

# Financial Interest and Its Disclosure in Scientific Publications

Sheldon Krimsky, PhD; L. S. Rothenberg, JD

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.

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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,<sup>1</sup> 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, employ-

ment, consultancies, stock ownership, honoraria, expert testimony), either directly or through immediate family," as the most important conflicts of interest. Moreover, the ICMJE<sup>2</sup> 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<sup>3</sup> 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 "dis-

closure 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."<sup>3</sup>

Richard Horton,<sup>4</sup> 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 conflict." 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.<sup>5</sup>

Arguments favoring disclosure echo the conclusion reached by the American Medical Association, Chicago, Ill, that "the best mechanism available to assuage 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."<sup>6</sup>

Since the 1980s, when the commercialization of the biomedical sciences was becoming acutely visible in the American press<sup>7</sup> and the US Congress held hear-

From the Department of Urban & Environmental Policy, Tufts University, Medford, Mass (Dr Krimsky), and the Division of Medical Genetics, Department of Medicine, University of California, Los Angeles (Mr Rothenberg).

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Reprints: Sheldon Krimsky, PhD, Department of Urban & Environmental Policy, Tufts University, Medford, MA 02155 (e-mail: skrimsky@emerald.tufts.edu).

ings on federal research funds and their relationship to conflicts of interest,<sup>8</sup> biomedical journals began adding conflict-of-interest requirements in their instructions 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.<sup>9</sup> We are persuaded by the views of Bernat and colleagues,<sup>10</sup> leaders in the American Academy of Neurology, who argue that the purpose of public disclosure of conflicts of interest is not to remove the conflict but to publicize 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 medical journal editors published in 1995, Wilkes and Kravitz<sup>11</sup> reported that 26% of responding editors required authors to reveal sources of their funding, 28%

required disclosure of all institutional affiliations, and 13% and 10%, respectively, required disclosure of consultant positions and of stock ownership in companies that may pose a conflict of interest. This lack of editorial unanimity was revealed in the same year the nation's 2 leading funding agencies, the National Institutes of Health<sup>12</sup> and the National Science Foundation,<sup>13</sup> 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 research funding and of the growth of a more entrepreneurial spirit among academic scientists and research institutions.<sup>14,15</sup>

Thus, although the ICMJE has expressed the majority view that "published articles and letters should include a description of all financial support and any conflict of interest that, in the editors' judgment, readers should know about,"<sup>16</sup> 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 authors in their publications.<sup>17,18</sup> Journals should be specific in their instructions to authors on the types of financial associations related to their submission and the form of communication (original research, letters, book reviews, and scientific review articles) that warrant disclosure. We also believe that the scientific community and the public will be best served by the open publication of financial disclosures for readers and reviewers to evaluate. While financial interest in itself does not imply any bias in the results of a paper and should not disqualify 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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