NEWS

Autism researchers blast budget cuts for U.S. funding agency

BY **JESSICA WRIGHT**

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President Donald Trump's proposed cut for the U.S. National Institutes of Health's (NIH) 2018 budget could stall advances in research for generations, researchers say.

Trump first proposed on 16 March to **cut the agency's coffers** by $5.8 billion, an 18 percent decrease from its current budget. Last week, he took that even further, recommending a decrease of $1.2 billion from the NIH's 2017 budget, according to multiple news reports. If the latter cuts are approved by the U.S. Congress, they would shrink the funds allocated to ongoing projects by nearly 4 percent.

"We'd need to cut short some of the things that we've already decided are valuable and worth it and exciting," says **Raphael Bernier**, associate professor of psychiatry and behavioral sciences at the University of Washington in Seattle. The cuts could also slash lab payrolls, Bernier says. "I have 27 research employees that I have to think about; that's what I worry about the most."

The proposed cuts are disheartening, say autism researchers, who after decades of research are homing in on causes of the condition and ways to treat it. "Just as we begin to make significant gains in many areas of autism science, support for these efforts goes away," says **Connie Kasari**, professor of human development and psychology at the University of California, Los Angeles.

"This feels like the administration is folding and giving up on us," says **Kevin Pelphrey**, director of the Autism and Neurodevelopmental Disorders Institute at George Washington University in Washington, D.C. "I would implore them not to give up."

Lost generation:

Young researchers are likely to be the hardest hit by a budget squeeze. Lacking a track record of work, they are often the last to be funded. Some will not get jobs in the first place because their

potential employers lack money for new positions.

Oregon Health and Science University **froze nearly all new hiring in January** in anticipation of potential federal cuts. The cuts could **lead to the loss** “of an entire generation of new scientists,” university officials later said in a statement.

“It takes a long time to train the best young scientists, and it is not wise to do anything that would harm the talent pool and innovation in general,” says **Ben Barres**, professor of neurobiology at Stanford University in California.

The impact on young researchers is already apparent. During a meeting with her Ph.D. thesis committee last month, one of **James Noonan's** star graduate students at Yale University was asked whether she planned to pursue a career in science. According to Noonan, she replied that if there are significant cuts at the NIH, she probably would not.

“I’m just worried that with less funding and more competition, there is a whole generation of people that we’re grooming who are going to be at risk,” says **Robert Schultz**, director of the Center for Autism Research at the Children’s Hospital of Philadelphia.

Keeping lights on:

The White House Office of Management and Budget says the move is intended to prevent federal funds from being spent on “unnecessary administrative costs.” Tom Price, secretary of health and human services, the department that oversees the NIH, **told the House of Representatives** last week that the decrease would primarily affect “indirect expenses.” These expenses include the cost of buying and maintaining equipment, housing and caring for lab animals, and utilities such as water and electricity.

Here, too, junior scientists may bear a disproportionate burden, as universities rely on federal funds to help cover the substantial costs of setting up a new lab. Scientists under pressure to save grant money may hire fewer undergraduate and graduate students.

Each university takes a proportion — about 30 percent, on average — of grant money researchers receive for these overhead costs. Over the past 20 years, the NIH has steadily been lowering the cap on the amount universities can use to cover indirect costs, Barres says. As a result, many institutions have had to cut back on basic services. For instance, garbage pickup at Stanford University is now once every two days rather than every day, he says.

“If large further decreases are made to indirect costs, this would undoubtedly have a devastating effect on biomedical research across this country,” Barres says.

Damming innovation:

Beyond having a chilling effect on science, the cuts are sure to have ripple effects on the country's economy and its competitiveness in the global market, researchers say.

"Biomedical research creates many jobs and is a major engine of economic growth, says Barres. "Any short-term gains in slashing indirect costs will be paid for dearly in the long term."

"Infrastructure costs are very real and crucial for America to maintain its edge," adds **Mriganka Sur**, professor of neuroscience at the Massachusetts Institute of Technology.

Some philanthropic organizations that fund autism research allow universities to channel a maximum of 20 percent of their research grants to indirect costs. These organizations are unlikely to change their rules to compensate for the cuts.

"A reduction in the NIH budget will likely push researchers to other funding sources. However, these sources are already strained," says **Thomas Frazier**, chief science officer of the advocacy organization Autism Speaks.

Researchers are hoping that Congress will amend the budget proposal and prevent big cuts. Even half the proposed cuts would be "a disaster," says Sur.

Government organizations are operating on a stopgap budget for 2017 that is set to expire on 28 April. Congress **must pass a new stopgap budget** by then. Trump's proposal includes the $1.2 billion cut in NIH funding, along with $18 billion in cuts to other federal agencies.