TERRA LAWSON-REMER

VICE-CHAIR

SUPERVISOR, THIRD DISTRICT
SAN DIEGO COUNTY BOARD OF SUPERVISORS

AGENDA ITEM

DATE: **June 3, 2025** **20**

TO: Board of Supervisors

SUBJECT
SUPPORTING SAN DIEGO'S BIOMEDICAL SECTOR: ADDRESSING RECENT CHALLENGES TO THE NATIONAL INSTITUTES OF HEALTH (DISTRICTS: ALL)

OVERVIEW
San Diego's biomedical community is on the frontlines of saving lives, fighting diseases, and pushing the boundaries of scientific discovery. The National Institutes of Health (NIH) is the beating heart of that work — pumping over $1 billion into hundreds of San Diego labs, hospitals, and startups annually. Those dollars don't just fund research projects; they fund life-changing breakthroughs, train the next generation of scientists, and power the local economy. Today, that lifeline is at risk.

The NIH supports scientific and commercial advancements that drive San Diego's $57 billion biomedical sector and improve human health. NIH grants keep paychecks coming, labs running, the lights on, and families fed. They turn an entrepreneur's great idea into a signed lease for a local realtor and purchases for local vendors. Every NIH dollar attracts an additional $3 to $4 in private investment, drawing top talent to our region and cementing San Diego's reputation as a premier biomedical innovation destination. However, the current restructuring at the NIH has already forced layoffs, leaving lab techs scrambling to pay rent and students rethinking their futures in science. For the patients enrolled in clinical trials, it could mean drug trials being abruptly stalled and treatments that don't come through in time.

Right now, the current federal administration is:

- **Proposing a 40% cut to the NIH budget**, which would mean $18 billion less in biomedical research funding for discoveries, treatments and cures that save lives.
- **Capping federal investment in facilities and administration costs for research institutions**, breaking the decades long partnership between the federal government and universities to fund biomedical science and jeopardizing the ability of San Diego's

research institutions to sustain cutting-edge biomedical research infrastructure. UC San Diego alone estimates a $150 million loss from the cap on NIH research infrastructure reimbursements.

- **Delaying new NIH grant funding.** NIH grantmaking lags $2.3 billion behind this point last year. Since NIH grants fund lab payrolls, from janitors to PhDs, this slowdown creates cash flow problems for San Diego's labs and has already caused layoffs and enrollment reductions.
- **Cancelling hundreds of active NIH grants that were vetted by independent panels of scientific experts.** Nearly 800 NIH grants have been cancelled due to shifting administration priorities. This has impacted research across the region, including a clinical trial at UC San Diego that is developing the first-of-its kind HIV/AIDS vaccine right here in San Diego.
- **Terminating 1,200 NIH employees,** including preeminent scientists, which compromises scientific progress and results in confusion for San Diego's NIH grant recipients.
- **Slowing merit-based peer review** by cancelling or curtailing expert councils that vet NIH grants.

The restructuring of the NIH jeopardizes its long track record of transformational health breakthroughs. All but two of the new drugs that came to market in the 2010s relied on NIH-funded research. The blockbuster GLP-1 weight loss drugs, Ozempic and Wegovy, for example, were built upon NIH-funded research. Deaths from heart disease are down 75% and cancer death rates dropped 33% over the last 40 years as a result of NIH-funded research. The proportion of children dying of cancer has dropped by more than 50% since the 1970s and people with cystic fibrosis now live into their 50s and beyond thanks to the NIH.

Not only does the restructuring of the NIH harm human health, it harms San Diego's biomedical companies too. Our region's 2,000 biomedical companies generated nearly $57 billion in overall output and directly employ over 75,000 people directly, many in high-wage jobs. These companies will start to see fewer valuable biomedical insights to commercialize, less federal support for startup companies, fewer highly-skilled biomedical workers to hire, smaller markets for some of their products, and the erosion of competitive advantage in world markets. Illumina, a leading biotechnology company headquartered in San Diego, is expected to lose up to $85 million in revenue from the cap on NIH reimbursements for scientific infrastructure alone because academic and government labs make up a significant share of Illumina's customer base.

The largest non-federal employer in the county, UC San Diego, will also be hard hit by the restructuring of the NIH. The university faces a loss of hundreds of millions in NIH funding, threatening everything from clinical trials to student training programs. Research labs will close and life-saving treatments will be abandoned. This isn't just about throwing PhDs out of work; custodians, lab techs, cafeteria workers, and security staff whose paychecks depend on NIH grants will lose jobs too.

SUBJECT: SUPPORTING SAN DIEGO'S BIOMEDICAL SECTOR: ADDRESSING RECENT CHALLENGES TO THE NATIONAL INSTITUTES OF HEALTH

San Diego's best scientists are already eyeing the exits. Europe just launched a €500 million fund to poach top researchers from the US. If we let this administration dismantle the NIH, we won't just lose grants — we'll lose the brilliant minds who drive San Diego's biomedical breakthroughs. We won't just lose funding — we'll lose the very people capable of developing the next vaccine, the next cancer treatment, the next life-saving cure. And those losses don't just set back science — they cost lives.

Today's item calls on the County to stand up for San Diego's world-class biomedical community and our regional economy. It asks the San Diego County Board of Supervisors to express concern about recent federal actions affecting the NIH and advocate for increased federal support and funding to bolster San Diego's biomedical leadership.

RECOMMENDATION(S)
VICE-CHAIR TERRA LAWSON-REMER

1. Adopt the resolution entitled: A RESOLUTION OF THE BOARD OF SUPERVISORS EXPRESSING CONCERN REGARDING RECENT FEDERAL ACTIONS AFFECTING THE NATIONAL INSTITUTES OF HEALTH AND SUPPORTING INCREASED FUNDING.
2. Direct the Chief Administrative Officer to send a letter to the Majority and Minority leaders of the House of Representatives and the Senate, the Chairs and Ranking Members of the House Energy & Commerce Committee, the Senate Health, Education, Labor, and Pensions Committee, and the House and Senate Appropriations Committees to advocate for increased federal support and funding for biomedical research, education, scientific infrastructure, commercialization, and entrepreneurship, including a copy of the resolution as recommended in Recommendation 1.
3. Direct the Chief Administrative Officer to update the County's 2025 legislative program to advocate for expanding federal funding and support for biomedical science, education, research infrastructure, commercialization, and entrepreneurship to advance San Diego's biomedical leadership and drive our regional innovation economy.

EQUITY IMPACT STATEMENT
Today's action seeks to protect smaller and less well-resourced research institutions, such as San Diego State University (SDSU), which have less capacity to absorb NIH cuts. It also seeks to protect career opportunities in the biomedical field for scientists from underrepresented groups by defending recruitment and professional development programs funded by the NIH. Lastly, it seeks to ensure that NIH grantmaking upholds merit-based peer review such that high-quality research projects focused on biomedical issues within understudied populations are not stymied for political reasons.

SUSTAINABILITY IMPACT STATEMENT
N/A

FISCAL IMPACT
There is no fiscal impact associated with these recommendations. There will be no change in net General Fund cost and no additional staff years.

BUSINESS IMPACT STATEMENT
San Diego's biomedical companies, suppliers, and local businesses whose customers rely on NIH grants stand to lose hundreds of millions of dollars' worth of revenue over the next year. They will start to see fewer biomedical insights to commercialize, less federal support for startup companies, fewer highly-trained biomedical workers to hire, smaller markets for some of their products, and the erosion of competitive advantage in world markets. Today's action seeks to head off this negative outcome by calling for an end to the restructuring of the NIH and reinvestment in San Diego's biomedical community.

ADVISORY BOARD STATEMENT
N/A

BACKGROUND
San Diego's biomedical community is alarmed by recent changes to the National Institutes of Health (NIH). The NIH is the largest public funder of biomedical science in the world and a pillar of San Diego's strength in biomedical research, education, workforce development, and entrepreneurship. Over a billion dollars in NIH grants flow into San Diego each year which attracts top biomedical talent and catalyzes an additional $3-4 billion in investment capital annually, making San Diego a premier US biomedical hub alongside Boston and San Francisco.[i] The current administration's policies of funding cuts and layoffs puts San Diego's biomedical community and regional economy at risk. Not only will critical scientific advances that improve the health of hundreds of thousands of San Diegans be delayed, but these changes to the NIH will undermine our global competitiveness, weaken our research institutions, throw thousands of researchers, trainees, and lab staff out of work, and dry up spending on local goods and services. Ursula Van Der Leyen, President of the European Union Commission, recently referred to the direction of the current administration's science policies as a "gigantic miscalculation" when announcing a €500 million investment in recruiting United States researchers to Europe.[ii]

Today's item calls on the County to stand up for San Diego's world-class biomedical community and our regional economy. It asks the San Diego County Board of Supervisors to express concern about recent federal actions affecting the NIH and call for increased federal support and funding to bolster San Diego's biomedical leadership.

<u>Recent NIH Changes</u>

Right now, the current federal administration is:

- **Proposing a 40% cut to the NIH budget**, which would mean $18 billion less in biomedical research funding for discoveries, treatments and cures that save lives.

- **Capping federal investment in facilities and administration costs for research institutions**, breaking the decades long partnership between the federal government and universities to fund biomedical science and jeopardizing the ability of San Diego's research institutions to sustain cutting-edge biomedical research infrastructure. UUC San Diego alone estimates a $150 million loss from the cap on NIH research infrastructure reimbursements.
- **Delaying new NIH grant funding.** NIH grantmaking lags $2.3 billion behind this point last year. Since NIH grants fund lab payrolls, from janitors to PhDs, this slowdown creates cash flow problems for San Diego's labs and has already caused layoffs and enrollment reductions.
- **Cancelling hundreds of active NIH grants that were vetted by independent panels of scientific experts.** Nearly 800 NIH grants have been cancelled due to shifting administration priorities. This has impacted research across the region, including a clinical trial at UC San Diego that's developing the first-of-its kind HIV/AIDS vaccine right here in San Diego.
- **Terminating 1,200 NIH employees,** including preeminent scientists, which compromises scientific progress and results in confusion for San Diego's NIH grant recipients.
- **Slowing merit-based peer review** by cancelling or curtailing expert councils that vet NIH grants.

What is the NIH?

The NIH is the cornerstone of the federal biomedical innovation system. It serves the public by advancing biomedical science and fostering discoveries that translate into therapies, diagnostics and devices that improve health and save lives. The NIH mainly operates as a grantmaking institution that partners with universities, research hospitals, independent research institutions, and private companies on basic and applied biomedical science, including clinical trials. In 2024, the NIH issued roughly 60,000 grants that totaled $36 billion to support biomedical research, including the education and training of the next generation of scientists.[iii] These researchers, more than 300,000 in all, study human health and disease across all levels, from molecules to organ systems to lifestyles and behavior.[iv] NIH-funded research is a big part of the reason why Alzheimer's is now a treatable disease, the proportion of children dying of cancer has dropped by more than 50% since the 1970s, and people with cystic fibrosis now live into their 50s and beyond.[v]

The NIH is unique in that it funds basic research that lacks immediate practical applications but has the potential to transform human health. The blockbuster GLP-1 weight loss drugs Ozempic and Wegovy, for example, built upon basic research into the venom of Gila monsters conducted by government scientists at the US Department of Veteran Affairs and later expanded upon by NIH-funded researchers. The NIH sustains basic science research agendas over decades which allows them to reach maturation and yield transformational breakthroughs, such as the research on the role of the immune system in cancer that led to lifesaving cancer immunotherapies. The

NIH also funds programs to pull research out of the lab and into the marketplace. In 2023, for example, San Diego digital health startup CARI Health, received a $2.8 million NIH Small Business Innovation Research grant to help bring the world's first wearable methadone medication monitor to market.[vi] That NIH grant helped grow a San Diego biomedical startup and address the opioid crisis by speeding to market a convenient and patient-friendly way to demonstrate methadone treatment compliance remotely.

The NIH has provided the foundation for most of the significant commercial and technological breakthroughs in the biomedical field. One recent analysis found that NIH-funded publications and projects contributed to every single one of the 210 new drugs approved by the FDA between 2010-2016, and the vast majority of NIH's contribution took the form of basic biomedical science relevant to drug targets.[vii] The NIH helped the US emerge as a leader in biomedical innovation, with over 40% of the global market for medical technology.[viii] Less than 1% of the total federal budget goes to the NIH, but every dollar invested in NIH research produces, on average, $2.56 of economic activity in return.[ix]

Who NIH Funding Supports

NIH research grants are split into direct costs and indirect costs. NIH grants for direct costs go to a Principal Investigator to hire lab staff and buy the equipment and supplies they need to conduct a research project. The majority of people employed under NIH direct costs are trainees (students and post-graduates) and lab support staff.[x] They spend their NIH-funded salaries in and around San Diego which supports local businesses and the tax base. NIH research grants also serve as a workforce development pipeline that feeds into San Diego's biotech and pharmaceutical companies. Trainees learn the biomedical field by working on NIH-funded research projects. Local vendors of scientific and technical services, supplies, equipment, and real estate rely on NIH grants to support their customer base.

NIH grants for indirect costs (aka "facilities and administrative costs") go to the research institution to support the operation and maintenance of research facilities including building engineers, lab technicians, janitors and security guards; acquire sophisticated scientific instrumentation; and ensure that biomedical research is conducted in safe, ethical, legal, and compliant ways, given the sensitivity of the subject matter.

Foundations and corporations cannot substitute for the NIH. Neither has the resources or mandate to make long-term investments in basic and applied biomedical science in service of the general public. Not only do foundations and corporations rely on the knowledge base, scientific infrastructure, and biomedical workforce subsidized by the NIH funding when making their own research investments, but they differ from the NIH in their focus and time horizon. Large foundations tend to focus on specific diseases or patient populations with more of an applied lens. Corporations focus on commercializing biomedical science in the short- to medium-term to capture profitable market opportunities.

NIH Funding Drives San Diego's Innovation Economy and Biomedical Leadership

Over a billion dollars in NIH grants flowed into San Diego last year, catalyzing another roughly $3.5 billion in venture capital and foreign direct investment for our biomedical companies. As the table of 2024 NIH grants shows, 115 San Diego organizations received 1,707 grants in 2024, including leading universities, research institutions, hospitals and many for-profit companies. These grants support our biomedical community, the regional economy, and the promise of better health for all of us.

SAN DIEGO ORGANIZATIONS	NIH AWARDS	NIH FUNDING
UNIVERSITY OF CALIFORNIA, SAN DIEGO	1035	$560,905,361
SCRIPPS RESEARCH INSTITUTE, THE	196	$162,829,855
SALK INSTITUTE FOR BIOLOGICAL STUDIES	77	$66,396,443
SANFORD BURNHAM PREBYS MEDICAL DISCOVERY INSTITUTE	62	$53,792,301
SAN DIEGO STATE UNIVERSITY	90	$42,943,096
LA JOLLA INSTITUTE FOR IMMUNOLOGY	46	$31,176,308
SAN DIEGO BIOMEDICAL RESEARCH INSTITUTE	15	$7,143,354
FORGE THERAPEUTICS, INC.	1	$6,265,409
ENSYSCE BIOSCIENCES, INC.	1	$4,572,695
SCINTILLON INSTITUTE FOR PHOTOBIOLOGY	9	$4,348,142
VIROGENICS, INC.	2	$4,027,298
VALA SCIENCES, INC.	10	$3,814,039
CALIFORNIA MEDICAL INNOVATIONS INSTITUTE	6	$3,765,012
VIVREON BIOSCIENCES, LLC	4	$3,210,619
VETERANS MEDICAL RESEARCH FDN/SAN DIEGO	11	$3,204,978
SINOPIA BIOSCIENCES, INC.	3	$3,125,934
ALIDA BIOSCIENCES, INC.	3	$3,054,973
ARIMA GENOMICS, INC.	2	$2,997,924
BIG EYE DIAGNOSTICS, INC.	4	$2,857,794
BIOSPYDER TECHNOLOGIES, INC.	4	$2,475,940
3DT HOLDINGS, LLC	5	$2,109,504
ARISAN THERAPEUTICS, INC.	2	$2,065,105
SCRIPPS INSTITUTION OF OCEANOGRAPHY	1	$2,060,583
AVANTGEN, INC.	2	$1,991,303

EPIGENOME TECHNOLOGIES, INC.	2	$1,820,211
ELECTRONIC BIOSCIENCES, INC.	5	$1,755,616
AMYDIS DIAGNOSTICS, INC.	1	$1,715,680
PROTEOGENOMICS RESEARCH INSTIT/SYS/ MED	2	$1,711,673
CORTECHS LABS, INC.	3	$1,706,841
NAVEGA THERAPEUTICS, INC.	3	$1,701,459
ONC.AI, INC.	1	$1,625,000
EPIGEN BIOSCIENCES, INC.	2	$1,592,412
STARLIGHT CARDIOVASCULAR, INC.	3	$1,588,452
ELEVEN THERAPEUTICS CORP	1	$1,567,215
AUXILIUM BIOTECHNOLOGIES INC.	1	$1,500,000
J. CRAIG VENTER INSTITUTE, INC.	3	$1,479,498
VENTRIX, INC.	1	$1,440,231
VERSAPEUTICS INC	1	$1,430,030
MODULO BIO, INC.	1	$1,428,644
RAFT PHARMACEUTICALS, LLC	2	$1,280,404
DORIAN THERAPEUTICS, INC.	1	$1,235,850
INDIAN HEALTH COUNCIL, INC.	2	$1,217,897
ACTIVE4D, INC.	1	$1,207,313
AIVOCODE, LLP	1	$1,193,627
IHP THERAPEUTICS, INC.	1	$1,192,753
EMBRIENT INC	2	$1,172,425
ORPHAGEN PHARMACEUTICALS	1	$1,078,081
ONCTERNAL THERAPEUTICS, INC.	2	$1,057,034
PENSIEVISION, INC.	1	$1,041,955
CENNA BIOSCIENCES, INC.	1	$1,041,646
NANOMETICS, LLC	1	$1,000,000
HEALCISIO, INC.	1	$1,000,000
ANTLIA BIOSCIENCE INC	1	$999,998
CELLIBRE INC	1	$999,954
XFIBRA, INC.	1	$999,601
CAMINO PHARMA, LLC	1	$994,906
CELLARCUS BIOSCIENCES INC	1	$991,680
DARE BIOSCIENCE, INC.	1	$991,573
QUASAR, INC.	1	$979,895
ADVANCED BRAIN MONITORING, INC.	1	$955,309
SIOLTA THERAPEUTICS, INC.	1	$948,833
CELLDOM, INC.	1	$938,647
APPLIED BIOMEDICAL SCIENCE INSTITUTE	1	$921,025

GLYTR THERAPEUTICS, INC.	1	$908,910
ALUME BIOSCIENCES, INC.	1	$865,615
ABTERRA BIOSCIENCES, INC.	1	$856,396
NEURANO BIOSCIENCE	1	$837,882
NOVOMEDIX, INC.	2	$806,872
CROSSLIFE TECHNOLOGIES, INC.	1	$759,214
MAXWELL BIOMEDICAL INC	1	$749,419
IRISYS, INC.	2	$745,585
KINTARA THERAPEUTICS, INC.	1	$745,259
VERISKIN, INC.	1	$742,845
RESOLUTE SCIENCE, INC.	1	$726,686
VACCINE RESEARCH INSTITUTE OF SAN DIEGO	1	$688,369
SCRIPPS HEALTH	2	$673,579
RADY PEDIATRIC GENOMICS & SYSTEMS MEDICINE INSTITUTE	1	$652,671
POWELL MANSFIELD, INC.	1	$615,621
STRESS THERAPEUTICS, INC.	1	$605,404
ENVIVO BIO INC	1	$569,684
PERCEPTION DYNAMICS INSTITUTE	2	$538,348
CEIBA BIO INC.	1	$509,038
BETTER BRAINS, INC	1	$499,964
MARK THERAPEUTICS, INC.	1	$494,040
CIBOTS, INC.	1	$479,731
CERESTI HEALTH, INC.	1	$478,107
3D BIOANALYTIX, INC.	1	$472,695
AQUILLIUS CORPORATION	1	$431,664
OLMEDA BIOSCIENCES LLC	1	$396,161
CBEZ, LLC	1	$373,877
TEGA THERAPEUTICS, INC.	1	$355,222
KOLIBER BIOSCIENCES, INC.	1	$350,000
QUANTITATIVE BIOSCIENCES, INC.	1	$350,000
NARWHAL BIO, INC.	1	$349,816
SHARP MEMORIAL HOSPITAL	1	$339,460
CARI HEALTH, INC.	1	$318,172
ACTIVE MOTIF, INC.	1	$314,262
QOOLABS, INC.	1	$300,000
OMNISYNC INCORPORATED	1	$299,957
S-3 RESEARCH, LLC	1	$295,924
AVERY DIGITAL DATA, INC.	1	$295,923
ECLIPSE BIOINNOVATIONS INC	1	$295,756

GLYCODOTS, LLC	1	$288,043
BLOOM SCIENCE, INC.	1	$283,673
ABWIZ BIO, INC.	1	$280,769
GENERAL ENGINEERING AND RESEARCH, LLC	1	$275,765
REELIN THERAPEUTICS, INC.	1	$238,549
PAXVAX, INC.	1	$235,429
NEUROSANT THERAPEUTICS LLC	1	$189,056
ARMIDA LABS, INC.	1	$187,500
NIGHTINGALE LABS CORPORATION	1	$186,251
MYOGENE BIO, LLC	1	$110,000
ELGIA THERAPEUTICS, INC.	1	$107,166
ORIGAMI THERAPEUTICS, INC.	1	$107,065
POLYPEPTIDE LABORATORIES SAN DIEGO	3	$27,200
Totals	**1707**	**$1,054,241,932**

Impacts of NIH Changes on San Diego

Harm to the Regional Innovation Economy: Biomedical science is a driver of San Diego's innovation economy. San Diego's 2,000 biomedical companies generated nearly $57 billion in overall output and directly employ over 75,000 high-wage jobs directly.[xi] Not only will NIH cuts slow the pace of innovation, but it will shrink markets for San Diego biomedical products. Illumina, a leading biotechnology company headquartered in San Diego, is expected to lose 1-2% of revenues from cuts to NIH indirect costs alone because academic and government labs make up a large share of Illumina's customer base.[xii] Illumina filed a WARN notice with the state in February announcing it would be eliminating 100 high wage positions at its San Diego headquarters.[xiii]

Meanwhile, China is emerging as a major competitor to San Diego's biomedical community. The Chinese Communist Party called for aggressive expansion of its biomedical research enterprise, with an emphasis on biomedicine and biosecurity, as part of its 14th Five-Year Plan for Bioeconomy Development. In 2022, China surpassed the US in the Nature Index for research output in the natural sciences.[xiv] By the end of this year, Chinese universities are expected to produce nearly twice as many PhD graduates in science and technology as their US counterparts.[xv] The NIH changes undermine America's biomedical leadership, erode its workforce competitiveness, and threaten national security, ultimately ceding scientific and technological dominance to global competitors.

Harm to San Diego's Largest Non-Federal Employer: UC San Diego is a biomedical powerhouse and the region's second largest employer behind the US military with nearly 42,000 employees.[xvi] Biology is the most common major for UC San Diego undergrads and UC San

Diego boasts top ranked doctoral programs in Biological Sciences, Biomedical Science, and Bioengineering.[xvii] San Diego's first biotech company, Hybritech, was started in 1978 by UC San Diego School of Medicine professor Ivor Royston.[xviii] Now UC San Diego is a leading university in terms of translating research into patents and startup creation. UC San Diego-affiliated companies raised $1.9 billion in capital in 2024.[xix] Over 1,000 companies utilize, or have utilized, technology created at UC San Diego and 32,500 jobs and nearly $32.5 billion in estimated annual sales are attributable to active UC San Diego-related companies and technology.[xx] NIH supports UC San Diego's biomedical excellence at every step of the research and development process, from funding preeminent scientists and state-of-the-art labs, to supporting top tier educational programs and students, to helping startups bring products to market.

Slowing of Scientific Progress and Health Innovation: In the near term, NIH funding cuts threaten current research projects, including longitudinal studies and clinical trials. In the long run, NIH changes will reduce the overall quality and quantity of biomedical research, slowing the production of discoveries that contribute to innovative biomedical products and improved patient outcomes. The pool of highly skilled biomedical researchers will shrink as UC San Diego and SDSU reduce enrollments and top scientists seek opportunities abroad. And the undermining of merit-based peer review suggests that politics will distort scientific progress at the expense of free inquiry and scientific integrity.

Degradation of Scientific Research Infrastructure: Cuts to indirect costs threaten the decades long partnership between the federal government and universities in support of biomedical research and creates a sizeable hole in the budgets of major research institutions. Facilities and administrative costs at most research institutions universities exceed the proposed 15% cap. UC San Diego estimates that cuts to indirect costs would result in a loss of more than $150 million annually in federal research support. San Diego's research institutions will be forced to make hard choices—consolidating labs, cutting lab staff and administrative personnel, and forgoing investments in state-of-the-art facilities. Some of our prestigious independent research institutions may not be able to survive such a drastic change to their financial model.

Reverse Brain Drain and Shrinkage of the Biomedical Workforce Pipeline: The NIH changes are damaging the pipeline for the next generation of biomedical scientists. Major research institutions have announced freezes on hiring and raises; paychecks for students and postdocs have been delayed; early career faculty and NIH fellows have been laid off; graduate enrollments have been reduced.[xxi] UC San Diego's top ranked biomedical sciences PhD program usually enrolls 25 new graduate students, but this year will enroll only 17. Important NIH workforce development programs are being cancelled. UC San Diego's NIH-funded STARTneuro program, which provides training, mentorship, and funding to recruit ten community college transfer students into neuroscience research annually, is at risk of non-renewal. Meanwhile, Europe and China are ramping up efforts to recruit top research talent from the US. The EU just announced a €500 million fund for poaching researchers from the US and a

recent survey of 1,200 scientist by *Nature* found that 75% of respondents were considering leaving the US.[xxii]

NIH funding cuts are a significant risk to San Diego's biomedical community. That is why thirty-five members from San Diego of the prestigious National Academies of Science, Engineering, and Medicine signed a letter, along with 1,900 other preeminent scholars, warning that "the nation's scientific enterprise is being decimated." Today's action calls on the County to express concern about these actions and take action to protect our region.

LINKAGE TO THE COUNTY OF SAN DIEGO STRATEGIC PLAN

By protecting San Diego's biomedical sector and innovation economy today's action strongly supports the Empower initiative in the County of San Diego's 2024-2029 Strategic Plan.

Respectfully submitted,

TERRA LAWSON-REMER
Supervisor, Third District

ATTACHMENT(S)

Attachment A- A RESOLUTION OF THE BOARD OF SUPERVISORS EXPRESSING CONCERN REGARDING RECENT FEDERAL ACTIONS AFFECTING THE NATIONAL INSTITUTES OF HEALTH AND SUPPORTING INCREASED FUNDING

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[i] Life Sciences - San Diego Regional EDC
[ii] As Trump Targets Researchers, Europe Makes a Pitch to Attract Scientists - The New York Times
[iii] Direct Economic Contributions | National Institutes of Health (NIH)
[iv] Ibid.
[v] Progress Report: 10 Years of Alzheimer's Disease and Related Dementias Research | National Institute on Aging; Improving Health | National Institutes of Health (NIH); Cancer in Children and Adolescents - NCI; What the future holds: cystic fibrosis and aging - PMC
[vi] CARI Health, an EvoNexus Company, Awarded NIH Grant of up to $2.8M to Advance Remote Medication Monitoring
[vii] Contribution of NIH funding to new drug approvals 2010–2016 - PMC
[viii] Medical Device Industry Facts - AdvaMed®
[ix] UMR_NIH-Role-in-Sustaining-US-Economy-FY2024-2025-Update.pdf
[x] Jason Owen-Smith. *Research Universities and the Public Good: Discovery for an Uncertain Future.* Stanford University Press. 2018

[xi] www2.biocom.org/l/54352/2024-05-20/n594ll/54352/1716216096uwDbmNqD/2024_Biocom_California_EIR_County_San_Diego.pdf
[xii] Illumina Faces New Headaches After Trump's Trade War, Cuts to Science Funding - WSJ
[xiii] Illumina cuts jobs at is headquarters
[xiv] Nature Index Research Leaders
[xv] China is Fast Outpacing U.S. STEM PhD Growth
[xvi] Campus Profile
[xvii] Campus Profile
[xviii] UC San Diego Turns 60
[xix] UC San Diego Ranked Among World's Top 10 Universities Powering Global Innovation
[xx] UC San Diego Ranked Among World's Top 10 Universities Powering Global Innovation; Campus Profile
[xxi] The Chaos of NIH Cuts Has Left Early-Career Scientists Scrambling | WIRED
[xxii] 75% of US scientists who answered Nature poll consider leaving