The Importance of 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 to California by the federal government. In fiscal year (FY) 2019, UC was awarded $2.4 billion in total NIH funding, making the NIH the university’s largest research sponsor. A significant portion of NIH funding to UC 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.

Federal support for medical research is critical for UC to continue to conduct world-class research, address emerging diseases, advance science and save lives.

UC, with more than 800 research centers, institutes, laboratories and programs spanning ten campuses, five medical centers, three national laboratories and numerous specialized research facilities, performs nearly one-tenth of all academic research and development conducted in the U.S.

- All UC campuses and medical centers receive funding from the NIH. UC Berkeley, UC Davis, UC Irvine, UC Los Angeles (UCLA), UC San Diego and UC San Francisco (UCSF) are six of the top 10 institutions receiving the most NIH funding in California.
- UCSF received more NIH funding in FY 2019 than any other public university in the country – the thirteenth consecutive year UCSF earned this distinction.
- UC is the largest single recipient of funding from NIH, receiving 5-6 percent of NIH’s total annual appropriation for research.

UC COLLABORATION AND ADVANCEMENTS IN MEDICAL RESEARCH

- UC is leading the way in medical innovation with groundbreaking studies throughout the system:
  - $1.7 million grant to UCSF School of Nursing from the NIH to fund research in the impact of hearing loss and tinnitus in cancer survivors.
  - $55 million five-year grant to UC San Diego from the NIH Clinical and Translation Science Award to bring together teams of clinicians and scientists to engage with underserved populations.
  - $2.2 million grant to UCSF Biomedical Sciences Graduate Program to fund research in predicting how gene mutations are associated with scoliosis.
  - $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.
  - $3 million grant to UC Davis School of Medicine from the NIH National Cancer Institute to further develop the world’s first total-body PET scanner, called EXPLORER.
$3.9 million grant to UCLA Cannabis Research Initiative from the NIH to study whether cannabis compounds reduce the need for opioid medication for pain relief

$1.9 million grant to UC Irvine from the NIH to develop a "microtsunami microscope" that investigates disease developing in human tissue.

**UC Biomedical Research Acceleration, Integration and Development (UC BRAID) Consortium:** UC BRAID is a collaboration between UC’s five medical center campuses and Office of the President aimed at accelerating biomedical research across UC and streamlining research in California. UC BRAID receives federal funding from NIH and the National Center for Advancing Translational Sciences, and has leveraged the strengths of individual UC campuses to quickly become recognized as a leader in accelerating clinical and translational research.

**UC Center for Accelerated Innovation (UC CAI):** A unique component of UC BRAID and supported by funding from the National Heart, Lung and Blood Institute, UC CAI is one of three Centers for Accelerated Innovations in the country. UC CAI aims to accelerate the translation of scientific discovery into commercial products that improve health, particularly for patients with heart, lung and blood diseases, and has contributed funding to develop 24 technologies, garnering a return of $19.8 million in follow-on funding and external investment.

**UC Global Health Fellowship (UC GHF):** This UC-wide initiative aims at collaborating with scientists on a global scale to find solutions to questions that research poses. UC GHF offers the GloCal Health Fellowship, sending doctoral and professional students from all ten UC campuses to study diseases in developing nations. Partnered with the NIH and the Fogarty International Center, research areas are focused in social and behavioral science, nutrition, environment, medicine, public health, nursing, veterinary and basic sciences.

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. UC discoveries and accomplishments that have changed millions of lives include:

- The development of an artificial retina;
- First hand transplant in the Western U.S.;
- Development of pre-natal tests for sickle-cell anemia;
- First open-heart surgery in the Western U.S.; and
- World’s second documented larynx transplant.

**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 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 could be diminished for many years to come.

- Since 1976, over 1,000 startup companies have been founded around UC inventions, with about 85 percent based in California.
- UC conducts an average of $549,000 in externally sourced research per tenured and tenure-track faculty, more than comparable public ($311,000) and private ($534,000) institutions.
- NIH research funding enables California’s biomedical research industry to remain a global innovation leader, and supports hundreds of thousands of jobs and economic growth in California and across the nation.