University of Colorado
Boulder | Colorado Springs | Denver | Anschutz Medical Campus

October 31, 2023

The Honorable Bill Cassidy, M.D.
Ranking Member
Committee on Health, Education, Labor, and Pensions
United States Senate
428 Senate Dirksen Office Building
Washington, DC 20510

Dear Ranking Member Cassidy,

On behalf of the University of Colorado (CU) and our Anschutz Medical, Boulder, Colorado Springs, Denver campuses, we appreciate the opportunity to respond to your request for information regarding the National Institutes of Health (NIH).

CU is a premier public research university with four campuses: the University of Colorado Boulder, the University of Colorado Colorado Springs, the University of Colorado Denver and the University of Colorado Anschutz Medical Campus. With more than 66,000 students and 7,300 full-time instructional faculty members, CU is the largest institution of higher education in the state of Colorado. With an annual budget of $5.9 billion, CU generates an economic impact of $17.2 billion annually for the state. CU researchers attracted $1.6 billion in sponsored research funding and gifts in fiscal year 2022-23. CU has launched 293 startups. Academic prestige is marked by CU's five Nobel laureates, 10 MacArthur "genius" Fellows, 20 astronauts and 21 Rhodes Scholars.

For fiscal year 2023, CU campuses received over $420 million in NIH funding from over 950 awards – interacting with almost all 27 NIH institutes.[1] Research conducted by CU investigators helps drive clinical care and treatments for Coloradans at our clinical partners, such as UCHealth and the University of Colorado Hospital, Children's Hospital of Colorado, and Denver Health – amongst other health centers in Colorado. Additionally, programs at CU campuses train our future biomedical workforce and partner with local health centers to address comorbidities in Colorado.

In fiscal year (FY) 2023, CU Anschutz – the Rocky Mountain region's only academic medical center – received over $320 million in NIH awards.[2] This includes significant partnerships with the National Heart, Lung, and Blood Institute (NHLBI), the National Cancer Institute (NCI), the National Institute on Diabetes and Digestive. and Kidney Diseases (NIDDK), the National

[1] U.S. Department of Health and Human Services. (n.d.). NIH awards by location and Organization - NIH Research Portfolio Online Reporting Tools (report). National Institutes of Health. https://report.nih.gov/award/index.cfm
[2] CU Anschutz University Research, 2023. University Research. (n.d.). https://research.cuanschutz.edu/university-research/news-events/research-annual-report

Institute of Allergy and Infectious Disease (NIAID), and the National Institute of Aging (NIA) to name a few. In all, CU Anschutz actively engaged with 24 institutes in FY 23.

Maintaining a strong partnership between the NIH and CU Anschutz is crucial in providing treatments and finding cures for Coloradans as well as patients from neighboring states such as Wyoming, Nebraska, Kansas, South Dakota, and New Mexico.

Through grants from the NIDDK, researchers at the Barbara Davis Center for Diabetes created the Food and Drug Administration-approved immunotherapy treatment Tzield. Due to this investment from the NIH, this immunotherapy treatment targets changing the structure of "bad T-cells" to reduce the impact these cells may have on juveniles diagnosed with type 1 diabetes. This immunotherapy can delay the onset of stage 3 juvenile diabetes, allowing diabetes to be more manageable for patients impacted by the disease.[3] Within the CU Comprehensive Cancer Center based at CU Anschutz, researchers receiving NCI grants are now able to understand why melanoma patients do not respond to immunotherapy and if there are drugs doctors can prescribe to make those patients more able to respond to the therapy. From this NCI grant, CU Researchers are investigating combining the new drug and immunotherapy, which early results show melanoma tumors shrinking and no longer impacting patients.[4]

Additionally, the Anschutz Medical Campus - which was named one of the top global universities for innovation - encourages researchers to become entrepreneurs and investors to create biomedical technology that improves the quality of life worldwide.[5] The Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs at the NIH are excellent partners to small businesses started by CU Anschutz faculty to accelerate their growth. For example, Rock Immune LLC, which was started by CU faculty through a $2.4 million NCI Fast STTR grant, is an early-stage biopharmaceutical company focused on the development and commercialization of diphtheria toxin-based recombinant immunotoxins for the treatment of cancer & autoimmune diseases. In large part due to their partnership with the STTR program, Immune LLC is ready to start a phase one clinical trial in partnership with the CU Comprehensive Cancer Center.

Other campuses not affiliated with academic medical centers in our system also play a crucial role in medical research in Colorado. In FY 23, CU Boulder received over $60 million in NIH research grants, one of the highest in the country for a public institution not affiliated with a health system.[6] Additionally, our Denver and Colorado Springs campuses receive grants to increase our biomedical research workforce and serve their local communities.

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[3] Melani, D. (2023, April 17). New Therapy First to Target Type 1 Diabetes Disease Process. CU Anschutz Newsroom. https://news.cuanschutz.edu/news-stories/new-therapy-first-to-target-type-1-diabetes-disease-process

[4] Glasgow, G. (2023, July 26). R01 Grant Will Help Find a Way to Overcome Resistance to Immunotherapy in Melanoma. CU Anschutz Newsroom. https://news.cuanschutz.edu/cancer-center/r01-grant-resistance-to-immunotherapy-in-melanoma

[5] Milzer, J. (2022, December 14). CU Anschutz Ranked Globally as a Top University for Innovation. CU Anschutz Newsroom. https://news.cuanschutz.edu/news-stories/cu-anschutz-ranked-globally-as-a-top-university-for-innovation

[6] U.S. Department of Health and Human Services. (n.d.). NIH awards by location and Organization - NIH Research Portfolio Online Reporting Tools (report). National Institutes of Health. https://report.nih.gov/award/index.cfm

At CU Boulder, the BioFrontiers Institute brings together an interdisciplinary community of scientists driven by the mission of improving global health and welfare through collaborative, boundary-pushing bioscience. Scientists at BioFrontiers, who boast one Nobel Prize and two National Medals of Science, study critical societal issues, including regenerative medicine, Down Syndrome, computational biology, degenerative diseases, and infectious diseases.

Scientists at BioFrontiers are focused on collaborations that lead to new scientific discoveries, innovations in biomedical education, and public-private partnerships, which deliver treatments discovered from NIH-funded research to all Americans. Half of the faculty at BioFrontiers have founded one or more companies. For example, research funded by NIH laid the foundation for the basic science that led to the co-founding of the company MyoKardia by a BioFrontiers researcher, and discoveries that resulted in an FDA-approved drug for obstructive hypertrophic cardiomyopathy – the leading cause of sudden cardiac death among young people. The drug Camzyos is the first-ever approved to treat patients with genetic heart disease and has a potential U.S. patient base in the hundreds of thousands.[7]

At CU Denver, the National Institute of Biomedical Imaging and Bioengineering supports our Bioengineering Scholars Program (BSP) through the Enhancing Science, Technology, Engineering, and Math Educational Diversity (ESTEEMED) program. The BSP provides financial and academic support and research opportunities for nontraditional students to prepare them for graduate degrees in bioengineering, biomedical research, and medical school.[8] Investing in programs such as the BSP is crucial in solidifying our biomedical research workforce infrastructure, ensuring academic institutions will be positioned to partner with the NIH on extramural research programs.

Finally, at UCCS, the Lyda Hill Institute for Human Resilience's mission is to advance human resilience to adversity by designing evidence-based solutions through interdisciplinary research, healing therapies, and community training and empowerment. NIH-funded projects (including NIMH and NIAAA) within the Institute have focused on leveraging online and mobile technology to increase the accessibility and reach of critically needed trauma intervention and prevention programs. These have included online interventions for disaster survivors and teleconference-delivered interpersonal violence prevention programs for members of multiple minoritized populations, who are more likely to experience interpersonal violence and experience deleterious outcomes following this experience. Investing in community-based research that is conducted at the Institute is critical for ensuring that scientific research leads to

[7] Bristol Myers Squibb acquires MyoKardia Inc., a biomedical company co-founded by CU professor. (2020, November 17). Leinwand Lab. https://www.colorado.edu/lab/leinwand/2020/11/17/bristol-myers-squibb-acquires-myokardia-inc-biomedical-company-co-founded-cu-professor

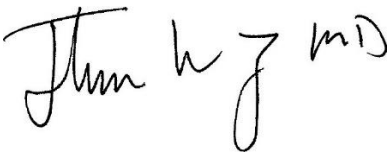
[8] Bioengineering Scholars Program. College of Engineering, Design and Computing in the heart of Denver. https://engineering.ucdenver.edu/bioengineering/outreach/bioengineering-scholars-program

the development of intervention and prevention programs that are cost-effective, widely accessible, and that can be quickly disseminated to patients across the country.[9]

NIH-sponsored programs at CU prove the importance of sustaining the longstanding partnership between academic institutions and the NIH to ensure that patients nationwide receive top-notch healthcare services. To ensure that CU biomedical researchers can develop immunotherapies, cures, and treatments to advance the public health of all Americans, Congress must continue to fund the NIH with sustainable growth in the FY 24 appropriations bills and in the years ahead.

As you continue your efforts to modernize the NIH, please do not hesitate to contact any of our experts for their advice and opinions. For further questions, please contact Brett Roude, Assistant Vice President of Federal Relations and Health Policy, at brett.roude@cu.edu or 202-281-9301.

Sincerely,



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cc: Senator Michael Bennet
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[9] Active Research Programs | Lyda Hill Institute for Human Resilience. (n.d.). University of Colorado Colorado Springs. https://resilience.uccs.edu/research/active-research