

What is Driving Policies on Faculty Conflict of Interest? Considerations for Policy Development

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There are several factors driving policies on conflict of interest of faculty at academic research institutions in the United States today. The first is that researchers and institutions have a greater number, and a wider variety of financial conflicts of interest, especially in the area of biomedical research. Sometimes, these financial interests appear to lead to very bad outcomes, and when that happens, public scrutiny of the financial interests increases. Sometimes, this leads to new policy.

What is the current state of academic-industry ties in biomedical research? In 2000, the NIH's budget is \$17.8 billion (1), while the pharmaceutical industry's R&D budget is \$22.4 billion (2). Krimsky found that 34 percent of research articles published in the top 14 biomedical research journals in 1992 had undisclosed financial ties of a lead author. These ties included holding a patent on an invention related to the published research, or being on an advisory board or a major shareholder in a company whose activities were related to the published research (3). In a review of Food and Drug Administration (FDA) records, *USA Today* reported that 54 percent of the time, experts hired by the FDA to advise on safety and effectiveness of drugs have a direct financial interest in the drug or topic they are asked to evaluate (4). Therefore, academic-industry ties are now the norm, rather than the exception.

Academic-industry ties have been the apparent cause of bad outcomes, including censorship of data (5, 6), publication bias (7-10), lower quality of research (11), and harm to research subjects, including death (12). Although it is impossible to determine a causal link between financial interest and adverse outcome in individual situations, systematically gathered evidence suggests that, in the aggregate, academic-industry ties can have adverse effects on the scientific process and outcome in the aggregate (13).

One bad outcome in particular has led recently to public scrutiny and re-examination of policies on conflicts of interest—the death of Jesse Gelsinger, who was a research subject in a Phase I clinical trial of gene transfer at the University of Pennsylvania (12). Much attention focused on the financial ties of investigators and the investigators' institution with a company that was, in part, sponsoring the trial. Although, again, it is impossible to prove that there was a causal link between the financial ties

and the death of Mr. Gelsinger, it was a link that was inevitably made, time and again. A quote from a recent newspaper article sums up the public perception:

Paul Gelsinger, Jesse's father, said yesterday he had undergone a painful change of heart in the year after his son's death, at first fully trusting the researchers and holding them blameless and then gradually, as disclosures of apparent wrongdoing emerged, concluding that he had been duped by scientists who cared more about profits than safety. (14)

After Mr. Gelsinger's death, the National Institutes of Health (NIH) held a public meeting this year to re-examine some aspects of conflict of interest policy, and several professional organizations, including the National Academy of Sciences, the American Association of Medical Colleges (AAMC), and Association of Academic Health Centers (AHC), the American Association of Universities (AAU), and the American Association of University Professors have all assembled internal groups to do the same.

What are the current policies on faculty conflict of interest?

Current policies on faculty conflict of interest exist at several levels, including Federal, state, institutional regulations, editorial policies at research journals, and statements by professional societies. All are limited, however, in different ways. The most widespread Federal rules include the "Objectivity in Research" regulations (15). These are applicable only to researchers who apply for research funding from the National Science Foundation and the Public Health Service (PHS), which includes the NIH. These regulations are limited to disclosure of financial ties that could be construed to affect the publicly-funded research, and to financial ties that exceed \$10,000 annually or 5 percent equity interest. Thus, financial ties in the context of industry-funded research, where more serious conflicts of interest might be found, are not covered under these regulations.

In addition to Federal regulations, there are state laws that might apply to faculty at public institutions. For example, some states prohibit or require full disclosure of gifts to public employees, which include faculty of state universities. These state laws often do not apply to private universities, and are not uniform from state to state.

Institutional policies are mandated by the Federal regulations, which require that institutions whose faculty apply for PHS or NSF funding develop and implement their own written rules for faculty conflicts of interest. These institutional policies must conform to, but need not be limited to, Federal regulations. Indeed, the majority of institutional policies go beyond Federal regulations in scope and management of conflicts of interest, but most do not state specific limits on financial interests, even when in conjunction with company-sponsored research (16). Most of these policies imply or state that conflicts of interest are dealt with on a case-by-case basis, and seem to rely heavily on disclosure as a primary mechanism for dealing with conflict of interest.

Some research journals have developed policies that require disclosure of authors' financial interests to editors and reviewers. However, such disclosures often do not surface on the pages of the published articles, so their effects are limited (Krimsky, this volume).

The AAMC, AHC, and the AAU created guidelines for faculty conflict of interest long ago (17-19), and although they thoughtfully outline policy considerations, they are not specific and are not enforced. Finally, in the wake of Jesse Gelsinger's death, two professional societies (the American Society of Gene Therapy and the American Society of Human Genetics) have put forward statements that faculty having financial interests in companies sponsoring their gene transfer research is inappropriate and should be avoided (20, 21). These statements only apply to gene transfer research, however, and also have no enforcement power.

What should we do about conflicts of interest?

The answer to the question, "what do we do about conflicts of interest?" depends upon the answers to the questions, "what is conflict of interest?", "what is the primary interest of academic institutions and the government?", and "what are the secondary interests we are concerned about?"

What is conflict of interest? Opinions are diverse. Many make the distinction between "actual" and "potential" conflicts of interest. Others call it scientific misconduct (22). Depending on how one defines conflict of interest, one may be led to base policy on

evidence of bad outcomes or on ethical or professional values. We define conflict of interest as the co-existence of a primary interest or duty (such as research integrity, patient welfare, or education) and a secondary interest (such as financial gain or recognition) (23). The policy concern is that the secondary interest exerts undue influence on the judgements made in the course of executing the primary interest, leading to adverse outcomes (such as research bias or adverse effects on research subjects).

It is important to remember that conflict of interest rules are activated in the absence of a “crime” (24). Stark likens them to speed limit laws. In contrast to laws against murder, which are aimed at activities that, in themselves, are deemed immoral and are not in the public interest, speed limit laws are aimed against conditions that predispose to the activities that are not in the public interest. So, while driving at 70 miles per hour may not in itself be wrong in the way that murder is wrong, high-speed driving may enhance the chances of causing harm to others. Some drivers might be quite capable of avoiding crashes at even 200 miles per hour, but because it would be difficult and impractical to determine who they are and whether they are so capable under all circumstances, the laws are aimed at preventing the situation rather than particular outcomes. However, there may be certain speeds that would be considered “reckless” in almost any circumstances, and thus immoral—and there may be analogous financial interests.

However, there is an important difference between speed limit laws and conflict of interest regulations, in that speed limit laws apply to everyone, whereas conflict of interest laws apply to groups that have a fiduciary relationship to the public, such as public officials or professionals. This distinction is important, because it means that there are reasons to set the rules by criteria other than probability of harm to the public, namely in order to earn or preserve the right to occupy the special position in society (25).

This definition of conflict of interest implies that there can be no distinction made between “actual” and “potential”. The conflicting interests simply either exist or they do not. They are, in themselves, not scientific misconduct, although they may lead to misconduct. The current definition of scientific misconduct carries with it the notion of wrongdoing with intent (26), which is based on the proven existence of a bad

outcome, and is therefore incompatible with a definition of conflict of interest that is based on the characteristics of a situation rather than the outcome.

What is the primary interest? Lack of clarity about the primary interests of researchers and their institutions will lead to bad policy, because one of the points of having the policies is to protect the primary interests. So, the question is, what are the roles of academic institutions and the government in the conduct of science? The passage of the Bayh-Dole Act gave the government a new role in academic research, namely, “to promote the marketing of inventions developed under federally supported research and development projects by nonprofit organizations and small business firms.” (27)

Government specifically encouraged academic institutions to be involved in the marketing of inventions. Universities have taken this encouragement to heart, “... shifting from ivory tower to revving economic engine.” (28) The new role of universities as economic engines leads to expectations that they create jobs and even whole industries. In fact, the government has implicitly adopted the values of the business world, where money is an incentive for employees to work in the interests of shareholders. In this model, the secondary (financial) interest is considered to be in alignment with the primary interest, rather than acting as a competing interest. By contrast, the model of professionalism says that the Bayh-Dole Act and related legislation specifically put not only faculty but institutions in a position of conflict of interest. If academic institutions and their faculty are expected to add economic goals to their primary missions, can those institutions be expected to be effective at developing and enforcing conflict of interest rules for their faculty? This seems to be a dangerous thing to ask.

We must be clear about whether academic institutions should take on economic health as a primary interest. We must also be clear about whether we are concerned only with or more concerned about certain kinds of primary interests. For example, is only federally-funded research of concern, or all research? That is, should policies be directed only at interests that conflict with government-funded research, or should they also be directed at interests that conflict with industry-funded activities, too? Finally, we should also ask whether clinical

research is of more concern than other research. There are good ethical reasons to distinguish research that involves human subjects from other research, primarily that human subjects are subjected directly to risks from the research itself.

What is the secondary interest? Lack of clarity about the secondary interests that are of concern will also lead to bad policy. Current regulations focus on financial interests, rather than other, less-tangible interests such as academic recognition and fame, or personal ties. This is appropriate for the time being, not because the intangibles are less damaging, but because the financial interests are avoidable and because avoiding them is consistent with the role of a professional, and enhances public trust. Financial interests have also increased to a high level and are deserving of attention merely because of their frequency. Furthermore, those who point to the unfairness of concern about financial interests seem to imply that financial interests merely replace the non-financial interests, so that there is no need for special consideration of the financial interests. However, the literature suggests that the effect of financial interests on biomedical research can be detected as an independent factor, above the background “noise” of the want for academic recognition and fame (assuming that it exists uniformly among researchers).

There is less clarity about what specific kinds of financial ties are of concern. Current regulations focus on personal financial ties such as consulting fees, honoraria, royalties and equity holdings. They generally do not consider company-sponsored research per se to be a conflict of interest, but a growing body of literature suggests that industry sponsorship in itself biases research and publication (7-9, 13, 29).

How do we manage conflicts of interest?

Standard methods of managing, or mitigating, conflicts of interest include (1) disclosure (e.g., publication of a secondary interest), (2) mediation (e.g., a blind trust, which puts a secondary interest under the control of a third party, or oversight, which puts a primary interest under the review or control of a third party), (3) abstention (e.g., recusal from a primary interest), (4) divestiture (e.g., removal of a secondary interest), and (5) prohibition (e.g., permanent withdrawal from a whole category of

secondary interests) (23). At first glance, these five methods seem to be organized smoothly along a continuum of stringency. However, closer examination reveals that there is actually a qualitative difference between these strategies, because they are based on different assumptions.

In theory, all of these methods act by modifying the conflict of interest situation through either the primary or secondary interest. However, disclosure is distinct from all the other methods. It is supposed to act not by virtue of supplying information to the disclosee, but because the release of this information is supposed to make the discloser more aware of the potential effects and thus affect the discloser’s behavior (24). Clearly this is a weak method because of its indirectness. In practice, the information rarely gets out to a wide audience, and the discloser knows it, limiting effectiveness. More importantly, this method allows the discloser to feel that the act of disclosing has let him or her off the hook, and places the burden of management on the disclosee. Stark points out that disclosure is based on a model where the role of the discloser is as an “agent”, or delegate, rather than a trustee. By this model, the disclosee is assumed to have a large degree of control over the activities of the discloser.

In contrast, the other management methods are based on a trustee or fiduciary model. By this model, the disclosee is assumed to have little control over the activities of the discloser and therefore depends on the discloser to act in the best interests of the disclosee. Mediation and abstention carry with them the notion that the fiduciary position is a role that can be filled by interchangeable individuals. That is, the protagonist can be replaced by a third party such as an oversight committee or another researcher. Divestiture and prohibition imply that the protagonist is not replaceable, and therefore the mitigation of the conflict of interests requires removal of the secondary interest.

How we deal with conflicts of interest depends on how we view the players. Are researchers delegates or trustees? People who hold elected public office may better fit the delegate or agency model, since the public has the power to remove them from office if their performance is unsatisfactory. Researchers, however, are more like trustees (especially clinical researchers) because it is understood that the public supports their training and activities to

perform tasks that others are not qualified to perform, and the public is not in a strong position of control over these activities. The professional role of scientists and clinicians is fiduciary in nature, and requires that public interests be placed ahead of self-interest.

How we deal with conflicts of interest also depends on how broadly we define the interests and the conflicts. The goal of academic-industry ties is to maintain the ability to conduct good science and to enhance technology transfer for public good, while preserving research integrity (including the direction of research) and, in the case of clinical research, protecting human subjects from harm. In order to achieve any of these goals, it is essential to maintain the public trust and a sense of professionalism, in the original sense of the word (25, 30, 31), which includes strong self-regulation (32).

Recommendations for policy development

What are the implications of these definitions of interests and conflicts of interest for policy development? First, conflicts of interest should be defined by characteristics of situations, rather than by outcomes. This allows taking into account professional values as well as evidence that certain situations tend to lead to bad outcomes. Second, we should not rely on disclosure as a primary mechanism for mitigating conflicts of interest. Instead, we should acknowledge that researchers have professional responsibilities that are fiduciary in nature. As trustees, they should be trustworthy. Third, institutions should remember that institutional interests play a role in individual conflicts of interest, as well as the administration of policies about individual conflicts of interest. Therefore, institutions should not use policies only as administrative tools, but also as mechanisms for communicating institutional values to the public (24, 31), because the nature of professionalism is to profess a vow to place the interests of the public above self-interest (33). The goal is to provide reassurance to the public that the institutions have also accepted their fiduciary role.

Bibliography

1. National Institutes of Health, About NIH: Overview, . 2000.
2. Pharmaceutical Research and Manufacturers of America, Pharmaceutical Industry Profile 2000, . 2000.
3. Krinsky, S., et al., Financial interests of authors in scientific journals: a pilot study of 14 publications. *Science and Engineering Ethics*, 1996. 2: p. 395-410.
4. Cauchon, D., FDA advisers tied to industry., in *USA Today*. 2000. p. 1A.
5. Kahn, J., et al., Evaluation of HIV-1 Immunogen, an immunologic modifier, administered to patients infected with HIV having 300-549 x 10⁶/L CD4 cell counts: a randomized controlled trial. *JAMA*, 2000. 284: p. 2193-2202.
6. Rennie, D., Thyroid storm. *JAMA*, 1997. 277: p. 1238-1243.
7. Cho, M. and L. Bero, The quality of drug studies published in symposium proceedings. *Annals of Internal Medicine*, 1996. 124: p. 485-489.
8. Davidson, R., Source of funding and outcome of clinical trials. *J Gen Intern Med*, 1986. 1: p. 155-158.
9. Rochon, P., et al., A study of manufacturer-supported trials of nonsteroidal anti-inflammatory drugs in the treatment of arthritis. *Arch Intern Med*, 1994. 154: p. 157-163.
10. Stelfox, H., et al., Conflict of interest in the debate over calcium-channel antagonists. *New Engl J Med*, 1998. 338: p. 101-6.
11. Rochon, P., et al., Evaluating the quality of articles published in journal supplements compared with the quality of those published in the parent journal. *JAMA*, 1994. 272: p. 108-113.
12. Weiss, R. and D. Nelson, Teen dies undergoing experimental gene therapy., in *Washington Post*. 1999: Washington, DC. p. A1.
13. Blumenthal, D., et al., Withholding research results in academic life science. *JAMA*, 1997. 277: p. 1224-1228.
14. Weiss, R. and D. Nelson, Penn settles gene therapy suit., in *Washington Post*. 2000: Washington, DC. p. A4.
15. U.S. Department of Health and Human Services, Objectivity in Research, 45 CFR 94, 1995, U.S. Government: Federal Register. p. 35810.
16. Cho, M., et al., Policies on faculty conflicts of interest at US Universities. *JAMA*, 2000. 284: p. 2203-2208.
17. AAMC Ad Hoc Committee on Misconduct and Conflict of Interest in Research, Guidelines for faculty involvement in commercially supported continuing medical education. *Academic Medicine*, 1992. 67: p. 617-621.
18. AHC Task Force on Science Policy, Conflicts of interest in academic health centers policy paper #1, 1990, Association of Academic Health Centers: Washington, DC.
19. AAU Clearinghouse on University-Industry Relations, University policies on conflict of interest and delay of publication, 1984, American Association of Universities: Washington, DC.
20. The American Society of Gene Therapy, Policy on Financial Conflict of Interest in Clinical Research. 2000.
21. The American Society of Human Genetics, Statement on Gene Therapy. 2000.
22. Bodenheimer, T., Conflict of interest in clinical drug trials: A risk factor for scientific misconduct. 2000: Bethesda, MD.

23. Thompson, D., Understanding financial conflicts of interest. *New Engl J Med*, 1993. 329: p. 573-6.
24. Stark, A., Conflict of interest in American public life. 2000, Cambridge, MA: Harvard University Press. 271.
25. Buchanan, A., Is there a medical profession in the house?, in *Conflicts of interest in clinical practice and research*, R. Spece, D. Shimm, and A. Buchanan, Editors. 1996, Oxford University Press: New York. p. 105-136.
26. Office of Science and Technology Policy, Fact Sheet: Research misconduct - A new definition and new procedures for federal research agencies. October 14, 1999.
27. US Senate, University and Small Business Patent Procedures Act, in Bill S. 414. 1979.
28. Goldberg, C., Across the US, universities are fueling high-tech booms., in *New York Times*. 1999: New York. p. A1.
29. Blumenthal, D., et al., Participation of life-science faculty in research relationships with industry. *New Engl J Med*, 1996. 335: p. 1734-39.
30. DeAngelis, C., Conflict of interest and the public trust. *JAMA*, 2000. 284: p. 2237-2238.
31. Korn, D., Conflicts of interest in biomedical research. *JAMA*, 2000. 284: p. 2234-2237.
32. Rothman, D., Medical Professionalism — Focusing on the Real Issues. *New Engl J Med*, 2000. 342: p. 1281-6.
33. Wynia, M., Medical professionalism in society. *New Engl J Med*, 1999. 342: p. 1612-1616.