



**Outside Witness Testimony in Support of FY 2023 Funding for the  
National Institutes of Health**

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**Submitted by:**

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House Committee on Appropriations  
Subcommittee on Labor, Health and Human Services, Education, and Related Agencies

The American Institute of Biological Sciences (AIBS) appreciates the opportunity to provide testimony in support of fiscal year (FY) 2023 appropriations for the National Institutes of Health (NIH). We encourage Congress to provide NIH with **at least \$50 billion** in FY 2023.

*AIBS is a scientific association dedicated to promoting informed decision-making that advances biological research and education for the benefit of science and society. AIBS works to ensure that the public, legislators, funders, and the community of biologists have access to information that can guide informed decision-making.*

Biological research, including biomedical research, is in our national interest. It advances our understanding of the living world and provides solutions to important problems. Increasing our knowledge of how genes, cells, tissues, organisms, and ecosystems function is vitally important to efforts to improve the human condition. Food security, medicine and public health, national security, economic growth, and sound environmental management are all informed by

the biological sciences. Notably, biological research helps to sustain biodiversity and healthy ecosystems that underpin the livelihoods of communities.

Federal investment in scientific research and development (R&D) fuels innovation and creates jobs. Biological research funded by NIH and other federal agencies helps solve national challenges, such as the need to track and combat emerging diseases, improve human health and well-being, enhance food security, and advance the economy. The translation of biological knowledge into formal and informal education programs fosters the development of the scientifically and technically skilled workforce needed by employers. Data show that employers continue to seek workers with scientific and technical skills. Science and engineering employment in the United States has grown more rapidly—at an annual growth rate of 4 percent—compared to the 2 percent annual growth rate for the U.S. workforce overall. In fact, the U.S. STEM workforce constitutes 23 percent of the total U.S. workforce and is comprised of more than 36 million people in diverse occupations that require STEM knowledge and expertise.

The loss of biological diversity and the concomitant negative implications for human health and well-being are of significant concern. As the human population grows and people increasingly come into contact with new environments and species migrating into new habitats, the risk of disease exposure increases. Human health is inextricably linked to the health of other species in our shared environment. One Health (<https://www.cdc.gov/onehealth/index.html>), an approach that recognizes that the health of people is closely connected to the health of animals and our shared environment, is increasingly being recognized as an effective approach to address health issues at the human-animal-environment interface, including zoonotic diseases, antimicrobial resistance, vector-borne diseases, and environmental contamination. Increased research investments are needed to improve our understanding of the linkage between

biodiversity and human health as well as the impacts of climate change on human health and well-being.

NIH is the largest public funder of biomedical research in the world. Research supported by NIH has improved public health, increased average life expectancy by 6 years in the last 5 decades, and resulted in effective treatments for illness and disability. NIH awards competitive grants that support the work of over 300,000 scientists at more than 2,500 U.S. institutions, including universities, medical centers, independent research institutions, and companies.

NIH helps drive economic growth. In FY 2021, NIH extramural funding generated an estimated \$94.2 billion in economic output—or \$2.60 of economic activity for every \$1 of research funding—and supported more than 550,000 jobs nationwide. NIH investments in research also stimulate increased private investment. A \$1 increase in public basic research stimulates an estimated additional \$8.38 of industry R&D investment in a particular research area after 8 years. The NIH's Human Genome Project has resulted in an economic growth of almost \$1 trillion—a 178-fold return on investment—at a cost of only \$2 per year for each U.S. resident.

In addition to supporting critical biomedical research advancements, NIH supports recruitment and training of our next generation of researchers. In 2021, NIH grants directly supported the training of more than 11,000 pre-doctoral students and over 5,600 post-doctoral fellows through training grants as well as many other students through extramural research grants. Support for undergraduate and graduate students is critically important to our research enterprise. Students learn science by doing science, and NIH programs engage students in the research process.

Unfortunately, federal research and development investments are shrinking as a share of the U.S. economy. The U.S. is still the largest performer of research and development globally, but our share of worldwide scientific activity has declined considerably over the past two decades, while countries in East and Southeast Asia, especially China, have been rapidly increasing their investments in science. According to the National Science Board, the annual increase of China's R&D, averaging 10.6 percent annually between 2010 and 2019, continues to outpace that of the United States, with an annual average of 5.4 percent from 2010 to 2019.

Funding for NIH, has not kept pace with the demand for research grants. Despite the large number of highly competitive and potentially transformative grant proposals submitted to NIH, 81% of applications were rejected in 2021.

To remain at the global forefront of innovation and to fully realize the benefits of NIH-supported research, the U.S. government must make bold and sustained investments in NIH. Unpredictability in funding disrupts research programs, creates uncertainty in the research community, and stalls the development of the evidence-based science that could lead to new treatments or cures for maladies affecting our world.

Funding NIH at \$50 billion, an increase of \$5 billion over the FY 2022 enacted level, will enable the agency to support research in a number of important priority areas, including combatting the lasting effects of the COVID-19 pandemic, tackling the opioid epidemic, eradicating HIV in the United States, expanding mental health research, addressing health disparities and inequities, and investigating the human health impacts of climate change. Enacting robust funding increases will allow NIH to ramp up efforts to bolster the nation's pandemic preparedness so that we are in a stronger position to respond to future outbreaks. The requested funding will also allow the agency to continue supporting the Next Generation

Researchers Initiative, which enables researchers to initiate and sustain independent research careers and also helps to grow and diversify the biomedical research workforce.

## **Conclusion**

Previous investments in NIH have advanced the potential of medical research, supported current and new scientists, and enabled the discoveries of critical diagnostics and therapies, including the unprecedented pace of development of COVID-19 vaccines.

Providing the NIH with a base budget of at least \$50 billion in FY 2023 is necessary to undo the harmful effects of recent stagnant funding that slowed American scientific discovery. The requested funding will grow and sustain the U.S. bioeconomy and enable NIH to accelerate work on important initiatives at the frontiers of science and medicine. Importantly, these increases will advance research on infectious disease emergence and transmission, prevent future pandemics, and fill gaps in our knowledge about the spread and evolution of biological threats.

We also ask that any additional funding to support the new Advanced Research Projects Agency for Health (ARPA-H) should supplement, not supplant, our \$50 billion recommendation for NIH's base budget. The new agency charged with supporting transformative high-risk, high-reward research must complement, and not interfere with, NIH's commitment to funding basic research. Safeguards must be put in place to ensure that investments made in ARPA-H does not detract from the investigator-initiated research funded by NIH institutes and centers.

Please continue supporting increased investments in our nation's scientific and medical research capacity. Thank you for your thoughtful consideration of this request and for your prior efforts on behalf of the National Institutes of Health.