

DEPARTMENT OF HEALTH AND HUMAN SERVICES

NATIONAL INSTITUTES OF HEALTH

Hearing on FY 2019 National Institutes of Health Budget Request

Witness appearing before the

Senate Appropriations Subcommittee on Labor, HHS, Education, and Related Agencies

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May 17, 2018

Good morning, Chairman Blunt, Ranking Member Murray, and distinguished Members of the Subcommittee. I am Francis S. Collins, M.D., Ph.D., and I have served as the Director of the National Institutes of Health (NIH) since 2009. It is an honor to appear before you today.

Before I discuss NIH's diverse investments in biomedical research and some of the exciting scientific opportunities on the horizon, I want to thank this Subcommittee for your sustained commitment to NIH to ensure that our nation remains the global leader in biomedical research and advances in human health.

I want to personally express gratitude to this Subcommittee and its leadership for its support in crafting and passing the FY 2018 Consolidated Appropriations Bill. The FY 2018 Omnibus provides an incredible increase of \$3 billion for NIH, including funding for opioid- and pain-related research, Alzheimer's disease, antimicrobial resistance, and development of a universal influenza vaccine. NIH has immediately set to work to invest those additional resources into groundbreaking research.

As the nation's premier biomedical research agency, NIH's mission is to seek fundamental knowledge about the nature and behavior of living systems and to apply that knowledge to enhance human health, lengthen life, and reduce illness and disability. As some of you have witnessed first-hand on your visits to NIH, our leadership and employees carry out our mission with passion and commitment. This extends equally to the hundreds of thousands of individuals whose research and training we support, located in every State of this great country, and where 81 percent of our budget is distributed.

The FY 2019 Budget provides \$34.8 billion for NIH to fund the highest priority scientific discoveries while also maintaining fiscal stewardship of Federal resources. This Budget will consolidate research functions across the Department, optimize available

grant dollars to fund research, invest in NIH's buildings and facilities, and support NIH priority areas including combatting the opioid epidemic, advancing Precision Medicine, and investing in translational research.

The FY 2019 Budget consolidates HHS research programs into three new institutes within the NIH. The Budget provides \$380 million for the activities of the Agency for Healthcare Research and Quality (AHRQ), consolidated into the National Institute for Research on Safety and Quality. The National Institute for Occupational Safety and Health (NIOSH), including the Energy Employees Occupational Illness Program (EEOCIPA), currently administered by the Centers for Disease Control and Prevention, and the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR), currently administered by the Administration for Community Living, are also proposed for consolidation into the NIH.

America's continuing leadership in conducting biomedical research requires infrastructure and facilities that are safe, compliant with all laws and regulations, and conducive to cutting edge research and research support. NIH owns 281 facilities, including a research hospital, laboratories, and offices. NIH's Backlog of Maintenance and Repair exceeds \$1.8 billion. NIH is currently working with the National Academies of Sciences, Engineering and Medicine to identify NIH facilities and infrastructure most in need of repair. We look forward to providing that report to the Committee as soon as it is final.

The FY 2019 Budget makes much needed investments in NIH's facilities. The Budget proposes \$200 million to support multiple biomedical research infrastructure priorities. The FY 2019 Budget will allow NIH to continue to repair and upgrade deteriorated infrastructure. In a recent analysis requested by this Committee, the condition

of NIH laboratories ranks near the lowest in the federal government due to the high likelihood of floods, power outages, and mechanical failures. Items on the backlog list include: install steam and chilled water distribution systems; conduct structural repairs to older buildings; upgrade plumbing systems; repair elevators; upgrade heating, ventilating, and air conditioning systems; replace deteriorated electrical systems, and more. In addition, due to the age and use of NIH facilities, NIH must invest funds in removing contaminants and hazardous waste before construction or capital repairs can begin in most of its buildings. The Budget will allow NIH to track what contaminants are being cleared from each of our buildings, which will ultimately help NIH do a better job of anticipating the cost and time required to begin new projects in existing buildings.

Truly exciting, world class science is taking place. I would like to provide just a few examples of the depth and breadth of the amazing research the FY 2019 Budget supports across the Institutes and Centers of NIH.

Over the past 15 years, communities across our Nation have been devastated by increasing prescription and illicit opioid misuse, addiction, and overdose. This Committee made a historic investment of \$500 million in our work in FY 2018, and the FY 2019 Budget builds on that with an investment of \$850 million to support a range of activities to advance research on pain and addiction. NIH has and will continue to support cutting-edge research on pain, opioid misuse, addiction, and overdose. Drug addiction is a complex neurological condition, driven by many biological, environmental, social, and developmental factors. Continued research will be key to understanding the crisis and informing future efforts. Pain is an equally complex condition affecting millions of Americans. NIH will: explore new formulations for overdose reversal medications capable of combatting powerful synthetic

opioids; search for new options for treating addiction and maintaining sobriety; continue to research how best to treat babies born in withdrawal through our ACT NOW trial; develop biomarkers to objectively measure pain; build a clinical trial network for pain research; and attempt to find non-addictive and non-pharmacological approaches to chronic pain. Thanks to your support, all hands are on deck at NIH for this public health crisis.

Another exciting area of continued investment in FY 2019, building on this Committee's long-standing support, is Precision Medicine. On May 6th, NIH officially launched the national roll-out of the *All of Us* Research Program. This program will partner with one million or more people across the United States to provide the most diverse biomedical data resource of its kind and gain unprecedented insights into the biological, environmental and behavioral influences of disease. The FY 2019 Budget, including resources from the 21st Century Cures Act, supports the ramp up of the program. After pilot testing system and forming partnerships with community organizations across the country, national enrollment is about to begin. *All of Us* will not focus on only one specific disease. Rather, it will be a national data resource to inform many research studies on a wide variety of health conditions. The data provided by one million participants will provide opportunities for researchers—including academics and citizen scientists—who want to understand how and why different people experience certain diseases and conditions while others do not, and why many people respond differently to treatments and prevention methods that will help accelerate medical breakthroughs.

NIH is the largest funder of basic biomedical research in the United States, providing a critical research foundation for both the public and private sector. Building on that solid foundation of basic research, NIH also supports translational research that turns observations in the laboratory, clinic, and community into interventions that improve the health of individuals and the public, whether those interventions be diagnostics, therapeutics, medical procedures, or behavioral changes. For example, Congress created the Cures Acceleration Network (CAN) at the National Center for Advancing Translational Sciences (NCATS) to advance the development of high-need cures and to reduce significant barriers between research discovery and clinical trials. For example, CAN currently supports NCATS' Tissue Chip for Drug Screening program, which was designed to revolutionize the process for predicting drug safety. Researchers developing miniaturized platforms that could support miniature models of living organs — such as the lung, liver, and heart — that could be integrated into connected organ systems. New Tissue Chip initiatives were funded in FY 2017 and this support will continue into FY 2019. CAN uses flexible research awards using the special authorization called other transaction authority to attract non-traditional government partners, and to expand, modify, and, if needed, discontinue activities to meet program needs. The FY 2019 Budget will allow NCATS, through CAN, to continue to invest in high-risk, high reward initiatives designed to address significant scientific and technical challenges that hinder translational research.

One of my personal priorities is developing the next generation of talented biomedical researchers. Last year, I shared with the Committee NIH's plans to build on our support for early-stage investigators through a new initiative known as the Next Generation Researchers Initiative. The FY 2019 Budget includes a dedicated fund of \$100 million in the Office of the

Director to incentivize additional Institute and Center support for these researchers. NIH remains committed to the development, support, and retention of our next generation of investigators.

We have never witnessed a time of greater promise for advances in medicine than right now. Your support has been critical, and will continue to be. Thank you again for inviting NIH to testify today. We look forward to answering your questions.