.[12]

Each year a few examples of the various types of possible scientific misconduct come to my attention. An excessive number of authors is perhaps the most uncertain

and least important of them. I have had some response to a request that numbers be reduced in cases where this seemed an appropriate request. My main concern, however, is that all authors sign the letter accompanying submission and subsequent substantive revisions, thus putting themselves on record as responsible parties. It has been suggested that statements describing the exact contribution of each author become a requirement of submission.[13] I doubt that this would inhibit those few who choose not to play fair.

Prior publication and duplicate submission have seemed to me to occur more frequently in recent years, but perhaps this is because reviewers and editors have become more conscious of them. In the past, when this possible breach of ethics came to my attention, I had done no more than chide the author. On the advice of the Editorial Board, I now feel that I must bring the matter to the attention of the principal author's superior. Such a decision is not be made lightly since the accusation may initiate an investigation and could cause harm to the accused even if found innocent. Therefore, the Journal Editorial Board has recently created a Committee on Scientific Integrity which the editor can consult before taking such a step.

Authors who have admittedly sent the same paper to more than one journal almost always excuse their actions by saying that the two journals reach different audiences. In these days, when the computer can search the scientific literature through bibliographic data bases, some of which include on-line text, this is no longer an acceptable excuse.

The "least publishable unit" (LPU)—sometimes called salami science[13]—is perhaps the most vexing and most difficult problem to control. It arises because of pressures to publish and the institutional promotion and tenure procedures that rely on publication quantity rather than quality. It is unlikely to change greatly until the procedures which give rise to it have changed. Angell[14] and Petersdorf[15] have pointed up the changes that need to be made, but the extent to which they have been adopted appears to be unknown.

Of course, there are often justifiable reasons for producing more than one paper from the same data base. When instances of possible LPUs come to my attention, as they do every year, I discuss them with the author. Occasionally (but rarely) I have rejected such papers, suggesting that the little they contribute to what has been published be written up as a letter to the editor. More often a paper of several thousand words that adds something of value to what has been published is reduced to a 1,000 word public health brief. In many cases, the added data could easily have been included in the original publication, or two different papers submitted simultaneously to the same journal, rather than splitting them up and requiring much of the introduction and methods to be repeated.

As if there were not enough scientific journals being published, the subject of scientific misconduct has itself spawned a new journal in 1989, titled *Accountability in Research*. Its Director of Marketing announces it to be "an international publication devoted to the critical examination of issues involving the integrity of scientific data."* Its first issue appears to question the innate credibility of the scientific process and to suggest various regulatory controls.

Perhaps the actions of reviewers, institutions, or the state have a place in the efforts to control scientific misconduct, but I believe that, in the final analysis, the credibility of the scientific process, as well as the scientific community, rests with the moral sensibility of individual investigators.

REFERENCES

1. Yankauer A: Who are the peer reviewers and how much do they review? JAMA 1990; 263:1337-1339.
2. Powledge TM: Now it's the journal's turn on the firing line. The AAAS Observer, July 7, 1989; (6) Suppl to Science.
3. Mason JO: Office of scientific integrity (letter). Science 1989; 244:903–904.
4. US Department of Health and Human Services: Responsibilities of awardee and applicant institutions for dealing with and reporting possible misconduct in science. Federal Register August 8, 1989; 54 (151):32446–32451.
5. Davis BD: Government and quality in sciences. Science 1989; 246:736.
6. Mason JO, Bivens LW: Scientific integrity (letter). Science 1990; 247:144–145.
7. David BD: Response (letter). Science 1990; 247:145–146.
8. Relman AS, Angell M: How good is peer review? (editorial). N Engl J Med 1989; 321:827–829.
9. Yankauer A: Editor's report—on decisions and authorships (editorial). Am J Public Health 1987; 77:271–273.
10. Yankauer A: Prior publication, an ethical issue (editorial). Am J Public Health 1985; 75:341–342.
11. Yankauer A: Editor's report—LPU, *The Nation's Health*, and other matters (editorial). Am J Public Health 1983; 73:247–248.
12. Yankauer A: Editor's annual report—manuscript requirements. Am J Public Health 1989; 79:413–414.
13. Huth EJ: Irresponsible authorship and wasteful publication. Ann Intern Med 1986; 104:257–259.
14. Angell MA: Publish or perish: a proposal. Ann Intern Med 1986; 104:261–262.
15. Petersdorf RG: The pathogenesis of fraud in medical science. Ann Intern Med 1986; 104:252–254.

ALFRED YANKAUER, MD, MPH

*Schact B: (letter) Director of Marketing for *Accountability in Research: Policies and Quality Assurance*, Gordon and Breach, Science Publishers, Inc., New York.

Address reprint requests to Alfred Yankauer, MD, MPH, Editor, American Journal of Public Health, Department of Community and Family Medicine, University of Massachusetts Medical Center, 55 Lake Avenue North, Worcester, MA 01655.