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# Advertising Policies of Medical Journals: Conflicts of Interest for Journal Editors and Professional Societies

David Orentlicher, Michael K. Hehir II

As the medical profession becomes more and more of a commercial enterprise, commentators are subjecting conflicts of interest in medicine to increasing scrutiny. However, one critical area of conflict has largely escaped discussion—the conflicts of interest raised by the advertising policies of medical journals. Moreover, when these conflicts are discussed, they are examined almost exclusively in terms of the concerns that they pose for journal editors. Yet, there is a second critical concern with journal advertising policies. The policies also create serious conflicts of interest for the professional societies that own medical journals.<sup>1</sup>

In this article, we will discuss the conflicts of interest that are raised for journal editors and professional societies by journal advertising policies, and we will conclude that the policies are exactly backward. Currently, medical journals rely on advertisements from pharmaceutical companies and other health-related businesses and avoid—indeed exclude—advertisements from consumer-oriented companies, like producers of automobiles, golf equipment, or jewelry. We submit that the medical journals, the medical profession, and the public would be better served if consumer-oriented advertisement were preferred over health-related advertising.

Some of our arguments may seem harsh or unfair to journal editors; the arguments may also suggest an unduly skeptical view of the editorial process. In fact, we recognize that journal editors approach their responsibilities with great care and concern. We also recognize that journal editors go to great lengths to ensure the integrity of their publications and that journal quality reflects those efforts.<sup>2</sup> Unfortunately, even the most properly motivated efforts can be compro-

mised by conflicts of interest. The problem with conflicts of interest is that they operate insidiously.<sup>3</sup> As a result, it is often necessary to guard against harm by reducing or eliminating a conflict rather than by simply exercising great diligence against its influence.

## Current advertising policies

It is common practice for medical journals to run advertising only from companies in the health care industry. The “Index to Advertisers” for the June 16, 1999 issue of the *Journal of the American Medical Association (JAMA)*, for example, lists twenty-four manufacturers of prescription or over-the-counter drugs, one medical device manufacturer, and one medical publisher.<sup>4</sup> This is not very surprising. One would expect drug companies and other purveyors of health care products and services to be particularly interested in reaching an audience of physicians. Moreover, advertisers like to target their advertisements as closely as possible to their intended audience and to avoid spending money on readers who are not likely to purchase their goods.

The common practice, however, is not simply the result of a “natural” evolution of the journal advertising marketplace. It is also the result of a common policy of medical journals to categorically refuse advertising space to companies that are not in a health care-related business. We contacted six major professional journals, and none of them runs nonhealth care advertisements. Three of the journals—*Annals of Internal Medicine*, the *New England Journal of Medicine* and *Pediatrics*—explicitly exclude nonhealth care advertisements as part of their formal advertising policies. For example, according to the “General Information” page in each issue of *Pediatrics*, “All commercial advertising appearing in PEDIATRICS must relate to the practice of medicine and be approved by the [American] Academy [of Pedi-

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atrics].”<sup>5</sup> Two journals—the *Journal of the American College of Surgeons* and *Obstetrics & Gynecology*—do not have formal policies with regard to nonhealth care advertisements. However, as an informal policy, they seek advertisements only from health care companies. Finally, one journal that we contacted—*JAMA*—formally permits advertisements from nonhealth-related companies. *JAMA*’s policy allows consumer products or services to be advertised, provided that (1) the inclusion of the advertisement does not interfere with the purposes of the journal, and (2) the advertisement is not for an alcoholic beverage or tobacco product. Limitations are also placed on advertising of dietary programs and nutritional supplements. In the September 3 and November 12, 1997 issues of *JAMA*, Land Rover ran advertisements for its Range Rover luxury sports utility vehicles,<sup>6</sup> and other issues included advertisements for Wellcraft powerboats and Steinway & Sons pianos.<sup>7</sup> However, since then, *JAMA* has decided that, for the foreseeable future, it will reserve its advertising space for health-related companies only.<sup>8</sup>

### Ethical concerns from health industry advertising

Health-related advertising raises several ethical concerns, both for journal editors and for professional medical societies.

#### *Journal editors*

Health care advertisements are problematic for journal editors in several ways. First, the acceptance of advertising may result in a compromise of the quality of the editorial process. Perhaps the clearest example of the editorial influence of advertising occurs with respect to special symposium issues of medical journals that are funded by pharmaceutical companies. Researchers identified 625 symposium issues in 58 leading medical journals from 1966–1989. For the 42 percent of the 625 symposia that were funded by a single drug company (262 symposia), the journal was less likely to adhere to its usual peer-review process.<sup>9</sup> Another group of researchers looked at articles published in journal supplements, a category that overlaps considerably with the category of symposium issues. The researchers found that the supplement articles were of lower quality than articles published in the parent journal.<sup>10</sup>

Health care advertising may also influence the editorial process in more subtle ways. Even when there is a separation between the editorial and business offices, journal editors are aware of the companies that purchase advertisements. At some leading journals, the editor-in-chief reviews all advertisements after their first publication to ensure that the advertisements comply with the journal’s advertising policy. Journal editors may feel a sense of gratitude to the companies for their financial support.<sup>11</sup> Indeed, one major journal thanked its long-time advertisers by name on its

editorial pages.<sup>12</sup> Gratitude would encourage positive feelings toward the companies, and those feelings could subconsciously influence editorial judgment. For example, if a clinical study suggested that drug treatment was not as good as surgical therapy for a subclass of patients with coronary artery disease, and a journal received the bulk of its advertising revenues from pharmaceutical companies, journal editors may be more likely to reject a report of the study because of concerns that the study design was not rigorous enough.<sup>13</sup>

Medical journals publish policy-oriented articles, and editorial review of those articles could also be affected. If a journal receives considerable revenues from industry advertising, the editors may be more receptive to articles that criticize the advertising and marketing regulations of the Food and Drug Administration. The editors also may be less willing to publish commentaries that call for a reevaluation of decisions by the federal government to expedite the drug-approval process.

To be sure, we are not suggesting that journal editors would justify their decision to accept or reject a manuscript in terms of their gratitude for advertising dollars or even that they would be aware of the connection. Rather, it stands to reason that “objective” judgments by journal editors would be influenced subconsciously by their subjective feelings. Journal editors are no less susceptible to such influences than other people. And, we know that employers making hiring decisions and landlords making rental decisions give preference to the applicants about whom they feel more positively because the applicants are thinner or viewed as more physically attractive in other ways.<sup>14</sup> More to the point, we know that financial incentives subconsciously affect physicians’ judgments when they make individual treatment decisions. When a walk-in clinic changed its compensation structure from a flat hourly wage to include bonuses that were tied to the income generated for the clinic by diagnostic tests, the clinic’s physicians started ordering more laboratory tests and x-ray studies.<sup>15</sup>

To an important extent, it is not in the interest of companies if their advertising compromises the editorial process. If readers perceive a decline in journal quality, they may cancel their subscriptions, and the companies will no longer be able to reach their desired audience. Some journals have apparently been hurt by perceptions that they let advertising influence their editorial process. These considerations suggest that journal editors would better express their gratitude to their advertisers by avoiding any changes in their procedures. Nevertheless, we cannot rely on the self-interest of companies to protect against harm from advertising. Companies themselves have conflicting interests. They want to advertise in high quality journals, but they also want to sell their products. In the end, if a company has the second-best drug in a class, it will not see itself as better off if medical journals make it abundantly clear

that its drug is only second best. Moreover, companies often face conflicts between long- and short-term goals. A compromised editorial process has long-term deleterious effects for advertisers, but it may yield benefits in the short term. Companies may seize the short-term gain, either because of investor pressures or because of the general tendency of people to discount long-term risks.

A second important concern with health-related advertising lies in the *appearance* of impropriety. It may be that medical journals erect effective "walls" between their editorial and business offices and that editors consider only scholarly merit when deciding which articles to publish.<sup>16</sup> However, when journals generate millions of dollars in advertising revenues, it is very difficult for physicians and the public to believe that these revenues have no effect on the editorial process. Indeed, questions about collusion between the editorial and business offices at *JAMA* arose in 1997, when the journal published the results of a research trial reporting the equivalence of generic and brand-name versions of synthetic thyroid hormone (used to treat patients with hypothyroidism).<sup>17</sup> In the issue with the results, two full-page advertisements appeared for a generic version of the hormone from a company that ordinarily did not advertise the product in *JAMA*.<sup>18</sup> Although *JAMA* editors could not explain how the generic manufacturer knew about the research article,<sup>19</sup> the company stated that it had advance knowledge and used it to place its advertisements.<sup>20</sup>

The appearance of impropriety can also be used to attack the credibility of articles that appear in medical journals. When the *New England Journal of Medicine* published articles,<sup>21</sup> letters,<sup>22</sup> and an editorial<sup>23</sup> critical of alternative medicines in its September 17, 1998 issue, a representative of the company that produced one of the criticized medications<sup>24</sup> argued on National Public Radio that the *Journal* was biased against alternative medicines because of its relationship with the pharmaceutical industry.<sup>25</sup> It may be that the editorial decisions for that issue (or other issues) were not influenced at all by the *Journal's* receipt of pharmaceutical advertising dollars. Nevertheless, the possibility of such influence can be used to undermine the credibility of the *Journal*, as well as that of other journals.

Any erosion of trust in the editorial process is troublesome. Medical journals play a critical role in disseminating the results of medical research. Readers rely on the journals to identify the important studies and to ensure that the studies actually demonstrate what they purport to demonstrate. If physicians discount a study because it might be tainted by the journal's conflict of interest, the care of many patients could suffer.

Third, and most important, even if there is no influence on the editorial process and no erosion of trust, editors compromise the scientific quality of their journals by accepting health-related advertising. Although advertising may provide some educational value,<sup>26</sup> advertisements of-

ten leave physicians with a skewed view of a product's benefits and risks. In one study, researchers identified two categories of drugs (cerebral vasodilators and propoxyphene compounds) for which commercial sources of information made claims of efficacy that were substantially at odds with what could be justified by the scientific literature.<sup>27</sup> Physicians surveyed in the study reported that they relied on the scientific literature and gave little weight to commercial sources of information. Yet, for substantial percentages of the physicians, actual beliefs and subscribing practices were consistent with the commercial claims of efficacy. In another study, experts reviewed 109 full-page pharmaceutical advertisements in ten leading medical journals.<sup>28</sup> The experts concluded that 62 percent of the advertisements should have been rejected or required to undergo major revision. They also believed that 44 percent of the advertisements would lead to improper prescribing if a physician had only the information presented in the advertisement about the drug. Health-related advertising, in short, may diminish the scientific integrity of a journal because the journal's audience reads and absorbs information from the advertising as well as the scientific articles.<sup>29</sup> This is of particular concern because many physicians (69 percent in one study) identify medical journals as their most important source of medical information.<sup>30</sup>

### Professional societies

Although the conflicts of interest for journal editors are readily recognized, the conflicts of interest for professional societies are generally overlooked. Yet, these conflicts are also of great concern.

Many of the leading medical journals are published by professional societies. The American Academy of Pediatrics publishes *Pediatrics*, the American College of Physicians (ACP) publishes *Annals of Internal Medicine*, the American Medical Association (AMA) publishes *JAMA*, and the Massachusetts Medical Society (MMS) publishes the *New England Journal of Medicine*. Similarly, the American College of Obstetricians and Gynecologists publishes *Obstetrics & Gynecology*, and the American College of Surgeons publishes the *Journal of the American College of Surgeons*. If advertising revenues help to ensure a profit for a journal, then the proceeds improve the bottom line of its parent medical society.

Because professional societies disseminate information about health care products, it is problematic that they benefit from advertisements for those products. The AMA received millions of dollars from pharmaceutical company advertisements at the same time that it was publishing its annual *Drug Evaluations* book (whose publication ceased in 1995). It is not clear that the AMA could be sufficiently objective in evaluating drugs when its budget was heavily subsidized by the pharmaceutical industry.<sup>31</sup>

When professional societies contribute to the public debate on health care issues, they also face important conflicts of interest with respect to their receipt of advertising dollars. On one hand, the societies have a duty to advocate on behalf of patient welfare. On the other hand, certain policy positions may affect the societies' revenues from health care companies. If a particular position would be good for patients but bad for pharmaceutical companies, device companies, or other health care businesses, a professional society would help patients at the risk of hurting its own financial well-being. Members of the affected industry could limit their advertising expenditures either to retaliate against the society or because the change in public policy led to a decline in the companies' profits and therefore their advertising budgets.

This conflict is especially serious because professional societies play a critical role in the shaping of health care policy in the United States. When the President, Congress, state legislatures, or courts decide matters of health care regulation or law, they rely substantially on the perspectives of the medical profession as represented by their professional organizations.<sup>32</sup> This is so not only because physicians can explain how a change in policy or law will affect the health care system, but also because lawmakers lack the medical expertise that would make them confident about their own perspectives.

As with the conflicts faced by journal editors, appearances of impropriety are also important here. Even if a professional society's positions are not in fact influenced by their receipt of advertising revenues, people will wonder whether the professional society was so influenced. If the AMA opposes price controls on prescription drugs, for example, the public will be unsure whether the opposition is truly rooted in legitimate concerns, like the potentially harmful effects on research spending by industry, or whether the opposition reflects the AMA's defense of its own pecuniary interests. Similarly, if other readers of both the AMA's *Drug Evaluations* and the independent *Medical Letter* found, as one of us did, that the authors of *The Medical Letter* gave more definitive prescribing recommendations and were more likely to conclude that there was nothing to be gained by prescribing some drugs instead of their alternatives,<sup>33</sup> the readers might have wondered whether the AMA's analyses were subconsciously affected by the Association's interest in maintaining good relations with all of the companies in the pharmaceutical industry.

### Countervailing benefits of health industry advertising

Given the potential harms from health care advertising in medical journals, the editors should refuse health care advertisements unless there are countervailing benefits that outweigh the risks. We will now discuss the benefits and

consider whether they are sufficient to justify health care advertising in medical journals. In doing so, it is useful to consider whether journals should be able to rely *only* on the health care industry for their advertising or whether journals should be able to rely on the health care industry together with other industries for advertising.

### *Exclusive reliance on health care advertising*

As mentioned, it is common for medical journals to accept advertisements only when they feature a health-related product or service.<sup>34</sup> We find it hard to see how this policy can be justified. If advertisements are accepted from airlines (for example, Delta), credit card companies (for example, American Express), golf equipment suppliers (for example, Callaway), jewelers (for example, Tiffany's), or automobile manufacturers (for example, Cadillac), journals would have a larger pool of companies to which they could sell advertising space, and they would reduce the conflict of interest that arises from the practice of only accepting health care advertisements. This suggests that health care companies are not the first place medical journals should look for advertising. Rather, they are the last place medical journals should look.

To be sure, medical journals and their parent professional societies would owe the same sense of gratitude to these other companies, but it is hard to see how their relationships with the companies would come into conflict with their duties to scientific integrity and patient welfare. If *JAMA* accepted advertisements from the Callaway Golf Company for its Big Bertha golf driver, *JAMA* editors might add the club to their golf bags, and the AMA might oppose efforts by the Professional Golfers' Association to regulate golf club size;<sup>35</sup> but these activities would not affect the quality of *JAMA* or of health care delivery in this country. Similarly, if the *Annals of Internal Medicine* ran advertisements for Delta and USAirways, the editors at *Annals* might start flying those airlines more often, and the ACP might oppose government regulations that would help start-up airlines, but these activities also would not compromise journal quality or health care delivery.

Some journal editors explain a policy of accepting only health-related advertising as a way to foster the mission of their journals. In this view, health-related advertisements are included because they have educational value that augments the information provided by the journal's articles. Nonhealth-related advertisements, on the other hand, would not contribute to the journal's educational mission.<sup>36</sup> This argument is not persuasive. The mission of medical journals is to provide the most reliable educational information available. However, as discussed above, advertisements compromise the educational value of medical journals. Advertisers see education as one of their goals, but it is secondary to the primary aim of using advertisements to increase sales.

Typically, a company can maximize its profits by providing imperfect rather than perfect information to potential consumers. To put it another way, medical schools would not give classroom time to pharmaceutical company sales representatives as a way to enhance their educational mission.

The U.S. Supreme Court also has rejected the argument that health-related advertising fosters the educational mission of medical journals.<sup>37</sup> The issue has come up because advertising revenues would constitute tax-exempt income if the advertising “contributes importantly” to the educational purposes of a journal’s tax-exempt, parent professional society. When the ACP asked for a refund of taxes paid on advertising revenues from the *Annals of Internal Medicine*, the Supreme Court concluded that, although advertising might in theory contribute importantly to a journal’s educational mission, it did not in fact do so in the case of *Annals*. The Court observed that the journal’s advertising decisions turned on whether companies were willing to pay for the space (rather than on the goal of providing a systematic presentation of the goods or services being advertised) and that the repeated advertising of established drugs undermined the claim that the advertisements were principally designed to alert readers to new developments.<sup>38</sup>

Another possible justification for the exclusion of nonhealth advertising lies in aesthetic considerations. It may seem in poor taste to run advertisements for cars, credit cards, or jewelry in a professional journal. However, aesthetic tastes are not a sufficient reason to embrace a significant conflict of interest. Tackiness is a small price to pay for greater scientific integrity and higher quality health care. Of course, when advertising goes beyond tackiness to include deception or fraud or otherwise to promote unethical practices, the advertising should be rejected. But mere bad taste is less troubling than a financial conflict of interest.

It seems fairly clear, then, that medical journals should eliminate their requirement that advertisements come only from companies with a health-related product or service. The harder question is whether journals should sell some of their advertisement space for health-related products or services.<sup>39</sup>

### *Reliance on both health-related and other kinds of advertisements*

We could conclude that medical journals should sell advertising space only to nonhealth-related companies. Such a practice would avoid the conflicts of interest from health-related advertising. Moreover, many consumer-oriented companies, especially sellers of luxury items, ought to be interested in advertising to a readership with the average household income of physicians.

However, it may be the case that excluding health-related advertisements would have negative consequences for medical research and education. Journals could see a de-

crease in their advertising revenues if they excluded health-related advertising. Any advertiser can reach physicians when they advertise to the public at large through magazines like *Business Week* or *Time*, but health-related companies probably have a stronger interest than nonhealth care companies in targeting physicians specifically with their advertisements.<sup>40</sup> Indeed, an almost exclusive reliance on pharmaceutical advertisements exists even with *Diversions*, a magazine for physicians with articles about leisure activities and therefore a seemingly natural place for airlines, hotels, and speedboat manufacturers to advertise. Journals that have tried to interest nonhealth care companies in advertising have apparently found it difficult to do so. Moreover, health-related companies may especially perceive an advantage in having their advertisements appear in leading medical journals. Association with the journals may result in some of the journals’ prestige rubbing off on the companies. Given the benefits of advertising in medical journals, health-related companies are probably willing to pay higher rates than are other kinds of companies for medical journal advertising. If excluding health-related advertisements reduces the revenue of medical journals, the journals might have to curtail the number of issues or the number of pages per issue. Fewer articles would be published, and medical research and education could suffer.

A key question, then, is whether the financial benefits for medicine from health-related advertising are sufficient to outweigh the harms from the advertising.<sup>41</sup> This is an empirical question that is difficult to answer. On one hand, a loss of journal pages would compromise the ability of researchers to publish important information. On the other hand, currently a very large number of medical journals are being published; hence one could argue that fewer journals would ensure that only studies of high quality are published.<sup>42</sup> In the face of this uncertainty, it may make the most sense for journals to reject health-related advertising unless they find that, by doing so, they meaningfully compromise their educational mission.

In this regard, it is relevant that many leading journals in other professional fields do not rely as heavily on advertisements that raise the kinds of concerns posed by advertisements in medical journals. The *Harvard Law Review*, for example, contains only a few pages of advertisements in each issue, mostly from academic presses. Journals like the *American Political Science Review* and the *American Sociological Review* contain a good deal of advertising from academic presses, but the connection between editorial decisions and the interests of academic presses seems much more tenuous than the connection between editorial decisions at medical journals and the interests of pharmaceutical companies. The advertisements do create a conflict of interest for the journal editors to the extent that the journals publish book reviews, but the conflict would not extend much beyond that particular area.<sup>43</sup>

Although there is some uncertainty about the propriety of health-related advertisements for medical journals, we can say with confidence that a number of the journals would not suffer if they dropped health-related advertising. For example, the *New England Journal of Medicine* covers its costs of publication between subscription fees and classified advertisement charges; it uses the revenues from health company advertisements to subsidize the programs of the MMS.<sup>44</sup>

When advertising revenues are used to fund the programs of the parent professional societies, as they are for many journals,<sup>45</sup> the argument for accepting health-related advertising is weak. The case for health-related advertising depends on the view that an important public benefit derives from subsidies for the activities of medical professional societies. It does not seem very persuasive to justify health-related advertising as a way to ensure funding for professional society activities. Professional societies primarily serve the interests of their members. For example, on key public policy questions, the AMA's positions often put the needs of physicians before those of patients.<sup>46</sup> Paul Starr has described the AMA's opposition to the development of health maintenance organizations and the enactment of the Medicare program.<sup>47</sup> More recently, the AMA helped defeat President Clinton's efforts to ensure universal health care coverage,<sup>48</sup> and the AMA's own investigators criticized it for failing to protect patient welfare and the integrity of the patient-physician relationship when it endorsed a legislative ban on partial birth abortions.<sup>49</sup> The AMA's canceled endorsement of Sunbeam home health care products was an especially troubling example of self-serving behavior.<sup>50</sup> Given the orientation of professional societies to the needs of their members, the members should support the societies' activities with their dues and other contributions.

Professional societies often undertake public-spirited programs, like the AMA's SmokeLess States Tobacco Use Prevention Program. However, such programs typically consume a relatively small percentage of a society's general operating budget. Often, the programs rely almost entirely on grants from foundations or the federal government, with the professional society providing office space and staff support.<sup>51</sup> Accordingly, even though some of a journal's advertising revenues help subsidize the programs, the bulk of the revenues goes to the society's other activities. That kind of imbalance prevents us from justifying the conflicts of interest from health-related advertising in terms of the public good from professional society programs. In other words, while professional societies can, and often do, act in the public interest, revenues from their journals probably do not play an important role in their ability to do so.

## Conclusions

Conflicts of interest cannot be eliminated entirely in medi-

cine, nor would we want to eliminate all of them. For example, pharmaceutical company researchers often will have valuable insights to share with their academic colleagues. Hence, we would not want their conflicts of interest to preclude their participation in professional conferences.

Nevertheless, it is important to eliminate unnecessary conflicts of interest. Health-related advertising in medical journals raises serious conflicts of interest for journal editors and professional societies. At the very least, medical journals should amend their advertising policies to permit advertisements from nonhealth-related companies. Indeed, the journals should look first to nonhealth-related companies for advertising revenues. A strong case can also be made for the position that journals should accept advertisements only from nonhealth-related companies. In particular, for those journals that can cover their costs of publication without health-related advertising, the case for health-related advertisements is very hard to sustain.

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## References

1. Journal advertising creates other ethical concerns in addition to the conflicts of interest concerns that we discuss. For example, expenditures on advertising arguably raise the costs of drugs to patients, creating hardship for poor patients. These other ethical concerns, while important, are beyond our scope.
2. Indeed, at times, journal editors forthrightly confront the concerns raised by journal advertising. *The Annals of Internal Medicine* published an article critical of advertising content. See M.S. Wilkes, B.H. Doblin, M.F. Shapiro, "Pharmaceutical Advertisements in Leading Medical Journals: Experts' Assessments," *Annals of Internal Medicine*, 116 (1992): 912-19. Similarly, the *New England Journal of Medicine* and the *Journal of the American Medical Association (JAMA)* have published articles questioning the influence of advertising on the journal editorial process. See L.A. Bero, A. Galbraith, and D. Rennie, "The Publication of Sponsored Symposia in Medical Journals," *N. Engl. J. Med.*, 327 (1992): 1135-40; and P.A. Rochon et al., "Evaluating the Quality of Articles Published in Journal Supplements Compared with the Quality of Those Published in the Parent Journal," *JAMA*, 272 (1994): 108-13. Still, one cannot conclude that, because journal editors sometimes resist a conflict of interest, they always do so.
3. A striking example of the subconscious influence of a conflict of interest is the commonly observed phenomenon in law that respected attorneys on both sides of a case tend to become truly convinced of the merit of their clients' positions.
4. See "Index to advertisers," *JAMA*, 281 (1999): 2259.
5. In the "Advertising Policy of *Annals of Internal Medicine*," the journal lists several examples of "Unacceptable Advertising." Among the examples are "ads for products and services not directly relevant to the practice of medicine." For the *New England*

*Journal of Medicine*, "all advertising must be clearly germane to the practice of medicine."

6. See *JAMA*, 278 (1997): 696a; and *JAMA*, 278 (1997): 1472a.

7. See *JAMA*, 277 (1997): 688e; *JAMA*, 277 (1997): 770t; and *JAMA*, 277 (1997): 792i.

8. See personal communication with Stuart H. Williams, Director of Advertising Sales, *Journal of the American Medical Association* (Sept. 29, 1998, and June 24, 1999).

9. See Bero, Galbraith, and Rennie, *supra* note 2.

10. See Rochon et al., *supra* note 2.

11. See M. Chren, C.S. Landefeld, and T.H. Murray, "Doctors, Drug Companies, and Gifts," *JAMA*, 262 (1989): 3448-51.

12. See J.A. Clifton and E.J. Huth, "Old Friends Among Our Advertisers," *Annals of Internal Medicine*, 87 (1977): 115.

We do not mean to suggest that journal editors are corrupted, only that they face incentives that go in different directions. For example, take the analogy that may exist with prominent academic faculty who speak at professional conferences on behalf of drug companies. The faculty see themselves as being chosen because of their significant contributions to scholarship, and the companies like to associate themselves with highly respected faculty. Still, we have to worry that the relationship will influence what the faculty say and do.

13. We have presented a hypothetical example in the text, but a recent real example illustrates the possible influence of an editor's personal interests on editorial judgment. Earlier in 1999, during the impeachment proceedings of President Clinton, *JAMA* published an article reporting the views of college students about oral sex. See S.A. Sanders and J.M. Reinisch, "Would You Say You 'Had Sex' If . . . ?," *JAMA*, 281 (1999): 275-77. The article seemed to support President Clinton's claim that he did not lie when he denied having sexual relations with Monica Lewinsky, even though she had performed oral sex on him. Many people felt that the article should not have been published because of its political orientation and the fact that the data came from one university survey conducted eight years earlier. See G. Kolata, "Editor of A.M.A. Journal Is Dismissed Over Sex Paper," *New York Times*, Jan. 16, 1999, at A10. One could easily conclude that those considerations would have led a journal editor who disliked President Clinton to reject the article.

14. See Note, "Facial Discrimination: Extending Handicap Law to Employment Discrimination on the Basis of Physical Appearance," *Harvard Law Review*, 100 (1987): 2035-73; K.M. Kramer and A.B. Mayerson, "Obesity Discrimination in the Workplace: Protection Through a Perceived Disability Claim Under the Rehabilitation Act and the Americans with Disabilities Act," *California Western Law Review*, 31 (1994): 41-72; T.A. Wadden and A.J. Stunkard, "Psychological Consequences of Obesity and Dieting: Research and Clinical Findings," in A.J. Stunkard and T.A. Wadden, eds., *Obesity: Theory and Therapy* (New York: Raven Press, 2nd ed., 1993): 163-77.

15. See D. Hemenway et al., "Physicians' Responses to Financial Incentives: Evidence from a For-profit Ambulatory Care Center," *N. Engl. J. Med.*, 322 (1990): 1059-63.

16. See D. Rennie, "Editors and Advertisements: What Responsibility Do Editors Have for the Advertisements in Their Journals?," *JAMA*, 265 (1991): 2394-96; and P.B. Fontanarosa, R.M. Glass, and P.J. Murphy, Letter, "Bioequivalence of Levothyroxine Preparations: Issues of Science, Publication, and Advertising," *JAMA*, 278 (1997): 899-900.

17. B. J. Dong et al., "Bioequivalence of Generic and Brand-Name Levothyroxine Products in the Treatment of Hypothyroidism," *JAMA*, 277 (1997): 1205-13.

18. See *JAMA*, 277 (1997): flyleaf between 1178h & 1178o;

flyleaf between 1246 & 1247; and K.M. Lankin, Letter, "Bioequivalence of Levothyroxine Preparations: Issues of Science, Publication, and Advertising," *JAMA*, 278 (1997): 897.

19. See Fontanarosa, Glass, and Murphy, *supra* note 16.

20. See M.T. Bramblett, Letter, "Bioequivalence of Levothyroxine Preparations: Issues of Science, Publication, and Advertising," *JAMA*, 278 (1997): 899.

In fact, advertisers may learn about forthcoming articles more through subterfuge than through collusion with journal editors. Nevertheless, the concern here is the *appearance* of impropriety, and episodes like the one involving the thyroid hormone study in *JAMA* contribute to the perception that advertising influences editorial decisions.

21. See R.S. DiPaola et al., "Clinical and Biologic Activity of an Estrogenic Herbal Combination (PC-SPES) in Prostate Cancer," *N. Engl. J. Med.*, 339 (1998): 785-91; and N.R. Slifman et al., "Contamination of Botanical Dietary Supplements by *digitalis lanata*," *N. Engl. J. Med.*, 339 (1998): 806-11.

22. See M.J. Coppes et al., Letter, "Alternative Therapies for the Treatment of Childhood Cancer," *N. Engl. J. Med.*, 339 (1998): 846-47; R.J. Ko, Letter, "Adulterants in Asian Patent Medicines," *N. Engl. J. Med.*, 339 (1998): 847; and F. LoVecchio, S.C. Curry, and T. Bagnasco, Letter, "Butyrolactone-Induced Central Nervous System Depression after Ingestion of RenewTrient, a 'Dietary Supplement'," *N. Engl. J. Med.*, 339 (1998): 847-48.

23. See M. Angell and J.P. Kassirer, Editorial, "Alternative Medicine—The Risks of Untested and Unregulated Remedies," *N. Engl. J. Med.*, 339 (1998): 839-41.

24. See C. Gorton, Letter, "Butyrolactone-Induced Central Nervous System Depression after Ingestion of RenewTrient, a 'Dietary Supplement'," *N. Engl. J. Med.*, 339 (1998): 848.

25. See R. Siegel and L. Wertheimer, "Alternative Medicine," *All Things Considered* (National Public Radio broadcast, Sept. 16, 1998) (Transcript No. 98091613-212).

26. See T.K. Hazlet and S.D. Sullivan, "Professional Organizations and Healthcare Industry Support: Ethical Conflict?," *Cambridge Quarterly Healthcare Ethics*, 3 (1994): 236-56; and K. Leffler, "Persuasion or Information? The Economics of Prescription Drug Advertising," *Journal of Law & Economics*, 24 (1981): 45-74.

27. See J. Avorn, M. Chen, and R. Hartley, "Scientific Versus Commercial Sources of Influence on the Prescribing Behavior of Physicians," *American Journal of Medicine*, 264 (1990): 2409-15.

28. See Wilkes, Doblin, and Shapiro, *supra* note 2.

29. Some would argue that, instead of curtailing health care advertising, we should turn to better education of physicians to ensure that they appropriately weigh the informational value of journal advertisements. It is not clear how successful better education would be at addressing the influence of advertising on physicians' practices. Physicians may come to rely on advertising not because they do not know better, but because it is more time consuming and expensive to seek out more reliable sources of information. In any event, better education is a long-term strategy that cannot address the problems created in the short term by medical journal advertising.

30. See R.L. Kennett and M. Liebman, "Too Tight a Focus in Micromarketing?," *Medical Marketing & Media*, 29, no. 7 (1994): 66. In fact, however, physicians might be influenced more by other sources of information, including the views of trusted colleagues. See D. Orentlicher, "The Influence of a Professional Organization on Physician Behavior," *Albany Law Review*, 57 (1994): 583-605.

31. Material in *Drug Evaluations* was developed as follows: Chapters initially are prepared by the professional staff of the



AMA Division of Drugs and Toxicology on the basis of the current scientific literature. Chapter drafts then are reviewed by distinguished expert consultants (more than 800 participate for the entire text) and by the medical staffs of the pharmaceutical manufacturers whose products are evaluated.

Division of Drugs and Toxicology, American Medical Association, *Drug Evaluations: Annual 1995* (Chicago: American Medical Association, 1995): at iii [hereinafter *Drug Evaluations*].

32. For example, in creating its legal standard for evaluating claims of discrimination on the basis of disability, the U.S. Supreme Court adopted a standard proposed by the American Medical Association (AMA) in its *amicus curiae* brief. See *School Board of Nassau County v. Arline*, 480 U.S. 273, 288 (1987). Similarly, at oral argument in *Patrick v. Burget*, 486 U.S. 94 (1988), Justice O'Connor asked Dr. Timothy Patrick's lawyer what he thought of the standard proposed for the state action doctrine by the AMA.

33. For example, in its discussion of drugs for chronic heart failure in May 1993 and January 1999, *The Medical Letter* advised that patients with heart failure due to left ventricular dysfunction take an angiotensin-converting enzyme inhibitor drug, plus a digoxin and diuretic or plus a beta-blocker. See *Medical Letter*, 35 (1993): at 42 (advising use of a digoxin and diuretic); and *Medical Letter*, 41 (1999): 14 (advising use of a beta-blocker). In contrast, *Drug Evaluations* advised in 1995 that a combination of different drugs is usually required, but did not endorse one particular combination. See *Drug Evaluations*, *supra* note 31, at 687.

Similarly, *The Medical Letter* concluded in 1994 that torsemide "offers no clear advantage over older, less expensive drugs," while *Drug Evaluations* simply advised in 1995 that there has been limited experience with the drug. *Medical Letter*, 36 (1994): at 74; and *Drug Evaluations*, *supra* note 31, at 620.

34. See R.H. Fletcher and S.W. Fletcher, "Pharmaceutical Advertisements in Medical Journals," *Annals of Internal Medicine*, 116 (1992): 951-52.

35. See C. Brown, "Callaway is Prepared to Fight Any Ban on Clubs," *New York Times*, May 23, 1998, at C6.

36. Mark Hall pointed out to us that, in the past, medical journals may have thought there were tax reasons to accept only health-related advertising and to justify such a policy on educational grounds. See Personal Communication with Mark Hall, Professor, Wake Forest University (June 4, 1999). In 1967, the U.S. Treasury adopted a regulation that subjected to taxation the commercial ventures of tax-exempt organizations that were not substantially related to the purposes of their tax exemption. A medical journal might have concluded that it could escape taxation for its advertising if the advertisements were health related. That interpretation was finally foreclosed by the U.S. Supreme Court in 1986. See *U.S. v. American College of Physicians*, 475 U.S. 834 (1986). Tax incentives are not the entire story, however. The nearly exclusive use of health-related advertising can be found in issues of leading medical journals even in the years predating the influence of tax regulations. See, for example, "Index to Advertisers," *JAMA*, 191 (1965): 222. Also, medical journals that are run by for-profit companies have the same advertising policies as journals run by nonprofit professional societies.

Another possible explanation is United States Postal Service (USPS) regulations governing periodicals. The guidelines for nonprofit mailings stipulate, among other things, that any advertisements contained in periodicals have to meet a "substantial relatedness" test, that is, the advertisements accepted have to relate to the nonprofit association's mission. See United States Postal Service, *Nonprofit Standard Mail Eligibility: Nonprofit and Other Qualified Organizations* (Washington, D.C.: Corporate Publishing and Information Management, Publ. No. 417, Oct. 1996):

§§ 6-3.6.1-.62. Although the major medical journals use a different mailing class for their periodicals, and thereby are not restricted by this test, the fact the major medical journals are owned by nonprofits might have had some bearing on how the policy came into being.

37. See *American College of Physicians*, 475 U.S. at 847-50.

38. See *id.* at 849.

39. If medical journals mix health-related and nonhealth-related advertisements, advertising revenue might decline rather than increase. Health-related companies are willing to pay higher fees than other companies will pay, and journals may not be able to sustain a two-tiered fee structure. As a result, the journals might have to lower their fees for health-related advertisements. In addition, health care companies apparently prefer not to advertise in medical journals if nonhealth care advertising is also present, possibly because the other advertising diverts the attention of readers. If health care companies cannot escape competition with nonhealth care companies by advertising in medical journals, they may have an even stronger interest in advertising directly to consumers in lay journals, where nonhealth care advertising already exists. As to whether a drop in revenues from mixing health-related and nonhealth-related advertising justifies a policy of accepting only health-related advertisements, see the discussion below regarding the potential drop in revenues from excluding all health-related advertisements.

40. See J.F. Goldstein, "Of Mugs and Marketing," *JAMA*, 265 (1991): 2391-92.

41. When similar conflicts of interest arise with industry funding, it is often the case that the benefits of the funding outweigh the risks of harm. For example, pharmaceutical companies are a leading source of funding for biomedical research, and the funding creates a conflict of interest for the recipients who conduct the research. Safeguards have developed to limit the risk (including disclosures of the conflicts), and it is generally believed that the public would be worse off if the funding were cut off entirely. Still, each conflict of interest raised by industry funding must be considered on its own terms. The balance of benefits and risks will play out differently in different cases, with benefits sometimes outweighing risks and vice versa.

42. One might argue that it is better to err on the side of too many journals because journal editors will sometimes mistakenly reject a good article. Editorial judgment is not perfect. Having fewer journals will increase the likelihood of a good article being rejected, and patients could lose out on an improvement in therapy. On the other hand, it may be worse to publish a bad article than not to publish a good article. Bad information can lead to dangerous therapies being used and harm being caused to patients. Having fewer journals will decrease the likelihood of a bad article being published, and patients may end up better overall.

43. In other words, the conflict of interest is primarily a conflict for professors reading the journals, whose gratitude for the advertising dollars could influence their choice of textbooks for courses. The difference in advertising for academic journals in other fields probably reflects the fact that they do not have the same opportunities for industry funding as do medical journals. Nevertheless, the important point is that these other fields seemingly are able to publish enough of their fields' research without relying on the same kind of industry funding as received by medical journals.

44. See J.P. Kassirer, Letter, "Pharmaceutical Advertising in the Journal," *N. Engl. J. Med.*, 327 (1992): 1689.

45. See *id.*

46. See A. Zuger, "After Bad Year for A.M.A., Doctors Debate Its Prognosis," *New York Times*, Dec. 2, 1997, at F3.

47. See P. Starr, *The Social Transformation of American Medi-*

*cine* (New York: Basic Books, 1982): at 299–310, 367–70.

48. See Editorial, “The A.M.A.—Deja Vu, Again,” *New York Times*, May 29, 1994, 4-10.

49. See R. Pear, “Inquiry Criticizes A.M.A. Backing of Abortion Procedure Ban,” *New York Times*, Dec. 4, 1998, at A27.

50. See G. Collins, “A.M.A. Seeks to Dismantle Sunbeam Deal,” *New York Times*, Aug. 22, 1997, at D2.

51. See American Medical Association, *SmokeLess States Tobacco Use Prevention Program* (visited July 7, 1999) <<http://www.ama-assn.org/special/aos/tobacco/main.htm>>.