NIH Pays a Price for "Stability"

NIH's commitment to funding 5000 new grants is compromising other research programs

Ask any biomedical scientist to identify the most ideal characteristic of federal funding and the likely answer will be "stability." The one feature that is essential to the vigor of their work, scientists tend to agree, is a dependable level of support from the National Institutes of Health (NIH) year after year. Ask how that money should best be spent and again the answer is consistent—the investigator-initiated research grant. These grants to individual scientists are, as Nobel laureate Howard Temin has called them, "the engine that drives the research enterprise."

So it was considered something of a political coup in 1980 when Donald S. Fredrickson, then director of NIH, persuaded Congress and the Carter Administration to protect the biomedical science base by promising to fund a minimum of 5000 new grants a year. Under this plan, NIH would be guaranteed enough money to fund about one-third of the new and competing* grants that win peer review approval in any given year. A victory in the drive to "stabilize" basic research funding had been won.

Now, just 3 years later, the costs of that victory are becoming apparent: within the NIH's present budget, there is no way to pay for those precious 5000 new and competing grants without taking substantial chunks of money away from other activities, including research centers' programs, where developments in basic science are tested at the bedside, and clinical trials for the evaluation of new therapies on large patient populations. At a recent meeting of the Director's Advisory Committee (DAC), NIH director James B. Wyngaarden said with certain understatement, "It is important to note that the NIH may be approaching limits for stabilization beyond which the policy as now formulated would be counterproductive."

In the process of preparing the budget for fiscal year 1984, which President Reagan sent to Congress in January, Wyngaarden tested the waters on stabilization with an NIH proposal to fund only 3676 new and competing grants within a total budget request of $4.077 billion (a mere $72 million increase over the budget for 1983). But in the final days of budget preparation, the Office of Management and Budget (OMB) said "No." A promise was a promise, OMB officials said, and NIH would have to honor stabilization and stick with the 5000 figure. OMB also said it would have to do so by staying within the $4.077 billion total. That meant that with only a couple of days turn-around time to meet OMB's deadline, NIH had to pare some $140 million from other programs to come up with the estimated $623 million it will take to support 5000 new grants.

Marjorie Sun

James B. Wyngaarden

Obliged to defend the budget to Congress.

Cuts were made in conspicuous areas that NIH fervently hopes Congress will restore. Support for 51 of 320 specialized research centers would be terminated under the revised NIH proposal, unless the congressmen from the areas with centers on the hit list fight back. Research training funds would drop $9.7 million from the original request, a loss of 890 slots for young scientists. The budget for arthritis research, a politically hot item these days, was revised downward. And plans are in the works to "renegotiate" funding levels for many existing grants down about 6 percent, while chopping 10 percent off the funding levels that peer reviewers recommend for many of the 5000 new awards.

It is no surprise that the sorry state of the NIH budget has been a source of anxiety to biomedical researchers, who have been further bewildered by Wyngaarden's defense of the 1984 proposal before the Congress. They don't understand how an NIH director, especially one like Wyngaarden who grew up in the tradition of a strong and prosperous NIH, can publicly go around putting a good face on things.

During the past couple of months, Wyngaarden has on several occasions spoken to groups directly about this misapprehension and took the occasion of the 20 June advisory committee meeting to repeat his federal civics lesson. Speaking about both the process by which the budget is drawn up internally and then subsequently defended before Congress, Wyngaarden said, "There are interesting and distinctive constraints on each segment." It has come as a surprise to many listeners to learn that there are limits to the extent the NIH director can appeal budget decisions even within the Department of Health and Human Services, of which NIH is part, and that once the proposed budget receives the White House's final stamp of approval, agency heads are obligated by presidential directive to support it. Expressly forbidden to lobby Congress for more money than the President requests, Wyngaarden's role is limited to defending the budget, whether he likes it or not, and to answering questions congressmen may ask. For instance, Wyngaarden told the DAC members, he cannot tell Congress that the budget is insufficient, but if asked directly how much more money it would take to support NIH programs at a healthy level in FY 1984 he can respond. The answer is $305 million. Congress apparently asks a lot of questions.

Lobbying, he dutifully explained, must be left to others. "There is a political process out there in which the biomedical community needs to participate," he reminded his advisers. The admonition inspired one DAC member, former congressman Tim Lee Carter, to suggest that another DAC member, philanthropist and consummate biomedical lobbyist Mary Lasker, might be called on for advice.

But no matter how inspired Congress may be to follow its own tradition of increasing the NIH budget over the President's request, the fact remains that the true cost of doing research is rising faster than even generous appropriations could match. Wyngaarden asked the DAC to focus on budgetary policy, with an emphasis on a reevaluation of stabilization as it is now in force.

*The 5000 figure was meant as a floor for the number of new, first-time grant applications and so-called "competing" grants in which an investigator whose previous grant has run out is applying for another round of support.

No one wants to compromise NIH's emphasis on traditional investigator-initiated grants which, in absolute numbers, have increased steadily during the past decade. In 1972, 8403 principal investigators received support for a total of 9064 grants, with some researchers serving as principal investigator on more than one grant. By 1982, 12,114 researchers had 14,381 grants but the total funding in constant dollars (taking inflation into account) increased barely 5 percent.

Some of the increase in numbers of grants has been accomplished by funding at levels as much as 10 percent below those that peer review committees recommend, even though those recommended levels are themselves usually pared down from what the researcher initially asked. Advisory committee members generally agreed that NIH has gone about as far as it can go in this direction as a means of reducing costs to fund more grants.

Another possible cost-cutting measure, which the advisory committee will likely debate more fully at another meeting, would be to put a cap on the percentage of indirect or overhead costs that universities can collect from research grants. Whereas funds for the direct costs of research have not gone up, indirect costs have risen more than 50 percent since 1970 and now consume 30 percent of the total money available for research grants. Although certain increases can be easily justified—the cost of energy, for instance—areas such as "departmental administration" have a fuzziness about them that many researchers believe should be reviewed. NIH has no specific position at present but has stated in a recent report that "expenditures for indirect costs should be made subject to new restraints." Several options are under consideration for what will be a tough fight.

Tight budgets during the past several years have generated an additional issue in the grant-getting business that centers around the now contentious matter of priority scores. Peer review committees assign each approved grant application a score, something like an academic grade, according to a formula in which a numerically low score means a high grade. Thus, a score of 100 equals A+ and a score in the 200 to 250 range would be a good solid B. There was a time when grants with a 200 priority score would almost surely be funded, and those with 250 were likely to win support as well. But today the cutoff point is in the 180 to 190 range which leaves a lot of good B to B+ researchers out in the cold. The issue is complicated further by the fact that there is a certain subjective factor in these priority scores. Although peer review panels can clearly tell the difference between an application that deserves a 100 and one that should get 200, it is sheer folly to claim that an application with a score of 185 is really scientifically superior to one that got a 190.

One solution to the problem that is being advocated by a small, vocal segment of the research community is to fund grants according to a "sliding scale" in which those at the top would receive what is known in the trade as "full funding" while those in the lower ranges would receive a percentage of the requested funding. The goal of the sliding-scale approach would be to fund 50 percent of approved grants (rather than just one-third as is now the case) in order to spread the money more widely. The sliding-scale idea was broached more than a year ago in a letter to *Science* (26 February 1982, p. 1026) from H. George Mandel of George Washington University and Elliot S. Vesell of Pennsylvania State University at Hershey. Mandel, an ardent proponent of the idea, will discuss it in greater detail in a *Science* article, currently in press.

In a telephone interview Vesell noted that the peer review system was never designed to make the fine discrimination implied by scores of 150 versus 160 and that a sliding scale is among the mechanisms that need to be considered to "keep more good, able scientists in business and encourage young researchers."

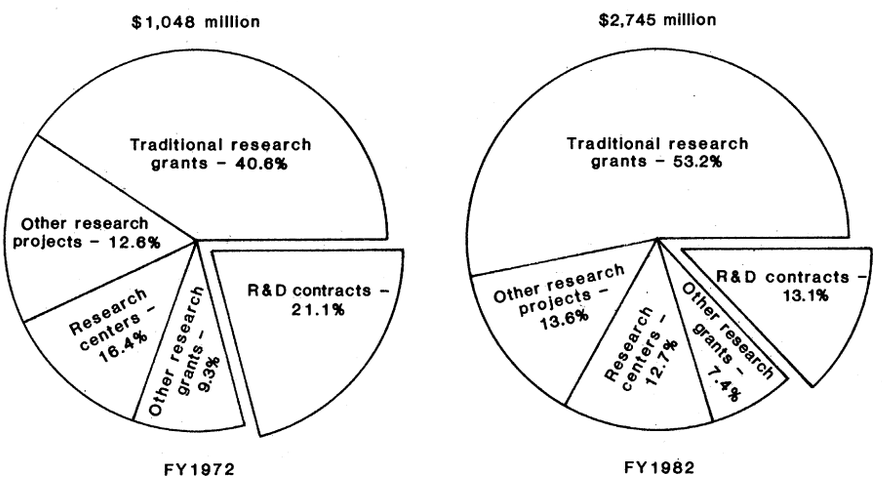
The Association of American Medical Colleges (AAMC) has voiced its opinion on the issue, coming out in favor of full funding. AAMC officials worry that the sliding-scale proposal could be seen as a "full employment program for bioscientists" and also think it politically unwise to suggest to Congress and the public that a good deal of research could be done for only a fraction of what most grants now cost.

An issue of further concern in all this, according to Lewis Thomas, chancellor of the Memorial Sloan-Kettering Cancer Center, is the effect on the future of research if the pool of talent is allowed to shrink. "If young people see that they aren't going to be able to get money to do research, they won't get in this game," Thomas predicts. "The greatest worry is what effect this will have three, four, or more years out." Thomas is unaccountably optimistic that current fiscal stringencies will soon be followed by a flusher era but thinks, in the meantime, that "The sliding scale is the only choice if full funding of more grants isn't possible."

The sliding-scale approach has not found favor with Wyngaarden and other top NIH officials who think the better route is full funding of the very best research proposals. Maintaining this traditional approach, which they argue has served the country very well, is likely to result in a concentration of resources at the most high-powered research institutions. The discussion already is being cast as a debate between the elitists and the egalitarians.

To the extent that the Director's Advisory Committee reached any consensus on the issue, it came out for the full funding option. But as DAC member Howard Temin said, "We have a choice between two unpalatable alternatives. We've just picked one but that doesn't mean we like it." The only really agreeable solution, the DAC concluded, would be more money.

—BARBARA J. CULLITON



The NIH budget for a decade

Traditional research grants now consume 53.2 percent of the total NIH budget.