

The NIH, ARPA-H and the Biomedical Research Partnership with the University of California

The University of California (UC) receives more than half of the funding distributed by the National Institutes of Health (NIH) in California, historically earning six percent of NIH's research and development funding each year. In federal fiscal year (FY) 2021, UC was awarded \$2.4 billion in research funding from the NIH, making the agency the University's largest research sponsor. In addition, last year, Congress established the Advanced Research Projects Agency for Health (ARPA-H) to support "high risk, high reward" biomedical research. Together, federal funding for both agencies will lead to research and health care breakthroughs that drive towards cures for Alzheimer's and Parkinson's disease, HIV/AIDS and many forms of cancer. Increased federal investments in the NIH and ARPA-H are essential to continue this work, leading to new discoveries, cures and innovations.

With more than 800 research centers, institutes, laboratories and programs spanning ten campuses, six academic health centers, three affiliate national laboratories and other specialized research facilities, UC conducts nearly nine percent of all academic research in the United States. All UC campuses and health centers receive funding from the NIH and are consistently among the top recipients of NIH funding in California, and across the country.

UC COLLABORATION AND INNOVATION IN BIOMEDICAL RESEARCH

UC is leading the way in groundbreaking biomedical research and developing medical innovations in California and across the nation. Some of UC's most recent projects receiving NIH awards include:

- A \$55 million, five-year grant awarded to UC San Diego through the NIH Clinical and Translation Science Award Program to bring together teams of clinicians and scientists to engage with underserved populations;
- A \$47 million, five-year grant awarded to UC Berkeley from the NIH National Institute on Aging to perform research on whether Alzheimer's disease can be avoided by incorporating dietary and lifestyle changes;
- A \$27.2 million grant awarded to UCLA from the NIH Common Fund to create the Diversity Program Consortium, which is part of a multi-institution initiative aimed at encouraging students and early-career researchers from underrepresented backgrounds to engage in the biomedical and biobehavioral sciences;
- A \$3.2 million grant awarded to UC Riverside from the NIH to study health disparities across underserved populations;
- A \$3 million grant awarded to UC Irvine from the NIH to study the impact of early-life experiences on individuals' mental health; and
- A \$2.2 million grant awarded to UCSF from the NIH to develop their Biomedical Sciences Graduate Program to fund research in predicting how gene mutations are associated with scoliosis.

NIH funding has also been instrumental in COVID-19 pandemic recovery. Since the start of the pandemic through February 2022, UC has earned 106 COVID-19 related NIH awards totaling \$152,449,246. These include:

- A \$80.5 million grant awarded to UCLA for research and clinical trials on HIV therapeutics based on COVID-19 knowledge;
- A \$6.0 million grant awarded to UC San Diego to standardize COVID-19 testing procedures; and
- A \$3.75 million grant awarded to UC Davis to decrease disparities in COVID-19 patients in Latinx communities.

The UC Biomedical Research Acceleration, Integration and Development (BRAID) Consortium is a collaboration across the system between UC's six academic health centers and the Office of the President, accelerating medical research and improving health in California. UC BRAID receives federal funding from NIH and the National Center for Advancing Translational Sciences (NCATS), leveraging the strengths of individual UC campuses to further our leadership in accelerating clinical and translational research, including a recent \$2.76 million grant award to research and develop COVID-19 diagnostic technologies.

UC's familiarity with the BRAID-style research and development consortia supported by NIH lends itself to future success in collaboration with the new Advanced Research Projects Agency for Health (ARPA-H), and the urgently needed supplemental funding opportunities emerging from its "high-risk, high-reward research funding philosophy." Together, both agencies' work will lead to long-term, transformative solutions in research and improving health in California and nationally.

UC CONTRIBUTIONS TO DIVERSITY IN STEM AND ECONOMIC GROWTH

UC's world-class scientists are vital to making groundbreaking discoveries in research and health care, and a diverse community of scientists is essential to conducting this work. Diverse research teams have an increased likelihood of success; the multitude of perspectives and experiences they bring to their research is proven to result in more innovative solutions and contributions to our nation's economic growth and global competitiveness. NIH research funding enables California's biomedical research and health care industries to remain global innovation leaders, and a diverse STEM workforce can greatly enrich the quality of research conducted and expand the job market in California and across the nation.

NIH funding has been instrumental for research and workforce development programs across UC's campuses. Some of UC's diversity programs and initiatives in biomedical research include:

- A \$2.2 million training grant from NIH to UC Merced for assisting with the development of diverse cohorts of doctoral students in interdisciplinary biomedical disciplines;
- A \$1.29 million grant from NIH to UC San Diego to establish the "STARTneuro" program focused on raising interest and opportunities in neuroscience research for individuals who are typically underrepresented in the field; and
- NIH funding has been instrumental for STEM Diversity Research Programs at UC Santa Cruz, UC Riverside and UCSF, and support diversity in the student population as well as among faculty.