



## NIH hopes funding increases will continue

The US National Institutes of Health welcomed a record budget boost that might be the start of more sustained support. *The Lancet's* Washington correspondent, Susan Jaffe, reports.

See Online for an accompanying podcast with Francis Collins <http://www.thelancet.com/lancet/audio>

For information about the president's budget to fund the US response to Zika virus see <https://www.whitehouse.gov/the-press-office/2016/02/08/fact-sheet-preparing-and-responding-zika-virus-home-and-abroad>

For updated news about the US Zika response see *The Lancet's* USA blog [www.usa.thelancet.com](http://www.usa.thelancet.com)

For more information about the Cancer Moonshot Task Force see <https://www.whitehouse.gov/the-press-office/2016/01/28/memorandum-white-house-cancer-moonshot-task-force>

For the US global health budget analysis by the Kaiser Family Foundation see <http://kaiserfamilyfoundation.org>

The US Congress recently approved the largest single increase in funding for the National Institutes of Health (NIH) in 12 years—a US\$2 billion raise that was twice as much as President Barack Obama requested. But almost as soon as NIH supporters stopped cheering, they began to worry about next year's budget, and the challenge of a new public health threat, Zika virus.

NIH Director Francis Collins told *The Lancet* that the funding boost “was enormously gratifying”. But if it is “a one-hit wonder”, he said “it won't be sufficient to take full advantage of the remarkable scientific opportunities and talent that is out there”.

Unless Congress approves another increase for 2017, “we're going to fall right back down the cliff again”, said Jennifer Zeitzer, legislative relations director at the Federation of American Societies for Experimental Biology, which represents 27 professional scientists' associations.

Collins said he has heard from both Republican and Democratic congressional leaders “who want this to be the beginning of a stable trajectory that can get us back to the place where America needs to be as far as leading the world in biomedical research”. He acknowledges “that won't be easy

because the budget envelope the appropriators have to work within in fiscal year 2017 is still very tight”.

As *The Lancet* went to press, the president was expected to submit his 2017 budget request to Congress on Feb 9. Among some details released in advance were new science and health initiatives that could complicate support for existing projects.

The Obama Administration is asking Congress for \$1.8 billion in emergency funding for a multi-agency response to the mosquito-borne Zika virus, which has been linked to an increase in brain abnormalities in newborn babies.

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The Centers for Disease Control and Prevention (CDC) has reported 50 cases of the disease among US travellers who visited one of the 26 countries and territories in the Americas (from December, 2015, through Feb 5, 2016) where transmission has been confirmed. The CDC would receive \$828 million to improve surveillance, diagnostics, and promote mosquito control.

The request also includes \$335 million for the US Agency for International Development to help Zika-affected countries in South America, Central America, and the Caribbean, and asks Congress to allow the agency to redirect Ebola funds to Zika. The NIH and Food and Drug Administration (FDA) would receive \$200 million to develop diagnostic tools and a vaccine. Health and Human Services Secretary Sylvia Matthews Burwell is expected to provide additional details on the Zika response when she testifies before a congressional committee.

The Obama Administration will also be requesting \$1 billion for the Cancer Moonshot initiative Obama announced in his final State of the Union address last month. It would accelerate efforts to find a cure for cancer by mobilising the kind of resources that landed an American on the moon. About \$755 million of the new funding would support new cancer research at the NIH and the FDA. The project will be headed by Vice President Joe Biden, whose son died last year from brain cancer. 2 weeks ago, he chaired the first meeting of the White House Cancer Moonshot Task Force, made up of more than 14 government agencies. Its work will be funded by the NIH.

The president also wants \$1.1 billion in new funding to combat the misuse of prescription pain medications and heroin that led to 28 648 deaths in 2014. Most of the money, or \$920 million, would help state health officials expand treatment for opioid misuse disorders.

### “Lift all boats”

Raising the NIH budget this year to \$32.1 billion will have a significant impact, Collins said. During more than a decade of flat funding, NIH lost almost 25% of its purchasing power for research, said Collins. Instead of funding one in three grant applications, the chances of getting funded dropped to one in six. “We might be back up to one in five”, Collins said, who hopes the success rate can be improved further. “We have been leaving a lot of great science on the table and it's been devastating for many young scientists who were counting on NIH to be able to get them started on their careers.”

“So if you are a young scientist out there and you've got a great idea, this is a good time to be involved”, he said. “NIH is interested in hearing from you.”



Pallava Bagla/Corbis

NIH Director, Francis Collins

The new funding for several high-profile initiatives of the Obama Administration includes \$200 million for precision medicine, to design personalised treatments for targeted diseases, an additional \$100 million to combat antibiotic resistance, and \$85 million to explore the brain, a project Obama unveiled in 2014.

There is also \$935 million for Alzheimer's disease research, a \$350 million raise—or 60% more—than last year and the largest increase in history, said Harry Johns, president and CEO of the Alzheimer's Association. Although they enthusiastically welcome the support, Johns said the Association must “stay on the offensive”. An estimated \$2 billion annually is needed for Alzheimer's alone, he said to reach the goal of preventing or treating the disease by 2025.

Collins said special initiatives such as precision medicine, antibiotic resistance, and Alzheimer's disease research will not undermine ongoing basic science research. More than half of the new funding for the NIH “is specifically not attached to any of these initiatives and can be used across all of the areas of the research we support to lift all boats”.

Zeitler said Congress provided a roughly 4% increase for each of the NIH's 27 institutes and centres “to benefit both the ongoing work and the very basic research that keeps the engine going, in addition to these special projects that are a big part of the scientific enterprise”.

Other federal health programmes received more modest increases, or none at all (see panel).

### Tough choices

Despite what seems to be bipartisan support for continued NIH budget increases, the current fiscal environment may make it difficult to exceed or even match the \$2 billion raise, said Emily Holubowich, executive director of the Coalition for Health Funding, which includes health-care provider,

#### Panel: Food and Drug Administration and global health funding

The congressional budget agreement that provided a record US\$2 billion increase for NIH contains a \$241 million raise—or about 5%—for the US Food and Drug Administration (FDA). Almost half, or \$104.5 million, will help the agency continue to implement the Food Safety Modernization Act, said FDA spokesman Michael Felberbaum. Another \$8.7 million is earmarked for combating antibiotic-resistant bacteria, and \$5 million will continue implementation of the Food and Drug Administration Safety and Innovation Act, which was intended to streamline drug and medical device approvals and expand inspections of foreign drug facilities. FDA also received \$2.4 million for the president's precision medicine initiative.

The new funding may still fall short of what the FDA needs to meet some of its growing responsibilities but given the tight budget environment, “without question, we have to say thank you and be grateful”, said Steven Grossman, deputy executive director for the Alliance for a Stronger FDA, a coalition of patient and consumer groups, biomedical research advocates, and health professional and trade associations.

Funding for global health programmes remained the same, but avoiding funding cuts may be the best that can be expected for the next several years, said Jen Kates, director of Global Health and HIV Policy at the Kaiser Family Foundation, a health research organisation.

The 2016 budget provides \$10.2 billion for global health to the US Agency for International Development and the State Department. Nearly half the funding supports the President's Emergency Plan for AIDS Relief, while the rest addresses malaria, tuberculosis, maternal and child health, nutrition, and other needs, according to the Kaiser Family Foundation's analysis issued last month.

patient advocacy, public health, and scientist groups. The budget agreement that increased spending for discretionary domestic programmes this year does not provide new funding for 2017, she said. “So that means any

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increase above and beyond what any agency received in 2016 is going to require cuts somewhere else.”

Yet some of the most fiscally conservative Republicans would have given the NIH \$1 billion more in funding this year. In a letter to congressional leaders last November, spearheaded by Representative Kevin Yoder, nearly half the House Republicans called for \$3 billion for NIH, or three times what the president requested.

“Most of us ran on a platform of reining in the national debt and we've

been pretty tough on spending since we have taken over the House”, said Yoder. But cancer, Alzheimer's or Parkinson's disease, or other serious illnesses affect every neighbourhood in America, “regardless of your ideological position”, he said. Investing in research to prevent or treat these diseases can save lives and money, while also supporting research institutions and the local businesses they depend on. “You get a pretty big bang for the buck”, he said.

Another sign of congressional commitment to the NIH is the 21st Century Cures Act, legislation that would speed up drug development and provide steady, mandatory funding for the NIH. The House of Representatives overwhelmingly approved it last year and a companion bill is under consideration in the Senate. “More than anything, this gives patients hope”, said Zeitler. “Hope that we are turning the tide and ending years of underinvestment at NIH.”

Susan Jaffe