Financial Interest and Its Disclosure in Scientific Publications

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Journal policies and requirements of funding agencies on financial disclosure of authors and grant applicants have divided editors and scientists who disagree on whether such policies can improve the integrity of science or manage conflicts of interest. Those opposed to such disclosure policies argue that financial interest is one of many interests held by scientists, is the least scientifically dangerous, and should not be singled out. Those who favor open reporting of financial interests argue that full disclosure removes the suspicion that something of relevance to objectivity is being hidden and allows readers to form their own opinions on whether a conflict of interest exists and what relevance that has to the study. The authors believe that the scientific community and the public will be best served by open publication of financial disclosures for readers and reviewers to evaluate.

BOTH IN THE clinical context and in the context of the publication of academic research, there is the potential for a conflict of interest, as defined by Thompson, when a set of conditions exist in which professional judgment regarding a primary interest (such as a patient’s welfare or the validity of research) tends to be unduly influenced by a secondary interest (such as financial gain). Although the mere existence of a financial interest does not imply a conflict and the potential for financial gain is only one of many factors that can generate such conflicts (including “personal relationships, academic competition, and intellectual passion”), the International Committee of Medical Journal Editors (ICMJE) has identified “financial relationships with industry” for example, employment, consultancies, stock ownership, honoraria, expert testimony), either directly or through immediate family,” as the most important conflicts of interest. Moreover, the ICMJE considers that the manner in which authors, reviewers, and editors deal with such conflicts can affect in part the credibility of published articles in scientific journals.

For readers unfamiliar with the controversies over disclosure of financial interests by researchers and/or authors, a brief review may be useful. Prior to the 1980s, the emphasis of any guidelines or policies regarding financial interests of scientists tended to focus on voluntary disclosure and self-regulation. Beginning in the early 1980s and continuing to the late 1990s, journals, federal agencies, university and medical associations, and the media have issued policies on financial disclosure for authors, reviewers, or grant applicants.

An Institute of Medicine report describes 2 competing models for the management of conflicts of interest: the “prohibition” model, which is “based on a presumption against any relationships that might present a conflict,” and the “disclosure and peer review” model, which is “based on a presumption for such relationships with a provision for disclosure and review.” A demonstration of “sufficient social benefit” (eg, improved transfer of medical innovations to the bedside, creation of jobs, furtherance of economic development generally, and facilitation of private support of research programs and public universities) can override the prohibition model and outweigh the risk of bias. The disclosure and peer review model, by contrast, “holds that conflicts of interest are unavoidable and that financial conflicts are only the most visible and perhaps the least scientifically dangerous.”

Richard Horton, editor of The Lancet, has argued that the case in favor of full disclosure rests on 3 fallacies: (1) scientific writing can be free from common prejudices; (2) financial conflicts of interest are of greater concern than academic, personal, and political rivalries and beliefs; and (3) disclosure can “heal the wound inflicted by financial conflicts.” An editorial writer in Nature suggests that, barring a demonstrated link between such financial interests and a lack of objectivity or other factors that weaken the credibility of a manuscript, disclosure should only be voluntary.

Arguments favoring disclosure echo the conclusion reached by the American Medical Association, Chicago, Ill, that “the best mechanism available to assure public (and professional) doubts about the propriety of a research arrangement is full disclosure” and that such disclosure “should be made to the journals that publish the results of the research.”

Since the 1980s, when the commercialization of the biomedical sciences was becoming acutely visible in the American press and the US Congress held hear-
ings on federal research funds and their relationship to conflicts of interest, bio-
medical journals began adding conflict-of-interest requirements in their in-
troduction to authors.

Even if the information is disclosed to journal editors, however, the question
remains of whether it should be shared with journal readers. Some editors view
their role as the administrators of such information. We are persuaded by the
views of Bernat and colleagues, leaders in the American Academy of Neur-
ology, who argue that the purpose of public disclosure of conflicts of interest
is not to remove the conflict but to pub-
licize it "so that all relevant observers
become aware of it and can modify their
opinions on the credibility of statements
of the conflicted person accordingly," which mitigates but does not resolve
the conflict.

In a survey of North American medi-
cal journal editors published in 1995,
Wilkes and Kravitz reported that 26% of
responding editors required authors to
reveal sources of their funding, 28%
required disclosure of all institutional af-
filiations, and 13% and 10%, respec-
thively, required disclosure of consultant
positions and of stock ownership in com-
panies that may pose a conflict of inter-
est. This lack of editorial unanimity was
revealed in the same year the nation's 2
leading funding agencies, the National
Institutes of Health and the National
Science Foundation, issued conflict-of-
interest regulations requiring disclosure
by researchers to their host institutions
of financial interests in connection with
grant proposals. It also comes at a time
of changing conditions of scientific re-
search funding and of the growth of a
more entrepreneurial spirit among aca-
demic scientists and research institu-
tions.14,15

Thus, although the ICMJE has ex-
pressed the majority view that "published
articles and letters should include
a description of all financial support and
any conflict of interest that, in the edi-
tors' judgment, readers should know
about," if the policies of medical and basic
science journals vary significantly in
their requirements to disclose financial
interests to editors.

In our view, journal editors should
begin to take seriously the implementation
of disclosure policies in response to the
escalation of financial interests of au-
thors in their publications.17,18 Journals
should be specific in their instructions to
authors on the types of financial associa-
tions related to their submission and the
form of communication (original re-
search, letters, book reviews, and scien-
tific review articles) that warrant disclo-
sure. We also believe that the scientific
community and the public will be best
served by the open publication of finan-
cial disclosures for readers and review-
ers to evaluate. While financial interest
in itself does not imply any bias in the
results of a paper and should not dis-
qualify it from publication, readers and
reviewers are the best judges of whether
there is evidence of bias and whether
that evidence favors those interests.

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References
2. International Committee of Medical Journal Edi-
3. Donaldson MS, Capron AM, eds. Patient Out-
comes Research Teams: Managing Conflict of In-
4. Horton R. Conflict of interest in clinical research: eq
6. Council on Scientific Affairs and Council on Eth-
cal and Judicial Affairs. Conflicts of Interest in med-
cal center/industry research relationships. JAMA. 1996;276:2790-2793.
7. Culliton BJ. Biomedical research enters the mar-
8. US Congress, Committee on Government Opera-
tions, Subcommittee on Human Resources and In-
tergovernmental Relations. Are Scientific Miscond-
10. Bernat JL, Goldberg ML, Ringel SP. Conflicts of
11. Wilkes MS, Kravitz RL. Policies, practices, and
attitudes of North American medical journal edi-
13. Investigator financial disclosure policy, 60 Fed-
14. Krinsky S, Ennis J, Weissman R. Academic cor-
15. Blumenthal D, Campell EG, Causino N, Louis
333:1754-1759.
16. International Committee of Medical Journal Edi-
tors. Uniform Requirements for Manuscripts Submitted to Biomedical Journals. JAMA. 1997;
277:907-909.
17. Krinsky S, Rothenberg L, Stott P, Kyle G. Fi-
nancial interests of authors in scientific journals: a pil-
ott study of 14 publications. Sci Eng Ethics. 1996;
2:385-410.
18. Stolfox HT, Grace C, O'Rourke K, Detsky AS. Con-
flict of interest in the debate over calcium-
101-106.