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Research Advance: At Pitt, Scientists Decode the Secret Of Getting Grants --- Marketing Helps University Win $350 Million a Year From NIH, Irking Critics --- `You Have to See It as a Game'

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PITTSBURGH -- For David Kupfer, getting grant money from the National Institutes of Health isn't only about science. Marketing is also key to success.

So earlier this month, the head of the University of Pittsburgh's psychiatry department used an NIH-sponsored conference in Phoenix for a bit of self-promotion. Allotted five minutes to speak as co-chairman of a panel on bipolar disorder, he filled the time with a PowerPoint presentation pitching his own ideas on the subject -- which are central to a $4 million grant proposal now pending at NIH. In the audience: prominent psychiatrists who sit on the NIH review panel that will help decide whether Pitt gets the money.

The maneuver is one of many that Dr. Kupfer, 63 years old, says he uses to try to score hundreds of millions of dollars for Pitt in grants from Uncle Sam. A consummate schmoozer, he chats up NIH officials about hot new areas that might produce funding for his 240 faculty members and researchers. He requires young Pitt scientists to attend boot camps on grant writing. And he makes sure the scientists who win NIH money get onto the agency's review committees to further penetrate the grant-giving system at NIH, in Bethesda, Md. Researchers can get bonuses of as much as $50,000 a year based on how much NIH money they bring to Pitt.

"We're called Bethesda North," says Dr. Kupfer.

There's a lot of NIH money to be had. In the past five years, the budget of NIH has doubled, to $28 billion. Some of that money goes to researchers in Bethesda who are directly employed by NIH's 27 institutes, such as the National Cancer Institute. But the lion's share -- about 80% -- gets parceled out to other researchers across the U.S.

NIH isn't the only government agency whose largess is eagerly sought by universities. In Atlanta, Emory University has used its proximity to the federal Centers for Disease Control to win contracts for CDC-related research. The University of Pennsylvania has created an Institute of Strategic Threat Analysis and Response, a loose alliance of experts from 12 Penn graduate schools, to go after big federal grants from the Department of Homeland Security and other sources of funds.

Few institutions, though, have made such a grab for market share in government funding as the University of Pittsburgh and its affiliated 20-hospital medical center.

A research also-ran 20 years ago, Pitt has successfully gone after NIH funds in psychiatry, cancer research, genetics, and other fields. The university has funneled revenue from its organ-transplant program, a world leader since the 1980s, into recruiting new faculty and expanding its research. Last year, thanks in part to the newcomers, Pitt pulled in $350 million of NIH money. That made it the eighth-biggest recipient, up from No. 12 just five years ago and ahead of such eminent research universities as Yale, Duke and Columbia.

In a cheeky symbol of its emergence into the top tier, Pitt last September recruited away the entire 20-person biosecurity think tank from Johns Hopkins University, the No. 1 recipient of NIH funds. Pitt pledged to spend $12 million getting the team established at spiffy offices in downtown

Baltimore. It hopes the biosecurity researchers will get government money, especially homeland-security funds, not only for themselves but also for colleagues in Pittsburgh.

"As long as the federal government is the major funder in the billions of dollars, we want our colleagues to be in the Baltimore-Washington area . . . [and] quite frankly to be first in line to bring the funds back to Pittsburgh," said Jeffrey Romoff, president of the University of Pittsburgh Medical Center and architect of the deal, speaking at a press conference.

In return for all this money, of course, the American public is supposed to get progress in combating disease. The university's cutting-edge research includes an effort to reverse the effects of stroke by surgically implanting nerve cells. It has also developed a substance called Pittsburgh compound B that enhances images taken of the brains of Alzheimer's-disease patients.

Still, research universities and NIH itself are under pressure from Congress to show even greater results. Some legislators want NIH to devote itself less to fundamental scientific inquiry and more to "translational" research that can generate drugs, devices and other therapies. Among scientists, there is fierce debate about how to make research more productive. Some think NIH allows too much bottom-up research proposed by individual scientists; others say it creates too many top-down megaprojects with grand but elusive goals.

Pitt plays both sides of the game, with big teams and individual efforts, and its success is the envy of other universities. "We're consciously headed in the same direction," says Fred Sanfilippo, senior vice president of health sciences at Ohio State University, which is building a $150 million biomedical tower.

The battle for grants is expected to become more bare-knuckled because the NIH is no longer getting double-digit budget increases each year -- a result of the federal budget deficit and feelings in Congress that the institutes now receive enough money.

Already, there is resentment against Pitt, say some scientists. Thomas Insel, director of the National Institute of Mental Health, says people from competitor universities who sit on review panels sometimes say, "God, those people already have so much going on; we need to spread the wealth."

Michael Swift, a genetics specialist formerly at the University of North Carolina and New York Medical College, is a critic of Pitt. "They're teaching people how to work the system," he says. "What does it have to do with science or health? It has a lot to do with money." Dr. Swift, 69, won more than $10 million in NIH grants during his career but has had trouble getting NIH funding in recent years. He is now retired from academia and does research independently.

By far the biggest winner in getting NIH money -- and the template for the rest of Pitt -- is the university's psychiatry department and its affiliated 276-bed Western Psychiatric Institute and Clinic, which last year pulled in nearly $75 million in funds from NIH, mostly from the National Institute of Mental Health.

Dr. Kupfer, a trim New York native, operates from the institute's Depression-era brick tower with a salesman's optimism. He frequently calls branch chiefs at NIH's various institutes and keeps in constant touch with Pitt researchers who leave to take positions there, inviting them back for lectures. Of one colleague who left for NIH, he says fondly, "He left but he never really left."

Within NIH's mental-health institute, Pitt has long occupied a spot on the 18-person national advisory council, which makes funding recommendations to the director after an initial review by scientific committees made up of experts in specific subfields. People now speak of the "Pittsburgh seat" on the advisory council. Other universities have representatives on the council, but nobody talks of a "Yale seat" or a "Cornell seat."

The current occupant of the Pittsburgh seat is Charles Reynolds, a senior Pitt faculty member. "It's extremely self-serving," says Dr. Reynolds of his position on the advisory council. He has used his seat, he says, to lobby successfully to reinstate a branch of the mental-health institute devoted to

his specialty, the mental health of the elderly, although he plays no role in approving his own grant proposals.

To make sure Pittsburgh stays ahead of the pack, Dr. Kupfer runs an intensive "survival skills" course for young postdoctoral fellows in psychiatry to train them in the fine points of applying for their first grants, typically about $600,000 for five years. The biggest trick young scientists need to learn, he says, is to focus their proposals more narrowly. To Dr. Kupfer, it's almost like marketing or branding. "You need a T-shirt," he constantly exhorts his charges, by which he means a quick phrase that tells the world what the research stands for.

One morning recently, 14 of Pitt's 40 postdoctoral fellows were clustered around a conference table in a windowless room. One by one, they took potshots at the research idea of a colleague in their midst. Every week, another postdoc, usually a researcher in his or her early-to-mid 30s with a recent doctorate in psychiatry, takes a turn in the hot seat. The idea is to toughen up the scientists and strengthen the quality of their NIH proposals.

When Jennifer Morse sat in the hot seat, she had to defend herself against colleagues who thought her $625,000 proposal was too theoretical. She wants to contrast the way depressed and healthy elderly people adapt to aging. After guidance from peers and mentors, Dr. Morse made some revisions but kept it theoretical. Her proposal came up for review June 17, but she won't know the verdict until sometime in August.

Paul Pilkonis, her adviser at Pitt, who spent two years on temporary assignment at NIH in the mid-1990s, believes that more practical proposals than hers are in vogue. When Dr. Insel, the head of the National Institute of Mental Health, "gets hauled before Congress and is on the hot seat, it's all about what's the `bang' for the doubling of the NIH buck," says Dr. Pilkonis. Dr. Insel confirms that his institute is putting a strong focus on translational research.

Rejection by NIH "peer review" committees is a constant worry for scientists at Pitt and elsewhere. When it happens, Dr. Kupfer and other senior Pitt faculty members swoop in, advising the younger scientists how to revise the proposal. Under NIH rules, anybody can revise a proposal twice. After three rejections, as measured by low scores given by the review committees, the scientist has to try something else.

(MORE)

The rules state that applicants can't directly contact review committee members. However, there's no rule against talking to eminent people in the field who might be the mentors of these reviewers. When Pitt fellow Doug Williamson failed twice in his proposal for a $600,000 genetics grant in 2001, he called on Dr. Kupfer's old friend Lindon Eaves of Virginia Commonwealth University, a mentor to some NIH review-panel members. Dr. Eaves became a named, unpaid consultant to the Pitt team and helped reword the application, which was successful on the third and last try in 2002. Dr. Eaves says NIH study sections often want to see evidence that the young scientist will be properly "mentored," so having an outside expert involved can alleviate these fears. "You have to see it as a game," he says.

Pitt's efforts to penetrate the NIH began with Thomas Detre, senior vice chancellor until 1998. His successor, Arthur Levine, was a 31-year veteran of the NIH. Dr. Levine says he began recruiting dozens of NIH veterans and well-known medical scientists from rival universities. An intensified push into cancer research has brought about $40 million a year in NIH cancer grants. The head of Pitt's pediatrics department, David Perlmutter, has tripled NIH funding in childhood diseases.

Pitt officials estimate that the new recruits from the past six years account for about half of the university's success recently in getting NIH grants, although it hasn't made a formal tally. Newcomers will continue to be vital to Pitt's strategy, since the university is building a $205 million biomedical tower scheduled to open in 2005. The tower will have annual operating costs of about $75 million. More than 80% of this is expected to come from NIH grants, much of it new grants from new recruits, Dr. Levine says. At Pitt, about 49% of NIH grant money is typically set aside for

overhead, also called indirect costs, such as lab space, utilities and secretarial expenses -- a proportion roughly in line with other big universities.

Pitt lost a competition for a $35 million grant to identify proteins that cause cancer and develop compounds to block them (Harvard won it), but last year it received an $18 million grant for a biocontainment facility that will be housed in the new tower. It's supposed to be a foundation for Pitt to get further grants related to vaccines and drugs to combat dangerous pathogens such as the SARS virus and anthrax.

Some of Pitt's dealings with NIH have run into controversy. In the mid-1990s, the university and the National Cancer Institute were co-defendants in a lawsuit over a scandal involving falsified breast-cancer research at another university. The Cancer Institute contributed $300,000 toward a legal settlement. Shortly thereafter, Pitt awarded the head of the institute, Richard Klausner, a $40,000 prize for excellence in research. Congressional investigators probing conflict-of-interest rules at NIH have raised questions about the prize. Dr. Klausner, now a senior officer of the Bill and Melinda Gates Foundation, says he did nothing wrong. He denies that there was any quid pro quo and he says that at the time the government lauded his prize.

These days, with NIH funding on a plateau after the five-year doubling, Drs. Levine and Kupfer are ratcheting up the pressure on scientists to keep up the frenzy of grant applications. Dr. Kupfer says he wants the number of psychiatry department proposals to double, from 165 last year, to take more of the NIH money in a flat market. "We will increase our market share," he vows.

As added incentive, Dr. Kupfer runs a bonus program that allows scientists to get a payment equal to 10% of the size of a grant, up to $50,000 a year. The program, once limited to the psychiatry program, has been expanded by Dr. Levine to all of Pitt's health sciences departments.

Dr. Kupfer also thinks psychiatry can tap sources of funding beyond NIH's mental-health institute by teaming up with scientists in other fields. A few weeks ago, he spent an hour brainstorming with Tara O'Toole, the head of the biosecurity team that Pitt lured from Johns Hopkins, on ways to join forces. One idea: trying to get grant money, from the NIH or elsewhere, to study how to avoid mass public hysteria in the event of a terrorist attack.

Up the Ranks

National Institutes of Health's top 10 grant recipients in 2003.

RANK 03	RANK 98	INSTITUTION	AMOUNT (MILLIONS)
1	1	Johns Hopkins*	$556
2	3	Univ. of Washington	441
3	2	Univ. of Pennsylvania	434
4	4	UC San Francisco	421
5	33	Science Applications International Corp	417
6	6	Washington University	383
7	5	Univ. of Michigan	362
8	12	Univ. of Pittsburgh	348
9	10	UCLA	347
10	13	Duke University	346

* Harvard University, which ranks No. 12, would be No. 1 if grants to Harvard-affiliated hospitals were included.

Source: National Institutes of Health

(See related letters: "Letters to the Editor: Does NIH Money Corrupt Medical Research?" -- WSJ 14, 2004)