

The National Institutes of Health Research Partnership with the University of California

The University of California (UC) receives more than half of the National Institutes of Health (NIH) funding distributed in California. Further, UC is the largest single recipient of funding from the NIH, earning five to six percent of NIH's total annual appropriations for research each year. In fiscal year (FY) 2020, UC was awarded nearly \$2.4 billion in total NIH research funding, making the NIH the University's largest research sponsor. A significant portion of UC's NIH funding comes from the National Institute of General Medicine Science, the National Institute of Allergy and Infectious Diseases and the National Cancer Institute. While overall funding for the NIH has increased in recent years, support for medical research has nevertheless lagged behind the rate of medical inflation, and further investment is essential to continue medical innovation.

UC—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—conducts nearly 9 percent of all academic research and development in the United States. Federal support for medical research is critical for UC to continue to conduct world-class research, address emerging diseases, advance science and save lives. All UC campuses and health centers receive funding from the NIH, and UC Berkeley, UC Davis, UC Irvine, UCLA, UC San Diego and UCSF are six of the top 10 recipients of NIH funding in California.

UC AND THE FIGHT AGAINST COVID-19

As the country continues to address and recover from COVID-19, UC is contributing to the national response to the pandemic and has earned 97 COVID-19 related NIH awards totaling \$84,029,549 through March 2021, with even more awards earned since then. These include:

- A \$3.76 million grant to UC San Diego from the NIH National Institute of Environmental Health Sciences to utilize a rapid COVID-19 test for large-scale free testing for children, pregnant woman and their families in underserved communities in San Diego;
- A \$2.76 million grant to the UC Biomedical Research Acceleration, Integration and Development (UC BRAID) Consortium from the NIH National Institute of Biomedical Imaging and Bioengineering to research and develop highly effective COVID-19 diagnostic technologies;
- A \$709,800 grant to UC San Diego from the NIH National Institute of Allergy and Infectious Diseases to research the susceptibility of HIV patients to COVID-19 and how HIV and COVID-19 interact after infection; and
- A \$292,400 grant to UCLA from the NIH National Institute of Allergy and Infectious Diseases to research the transmission rate of COVID-19 from a mother's breast milk to her infant.

The University of California Health (UCH) is also participating in systemwide collaborations to coordinate, gather and streamline efforts across campuses and health centers, including efforts funded by NIH:

- CORDS, a database of de-identified clinical information from COVID-19 patients across UCH, led 14 peer-reviewed papers, new treatment insights and made substantial scientific contributions to the National COVID Cohort Collaborative, a program run by NIH's NCATS.

UC COLLABORATION AND ADVANCEMENTS IN MEDICAL RESEARCH

- UC is leading the way in medical innovation through groundbreaking research. Some of UC's most recent NIH awards include:
 - A \$55 million, five-year grant to UC San Diego from 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 to UC Berkeley from the NIH National Institute on Aging to research whether Alzheimer's can be avoided by incorporating dietary and lifestyle changes;
 - A \$27.2 million grant to UCLA from the NIH Common Fund to create the Diversity Program Consortium, 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 to UC Riverside to study health disparities across underserved populations;
 - A \$3.0 million grant to UC Irvine to study the impact of early-life experiences on individuals' mental health; and
 - A \$2.2 million grant to UCSF's Biomedical Sciences Graduate Program to fund research in predicting how gene mutations are associated with scoliosis.
- The BRAID Consortium is a collaboration between UC's six academic health centers and UC's Office of the President aimed at accelerating medical research across the system and streamlining research 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 quickly become recognized as a leader in accelerating clinical and translational research.
- The UC Global Health Institute (UCGHI) is a UC-wide initiative that stimulates, nurtures and promotes global health research, education and collaboration to advance health in California and worldwide. UCGHI manages and supports the UC GloCal Health Fellowship, sponsored by NIH and the Fogarty International Center, which sends doctoral and professional students from all ten UC campuses to study diseases and conditions in developing countries.
- UC discoveries and accomplishments funded by the NIH that have changed millions of lives include:
 - Development of the artificial retina;
 - Pre-natal tests for sickle-cell anemia; and
 - Using brain mapping to safely remove brain tumors.

UC CONTRIBUTION TO RESEARCH & DEVELOPMENT WORKFORCE AND ECONOMY

UC's world-class faculty, graduate academic and postdoctoral students are vital to the mission of conducting successful research. It is crucial to UC's mission to employ a diverse community of faculty, academics, researchers and students to contribute research to all disciplines. Without a richly diverse workforce, the quality of UC's research would be severely diminished.

- Since 1980, over 1,400 startup companies have been founded around UC inventions, with about 85 percent based in California.
- UC conducts an average of \$512,000 in externally sourced research per tenured and tenure-track faculty, more than comparable public (\$302,000) and private (\$508,000) institutions.

NIH research funding enables California's medical research industry to remain a global innovation leader, supporting hundreds of thousands of jobs and economic growth in California and across the nation. UC produces, on average, five new discoveries a day, and over the past quarter century, UC has secured more licensable patents than any other U.S. research university.