UMR
UNITED FOR
MEDICAL RESEARCH

October 1, 2020

Jake Sullivan
Biden for President
P.O. Box 58174
Philadelphia, PA 19102

Dear Mr. Sullivan:

On behalf of United for Medical Research (UMR), which represents the leading scientific research institutions, industries, and patient advocates, we want to congratulate the Biden Campaign on its Democratic nomination victory. We would also like to take this opportunity to offer important background on why robust funding for the National Institutes of Health (NIH) is so critical to the nation, especially as the agency continues to lead the fight against the COVID-19 pandemic.

**COVID-19**

Even before the pandemic struck, NIH was already in overdrive working on cures and treatments for deadly diseases like cancer, Alzheimer's, heart disease, diabetes and ALS. And now the world's premier health agency is providing critical leadership in the effort to research, prevent and treat COVID-19.

For your reference, we attached a fact sheet that outlines the kinds of efforts that are being put forth in the biomedical research community toward tackling COVID-19.

In 2021, NIH will require substantial resources to not only meet the ongoing needs for COVID-19 research, but to continue life-saving work being done to treat and cure our other most vexing diseases. While funding for NIH has increased over the last several years with strong bipartisan support, the agency continues to face intense pressure and expectations to improve America's health across the entire spectrum of diseases and conditions. As a result of the COVID-19 pandemic, research in every state has been disrupted as researchers temporarily suspended many laboratory activities for their own personal safety and to comply with social distancing guidelines. While many labs have since started ramping back up, often at considerable costs, according to an April survey by the American Cancer Society, out of 488 of its research grantees, 51 percent said their work was on hold until further notice due to COVID-19, and another 43 percent said their work was modestly affected with some aspects of their work on hold.

We urge Vice President Biden to be an outspoken champion for NIH to make these critical biomedical research breakthroughs a reality and ultimately give patients hope.

**UMR Members**

AdvaMed
Alzheimer's Association
American Association for the Advancement of Science
American Cancer Society Cancer Action Network
American Heart Association
Association of American Universities
Association of Public and Land-grant Universities
BD
Biotechnology Innovation Organization
Boston University
Corning
Harvard University
Johns Hopkins University
Johnson & Johnson
Massachusetts Institute of Technology
MilliporeSigma
Northwestern University
PhRMA
ResearchAmerica
Stanford University
Thermo Fisher Scientific
University of Pennsylvania
Vanderbilt University
Vanderbilt University Medical Center
Washington University in St. Louis

**An Economic Powerhouse**

In addition to producing valuable public health benefits, NIH has proven to be an engine of growth for the U.S. economy. In fiscal year 2019, NIH research funding supported nearly 476,000 jobs and more than $81 billion in annual economic activity (2020 UMR report attached).

Every dollar invested in NIH research has an exponential impact by supporting discovery, improving health and spurring the economy. And as policymakers have enacted NIH funding in recent years, it has had an immediate, positive impact on countless local communities across the country.

Additionally, funding NIH research that prevents, treats and cures our most chronic and costly diseases would have an enormous impact on the nation's economy. Each year the Centers for Medicare and Medicaid Services spends over $35 billion to take care of people with end-stage renal disease. Nearly one in every five Medicare dollars is spent on individuals with Alzheimer's disease or other forms of dementia. Alzheimer's is the sixth-leading cause of death in the United States and the only cause of death among the top 10 that cannot be prevented, cured or even slowed. It also has been estimated that a one percent reduction in deaths from cancer or heart disease would be worth nearly $500 billion to the U.S. economy.

**Maintaining America's Global Leadership**

NIH drives medical innovation world-wide, however the United States' leadership is constantly under threat by growing competition from countries such as China, South Korea, Germany, Singapore and the United Kingdom. It is predicted that China's support for research will exceed that of the U.S. by 2022, coupled with an aggressive plan to recruit top researchers from around the world.

By establishing a more predictable and sustainable level of funding for NIH over the long term, we will be able to fund more grants and ensure that the most brilliant minds in science see a long career in biomedical research here in America. This will keep the United States' medical research sector not only globally competitive but maintain its place as the envy of the world.

UMR members are proud to partner with the NIH on life-saving treatments and cures and know how integral it is to the health of all Americans. UMR members are currently engaged in the fight against COVID-19 and have been supporting many advancements including treatments and vaccines, diagnostics, ultra-rapid antibody discovery technologies, protein mapping modifications, clinical trials, and more.

Thank you for your time on this issue that affects every American, and we hope the campaign will consider UMR a resource in the days to come.

Sincerely,

Chol Pak
Director, Federal Government Relations, Thermo Fisher Scientific
President, United for Medical Research

Caroline Powers
Director, Federal Relations, American Cancer Society Cancer Action Network
Secretary, United for Medical Research

Lizbet Boroughs
Associate Vice President for Federal Relations, Association of American Universities
Treasurer, United for Medical Research

Alex Currie
Senior Director of Federal Relations, Vanderbilt University Medical Center
Board Member, United for Medical Research

Christopher Austin
Associate Director, Federal Affairs, Johns Hopkins University & Medicine
Board Member, United for Medical Research

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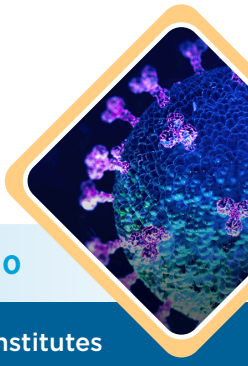


# AN UNPRECEDENTED IMPACT

## A SERIES OF FACT SHEETS ON COVID-19 AND BIOMEDICAL RESEARCH

OCTOBER **2020**

**We must maintain and strengthen our nation's investment in medical research through the National Institutes of Health. This is an urgent priority for Congress, as our nation works to restart stalled research, keep up with pressing public health challenges, continue to fight COVID-19 and prepare for the next potential pandemic.**

## PART 4 | NIH DRIVING PROGRESS

**The NIH is a driving force in the global effort to understand, treat and eradicate COVID-19.** In just months, progress is being made on many fronts thanks to congressional support for supplemental funding for NIH, the collaboration and investments by the life sciences and biopharmaceutical industries and America's longstanding leadership in biomedical research. Despite remarkable progress, much work remains and will require continued congressional prioritization of funding for the NIH.

### SUPPLEMENTAL FUNDING TO NIH TO ADDRESS COVID-19

**$836 million**
Coronavirus Preparedness and Response Supplemental Appropriations Act
MARCH 5

**$945 million**
CARES Act
MARCH 27

**$1.8 billion**
Paycheck Protection Program and Healthcare Enhancement Act
APRIL 24

Source: KKF.org

### COORDINATING DEVELOPMENT OF CRITICAL TOOLS

NIH launched two programs in April to speed development of COVID-19 vaccines, treatments and diagnostic tests

#### ACTIV: Accelerating COVID-19 Therapeutic Interventions and Vaccines

AS OF SEPTEMBER 10

- **3 Vaccines** in trials using harmonized protocols informed by ACTIV
- **5 Trials** of therapeutics using ACTIV protocols

Source: NIH

#### RADx: Rapid Acceleration of Diagnostics

AS OF SEPTEMBER 20

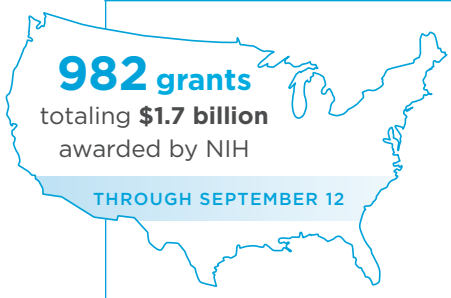
**RADx Tech Dashboard* Program | 708 PROPOSALS**

- ✓ **15 In Progress** undergoing initial review
- ✓ **131 Deep Dive conversations** to ID risks and milestones
- ✓ **45 Phase 1** proposals selected, undergoing de-risking
- ✓ **16 Phase 2** proposals selected for further development, manufacturing and distribution support

**RADx-Tech and RADx-ATP are the first two of the four RADx programs to announce funded projects*

Source: NIH

### NIH-SUPPORTED COVID-19 RESEARCH



**982 grants** totaling **$1.7 billion** awarded by NIH

THROUGH SEPTEMBER 12

Source: NIH

- **506** via Regular Appropriations
- **314** via Coronavirus Preparedness and Response Supplemental Appropriations
- **123** via CARES Act
- **40** via Paycheck Protection Program and Healthcare Enhancement Act

### MONITORING THE IMPACT ON PATIENTS

alzheimer's association

Alzheimer's Association announces global effort to track impact of COVID-19 on the brain

Cancer Action Network, American Cancer Society

Pandemic's impact on cancer patients and survivors

American Heart Association.

A history of stroke associated with death of hospitalized patients with COVID-19, study finds

**#keepNIHstrong | Learn how UMR members are addressing COVID-19 at unitedformedicalresearch.org/covid-19**

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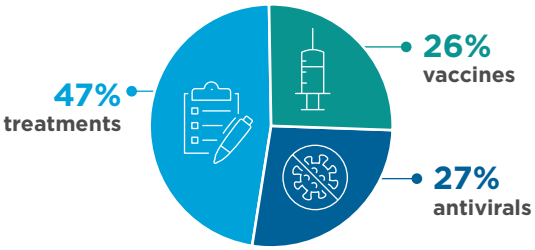
# UNPRECEDENTED IMPACT, *cont.*

We must maintain and strengthen our nation's investment in medical research through the National Institutes of Health. This is an urgent priority for Congress, as our nation works to restart stalled research, keep up with pressing public health challenges, continue to fight **COVID-19** and prepare for the next potential pandemic.

## PROGRESS TOWARD TREATMENTS

### DEVELOPMENT

**739 unique compounds**
in development globally
up from **548** in June
more than half involve U.S.-based companies




Source: BIO | As of September 28

### CLINICAL TRIALS

**1,597 clinical trials**
testing COVID-19 treatments & vaccines
up from **1,100** in June

- ✓ 360+ trials in the United States
- ✓ 99 clinical trials testing **34 vaccine candidates**
- ✓ 200+ trials are testing novel compounds and 955 trials are testing medicines approved for other indications

Source: PhRMA | As of September 11

### DIAGNOSTIC TESTS

**170 million total U.S. shipments**
of COVID-19 molecular diagnostic tests to date

**1.2 million =** daily shipments
up from **600,000** in May

Source: AdvaMed | As of September 25

## COVID-19 RESEARCH FROM AROUND THE COUNTRY

Never before has so much research energy and effort been deployed to understand, detect, and fight a single virus.

- Boston University — **BU scientists** are studying the biological domino effect SARS-CoV-2 sets off
- Northwestern University — Sticker-like medical device developed by **Northwestern team** streams COVID-19 symptom data to physicians
- Vanderbilt University — **Vanderbilt researchers** find streamlined diagnostic approach for COVID-19 avoids a potential testing logjam
- Vanderbilt University Medical Center — **VUMC-led study** for CDC finds COVID-19 antibodies drop substantially in the weeks following infection
- Washington University in St. Louis — **Washington University** COVID-19 saliva test is faster, simpler and enables screening on a massive scale
- Massachusetts Institute of Technology — **MIT robot** could reduce health care workers' exposure to Covid-19 virus
- Johns Hopkins University — Odor-sensing cells in nose seen as key entry point for SARS-CoV-2, **Johns Hopkins study** finds
- Penn — **Penn researchers** create database of drugs used to treat COVID-19 to find promising leads
- Stanford University — Vaping linked to COVID-19 risk in teens and young adults, according to **Stanford study**
- Harvard University — Children's role in spread of virus bigger than thought, **Harvard study** finds

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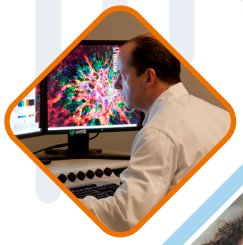

## 2020 STATE-BY-STATE UPDATE

# NIH'S ROLE IN SUSTAINING THE U.S. ECONOMY

**Research funded by the National Institutes of Health (NIH) saves lives, improves health, and offers hope to people the world-over affected by disease. It also supports nearly 476,000 jobs and more than $81 billion in economic activity across the United States, making the NIH a research and economic powerhouse.**

In fiscal year 2019, the NIH provided $30.82 billion in extramural research funding to scientists in all 50 states and the District of Columbia. These researchers are working to address some of our most urgent and chronic health problems. Their work also has a significant impact on economic growth and employment. Using the Regional Input-Output Modeling System (RIMS II) developed by the Department of Commerce, United for Medical Research calculated the impact of NIH research funding in 2019 on jobs and the economy.

NIH research funding in 2019 directly and indirectly supported 475,905 jobs nationwide. In 25 states, 5,000 or more jobs were supported by NIH research funding and in 13 states there were 10,000 or more jobs supported. The median state had 4,760 jobs due to NIH activity. The income generated by these jobs, as well as by the purchase of research-related equipment, services and materials, when cycled through the economy, produced $81.22 billion in new economic activity in 2019. Twenty-nine states experienced an economic gain of over $500 million and 21 states exceeded $1 billion in economic gain.

### RECENT INCREASES TO THE NIH BUDGET

| | FY2015 | FY2016 | FY2017 | FY2018 | **FY2019** |
|---|---|---|---|---|---|
| Total NIH research funds awarded in 50 states + DC | $22.8 billion | $24.6 billion | $26.1 billion | $28.05 billion | **$30.82 billion** |
| Total jobs supported nationwide | 352,349 jobs | 379,471 jobs | 402,816 jobs | 433,011 jobs | **475,905 jobs** |
| Total economic activity nationwide | $60.717 billion | $64.799 billion | $68.795 billion | $73.909 billion | **$81.220 billion** |

Since FY2016, Congress has provided strong increases to the NIH budget. These increases have made a difference in grants, jobs, and economic activity and, importantly, have allowed the NIH budget to begin to recover from years of under-funding and ensure that critical research continues to be funded.

now HIRING

**475,905**
TOTAL JOBS

**25** states with **5,000+** jobs
**13** states with **10,000+** jobs

**$81.22 billion**
TOTAL ECONOMIC ACTIVITY

**29** states with **$500** million+
**21** states with **$1** billion+

The NIH is the world's premier health research agency, fueling life-changing discovery and helping to maintain American output, employment and a globally competitive life sciences industry. The numbers in this report underscore the importance of not just providing the NIH strong funding, but of ensuring steady and sustainable growth in the NIH budget over the long term.

**A note about this data:** Since 2011, UMR has provided an analysis of the employment and economic activity attributable to NIH extramural research spending. We rely on the RIMS II model maintained by the Bureau of Economic Analysis, which is part of the U.S. Department of Commerce. This model was last updated by BEA in December 2016. This 2020 update, and each of the previous analyses, was conducted by Dr. Everett Ehrlich of ESC Company.

# Economic Impact of NIH Research by State FY2019

| State | NIH AWARDS ($M) | Jobs Created per $1M NIH Awards | Intrastate Jobs | Added Interstate Activity (%) | Interstate Jobs | TOTAL EMPLOYMENT | ECONOMIC ACTIVITY ($M) |
|---|---|---|---|---|---|---|---|
| Alabama | 391.6 | 12.926 | 5,061 | 18.5% | 934 | **5,996** | **920** |
| Alaska | 17.9 | 11.796 | 212 | 110.5% | 234 | **445** | **67** |
| Arizona | 263.0 | 14.971 | 3,937 | 38.5% | 1,517 | **5,454** | **804** |
| Arkansas | 58.3 | 12.712 | 742 | 80.4% | 596 | **1,338** | **186** |
| California | 4,591.6 | 13.477 | 61,879 | 17.3% | 10,715 | **72,594** | **12,900** |
| Colorado | 427.2 | 15.194 | 6,491 | 22.9% | 1,488 | **7,980** | **1,266** |
| Connecticut | 603.0 | 10.160 | 6,126 | 14.5% | 891 | **7,018** | **1,393** |
| Delaware | 52.9 | 7.957 | 421 | 49.1% | 207 | **628** | **147** |
| District of Columbia | 246.5 | 2.524 | 622 | 24.4% | 152 | **774** | **466** |
| Florida | 705.0 | 15.946 | 11,242 | 42.5% | 4,775 | **16,018** | **2,239** |
| Georgia | 630.0 | 16.647 | 10,488 | 25.6% | 2,681 | **13,169** | **1,871** |
| Hawaii | 59.0 | 13.315 | 786 | 51.1% | 402 | **1,188** | **175** |
| Idaho | 17.4 | 11.761 | 204 | 155.8% | 318 | **523** | **81** |
| Illinois | 1,012.5 | 14.319 | 14,497 | 22.3% | 3,239 | **17,736** | **3,051** |
| Indiana | 324.2 | 12.926 | 4,190 | 36.8% | 1,542 | **5,732** | **890** |
| Iowa | 202.0 | 12.165 | 2,457 | 34.3% | 841 | **3,298** | **481** |
| Kansas | 116.3 | 11.736 | 1,365 | 47.5% | 648 | **2,013** | **330** |
| Kentucky | 228.8 | 12.958 | 2,965 | 30.7% | 909 | **3,874** | **579** |
| Louisiana | 174.1 | 13.844 | 2,411 | 47.8% | 1,153 | **3,564** | **501** |
| Maine | 112.0 | 13.967 | 1,564 | 19.7% | 308 | **1,872** | **253** |
| Maryland | 1,920.1 | 12.130 | 23,292 | 6.4% | 1,496 | **24,788** | **4,453** |
| Massachusetts | 3,024.1 | 11.490 | 34,747 | 5.5% | 1,906 | **36,652** | **7,103** |
| Michigan | 826.5 | 13.567 | 11,214 | 19.2% | 2,151 | **13,365** | **2,144** |
| Minnesota | 619.4 | 12.955 | 8,024 | 17.0% | 1,360 | **9,385** | **1,624** |
| Mississippi | 42.4 | 12.584 | 533 | 97.9% | 522 | **1,056** | **149** |
| Missouri | 655.6 | 12.139 | 7,958 | 15.0% | 1,191 | **9,149** | **1,578** |
| Montana | 50.6 | 13.536 | 685 | 35.9% | 246 | **930** | **122** |
| Nebraska | 127.5 | 13.125 | 1,674 | 33.7% | 564 | **2,238** | **317** |
| Nevada | 40.7 | 11.968 | 487 | 139.0% | 677 | **1,163** | **187** |
| New Hampshire | 120.5 | 10.729 | 1,293 | 23.4% | 303 | **1,596** | **293** |
| New Jersey | 326.7 | 12.308 | 4,021 | 53.9% | 2,166 | **6,187** | **1,161** |
| New Mexico | 98.1 | 11.774 | 1,155 | 35.4% | 409 | **1,564** | **244** |
| New York | 2,891.8 | 10.535 | 30,466 | 17.9% | 5,463 | **35,929** | **7,149** |
| North Carolina | 1,589.7 | 14.599 | 23,209 | 10.3% | 2,398 | **25,607** | **3,915** |
| North Dakota | 19.7 | 10.761 | 212 | 108.0% | 228 | **440** | **69** |
| Ohio | 883.1 | 13.548 | 11,964 | 22.3% | 2,668 | **14,633** | **2,390** |
| Oklahoma | 118.6 | 14.457 | 1,715 | 54.8% | 941 | **2,656** | **366** |
| Oregon | 399.4 | 13.698 | 5,471 | 19.2% | 1,052 | **6,522** | **960** |
| Pennsylvania | 1,944.0 | 12.439 | 24,181 | 11.6% | 2,800 | **26,981** | **4,930** |
| Rhode Island | 219.8 | 11.126 | 2,445 | 9.8% | 239 | **2,684** | **446** |
| South Carolina | 207.0 | 15.112 | 3,128 | 34.5% | 1,080 | **4,208** | **582** |
| South Dakota | 24.6 | 12.134 | 298 | 80.8% | 241 | **539** | **75** |
| Tennessee | 585.3 | 13.318 | 7,795 | 18.5% | 1,440 | **9,235** | **1,519** |
| Texas | 1,370.2 | 15.683 | 21,488 | 33.8% | 7,256 | **28,744** | **4,512** |
| Utah | 234.3 | 16.752 | 3,926 | 21.3% | 834 | **4,760** | **650** |
| Vermont | 64.3 | 12.821 | 824 | 18.6% | 153 | **977** | **139** |
| Virginia | 506.1 | 11.147 | 5,641 | 32.3% | 1,820 | **7,461** | **1,417** |
| Washington | 1,135.3 | 12.410 | 14,089 | 14.9% | 2,101 | **16,190** | **2,794** |
| West Virginia | 35.6 | 11.437 | 407 | 82.8% | 337 | **744** | **111** |
| Wisconsin | 493.1 | 13.219 | 6,519 | 22.8% | 1,485 | **8,004** | **1,173** |
| Wyoming | 12.6 | 10.427 | 131 | 134.2% | 176 | **308** | **46** |
| **50 states plus DC** | **30,820.1** | | 396,651 | 20.0% | 79,254 | **475,905** | **$81,220** |

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UMR is a coalition of leading research institutions, patient and health advocates and private industry seeking steady and sustainable increases in funding for the National Institutes of Health in order to save and improve lives, advance innovation and fuel the economy. UMR members include: AdvaMed, Alzheimer's Association, American Association for the Advancement of Science, American Cancer Society Cancer Action Network, American Heart Association, Association of American Universities, Association of Public and Land-grant Universities, BD, Biotechnology Innovation Organization, Boston University, Corning, Harvard University, Johns Hopkins University, Johnson & Johnson, Massachusetts Institute of Technology, MilliporeSigma, Northwestern University, PhRMA, Research!America, Stanford University, Thermo Fisher Scientific, University of Pennsylvania, Vanderbilt University, Vanderbilt University Medical Center and Washington University in St. Louis.