



NIH Report Urges Greater Emphasis on Training for All Graduate Students

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PROFESSIONAL DEVELOPMENT

NIH Report Urges Greater Emphasis on Training for All Graduate Students

It's a familiar complaint: Academic researchers intent on cranking out another paper and obtaining their next grant sometimes see their students as little more than another pair of hands rather than as scientists in training. Now comes a new report that attempts to redefine the goals of graduate and postdoctoral training and prods biomedical scientists to become better mentors. Similar exhortations have been made before, but the report comes from an organization with significant financial clout: the flagship training institute at the U.S. National Institutes of Health (NIH).

A training program should give students the skills to not only follow their adviser into academia but also pursue a variety of scientific career paths, says the report, written by an in-house committee at the National Institute of General Medical Sciences (NIGMS) and approved last week for dissemination by the institute's advisory council. It reminds faculty members that they have a duty to help create a more diverse workforce. It also emphasizes that those on research grants, the most common means of NIH support for graduate students (see graph), deserve mentoring that is just as good as what is offered students on institutional training grants and fellowships.

The 28-page strategic plan (www.nigms.nih.gov/Training/StrategicPlan.htm) doesn't spell out how to accomplish those goals, however. And the initial reaction from council members suggests that many researchers and their institutions may resist changing their behavior if they think the proposed changes will hinder their research productivity.

One major concern from the council is that the new approach could change how NIH scores grant applications, especially the bread-and-butter R01 grants for individual investigators. "The goal of a R01 is to discover new knowledge," asserted Vern Schramm, a biochemist at Yeshiva University's medical school in New York City, in kicking off the discussion at last week's meeting. "This would expand it to include education and learning. Would those now become review criteria for study sections?" he wondered.

Schramm's comment triggered an avalanche of related questions. Some council members wondered whether the metrics for assessing the quality of training might be different from those used to weigh scientific progress: papers, presentations at meetings, and the like. Others asked if grantees might

at some point be held accountable for career choices students make for personal reasons. Some saw the report's call for a formal annual evaluation—called an individual development plan (IDP)—as an additional burden on already overstressed faculty members.

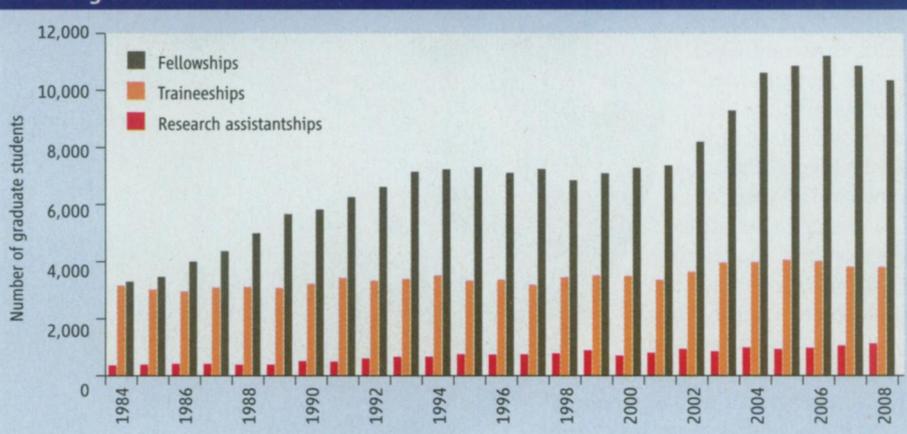
NIGMS Director Jeremy Berg, who spearheaded the effort to draft the plan, told Schramm, "We don't intend that to be the outcome." He estimated that the average faculty member would devote "1 hour per trainee per year on an IDP, which is hardly excessive." Berg said his goal is to improve how students are trained without making the process too cumbersome: "We don't want to burden those people who are already doing a good job and continue to miss those who aren't. We need to find the sweet spot."

out and end up working at Walmart because they couldn't stand the pressure of the lab." And Denise Montell of Johns Hopkins University School of Medicine in Baltimore, Maryland, cautioned Berg "to be careful not to discriminate against women, who are more likely to leave to raise a family."

A few members saw the strategic plan as an opportunity to consider even more radical changes in how NIH supports the preparation of the next generation of biomedical scientists. "Have you thought of taking all the postdocs off R01s and putting them on training grants?" asked James Stevens of Lilly Research Laboratories in Indianapolis. "And anyone who wanted to be a research associate would be hired as an employee." He said the change would separate those preparing to become independent investigators from people who prefer a different status within the field. "It would also force graduate students to think earlier about what they want to do after graduation."

Helen Sunshine, head of the institute's

Training the Next Generation



Becoming a lab rat. Graduate students in the biomedical sciences are much more likely to be supported on research grants than on traineeships and fellowships.

But Berg says faculty members need to recognize that many of their students "may not want an academic job" and that those who end up with jobs in industry, government, public policy, communications, or a number of other fields that draw upon their academic training should also be considered successes. "We need to remove the pejorative aspect of the term alternative careers," he says.

Some council members praised the thrust of the report even as they noted that the devil lies in the details. "I really like the idea of an evaluation of the training component of an R01," said Carolyn Bertozzi of the University of California, Berkeley, a Howard Hughes Medical Institute investigator. "But I'm wondering about how to include those who drop

Office of Scientific Review, admitted that broadening the criteria for a successful outcome would require reviewers to see training in a new light. And the transition might be difficult, she acknowledged. "What if an applicant on a T32 [training grant] that you were reviewing said, 'After I finish my degree, I hope to teach at a predominantly undergraduate college without a strong research program, or go into scientific publishing?' How do you think that proposal would fare?"

At the same time, she reassured council members that NIH is a creature of the community it serves. "The reviewers come from the same background as you do. ... It's a question of [achieving the right] balance."

—JEFFREY MERVIS