RESEARCH MANAGEMENT

U.S. Rules on Accounting for Grants Amount to More Than a Hill of Beans

The latest government proposal exposes the problems facing scientists who strive to do good research without stepping over the line

Stalking a kidney gene defect could make Lisa Guay-Woodford a lawbreaker.

Like scientists everywhere, the pediatric nephrologist at the University of Alabama, Birmingham (UAB), knows that she can improve her chances of winning a grant from the National Institutes of Health (NIH) by including preliminary data in her application. But gathering those kidney data poses a dilemma for Guay-Woodford. Simply put, it's against the law to apply resources from an existing grant toward a new project. And Guay-Woodford knows that the U.S. government isn't playing games. Last spring, her university paid $3.4 million to settle allegations that it overstated how much time and effort its scientists had devoted to certain federal grants.

These and other administrative rules about how universities spend government money are intended to guard against the misuse of taxpayer dollars, and they are being enforced more firmly than ever. In the past 3 years, for example, Harvard University, the Mayo Clinic, Northwestern University, Cornell University, and Johns Hopkins University have paid the Justice Department more than $21 million to settle cases similar to UAB's. Although none of the schools has acknowledged committing a crime, scientists are increasingly concerned that the laws, for all their good intentions, don't square with how science is done. And many university administrators think that the gap is widening. In November, the Department of Health and Human Services (HHS) issued a notice urging more rigorous timekeeping and beefed up research compliance programs (www.oig.hhs.gov/fraud/complianceguidance.html#1). The comment period closes on 30 January.

"There's a dynamic tension" between accountability and intellectual freedom, says Guay-Woodford, who has $1.5 million in NIH grants this year and runs a seven-person lab. But she worries about the future of U.S. research if the bean counters prevail. "Where's the creative energy that has been the hallmark of science?" she asks. "Where's that going to go?"

"An elaborate fiction"

The federal government didn't always press scientists to follow its rules to the letter. The 1958 regulation under which time and effort reporting falls, known as circular A-21, allows for some flexibility, and "since no one was enforcing it, people shaded more on the latitude of it," says Peter Anderson, a pathologist at UAB. University administrators asked Anderson to design an education program on the regulations for faculty after UAB's settlement with the Justice Department.

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—Karen Tiplady, NSF

But federal attitudes appear to have stiffened in recent years. The process began in February 2003, when Northwestern University in Evanston, Illinois, agreed to settle government claims that its scientists had spent less time than promised on federally funded research. "Federal agencies are [now] less willing to treat universities differently than they would treat a defense contractor" with regard to documenting costs and time spent on projects, says Robert Kenney, director of the grants and contracts group at the Washington, D.C., law firm Hogan & Hartson, which has defended several institutions sued by the government.

Federal agencies such as NIH and the National Science Foundation (NSF), which dispense billions of dollars each year in academic research grants, require applicants to estimate how much time they will spend on a particular project and, if successful, to notify the funder if their workload changes during the course of the project. In other words, a 25% commitment means 10 hours in a 40-hour workweek, or 20 hours in a scientist's more typical 80-hour week. Because weekly schedules fluctuate, with commitments added and dropped, schools tend to ask for records only once a quarter or even less often.

Government officials say that the accounting practices, although burdensome, are crucial. "We want to be sure that we're getting what we're paying for," says Karen Tiplady, chief of the cost-analysis and audit-resolution branch at NSF. The estimates guide funding decisions by determining whether an experiment's goals are achievable and whether a project is appealing. "If the principal investigator is going to be very strongly involved in the intellectual leadership of the project, NIH wants to be assured that that person is spending sufficient time" on it, says Donna Dean, who helped oversee extramural research funding at NIH before becoming senior science adviser at Lewis-Burke Associates, a Washington, D.C., consulting firm.

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All in a Day's Work >>

Atlanta cardiologist Samuel Dudley juggles caring for patients, doing basic research on heart-rhythm disorders, teaching students, and performing administrative duties during one recent 12-hour day.

CREDITS (LEFT TO RIGHT): ANN HAMILTON/ATLANTA VA MEDICAL CENTER

A fundamental assumption of both the laws and the new HHS guidance is that it's relatively easy for scientists to allocate their time among various projects. But, researchers note, the boxes on the forms don't always mesh with the real world. Take the hectic life of cardiologist Samuel Dudley. His 14-person lab at the Atlanta VA Medical Center in Georgia runs on grants from NIH, the Veterans Administration, and the American Heart Association, each with its own set of time-reporting rules. Dudley also teaches, runs an NIH-funded clinical trial at nearby Emory University, and sees patients at the VA medical center, where he's chief of cardiology.

Adhering to the rules for his lab research is "extra-special complicated," Dudley explains, citing complementary grants from different funders involving heart rhythm problems in pigs. "One title is 'Superoxide and the Pathogenesis of Atrial Fibrillation,' and the other is 'Nitric Oxide and the Pathogenesis of Atrial Fibrillation,' " he says. Then there's the problem of accounting for what he actually does, such as a recent project on how oxidative stress influences membrane proteins that go awry in atrial fibrillation. "It wasn't in the aims of either [grant]," he says, but "it's related to both."

Dudley faces a similar problem when purchasing equipment for pig surgery. "If I buy a piece of equipment to operate on a pig and I've got two pig grants, what do I do" about assigning the equipment's cost, he asks. "The fairest way would be to split it down the middle," he admits. But that choice means extra paperwork. Dudley prefers to assign each piece of equipment to a particular grant. "Sometimes filling the commitments of these grants requires a flexibility that is not built into the system," he says.

Others are more blunt. "The so-called time spent on a grant is an elaborate fiction," says Steven Block, a biophysicist at Stanford University in California. "What's relevant is whether I do the work."

Stumbling blocks

But for auditors, a scientist's productivity isn't what matters. One of the most common problems in a federal audit, say Kenney and Constance Atwell, a consultant to NIH and other government agencies, is a university's failure to properly document faculty time and effort. The forms might not be signed, or submitted, or they might be completed by an individual "who didn't know what the effort actually was," says Kenney. "Compliance officer positions are probably the biggest growth industry in terms of administrative positions at major research universities," says Tony DeCrappeo, president of the Council on Governmental Relations in Washington, D.C., which helps schools address compliance issues. Most schools, he says, "are in the process of reassessing their compliance structures."

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Two common stumbling blocks are trying to separate time spent on patient care from that spent on a clinical trial and assigning to existing federal grants effort devoted to gathering preliminary data for an unfunded project. This so-called piggybacking or bootlegging is "a time-honored practice. … Anyone who says they don't [do this], I would say, is a liar," says Block.

Although some rules are bent because researchers feel they have no choice, other violations appear to be unintentional. One frequent misstep is in the denominator used to calculate time and effort. Many scientists mistakenly believe that NIH, which funds the majority of U.S. scientific research, bases its measurements on a 40-hour workweek. That assumption "is not correct," says Kenney, and making it can get universities into trouble. Notes UAB's Anderson, "I don't know how many times I've had people say, 'I'll just go home and work on my grant, and that way it won't count.' " All effort matters, he emphasizes, and needs to be counted in the equation.

Scientists and university administrators would like the government to focus on the accomplishments of a research project rather than the percentage of a researcher's time devoted to it. "Time is sort of false," says Nancy Wray, director of the office of sponsored projects at Dartmouth College in Hanover, New Hampshire. Dartmouth is currently fighting an accusation from HHS that it overbilled NIH $36,268 on a diagnostic radiology grant.

Although Wray and others wish to de-emphasize time, the government seems to be heading in the opposite direction. The November HHS guidance appears to stress "timekeeping" more heavily than does A-21, the existing regulation. Although the guidance would be voluntary, universities are dubious that auditors will see it that way. "Either there are rules or there aren't rules," says Pierre Hohenberg, senior vice provost for research at New York University, which is reviewing its time and effort reporting procedures. "The government getting into the business of just being helpful … is easily misinterpreted."

All of this debate doesn't solve Guay-Woodford's dilemma about how to assemble her kidney grant proposal. So she's planning to do it in the evenings and on weekends. "That is, I think, in keeping with the spirit of the guidelines," she says. "I'm not spending 3 weeks doing nothing else. … But it's not absolutely [sticking] to the letter."

–JENNIFER COUZIN