

Report to the National Advisory Environmental Health Sciences Council

Director, NIEHS and NTP

June 1-2, 2021

Legislative Update

117th CONGRESS (2021-2022):

FISCAL YEAR 2022 APPROPRIATIONS UPDATE

President's Discretionary Budget Request Priorities released on April 9, 2021 (Skinny Budget)

On April 9, 2021, the President released his FY2022 Discretionary Budget Request to Congress. This is termed a "Skinny Budget" and is a slimmed down version of the full President's Budget request which set to be released on May 27, 2021. This FY22 Discretionary Budget request contains the high level priorities of the Biden Administration for the upcoming fiscal year.

Topics of interest for NIH/HHS:

ARPA-H

- Calls for establishing Advanced Research Projects Agency for Health (ARPA-H) at NIH. Specifically states that ARPA-H will have, an "initial focus on cancer and other diseases such as diabetes and Alzheimer's, this major investment in Federal research and development would drive transformational innovation in health research and speed application and implementation of health breakthroughs."

The Opioid Epidemic

- The discretionary request also takes action to address the epidemic of opioids and other substance use, investing \$10.7 billion across HHS, \$3.9 billion more than in FY 2021.
- *Combating Gun Violence*
 - This section states that the discretionary request for the HHS doubles funding for firearm violence prevention research at CDC and NIH.
- *Commits to Ending the HIV/AIDS Epidemic*
 - Does not specifically mention NIH, but states that this discretionary request includes \$670 million within HHS to help aggressively reduce new HIV cases while increasing access to treatment, expanding the use of pre-exposure prophylaxis (also known as PrEP), and ensuring equitable access to services and supports.
- *Advancing Equity*
 - This section focuses on advancing equity through the economy, housing and criminal justice reform. There is a small section that speaks to efforts to reduce maternal mortality and end race-based disparities in maternal mortality. NIH is not referenced in this section.

One portion that was especially of interest to NIEHS is the mention of the NIH's Climate Change and Human Health program:

"Supports Research to Understand Disparate Health Impacts of Climate Change. The discretionary request includes Government-wide investments to ensure the benefits from tackling the climate crisis accrue to tribal communities, communities of color, low income households, and disadvantaged communities that have been marginalized or overburdened. The discretionary request establishes a new Office of Climate Change and Health Equity that would focus on decreasing effects of climate change on

*vulnerable populations. The discretionary request would also help bolster resilience to health access and healthcare in the face of climate change. The discretionary request also includes \$110 million for **NIH's Climate Change and Human Health program**, a \$100 million increase over the 2021 enacted level, to support research aimed at understanding the health impacts of climate change. In addition, the discretionary request includes \$110 million for CDC's Climate and Health program, a \$100 million increase over the 2021 enacted level, to identify potential health effects associated with climate change and implement health adaptation plans."*

**The full document of the President's FY22 Discretionary Request and Press Release can be found [here](#).

****Please note:** As of this writing, **the FULL President's Budget for FY2022 to Congress has not been released**, which officially kicks off the budget process in Congress. It is expected to be released on May 27, 2021. More updates on the President's Budget for FY2022 and the FY2022 appropriations process will be in the Council Report in September.

HHS Secretary Becerra Hearing on FY2022 Budget Request for the Department of Health and Human Services Budget in the House Committee on Appropriations' Subcommittee on Labor-HHS on April 15, 2021

On April 15, 2021, HHS Secretary Xavier Becerra testified in front of the House Appropriations' Subcommittee on Labor-HHS. In his testimony, he highlighted the President's discretionary request for HHS which addresses racial disparities in health care, tackles the opioid crisis, and puts the U.S. on a better footing to take on the next public health crisis.

The FY 2022 discretionary request proposes \$131.7 billion in discretionary budget authority for HHS, an increase of \$25 billion from FY 2021 appropriations. The Labor-HHS total is \$119.5 billion, an increase of \$23 billion. He spoke of how the discretionary request invests in priority areas such as behavioral health (mental health and substance use), maternal health, emerging health threats, science, data and research, tribal health, early childcare and learning, and child welfare.

Highlights from Secretary Becerra's testimony:

Secretary Becerra highlighted the need to prepare for the next Public Health Crisis and highlighted that the FY2022 budget request makes significant investments in HHS's preparedness and response capabilities including the Strategic National Stockpile. He also spoke of the need to ensure that CDC is well positioned to address current and emerging public health threats. The President's discretionary request restores capacity to the world's preeminent public health agency by investing an additional \$1.6 billion over the FY 2021 level for a total of \$8.7 billion. This is the largest budget authority increase request for CDC in almost two decades.

The budget requests doubles CDC and the National Institutes of Health (NIH) funding for firearm violence prevention research. The discretionary request also provides \$100 million to CDC to start a new Community-Based Violence Intervention initiative, in collaboration with the Department of Justice, to implement evidence-based community violence interventions at the local level.

The United States has the highest maternal mortality rate among developed nations, with an unacceptably high mortality rate for Black and American Indian/Alaska Native women. Secretary Becerra spoke about how addressing this critical public health issue is a major priority of this Administration, with the discretionary request providing more than \$200 million to reduce maternal mortality and morbidity by implementing evidence-based interventions to address critical gaps in maternity care service delivery and improve maternal health outcomes. This includes increased funding to CDC's Maternal Mortality Review Committees and the Health Resources and Services Administration's (HRSA) Rural Maternity and Obstetrics Management Strategies program.

Secretary Becerra talked about how the FY 2022 discretionary request promotes services to coal miners and their families through quality medical, outreach, educational, and benefits counseling services. It also provides funding to increase the number of individuals training in rural communities, as research has shown that providers are likely to remain in the communities where they train as residents. Additionally, he talked about the request provides a \$2.2 billion, or 36 percent increase for IHS in order to take a historic step to address chronic underfunding and expand access to high-quality health care across Indian Country.

Secretary Becerra spoke of how over 81,000 drug overdose deaths occurred in the United States in the 12 months ending in May 2020. To address this, the President's discretionary request provides \$1.6 billion to the Community Mental Health Services Block Grant to respond to the systemic strain on our country's mental health care system—more than double the FY 2021 level. Furthermore, the discretionary request also takes action to address the epidemic of opioids and other substance use, investing \$10.7 billion across HHS, \$3.9 billion more than in FY 2021.

Secretary Becerra spoke of the President's request including **\$51 billion for NIH**, a \$9 billion an increase or 22 percent increase over FY 2021 enacted for NIH. **Included in this increase is \$6.5 billion to establish the Advanced Research Projects Agency for Health (ARPA-H)**. With an initial focus on cancer and other diseases such as diabetes and Alzheimer's, this major investment in Federal research and development will speed transformational innovation in health research and speed application and implementation of health breakthroughs.

This bold new approach will complement NIH's existing research portfolio, which is a vital contributor to longer and healthier lives, supports and trains world-class scientists, and drives economic growth. Outside of ARPA-H, **the remaining \$2.5 billion increase** will allow NIH to continue investing in basic research and translating research into clinical practice to address the most urgent challenges such as HIV/AIDS and ending the opioid crisis. This also includes climate change, which the Administration is working to address government-wide. At NIH, the discretionary request **includes an increase of \$100 million to support research aimed at understanding the health impacts of climate change**.

NIH FY2022 Budget Hearings in the Senate and House

As of this writing, these hearings have not yet occurred. A full summary will be available in the September Council report.

Dr. Collins with other select Institute and Center Directors will be testifying in a hearing on the NIH FY2022 Budget in front of the House Committee on Appropriations' Subcommittee on Labor-HHS on

Tuesday, May 25, 2021 at 10 a.m., and in the Senate Committee on Appropriations' Subcommittee on Labor-HHS on Wednesday, May 26, 2021 at 10a.m. Accompanying Dr. Collins to the Senate Labor-HHS Subcommittee hearing will be Dr. Fauci (NIAID), Dr. Sharpless (NCI), Dr. Pérez-Stable (NIMHD), Dr. Gibbons (NHLBI), Dr. Bianchi (NICHD), and Dr. Tromberg (NIBIB). The House Labor-HHS Subcommittee IC Director participants in addition to Dr. Collins is still to be announced.

ADDITIONAL CONGRESSIONAL HEARING

House Energy and Commerce Subcommittee on Health Hearing on Long COVID: On April 28th, 2021, the House Energy and Commerce Committee, Health Subcommittee held a hearing on: The Long Haul: Forging a path through the lingering effects of COVID-19. Testifying in the hearing in the first panel were: Dr. Collins (Director, NIH), and Dr. John Brooks (Chief Medical Officer, CDC COVID-19 Response). Second panel: Dr. Steven Deeks (Professor of Medicine, Univ. of California-San Francisco), Ms. Nalalie Hakala (patient), Ms. Lisa McCorkell (patient), Dr. Jennifer Possick, (Assoc. Professor for Yale School of Medicine and Director, Post COVID Recovery Program, Yale-New Haven Hospital), and Ms. Chimere Smith (patient).

Short summary of Dr. Collins' testimony:

Dr. Collins spoke of how NIH was addressing Long COVID, where some people who are still suffering months after they first came down with COVID-19, some of whom initially had very few symptoms or even none. With the more than \$1 billion that Congress appropriated to research to understand Long COVID and discover ways of treating and preventing it, NIH has pulled together experts from many scientific fields to design a fast, flexible research initiative. Dr. Collins stated to get a solid measure of the prevalence, severity and persistence of Long COVID, there needs to be a study tens of thousands of patients that are diverse in age, sex, race, ethnicity, and severity of COVID-19 symptoms.

Dr. Collins spoke of the launch of a metacohort, which is a cohort built on existing longitudinal community-based cohorts or the electronic health records of large healthcare systems. These resources already include tens of thousands of participants who've already contributed years' worth of medical data. This approach will enable NIH to hit the ground running, giving researchers access to existing data that can quickly provide valuable insights on Long COVID. He also spoke of the need a cohort for children and adolescents to learn more about how that affects their development. NIH already had 273 responses to the call for research proposals, and expects to make awards in the next three weeks. Intensive laboratory and imaging studies should be underway by summer. In closing, he emphasized that one critical way to prevent Long COVID is to prevent COVID itself. Even for young people who consider their risk of severe COVID to be low, the long-term consequences can be quite serious.

STAKEHOLDER MEETINGS

Meeting with the Ad Hoc Group for Biomedical Research

On April 20th, Dr. Woychik met with the Ad Hoc Group for Medical Research, a coalition made up of over 300 organizations in support of increased funding for NIH. The group had a discussion with Dr. Woychik on climate change and disasters, COVID-19 and RADx, data management, and diversity, equity and inclusion. Coalition Organizations in Attendance included: Association of American Medical Colleges; Association of Public and Land-grant Universities; Federation of American Societies for Experimental Biology (FASEB); ACT for NIH; Coalition for the Life Sciences; Association of Independent Research Institutes; American Association for Cancer Research; and Federal Relations Association of American

Universities. In attendance for NIEHS: Rick Woychik, Gwen Collman, Sheila Newton, Aubrey Miller, April Bennett, John Balbus, Gary Ellison, and Chris Weis.

Upcoming Meeting: with the American Thoracic Society Leadership on June 15, 2021 (Friends of NIEHS Co-Chair)

UPDATES ON PRESIDENTIAL APPOINTMENTS

On February 23, 2021, the Senate Committee on Health, Education, Labor and Pensions (HELP) held a hearing for President Biden's nominee for Secretary of Health and Human Services, former California Attorney General Xavier Becerra. The Democrats of the committee touted Becerra's experience running a major department and how he has been a staunch defender of the Affordable Care Act and access to medical care and coverage from Americans. Republicans had concerns over his lack of healthcare expertise and experience and raised concerns about federal overreach into healthcare choices as they felt Becerra was an advocate for this in the past. The Senate Committee on Finance also held a hearing on the nominee on February 24, 2021. In this hearing, Republicans attacked Becerra's past stances on abortion and religious liberties. While Democrats touted Becerra's accomplishments in healthcare issues, including working on e-cigarettes, the Opioid Epidemic and the Affordable Care Act. On March 3, 2021, with tie vote, the Senate Committee on Finance advanced his nomination. The Senate voted on March 18, 2021 to bring the nomination to the floor, and with a vote of 50-49-1 confirmed Xavier Becerra as HHS Secretary.

On February 25, 2021, the Senate HELP Committee held a hearing with Dr. Rachel Levine, nominee for Assistant Secretary of Health, and Dr. Vivek Murthy, former Surgeon General and current nominee for Surgeon General in the Biden Administration. Topics brought up by the Committee included: Coronavirus, Vaccine Hesitancy, the Opioid Epidemic, Mental Health, Behavioral Health, Children Returning to Schools, and Vaping. The Senate HELP Committee advanced their nominations on March 17, 2021. The Senate voted to confirm Dr. Vivek Murthy by a vote of 57-43 on March 23, 2021 and Dr. Rachel Levine by a vote of 52-48 on March 24, 2021.

On April 22nd, 2021, Andrea Palm, nominee for HHS Deputy Secretary, was reported out committee favorably to go to vote in the full Senate. The Senate confirmed Andrea Palm as HHS Deputy Secretary on May 11, 2021 by a vote of 61-37.

Dr. Melanie Egorin, nominee for HHS Assistant Secretary of Legislation, and Dawn O'Connell, nominee for HHS Assistant Secretary for Preparedness and Response, are still awaiting hearings in on their nominations in the Senate.

On April 29th, 2021, Dr. Eric Lander, President Biden's nominee for Director of the Office of Science and Technology Policy (OSTP) had a nomination hearing held in the Senate Committee on Commerce, Science and Transportation, with criticisms on both sides regarding understating contributions of women scientists, possible ties to Jeffery Epstein, and offering a public toast to James Watson, who is described as "racist, misogynist and anti-Semitic." Dr. Landers apologized for past mistakes and defended his character. While talking about the nation's research enterprise, he touted the need for ARPA-H at NIH to help accelerate technologies needed to conquer cancer and other diseases. The Committee has yet to vote to send his nomination to the Senate floor.

Other Confirmations of Interest: Former Secretary of North Carolina's Department of Environmental Quality and EPA air quality specialist, Michael Regan, was confirmed as Administrator of EPA on March 10, 2021. Former Michigan governor, Jennifer Granholm, was confirmed as Secretary of Energy on February 25, 2021.

Science Advances

One NIEHS

Boyles AL, Beverly BE, Fenton SE, Jackson CL, Jukic AMZ, Sutherland VL, Baird DD, Collman GW, Dixon D, Ferguson KK, Hall JE, Martin EM, Schug TT, White AJ, Chandler KJ. Environmental Factors Involved in Maternal Morbidity and Mortality. *J Womens Health (Larchmt)*. 2021 Feb;30(2):245-252. doi: 10.1089/jwh.2020.8855. Epub 2020 Nov 18. PMID: 33211615; PMCID: PMC7891208.

DNTP

Krishna S, Berridge B, Kleinstreuer N. High-Throughput Screening to Identify Chemical Cardiotoxic Potential. *Chem Res Toxicol*. 2021 Feb 15;34(2):566-583. doi: 10.1021/acs.chemrestox.0c00382. Epub 2020 Dec 21. PMID: 33346635. (*note, this is a commentary*)

DIR

Jamsen JA, Sassa A, Shock DD, Beard WA, Wilson SH. Watching a double strand break repair polymerase insert a pro-mutagenic oxidized nucleotide. *Nat Commun*. 2021 Apr 6;12(1):2059. doi: 10.1038/s41467-021-21354-6. PMID: 33824325; PMCID: PMC8024293.

DETR

Cirillo PM, La Merrill MA, Krigbaum NY, Cohn BA. Grandmaternal Perinatal Serum DDT in Relation to Granddaughter Early Menarche and Adult Obesity: Three Generations in the Child Health and Development Studies Cohort. *Cancer Epidemiol Biomarkers Prev*. 2021 Apr 14. doi: 10.1158/1055-9965.EPI-20-1456. Epub ahead of print. PMID: 33853850.

Spotlight on NIEHS

COVID-19

NIEHS COVID-19 Executive Order Engagement and Supplemental Funds for COVID-19 Recovery Centers

In March of 2020, NIEHS received \$10 million “for worker-based training to prevent and reduce exposure of hospital employees, emergency first responders, and other workers who are at risk of exposure to coronavirus through their work duties” from the Coronavirus Preparedness and Response Supplemental Appropriations Act, 2020. The Coronavirus funding has been administered by the NIEHS Worker Training Program (WTP). With this funding and regular appropriations for training workers for hazardous materials and emergency response, WTP initiated a national response for COVID-19 worker health and safety training.

NIEHS leads and reports on the following 2 Executive Orders and sections with Dr. Woychik as the lead and Dr. Ellison and Mrs. Beard as co-leads. Three milestones have been submitted and bi-weekly summaries include completed activities or updates to ongoing milestones.

Listing of each Executive Order and general summary response is below.

1. Executive Order 13996: Establishing the COVID-19 Pandemic Testing Board and Ensuring a Sustainable Public Health Workforce for COVID-19 and Other Biological Threats (Reference Group A-3, Reference Number A-309)
2. Executive Order 13999: Protecting Worker Safety and Health (Reference Group C-1, Reference Number C-105)
3. Executive Order 13999: Protecting Worker Safety and Health (Reference Group C-3, Reference Number C-303)

Summary of NIEHS Worker Training Program Response: NIEHS WTP has training tools to keep federal and non-federal public health workers safe from COVID-19 and support workplace vaccination efforts (see the COVID-19 resource page). The program recently provided supplemental funding to grantees for COVID-19 Recovery Centers in communities with higher than average COVID-19 transmission rates. The Recovery Centers will provide training, develop resources and tools, support partnerships with local worker centers and community organizations, and will connect training recipients to community resources such as mental health services and COVID-19 testing.

Freezer Donations

On March 16, 2021, NIEHS donated 11 ultracold lab-grade freezers to the N.C. Department of Health and Human Services. The freezers will be used for vaccine cold storage in underserved areas of North Carolina. This project was spearheaded by Kerri Hartung, Andrea Davis, Rick Weaver, and Kim Jones as part of the NIEHS Leadership Development Program.

Disaster Research Response Program

Our NIH DR2 Program is launching a new program pages and a Portal for Research Resources on the NIEHS website on June 1, which was originally hosted by NLM. The Website will feature:

- **The New Portal for Research Resources (new and improved DR2 Tool Repository)** includes more than 500 publicly available **ready-to-go data collection tools and resources**. The Portal includes data collection surveys and questionnaires, guidance documents, data dictionaries, common data elements, and other study materials that are usually difficult to access. Each Portal resource has been curated with more than 100 keywords related to type of resource, applicable population, administration information, type of event it can be used for, focus on specific exposures or health outcomes, and other special considerations.
- **The Portal also includes the DR2 COVID-19 Collection with** over 125 curated resources are related to the pandemic. Items include:
 - o Survey instruments.
 - o Research protocols.
 - o Common data elements.
 - o Data dictionaries.
 - o Consent forms.
 - o Links to other toolkits and repositories.

- **DR2 has been actively engaged in the NIH COVID response efforts including RADx, RADx-UP and developing Common Data Elements (CDEs) with NIH OBSSR and NLM.** Additionally, DR2 is also involved with the larger data ontology, data harmonization and CEHDE efforts across NIEHS.
- The new website also includes the new Human Studies and Research Ethics page to prime IRBs in their review and approval of research plans and procedures. They are given guidance, templates, and training for the efficient and effective review of protocols for these studies.
- The site also will include additional resources for the NIH DR2 Program including past events, resources, and publications.

Climate Change and Health

Global climate change has direct and indirect impacts on human health in the United States and around the world. Extreme weather events along with changing temperatures and rainfall patterns create new threats and exacerbate existing threats through infectious and chronic diseases and injuries. The impacts are greatest in vulnerable populations. The NIH has relaunched its Climate Change and Health working group to coordinate research planning across the agency. In addition, NIEHS serves as the NIH or HHS representative to multiple interagency activities. NIEHS also partners with the National Science Foundation to fund research on marine-related health issues.

President Biden has issued two Executive Orders that support NIEHS research endeavors in climate change and human health:

- **EO 13990, Executive Order on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis:** Mandates a review of the actions and policies of all federal agencies taken during the Trump administration to ensure compliance with the administration's environmental policies, among other actions. NIH may be called upon to review regulatory rescissions or revisions per the APA. <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/20/executive-order-protecting-public-health-and-environment-and-restoring-science-to-tackle-climate-crisis/>
- **EO 14008, Executive Order on Tackling the Climate Crisis at Home and Abroad:** Takes a government-wide approach to the climate crisis; places response to the climate crisis within an environmental justice framework, noting impacts and proposing actions to address “disproportionately high and adverse human health, environmental, climate-related and other cumulative impacts on disadvantaged communities.” Creates White House Environmental Justice Interagency Council (includes HHS); establishes Office of Climate Change and Health Equity within HHS; sets out Justice40 Initiative (recommendations on Federal investments toward a goal that 40% of overall benefits flow to disadvantaged communities). <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/27/executive-order-on-tackling-the-climate-crisis-at-home-and-abroad/>

Priorities for NIH-wide research on climate, environment, and health include:

- Building the research workforce of well-trained multidisciplinary scientists to further our understanding of the health risks and prevention measures
- Developing state of the art data infrastructure to support research and analysis of climate change health impacts; promoting integration of climate-related exposures in NIH studies
- Building healthy, resilient communities by supporting sustained research partnerships with disadvantaged communities
- Building rapid disaster research response capacity to better understand health implications of climate-related disasters and effectiveness of disaster health risk reduction interventions

- Supporting innovative discovery and solutions-based research

Diversity, Equity, and Inclusion at NIEHS

The NAEHSC Diversity, Equity, and Inclusion Working Group was created to advise the National Advisory Environmental Health Science Committee (NAEHSC) on matters related to anti-racism, diversity, equity, and inclusion. The working group will provide insight and guidance on ways to increase diversity in the environmental health sciences workforce, gaps in disparities research relevant to environmental health sciences, inequities in funding across racial/ethnic groups, and metrics to evaluate progress. The working group is composed of up to five NAEHSC members, NIEHS employees, and individuals from academia, industry, or government. The group is chaired by Dr. Karen Vasquez from the University of Texas at Austin. The current members are:

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| • Karen Vasquez, Chair | University of Texas, Austin |
| • Jose Cordero, former Council Member | University of Georgia |
| • Edith Parker, former Council Member | University of Iowa |
| • Andy Shih, former Council Member | Autism Speaks |
| • George Daston | Proctor and Gamble; President of SOT |
| • Mary Diaz Santana | NIEHS, Division of Intramural Research |
| • Fred Tyson | NIEHS, Division of Extramural Research and Training |
| • Nicole Popovich, NIEHS, Admin Assistant | NIEHS, Division of Extramural Research and Training |

Ending Structural Racism at NIH

The UNITE initiative was established to identify and address structural racism within the NIH-supported and the greater scientific community. UNITE is comprised of five committees with separate but coordinated objectives on tackling the problem of racism and discrimination in science, while developing methods to promote diversity and inclusion across the biomedical enterprise. The five committees are:

- **Committee U:** Understanding stakeholder experiences through listening and learning
To perform a broad, systematic self-evaluation to delineate elements that perpetuate structural racism and lead to a lack of diversity, equity, and inclusion within the NIH and the external scientific community.
- **Committee N:** New research on health disparities, minority health, and health equity
To address long-standing health disparities and issues related to minority health inequities in the United States by ensuring NIH-wide transparency, accountability, and sustainability in marshaling resources for health disparity, minority health, and health equity research.
- **Committee I:** Improving the NIH culture and structure for equity, inclusion and excellence
To change the NIH organizational culture and structure to promote diversity, equity, and inclusion throughout the NIH workforce.
- **Committee T:** Transparency, communication, and accountability with our internal and external stakeholders
*To ensure transparency, accountability, and sustainability of all UNITE efforts amongst internal and external stakeholders.
Coordinate NIH-wide efforts and communicate findings from other UNITE committees to internal and external stakeholders, and the public.*
- **Committee E:** Extramural research ecosystem: changing policy, culture and structure to promote workforce diversity

To perform a broad systematic evaluation of NIH extramural policies and processes to identify and change practices and structures that perpetuate a lack of inclusivity and diversity within the extramural research ecosystem.

Following a special session of the Advisory Committee to the Director held on February 26, 2021, ten concrete actions were approved to achieve the goals of the UNITE Initiative. The actions include:

- Appoint a diversity, equity, and inclusion officer in every NIH Institute and Center (IC) with direct access to the IC Director to track, advance, and coordinate IC-specific diversity, equity, and inclusion efforts and actively participate in NIH-wide diversity efforts.
- Require each NIH IC to create an anti-racism plan.
- Systematically gather and make public data on the demographics of NIH's workforce across all science, health/research, and infrastructure positions.
- Implement approaches to support the expansion of the NIH [Distinguished Scholars Program](#).
- Establish an Anti-Racism Steering Committee and promote practices that create effective mentoring and enhance retention and promotion at all levels within the NIH community.
- Promote existing [recruitment tools](#) and other best practices for recruiting a diverse applicant pool.
- Revise [NIH Manual Chapter 1311](#) (Preventing and Addressing Harassment and Inappropriate Conduct) to acknowledge racial discrimination and harassment more explicitly.
- Expand internal anti-harassment campaign to include anti-racism and make NIH staff aware of options for reporting racist actions.
- Update the portraiture around the NIH campus to reflect the diversity of our society.
- Seek input from internal NIH stakeholders through listening sessions and an online Request for Information to inform NIH strategies to enhance diversity and inclusion in the NIH workforce.

In addition, the UNITE I Committee has formed the NIH Antiracism Steering Committee which is comprised of staff from across the NIH ICs to discuss internal NIH issues. There are currently 15 NIEHS staff members participating on the committee which meets on the second Wednesday of every month.

Past Events

Reducing the Health Impacts of the Nitrogen Problem: An Environmental Health Matters Workshop, cosponsored by The Environmental Health Matters Initiative (EHMI) and NIEHS, consisted of 5 sessions held virtually beginning on January 28 through February 25. The sessions took a detailed look at farm and watershed-level solutions, as well as policies and markets. During the course of the meetings, experts in engineering, agronomy, economics, cancer, developmental biology, and more explored the scope of the problem and examined potential solutions.

NIEHS Superfund Research Program (SRP) External Use Case (EUC) Showcase: The first EUC showcase was held February 18-19. During this time, over 140 participants joined the meeting to share experiences and recommendations about integrating datasets from SRP-sponsored research. EUCs, developed by collaborations of researchers from different SRP centers, demonstrate specific scenarios in which data management and sharing could provide new insight on research questions and to identify barriers to inform future data efforts.

The Impact of Environmental Exposures on the Microbiome and Human Health Workshop: Over 500 researchers participated in the virtual workshop held February 23-24. The event featured over 70 speakers and took a wide-ranging look at the latest research on the microbiome and environmental health. The workshop was organized into four topic sessions, along with brief talks on the latest research. Workshop co-chair Vicki Sutherland, Ph.D., from the NIEHS Division of National Toxicology Program (DNTP), said that a paper highlighting advances is in preparation. The four topic sessions consisted of Microbiome, Health, and Toxicity, led by Dori Germolec, Ph.D., DNTP; Environmental Exposures and Microbiome, led by Heather Henry, Ph.D., from the NIEHS Division of Extramural Research and Training (DERT); Absorption, Distribution, Metabolism, and Excretion (ADME), and Exposures, led by Suramya Waidyanatha, Ph.D., from DNTP.; and Models and Methods, led by Jason Li, Ph.D., from the Division of Intramural Research (DIR).

29th Annual Triangle Consortium for Reproductive Biology Meeting: The Triangle Consortium for Reproductive Biology (TCRB) met for its 29th Annual Meeting February 26, to exchange scientific research on reproduction. Unlike past years, attendees met virtually instead of at NIEHS, which traditionally hosts the meeting. The meeting highlighted health disparities, placental abnormalities, and awards. Carmen Williams, M.D., Ph.D., deputy chief of the Reproductive and Developmental Biology Laboratory and head of the Reproductive Medicine Group, was an organizer of the meeting. Marcos Morgan, Ph.D., head of the NIEHS Male Reproduction and RNA Biology Group, was one of two invited presenters from the local region.

60th annual meeting of the Society of Toxicology (SOT): Science communication strategies, microplastics pollution, cannabis use, and environmental health disparities were just a few of the topics that headlined the 60th annual meeting of the Society of Toxicology (SOT), held virtually March 12-26. NIEHS scientists, trainees, and grant recipients were well-represented at the event. They showcased their latest findings through seminars, poster sessions, workshops, and panel discussions. A conference highlight was the tribute to former NIEHS and National Toxicology Program (NTP) Director Linda Birnbaum, Ph.D.

BIPOC [Black, Indigenous, and people of color] Climate Justice Dialogue: Biden administration officials, members of Congress, and dozens of environmental justice advocates convened online April 8 for a day-long event called the BIPOC [Black, Indigenous, and people of color] Climate Justice Dialogue. This look at climate justice, or the unequal impacts climate change has on different populations, is part of our monthly series on racial equity. The symposium focused on the environmental health and justice agenda emerging from the new administration. John Balbus, M.D., NIEHS Senior Advisor for Public Health described the NIH stand against structural racism in biomedical research through its UNITE initiative. He then turned to NIEHS's leadership in environmental health disparities and justice research.

Next Generation in Autism Research Mini Symposium: NIEHS marked Autism Awareness Month with a mini-symposium April 12 showcasing NIEHS-funded research, as well as a guest lecture April 28 that presented a new hypothesis about how microbes in the gut are linked to the disorder. During the mini-symposium, six early-stage researchers presented their efforts to study those environmental factors, describing a variety of approaches from epidemiology to laboratory-based studies of biological mechanisms that may be at play.

Leveraging Advances in Remote Geospatial Technologies to Inform Precision Environmental Health Decisions - A Workshop: Remote geospatial technology generates data that offer precision insights to environmental health scientists and decisionmakers. The experts who gathered for the latest workshop by the National Academies of Science, Engineering, and Medicine (NASEM) discussed how geospatial data may improve exposure estimates. The April 14-15 meeting, co-sponsored by NIEHS, connected those who produce geospatial data with users of their output.

NIEHS Scholars Connect Program Spring Symposium: Members of the 2020-2021 NIEHS Scholars Connect Program (NSCP) presented their research at the April 16 Spring Symposium. Extraordinary efforts from program coordinators, tremendous support from mentors, and the flexibility of scholars went into revamping the program to allow it to succeed during the pandemic. The 2020-2021 NSCP had a delayed start, and scholars were required to work remotely due pandemic restrictions.

Women's Health Awareness Conference: Racism is a fundamental cause of adverse health outcomes for people of color, according to scholars, clinicians, and public health experts at the seventh annual Women's Health Awareness Conference on April 17. Feedback in previous years informed the choice of this year's theme, Racism and Health: Changing the Narrative, Reaching for Equity. Over 7000 people registered for the virtual event, which was cosponsored by NIEHS, Delta Sigma Theta Sorority, Inc., and North Carolina Central University. A wide range of experts spoke during the conference including Joan Packerham, Ph.D., director, Office of Human Compliance, NIEHS, chair Women's Health Awareness Steering and Planning Committee; Willa Robinson Allen, health program manager, Durham County; Arianna Bogier, student and poet; Karen Sheffield-Abdullah, Ph.D., postdoctoral research fellow, UNC; Pamela Bivens-Pippin, diversity educator, Duke University Health System; Harriet Washington, science writer, editor, and ethicist; Angelo Moore, Ph.D., program manager, Duke Cancer Institute Office of Health Equity; Sharon Beard, acting branch chief, Worker Training Branch, NIEHS; Lisa Nelson, M.D., retired oncologic and vascular surgeon; Amy Liebman, director, Environmental and Occupational Health, Migrant Clinicians Network; Sharon Mosley, mental health counselor; Cheryl Woods-Giscombe, Ph.D., distinguished associate professor, nursing, UNC; and Ashly Gaskin-Wasson, Ph.D., licensed psychologist.

2021 Annual North Carolina Women of Color Research Network Symposium: The NC Women of Color Research Network (WoCRN) is a statewide network of researchers representing academia, government, and industry. It is a product of the National Institutes of Health (NIH) Working Group on Women in Biomedical Careers, and is fully supported by NIEHS through the Office of Science Education & Diversity (OSED). The symposium, held May 27, started with an opening by Ericka Reid, Ph.D., the director of the NIEHS Office of Education and Diversity, followed by a welcome by Gwen Collman, Ph.D., acting director of NIEHS. Keynote speaker Talitha Washington, Ph.D., director of the Atlanta University Center Data Science Initiative Consortium and Professor of Mathematics at Clark Atlanta University, delivered a talk titled "The STEM Career Advice You Probably Didn't Get." The keynote speech was followed by a panel discussion, an elevator-pitch session, and round-table networking.

Upcoming Events

- Integrating Multiscale Geospatial Environmental Data into Large Population Health Studies, June 15-16
- Botanical Safety Consortium Annual Meeting, June 24
- 24th Annual NIEHS Biomedical Career Symposium, August 26-27

Awards and Recognition

Scott Williams, Ph.D., deputy chief of the NIEHS Genome Integrity and Structural Biology Laboratory, received the Southeast Regional Collaborative Access Team (SER-CAT) Outstanding Science Award. Each year, a review panel selects a paper deemed to have the highest scientific impact that was published by a SER-CAT member.

Robin Stanley, Ph.D. was awarded tenure by the NIH Central Tenure Committee and promoted to Senior Investigator and will continue to lead the Nucleolar Integrity Group within the Signal Transduction Laboratory.

Lisa Rider, M.D. was appointed as a Senior Clinician in the Clinical Research Branch and will serve as the Head of the Environmental Autoimmunity Group starting June 1, 2021. She will lead the group located in the NIH Clinical Center located in Bethesda, MD.

Frederick Miller, M.D., Ph.D., Senior Investigator, Clinical Research Branch, was unanimously approved by the Board of Scientific Directors as an NIH Emeritus Investigator, he assumed the position after his retirement on March 31, 2020, which culminates over 40 years of Federal Service, more than 20 of which will have been at NIEHS.

John Bucher, Ph.D., senior scientist in the NIEHS Division of the National Toxicology Program (DNTP), retired in April after nearly four decades at the institute. His scientific achievements, innovative thinking, and mentorship will leave a lasting influence, according to colleagues.

Humphrey Yao, Ph.D., head of the NIEHS Reproductive Developmental Biology Group, was elected to the Society for the Study of Reproduction (SSR) Board of Directors.

Mario Borgia, Ph.D., Director, NIEHS Cryo-EM Core Facility, Genome Integrity & Structural Biology Laboratory, received funding from the NIH Office of AIDS Research.

NIEHS became the first federal agency to earn the International WELL Building Institute's Health-Safety Rating. Throughout the pandemic, NIEHS and ORF upgraded facilities and operations to protect staff and visitors. The **WELL Health-Safety** rating signals the Institute's commitment to maintaining high standards in air and water quality, cleaning and sanitization procedures, emergency preparedness programs, health service resources, and stakeholder engagement and communication.

Sharon D. Beard, M.S., acting director of the NIEHS Worker Training Program, has been selected by the AIHA Environmental Issues Committee as the recipient of the AIHA Rachel Carson Award. The committee awards this honor in recognition of their environmental advocacy in the spirit of Rachel Carson. This award is bestowed upon an environmental health and safety (EH&S) professional who has

attained outstanding success and distinction in their environmental and industrial health and safety business, profession, or life's work.

Department of Health and Human Services Fiscal Year 2020 Green Champions

- **NIH NIEHS Ultralow Temperature Freezer Replacement Project**
Paul Johnson, Brian Harris, Kerri Hartung, Rachel Faison, Michael Spencer, Chris Long, Rachel Scroggins, Tom Sliwa, Kim Jones, Steven Smith
NIEHS replaced 35 existing ultralow temperature (ULT) freezers with new ENERGY STAR certified ULT freezers. The current inventory of more than 400 cold storage units were analyzed to identify older, energy inefficient freezers with an inherent increased risk of scientific sample loss, elevated maintenance costs and increased operating costs.
- **NIH NIEHS Direct Donation Program**
Kimberly Jones, Richard Weaver, April Byrd, Kelly Powell
In January 2020, the NIEHS team implemented a new Direct Donation Program that has realized positive impacts on the culture of sustainability at the NIEHS and in local North Carolina communities. Under authority of the Stevenson-Wydler Technology Innovation Act, the NIEHS Direct Donation Program identifies high-value excess research equipment that is then donated to educational institutions and nonprofit organizations to conduct technical and scientific education and research. In the first year of this program, donations valued at more than \$250,000 were diverted from landfills and directed to Duke University, North Carolina Central University, and E.E. Smith High School in Fayetteville, NC.
- **NIH RTP Campus Underground HTHW Piping Thermal Restoration**
Bill Blair, Benjamin Hocutt, Lee Howell, Marcos Flores
The National Institutes of Health (NIH) Office of Research Facilities at Research Triangle Park (RTP) and the National Institute of Environmental Health Sciences completed a project to restore the RTP Campus underground high temperature hot water (HTHW) piping insulation. The piping system is integral for the campus buildings' supply of steam, heating hot water, and domestic and laboratory hot water.
- **NIH Drain Disposal Policy**
Paul Johnson, Timothy Adkins, Craig Upson, David Mohammadi, Roger Weidner, Thomas Carol, Crispin Hernandez, Bill Steinmetz, Carranza Smith, Antares Nicklow
During fiscal year 2020, the National Institutes of Health (NIH) Office of Research Facilities, Division of Environmental Protection, in collaboration with a working group NIEHS, developed an NIH Drain Disposal Guide that informs users about which commonly used laboratory chemicals may be released to the drain. This initiative was established to bring awareness to waste disposal including a complete guide to acceptable sanitary sewer discharges, education on the types of waste streams produced in biotechnology processes, and their appropriate means of disposal, along with accompanying instructions on how to safely discharge to the sanitary sewer.
- **NIH NIEHS Replace 15 Cold Rooms**
The NIH Office of Research Facilities, Research Triangle Park, and the National Institute of Environmental Health Sciences, completed a project to replace 15 environmentally controlled lab rooms with more sustainable and energy efficient spaces.
- **NIH NIEHS Optimized Heating Hot Water Preheat and Reheat Piping System**
Kyle Askins, James Victor Stancil III, Bill Blair, Terry Wells, Daniel Burk, Heather Davis, Joseph Shealey

The National Institutes of Health (NIH) Office of Research Facilities, Research Triangle Park, completed a design in September 2020, to convert the existing preheat and reheat heating hot water system in Rall Building 101, Modules A-E, from a constant to a variable volume pumping system. The Modules A-E heating hot water system currently consists of three 40-horsepower (hp) pumps on variable frequency drives that pump water continuously through valves at each piece of equipment. Since the valves are three-way type, the water either flows through the equipment or is bypassed, never allowing the pumps to reduce speed below 100 percent, leading to increased energy consumption.

- **NIH NIEHS COVID-19 Testing Operation**

During fiscal year 2020, if the NIH did not sustain a healthy campus, the NIEHS mission could have been severely impacted while the workforce tried to return to work in July. The NIEHS COVID-19 Testing Operations Project Team contributed to the protection of collective health, efforts to prolong life, and showed positive analytics for its health impacts to the NIH community. Because of the new testing site, employees could be on campus with confidence in their safety and well-being during the pandemic.

2021 NIEHS Green Research Program Awards

The NIEHS Health and Safety Branch initiated the NIEHS Green Researcher program to recognize “green” researchers. The NIEHS Green Researcher Program is a Self-assessment which covers a range of sustainability topics applicable to research at NIEHS, including chemical use and waste management practices, recycling, sharing resources, cold storage, energy conservation, water conservation, procurement, and outreach and communication. The program provides an incentive and recognition for researchers who select greener or reduced chemicals and use more sustainable lab processes. This year, 3 Silver and 7 Bronze awards were achieved:

- Silver:
 - Kevin Garrish, Ph.D., Molecular Genomics Core Facility Group
 - Amy Papaneri, M.S., In Vivo Neurobiology Group
 - Tanya Whiteside, Quality Assurance Laboratory
- Bronze:
 - Lisa Banks, Reproductive Medicine Group
 - Gary Bird Ph.D., Calcium Signaling in Health and Disease Group
 - Terry Blankenship-Paris, DVM, MS, Veterinary Medicine Group
 - Susan Elmore, MS DVM DABT DACVP FIATP, Mouse Embryo Phenotyping Group
 - David Kurtz, DM, PhD, Quality Assurance Laboratory
 - Saniya Rattan, PhD, Reproductive Developmental Biology Group
 - Donna Stefanick, MS, DNA Repair and Nucleic Acid Enzymology Group

In Memoriam

Samuel H. Wilson, Jr., M.D. Senior Investigator, Genome Integrity & Structural Biology Laboratory died unexpectedly on April 23, 2021. Dr. Wilson was the head of the DNA Repair and Nucleic Acid Enzymology Group in the Laboratory of Genome Integrity and Structural Biology. He also held a secondary appointment in the Epigenetics and Stem Cell Biology Laboratory at NIEHS. Dr. Wilson moved to NIEHS in 1996 to serve as Deputy Director of the Institute and the National Toxicology Program (NTP) and directed his research group in the Laboratory of Structural Biology. He served as acting Director of NIEHS and NTP from 2007 to 2009. Dr. Wilson has published extensively, authoring many research and environmental health policy publications, and has been editor of several reference volumes. Since 2011, he has served as Editor-in-Chief of DNA Repair.

Dr. Wilson has received many honors and accomplishments but was especially grateful for his mentoring awards since he recognized the importance of training the next generation of scientists. He received the 2014 NIEHS Mentor of the Year award and in 2015, the NIH Ruth L. Kirschstein Mentoring Award. A special issue of the journal DNA Repair, titled "Tribute to Samuel H. Wilson: Shining Light on Base Excision DNA Repair" was released in September 2020 and highlighted his scientific contributions over his more than 55-year career. To learn more about Dr. Wilson, his research interests, and accomplishments, see the recent article in the December 2020 issue of the NIEHS Environmental Factor.