

Volume 3 | Issue 23 | Page 21

by John Lauerman

PROFESSION

New Strategies Emerge In Competition For Federal Grants

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You can't take federal funding for granted anymore. That's what an increasing number of scientists find out when they send proposals to the National Institutes of Health and the National Science Foundation, where the percentage of reviewed grants awarded has dropped considerably over the past 10 years.

Latest NIH figures show that the agency's award rate has dropped from more than 50% to just over 35% since 1979, while NSF has an award rate of slightly under 30%. Meanwhile, although appropriations have kept pace with inflation, the number of researchers applying for awards each year has increased by 18% at NSF and 14% at NIH since 1984.

Yet, many scientists prefer to apply for federal funding rather than for grants from industry or private foundations, in part because federal sources tend to beef up their largess by tacking on as much as 33% the value of the grant for administrative costs, often called "overhead." Industry and private funding institutions usually supply considerably less financial support—or none at all—for this purpose.

The competition has heated up, therefore, and scientists scrambling to stay in the federal pipeline are having to be more innovative and more aggressive in getting their hands on information that will help them succeed in the pursuit of funding from federal agencies:

" More scientists are enrolling in grantsmanship workshops or getting advice from English professors at their universities in an attempt to improve their proposal-writing skills.

" At the suggestion of grantsmanship experts, some scientists are trying to make personal contacts at federal funding agencies, in order to learn more about the review process and tailor their proposals accordingly.

" Some funding seekers are serving three-month terms on study sections—a move that stands to improve one's proposal writing.

Some have secured awards by directing their proposals to institutes at which funding standards are less stringent.

". And a growing list of publications are geared to help scientists follow federal funding and appropriations patterns in the nation's capital.

Joseph Bieron is a good example of the assertive pursuer of federal support for his research. A chemistry professor at Canisius College in Buffalo, Bieron solicits advice on proposed writing from members of his college's English department, and he requests copies of successful proposals from colleagues inside and outside his institution. He also attends grantsmanship workshops. "I'm not a very good writer," Bieron says, "but, luckily, technical writing something you can work at." In addition, the chemistry professor says he routinely makes preliminary calls to NSF and other foundations before submitting grant requests, and he has often implemented suggestions from officials at funding agencies when putting his proposals together. Bieron suggests the practice to aspiring proposal writers in a course he's designed for other grant seekers at Canisius College.

According to David Bauer, director of grants management and extramural funding at the University of Rochester School of Medicine and Dentistry and author of *the How To Grants Manual* (2d ed., New York, Macmillan, 1988), researchers can increase the likelihood of their proposal's success 300% by making contact with federal officials before starting to write. NIH and NSF officials welcome the calls, according to *Federal Grants and Contracts Weekly*, one of the many publications scientists can use to help themselves prepare grants (see box).

Although preliminary calls are becoming more common, most proposal writers stop short of calling study-section members, who ordinarily review federal grant proposals anonymously. When proposals are sent back to researchers for revision, study-section members' comments appearing on the accompanying evaluation form—commonly referred to as the "pink sheet"—are routinely used by the investigators as a guide to proposal revision.

According to an official from the National Heart, Lung, and Blood Institute, more than 25% of grant proposals reviewed by the institute are revised, meaning that one fourth of the proposal writers had to follow suggestions on the "pink sheet," many for the second or third time.

One researcher broke with tradition and took the step of contacting members of an NIH study section to ask for help in rewriting his grant, because he felt the "pink sheet" did not make constructive suggestions. But is it wise to make contact directly with a reviewer?

The applicant, a Harvard Medical School pathology researcher, says he knew he was taking a risk when he dialed the number. “The reviewers could have been angry,” he says, “because you’re calling them personally about what’s supposed to be an anonymous review.” Nevertheless, he believes his grant to study immune system regulation at the genetic level was funded because of the phone call. “They’re trying to fund good grants, and all I was trying to do is make mine a good grant,” he says.

But other scientists disapprove of this tactic. Anyone who would contact a reviewer “is clearly someone who does not understand the system,” says Melvin Glimcher, an orthopedics professor at Harvard who served for 16 years on an NIH study section. Calling a study-section member “might be a good way to get your proposal thrown out,” he adds. Glimcher says no one has ever attempted to contact him about a grant under review.

Ann Kennedy, Richard Chamberlain Professor of Research Oncology at the University of Pennsylvania, has never had a federal grant application rejected, and has had to revise only one proposal, which eventually was funded. She attributes her success in part to having served on an NIH study section at the age of 28.

Although the time commitment was immense, “I learned a tremendous amount,” she says. “I would recommend the experience to anyone who wants to improve their grant-writing ability.”

Certain proposal-writing mistakes are common to various scientific disciplines. For instance, many researchers studying cancerous transformation propose to look for events that cannot be reliably observed in mass populations, Kennedy says. She attributes her ability to later write successful-grants to an awareness of pitfalls such as this one.

A hard part of the learning experience was seeing the desperation of scientists whose funding requests had been denied, she adds: Researchers sometimes blamed study-section members for the collapse of their careers.

Kennedy recalls proposals that contained tag lines such as, “Your failure to fund my last proposal has cost me all my trained personnel. If this proposal is not funded, it will mean the end of my career.” This does not help the proposal’s case, she says, nor would she consider as helpful any effort to make personal contact with study-section members. Calling a reviewer might antagonize him or her, the Penn professor says, and “it’s possible that only one unhappy member could make the difference between getting the grant and losing it.”

On the other hand, Kennedy says, one of the effective strategies she learned while working on the section was that researchers can improve their success by paying greatest attention to the funding patterns of institutes to which they direct their proposals.

For example, NIH study sections give each grant application a ranking between 1 and 5, with 1 representing a proposal with the highest merit, and 5 signifying the opposite. Kennedy noticed that some institutes funded grants that were ranked as poorly as 2, while at others, where more researchers competed for fewer dollars, the cutoff for funding might be a ranking of 1.1.

“I once suggested to two of my colleagues that they switch their proposals from the Institute of General Medical Sciences to the Institute of Environmental Health Sciences, because of the difference in the cutoff ranking for funding,” she recalls. “Both of them were able to get the money they were looking for.”

Up-to-date information on such statistics can be obtained from Federal Grants and Contracts Weekly, as well as from “The Blue Sheet,” Biomedical Sciences Report, and Washington Fax. Although these publications are directed at institutional offices administering sponsored research, a growing number of scientists are taking interest in the information offered by these publications.

“It’s difficult to keep up with different research initiatives,” says Ken Mann, professor and chairman of biochemistry at the University of Vermont. He recently filed a grant application with NSF after reading about a request for proposals in one of these grant publications. Such newsletters “have been very useful for identifying grant support lines,” he says.

Washington Fax editor and publisher Bradie Metheney attributes the success of his six-month-old, two-sheet newsletter, which is delivered by fax to subscribers, to the increased pressure on research institutions to secure federal funding.

News about trends in federal appropriation of research dollars can be invaluable. To maintain a funding level that will enable them to generate the data needed to be successful in their next round of funding, grant seekers are looking for any kind of edge.

“You have to,” says the Harvard pathology researcher who has resorted to contacting study-section members, “because once you falter, there’s no recovery.”

John Lauerma is a freelance science writer based in Brookline, Mass.

[Return to top](#)