Written Testimony for the Record
Ruth Carlos, MD, MS, FACR, President,
Academy for Radiology & Biomedical Imaging Research
202-347-5872; Email: mheintz@acadrad.org
Subcommittee on Labor, Health and Human Services, Education and Related Agencies
Senate Appropriations Committee

In Support of FY2024 Appropriations for the National Institutes of Health

Chair Baldwin, Ranking Member Capito, and members of the Subcommittee, I am Ruth Carlos, MD, MS, FACR, President of the Academy for Radiology & Biomedical Imaging Research (Academy), and a Professor of Radiology and Assistant Chair for Clinical Research at the University of Michigan. The Academy comprises more than 200 academic research departments, patient advocacy groups, industry partners, and imaging societies. It represents thousands of radiologists and researchers in all 50 states. We are the only advocacy organization representing the broad imaging research community by collectively advocating for robust and consistent federal research funding.\(^1\) It is my pleasure to submit this testimony on behalf of the Academy. **We strongly support at least $50.924 billion for the National Institutes of Health’s base appropriation.** This figure represents an increase of $3.465 billion over FY2023, plus the release of the 21st Century Cures funds. The Academy also supports a proportional increase in funding for the National Institute of Biomedical Imaging and Bioengineering (NIBIB), resulting in at least $473.2 million for FY2024—a $32.2 million increase over the FY2023 enacted level. Nearly 24 Institutes and Centers support imaging-based research on a broad spectrum of biomedical systems, and the Academy champions similar proportional increases to advance these efforts agency-wide. Finally, with the authorization of the Advanced Research Projects Agency for Health (ARPA-H) the Academy supports maintaining a separate appropriation of $1.5 billion in FY2024 for this exciting and groundbreaking agency. The Academy is supportive of ARPA-H, but believes its appropriations should be separate from NIH’s advancement of basic science.

Moreover, Congress must work to ensure federal appropriations are enacted on time to avoid disruptive interruptions to the research process. Through consistent, robust funding for NIH and our national research infrastructure, we can continue to make advancements that will improve the lives of patients. The Academy is extremely grateful for the past eight years of increased support of NIH and encourages you to prioritize NIH for consistent and dependable funding levels for biomedical research, radiology, and imaging science.

**Imaging Research Serves the Most Vulnerable in Our Communities**

In my own research, I study how patient outcomes are affected by cost and accessibility. As new research in diagnostic imaging results in smaller, portable, and more precise technology, underserved populations will benefit disproportionally. Whether these population centers are in rural areas, where infrastructure and resources are lacking, or in urban centers, where access to brick-and-mortar health centers can be similarly difficult, improving diagnostic technology and taking it to the patient improves health outcomes. Research at NIH, and in particular at institutes like NIBIB is pursuing technological advances that will benefit those who most need it. Today,

\(^1\) [https://www.acadrad.org/about-the-academy/](https://www.acadrad.org/about-the-academy/)
we can screen for breast and lung cancer using mobile platforms to reach patients where they are, including federally qualified health clinics (FQHCs) that may not have access to imaging technology or as part of a community health fair delivering multi-modality health screening. These partnerships reduce patient burden and encourage the use of life saving technologies in populations who would not have received screening or treatment as efficiently 10 or 15 years ago. While our diagnostic tools and technologies are good, we have learned there is dramatic room for improvement that lower health care costs and increase access to potentially lifesaving tools. We can provide people with diagnosis and treatment in ways that are less disruptive to their lives. The cascading benefits of less onerous medical care—in the form of lower costs, more time at home, or improved quality of life—are obvious. Continued investment in our technological foundation and improving the available tools will undoubtably lead to better patient outcomes. There are other examples of innovative biomedical research. Consider the following:

Seeing Alzheimer’s disease and Parkinson’s disease in a New Way

Alzheimer’s disease is the most common cause of dementia, afflicting 6 million Americans in 2020 and expected to rise to 14 million people by 2060. Almost 1 million Americans currently suffer from Parkinson’s disease. Correctly understanding the biological processes that lead to Alzheimer’s dementia and Parkinson’s disease is critical to the development of new therapies. Imaging is playing an increasingly important role in this research including patient selection for clinical trials and guiding the use of therapies.

The University of Alabama at Birmingham is addressing both conditions with support from NINDS and NIA. First, the Udall Center for Excellence in Parkinson’s Disease Research uses positron emission tomography (PET) to show that brain inflammation occurs early in the disease and may contribute to cognitive impairment. Patients with Parkinson’s disease have higher levels of a key neuroinflammatory marker, and the work is paving the way for clinical trials to reduce brain inflammation and using PET to monitor treatment response.

Second, the UAB Alzheimer’s Disease Research Center is recruiting a well-characterized population of participants, with and without cognitive impairment, representative of the people in Alabama. A pillar of this effort is recruiting participants not adequately represented in most Alzheimer’s disease research, including Black/African American individuals and those living in rural locations. PET imaging of amyloid and tau, proteins that abnormally accumulate in the brains of those with Alzheimer’s disease, is a major component of this research. With the recent approval of new drugs targeting amyloid, understanding how these imaging biomarkers work in different populations and their relationship to other diseases is critical for effective therapy.

Detecting Heart Disease Over Time and at the Gym

Despite all our advancements, cardiovascular disease is still one of the leading causes of death in the United States. According to the Centers for Disease Control and Prevention, in 2020, nearly one in five deaths were related to heart disease. One of the limitations in fighting this widespread problem is the ability to detect emerging heart disease, especially over time. Current applications of ultrasound are limited. Recently a team at the University of California, San

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2 [https://www.uab.edu/medicine/udallp50/](https://www.uab.edu/medicine/udallp50/)
3 [https://www.uab.edu/medicine/alzheimers/](https://www.uab.edu/medicine/alzheimers/)
Diego, funded by NIBIB and NIA, developed a wearable ultrasound device.\(^4\) This noninvasive patch, measuring approximately one inch square, is flexible and provides images on multiple axis without repositioning. The patch improves ultrasound evaluations by providing more data over time and can be used in high-stress environments, like exercise. Initial tests show the patch produces images at nearly the same quality as traditional ultrasound, over a period of hours and in different situations that were previously unreachable. The ability to evaluate at-risk patients more thoroughly could enable earlier diagnosis of a condition that has largely remained hidden until an emergency arises.

**Noninvasive, Outpatient Treatment for Breast Cancer**

Researchers at the University of Utah are pioneering new ways to treat breast cancer tumors in non-invasive ways in outpatient settings.\(^5\) Using focused ultrasound technology and magnetic resonance guiding, researchers can locate and destroy malignant tumors with heat. Put another way: breast cancer patients are being treated without chemotherapy or radiation. This research, funded collaboratively by NIBIB and NCI, may create dramatic improvements in patient experience and outcomes when being treated for breast cancer.

**Summary and Conclusion**

Sustained and robust NIH funding is crucial to advancing our efforts to understand and treat a myriad of diseases and disorders. NIH has received longstanding, bipartisan support that led to dependable budgets that fund lifesaving research. NIH research reaches every state in the country, with both health and economic benefits. In 2022, NIH funds generated $2.64 in economic activity for every $1 of funded research.\(^6\) Funding NIH’s base with at least $50.924 billion will provide the robust support needed to sustain growth and secure advancements in biomedical research. Additionally, keeping NIH funding separated from the exciting efforts underway at ARPA-H will ensure we can take advantage of multiple efforts to achieve success.

While there are many priorities facing our country today, reversing the trend on NIH funding will only delay the discovery of new cures, treatments, and diagnostic technologies that benefit all Americans. I urge you to continue this Committee’s longstanding and substantive support for NIH. Thank you for your strong, continued support of NIH, NIBIB, and all the Institutes and Centers working to advance our biomedical research efforts and to improve the lives of patients worldwide.

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