

GRANTS

Funding crisis hits US ageing research

Shortfalls hamper scientists' efforts to address a predicted epidemic of age-related diseases.

BY MEREDITH WADMAN

Karen Duff, an Alzheimer's disease researcher at Columbia University in New York, recently submitted three grant applications to the National Institutes of Health (NIH). In the covering letters, she requested that they not be directed into the pool of applications competing for money from the National Institute on Aging (NIA).

"I don't put any grants into NIA now because their funding line is so low it's almost impossible to get funded," says Duff.

Duff's situation reflects a crisis that is gripping researchers who are funded by the US\$1.1-billion ageing institute in Bethesda, Maryland. In 2010, a researcher submitting a grant application for any single deadline had only an 8% chance of winning funding (see graph). That number may soon dip even lower as grants tied to economic-stimulus funding begin to expire and a climate of austerity descends on the United States.

The dismal odds of winning an NIA-funded grant "threaten the viability of ageing research" says Richard Hodes, the NIA's director. "If we are less able to fund research — or are perceived to be less able — that will actually drive young and emerging investigators to fields other than ageing. That would be a catastrophe at a time when such research is critically important."

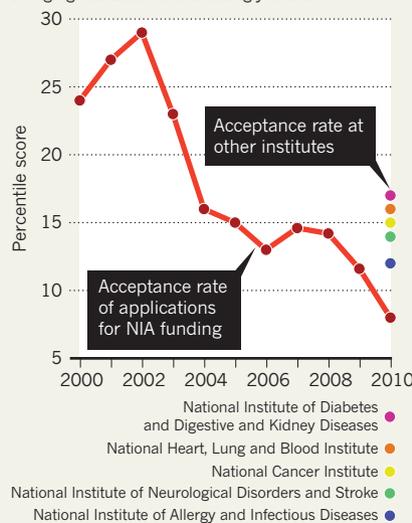
Although the funding situation is tight all around for NIH-supported investigators, the NIA is in an exceptional predicament. In recent years, it has made big commitments to costly clinical trials and large group projects, even as both the number and the average cost of investigator-initiated grants submitted to the institute have surged. Responding last month to a deluge of concern from researchers, Hodes posted an open letter to the NIA-funded community.



"We are cutting back on the very research that we need to keep our ageing population healthy."
Karen Duff

OVER THE HILL

Competition for grants from the National Institute on Aging has become increasingly brutal.



"We at NIA recognize and empathize with the struggle that our constrained funding creates for the research community," he wrote. "It is vital that we do everything we can to sustain the momentum of investigator-generated research in this successful and vibrant field."

Advocates for research into Alzheimer's disease are adding to the chorus, noting that the toll of the condition will rise drastically with the greying of the global population. The NIA funds nearly three-quarters of the NIH's \$469-million investment in Alzheimer's disease.

"Our government is ignoring what is likely to become the single greatest threat to the health of Americans," begins a recent opinion piece in *The New York Times*. The co-authors include Nobel laureate and neuroscientist Stanley Prusiner, and Sandra Day O'Connor, a retired US Supreme Court justice whose husband died of complications related to Alzheimer's disease a year ago. The article calls for the US Congress to pass legislation that would increase research funding for Alzheimer's to \$2 billion annually and establish a government office that would coordinate efforts to combat the disease, which is expected to affect 13.5 million US citizens by 2050.

As both the US and the global populations age, the prevalence of chronic diseases such

as cancer, heart disease and diabetes will also grow, along with neurodegenerative ailments including Parkinson's disease. The NIA deals with age-related aspects of all of these. "We are cutting back on the very research that we need to keep our ageing population healthy," says Duff.

By contrast, in Europe, "the field of ageing is prioritized. I would certainly not suggest that we are anywhere close to a crisis" in terms of research, says Alan Walker, director of the New Dynamics of Ageing Programme at the University of Sheffield, UK, and head of the European Research Area in Ageing, a network of national research councils and ministries working together to support ageing research.

To battle the dismal success rate of its grant applicants, the NIA is trying to spread what wealth there is. Since 2004 it has, on average, made competitive awards at amounts that are 18% below the budgets that applicants requested. It has established an expert advisory panel to help to evaluate clinical-trial proposals, and it has made it tougher for scientists to submit grants that request more than \$500,000 in annual direct costs. The results are apparent: in the past year, the average amount requested by scientists on a standard R01 grant application has fallen by \$30,000.

The brutal competition is already taking its toll. Chris Conrad, a colleague of Duff's at Columbia, last month left a tenure-track position for a job in industry. Conrad, 37, had applied for more than ten NIA-supported grants for his work on the genetics of Alzheimer's disease since he came to Columbia in 2006. Not a single one was funded. "They are going to lose a lot of new people by having these really hard funding rates," he says.

Even established researchers are feeling the pinch. Vera Novak, a neuroscientist at Beth Israel Deaconess Medical Center in Boston, Massachusetts, and an NIA grant recipient since 2001, is studying older patients with diabetes to look at its effects on blood circulation in the brain's smallest vessels. Her stimulus-funded NIA grant runs out in July 2011, and she is applying for a standard grant to allow her study — which has enrolled 70 patients out of its target of 120 — to continue after that. She is feeling anxious about her prospects of winning that new grant. "I've never seen a situation as difficult as it is now," says Novak. ■

SOURCE: NIH