

High stakes for research in US 2018 budget negotiations

As Congress considers how to fund the government next year, scientists hope spending for research will not be curtailed. Susan Jaffe, *The Lancet's* Washington correspondent, reports.

The dramatic defeat of the Republicans' Affordable Care Act (ACA) repeal legislation still looms over the US Capitol as Congress reconvenes this month for more tough decisions, including many that will affect health and science research programmes.

To avoid a government shutdown, a budget must be in place when the next fiscal year begins on Oct 1. To avoid automatic budget cuts triggered at the end of the month by a federal law Congress intended to compel frugality, lawmakers will have to raise its spending caps. To continue to borrow enough money to meet its obligations and avoid defaulting on government loans, Congress has to raise the debt limit by the end of this month as well. Any one of these tasks would be daunting, but complicating matters further is the fact that, this month, the House of Representatives is scheduled to meet for only 12 days.

The budget negotiations begin when the president proposes a spending plan to Congress. This is usually viewed more as an administration's priority list and one the Congress is not obligated to accept. Senate and House of Representatives committees review the budget request for the different agencies they oversee, and hold hearings with agency leadership. Once each chamber has passed its own budget legislation, the two budget bills must be combined into one. During this process, circumstances can change. For instance, President Donald Trump wants Congress to approve emergency federal aid to help the thousands of victims of Hurricane Harvey in Texas. The millions of dollars of savings Republicans had expected from the ACA repeal have also not materialised.

When Congress agrees on the final legislation or decides to continue the previous year's budget, the agreement

goes to the president, who is supposed to sign it into law when the new fiscal year begins Oct 1, a deadline rarely met. The president has the power to veto the final package, and if Congress doesn't have enough votes to override the veto, the government could shut down.

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Trump has said he's willing to risk a government shutdown by promising to veto any budget that does not include more than US\$1 billion to build a wall on the Mexican border. And he is pressing Congress to reform the tax system in the coming weeks, and reduce taxes for businesses and workers. "I am fully committed to working with Congress to get this job done", he said at a rally in Missouri last week. "And I don't want to be disappointed by Congress, do you understand me?" But in the next few weeks, the Trump administration could be disappointed again.

Even though Republicans control all three branches of national government, the failure of the ACA repeal is not the only evidence of the growing rift between the Republican president and the Republican majorities in both houses of Congress. Efforts to repeal the health law have been sidelined for now, and Republicans are in no mood to repair it. One of the several unresolved issues after the ACA fight is whether the Trump administration will continue to pay subsidies that lower or eliminate deductibles, copayments, and other costs for many of the people who buy health insurance from the ACA's online insurance marketplaces. The president has threatened to stop paying the subsidies because he contends that the law does not explicitly authorise

the payments. Representative Rosa DeLauro, a Connecticut Democrat, has submitted an amendment to the House of Representatives' budget legislation to ensure the subsidies continue. "These payments are not 'bailouts' as the president has often called them", she said. "They help people with modest means reduce their out-of-pocket health-care costs."

The prospects for science funding will depend on competing budget pressures and political fissures. "There are a lot of moving parts and a lot of uncertainty", said Matt Hourihan, director of the Research and Development Budget and Policy Program at the American Association for the Advancement of Science, which represents 250 scientific societies and academies serving 10 million members. "And while a spending deal [agreement] is certainly possible, it's hard to see how they get there from here."

The science budget battle

The Trump administration's budget has an ambitious goal, according to its introduction: "to redefine the proper role of the Federal Government, and curtail programs that fall short on results or provide little return to the American people."



Stefan Zaklins/Stranger

It also poses an unprecedented threat to science programmes, believes Stephen Desiderio, a professor of molecular biology and genetics who directs the Institute for Basic Biomedical Sciences at the Johns Hopkins University School of Medicine, which received \$650.8 million in the National Institutes of Health (NIH) funding in fiscal year 2016, more than any other institution. “The traditional partnership that we’ve had between the federal government and research universities is fraying.”

The administration is proposing steep cuts to the science budget for the 2018 fiscal year beginning Oct 1. It includes a 22% cut for the NIH that would leave the agency with a budget of \$26.9 billion, the lowest budget for the NIH since 1999, adjusting for inflation.

Trump administration officials continue to argue that the NIH could reduce spending by cutting grant money for indirect research expenses that include administrative staff, equipment, rent, and utilities. “On the NIH, again we agree with everybody here that the government should be involved in [basic scientific] research”, Mick Mulvaney, director of the White House Office of Management and Budget, told a House appropriations subcommittee in June. But he claimed that 27% of NIH grants is spent on administrative expenses, not research.

Cutting reimbursement for indirect costs “would just be devastating”, said India Hook-Barnard, director of research strategy and associate director for Precision Medicine at the University of California San Francisco School of Medicine. The university was ranked the second-highest grant recipient of NIH funding in 2016, with \$577.6 million. “I don’t think the negative impact can be really overstated.”

“Research takes place in a community”, she said. “You need the space, you need to have lights, you need to have water—while they are called indirect costs, those things are also essential to having high-level quality research.”

Trump’s 2018 budget request would also eliminate the Fogarty International Center, founded in 1968, which supports research by about 5000 scientists in more than 100 countries. According to the administration’s proposal, those operations can be assumed “as appropriate” by the various institutes within the NIH, so that “duplicative and unnecessary global health research will be curtailed”.

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To assess how the president’s proposed cuts could affect research jobs at universities and national laboratories, 56 members of Congress led by Representative Bill Foster, an Illinois Democrat—and the only physicist in Congress—sent letters in June to the directors of seven top science agencies.

National Science Foundation (NSF) Director France Córdova told the Congress members that the president’s proposed budget cut of \$841 million, an 11.2% cut to the NSF’s budget for fiscal year 2016, would result in a loss of funding for some 13 000 senior researchers, postdoctoral associates, other professionals, as well as for graduate and undergraduate students.

At the National Aeronautics and Space Administration (NASA), acting associate administrator Rebecca Lee explained that the proposed budget would eliminate NASA’s Office of Education, which supports student research, and reduce earth science funding for some university positions.

In his response, NIH Director Francis Collins wrote that more than 50 000 NIH grants awarded in 2016 supported nearly 380 000 full-time and part-time positions in academic institutions. How the budget cuts would be applied, along with other variables, makes it difficult to determine

the fate of such a large workforce. The Environmental Protection Agency also could not estimate job losses until a final budget is approved.

As this article went to press, the Department of Energy, National Oceanic and Atmospheric Administration, and National Institute of Standards and Technology had not yet responded.

What next?

Last spring, Congress rejected Trump’s 18% cut for the NIH in the 2017 budget and instead provided a \$2 billion increase. The administration’s 2018 NIH budget cut is likely to meet a similar fate. In July, the House of Representatives appropriations committee rejected it too, and boosted funding again by \$1.1 billion. It also required the NIH to continue reimbursing research institutions for facility and administrative costs. Although the measure still has to be approved by both chambers of Congress, DeLauro said Congress will continue to support the NIH.

Renate Myles, an NIH spokeswoman, also noted that “Congress has shown bipartisan support for NIH and biomedical research with budget increases in 2016 and 2017 and proposed increases for 2018.” Director Francis Collins “will continue to make the case for biomedical research and the substantial benefits it brings to the taxpayer”, Myles said.

But while the budget outcome is uncertain and a political showdown looms, “the perception of instability is wreaking havoc on the plans” of young scientists, said Desiderio, at Johns Hopkins School of Medicine. During a recent thesis committee meeting with one of his “strongest graduate students in years”, he was surprised when the student said he might leave academia and find a steadier job in the private sector. The response prompted another faculty member to ask: “If you don’t go into academic research, who will?”

Susan Jaffe