POLICY FORUM: SCIENCE AND BUSINESS

Conflicts of Interest—Moving Beyond Disclosure

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Research universities and their faculty have no dearth of motivation for facilitating interactions with for-profit companies. Patenting and licensing of inventions are usually necessary steps in converting basic science discoveries into useful products. Faculty involvement in consulting and launching start-up companies can stimulate local economies. These activities can bring substantial income to universities and their faculty. Furthermore, companies bring much more than money to the table; they bring expertise, compounds, proprietary technology, and well-organized teams of scientists to bear on problems that would be difficult to solve in a university setting or inappropriate for graduate students.

However, these opportunities are accompanied by hidden dangers to the research university. Questions can arise regarding a professor's use of university-paid time and facilities for engagement in for-profit activities. Faculty are understandably annoyed when duties of a commercially entangled colleague fall on their shoulders. Students may wonder whether their projects are assigned because they are scientifically the most interesting or beneficial to their training, or perhaps instead because the results are expected by the company their faculty mentor consults for or owns. Finally, commercial arrangements can threaten the fabric of free inquiry, open discussion, sharing of materials, and prompt publication upon which academic research and graduate education are based.

The Howard Hughes Medical Institute (HHMI) has developed policies to strike a balance between minimizing potential distractions and conflicts from commercial entanglements and enabling its scientists to interact productively with companies. The first key feature of these policies is a 5% limit on the equity a scientist can hold in a company for which he or she consults. This is the same threshold at which the NIH deems an investigator's interest to be "significant" (*1*). This limitation to the level of involvement also applies when an investigator participates in the formation of a start-up company.

Second, HHMI prohibits its scientists from both consulting for and collaborating with the same company. This provision is designed to prevent a blurring of boundaries between the work of the company and the work of the scientist's university laboratory. Enforcement is challenging because companies want access not just to the scientist's ideas, but also to technologies, ideas, and discoveries made by the entire research group.

Finally, HHMI strives to ensure that consulting and collaboration arrangements do not intrude on the scientist's research autonomy. The scope of the interaction must be delineated, so that the company is not misled into thinking it has bought unlimited access to the investigator and his or her laboratory. Precommitment of future intellectual property rights and milestone payments for specific research accomplishments are avoided, as such arrangements can provide the wrong sort of incentive for research to proceed in a particular direction. The right to publish is protected, with at most a 90-day delay allowed for patenting. Agreements must include a termination clause that allows either the investigator or the company to discontinue the relationship if they find it overly intrusive or insufficiently useful.

Although HHMI's policies resemble those of many research universities, the greater difference lies in their implementation. HHMI requires that every agreement with a commercial entity, including consulting agreements, must conform to the policies and be approved by HHMI before being signed by the scientist. Disclosure of already signed agreements, which currently provides the basis for managing conflicts of interest at medical schools and research universities (*2*, *3*), is a bit like bolting the barn door after the horse has fled. Faced with a legally binding contractual agreement in place and an investigator who is already engaged in an exciting interaction with a company, the institution is under pressure and has limited options. Prohibiting the investigator from participating in a research project or in a clinical trial remains an option, but one infrequently imposed. Not surprisingly, negotiation of acceptable terms is much more easily accomplished before a contract is signed!

The cost of implementing an equivalent process for a research university would include supporting a sufficient number of trained staff to review, negotiate, and approve contractual agreements in a timely manner, which would require a modest increase in personnel at most institutions. To keep up with activities of its nearly 350 investigators, HHMI processed approximately 600 inbound Materials Transfer Agreements (MTAs), 50 collaboration agreements with industry, 150 consulting agreements, and 65 licenses in the last fiscal year. This required the efforts of three full-time lawyers, a half-time intellectual property manager, and two full-time administrative support personnel. Most research universities already review all inbound MTAs from industry and negotiate licenses and sponsored research agreements. Thus, prior review and approval of consulting agreements, which would require less than one full-time employee at HHMI, is the only major activity that is not already being handled by most institutions (*4*).

It is true that a research university's change in policy regarding prior review and approval of consulting arrangements could prove unsettling to faculty unaccustomed to this type of scrutiny. Consulting arrangements are often sensitive matters, because they involve faculty members' personal finances. Nevertheless, HHMI investigators have generally accepted this regime without complaint, in part because the rules are so uniformly applied and, in many cases, because the rules reinforce their own desires to keep their entrepreneurial activities at a level that will not threaten the health of their research program.

Considering the expense and potentially adverse faculty reaction, why should a medical school or research university impose strict conditions on consulting arrangements and require their prior review and approval? Engendering public confidence in the academic enterprise and, especially where clinical trials are concerned, minimizing liability provide two powerful incentives (*5*, *6*). Beyond those, however, let us not lose sight of the most fundamental motivation: the best research and teaching are done in an environment that minimizes extrinsic inducements and nurtures free inquiry and broad dissemination of information.

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References and Notes

1. 42 C.F.R. § 50.603(5).
2. M. K. Cho, R. Shohara, A. Schissel, D. Rennie, *JAMA* **284**, 2203 (2000).
3. S. V. McCrary *et al.*, *New Engl. J. Med.* **343**, 1621 (2000).
4. In 1995, 34% of HHMI's 286 investigators were engaged in consulting; 5 years later, 56% of its 346 investigators are engaged in such activities. (Because HHMI requires prior review and approval of all compensated service for companies, regardless of the level of involvement, these statistics include everything from 1-day seminars to arrangements that provide for up to 36 days per year of consulting, cash compensation, and stock ownership.) A comparable rise in "positive disclosures" has been noted for University of California at San Francisco investigators over the past 5 years [E. A. Boyd, L. A. Bero, *JAMA* **284**, 2209 (2000)].
5. D. Korn, *JAMA* **284**, 2234 (2000).
6. C. D. DeAngelis, *JAMA* **284**, 2237 (2000).