

AGS Bench to Bedside – What Does Scientific Workforce Diversity Have to Do With It?

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NIH Chief Officer for Scientific Workforce Diversity

October 17, 2021



National Institutes of Health
Office of the Director
Scientific Workforce Diversity

The Need for Diverse Perspectives in Science



Why Diversity Matters

More Productive Collaborations

Homophily (researchers publishing with co-authors of the same ethnicity) associated with publication in **lower-impact journals**, with **fewer citations**

Mean and Standard Deviations of Statistics for Multi-Authored Publications

Statistics	Two-authored	Three-authored	Four-authored	Ten-authored
Same ethnicity (All Authors)	0.43 (0.49)	0.15 (0.36)	0.08 (0.26)	NS*
Homophily Index	0.70 (0.25)	0.54 (0.22)	0.46 (0.20)	0.27 (0.14)
Impact Factor	2.32 (2.90)	2.59 (3.00)	2.90 (3.23)	4.57 (4.68)

*NS – Not Stated

Freeman & Huang (2015). Collaborating with people like me: ethnic co-authorship within the US. *Journal of Labor Economics* 33(3): S289-S318.

Why Diversity Matters Improved Science

A study of 2.5 million scientific papers shows various types of diversity leads to **higher impact factor publications & greater number of citations**

Independent Variables	Dependent Variables	
	Impact Factor	Citation Percentile
Lack of Ethnic Diversity Homophily Factor	-.153*** (.042)	-.833** (.422)
Geographic Diversity Number of Addresses on Paper	.044*** (.006)	.346*** (.061)
Information Diversity Number of References on Paper	.015*** (.001)	.400*** (.012)

Note: Sample presented from PubMed for 4-authored papers. Most findings are similarly significant across 2-authored and 3-authored papers for PubMed and Web of Science.

Why Focus on Scientific Workforce Diversity?

- Bird song was initially a male dominated scientific area
- It was thought that bird song followed particular patterns, based on studies of male birds
- Female scientists found gender-based differences in bird song



Haynes et al. The role of diversity in science: a case study of women advancing female birdsong research. *Animal Behaviour* Volume 168, October 2020, Pages 19-24.

Chief Officer for Scientific Workforce Diversity (COSWD)

MISSION

To lead the science of scientific workforce diversity, working across NIH and beyond to foster diversity, equity, and inclusion, enhancing creativity and innovation of science.

GOAL

To be the NIH scientific leader in creating cultures of inclusive excellence, allowing NIH and NIH-funded institutions to benefit from a full range of talent.



- + Build the evidence – using the NIH as a test bed for innovative scientific programs.
- + Disseminate the evidence – through work with the full scientific community, from trainees to established tenured scientists.
- + Act on the evidence – piloting integrated, institution-wide systems to address bias, faculty equity, mentoring, and work/life issues.

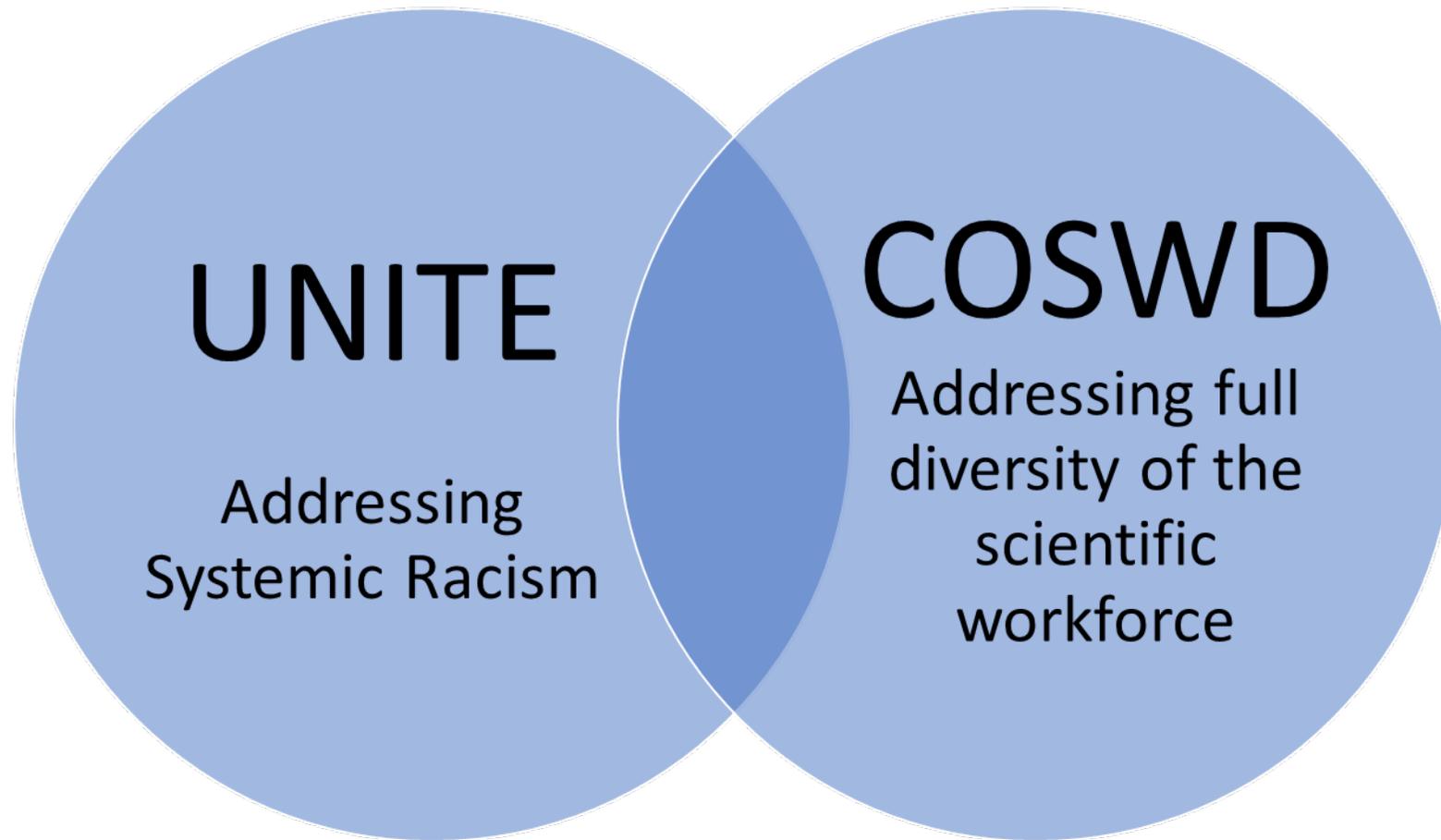
Underrepresented Populations in the U.S. Biomedical, Clinical, Behavioral and Social Sciences Research Enterprise

- Individuals from racial and ethnic groups that have been shown by the National Science Foundation to be underrepresented in health-related sciences on a national basis
- Individuals with disabilities
- Individuals from disadvantaged backgrounds*
- Women at the graduate level and beyond in scientific fields

*Includes rural background when combined with at least 1 other factor

<https://grants.nih.gov/grants/guide/notice-files/NOT-OD-20-031.html>.

Overlap between UNITE and COSWD





NIH UNITE Initiative

The NIH UNITE Initiative



- **Events of 2020 brought into sharp relief the ongoing reality of racial injustice in our country, and the responsibility of all of us to address this issue**
- **A series of intense Institute and Center Director meeting discussions were held to identify initial issues**
- **Two self-assembled affinity groups at NIH (8CRE, AA/B Scientists) and the Anti-Harassment SC met with NIH leadership for candid discussions that informed next steps**
- **We have arrived at a shared commitment to address structural racism: we must not allow this pivotal moment to pass**

The NIH UNITE Initiative



- U** Understanding stakeholder experiences through listening and learning
- N** New research on health disparities/minority health/health equity
- I** Improving the NIH Culture and Structure for Equity, Inclusion, and Excellence
- T** Transparency, communication, and accountability with our internal and external stakeholders
- E** Extramural Research Ecosystem: Changing Policy, Culture, and Structure to Promote Workforce Diversity

Initial UNITE Recommendations

- **Publicly commit to identifying and correcting any NIH policies or practices that may have helped to perpetuate structural racism**



Acknowledgement



“

“To those individuals in the biomedical research enterprise who have endured disadvantages due to structural racism, I am truly sorry. NIH is committed to instituting new ways to support diversity, equity, and inclusion, and identifying and dismantling any policies and practices at our own agency that may harm our workforce and our science.”

— Francis S. Collins, M.D., Ph.D., NIH Director

”

<https://www.nih.gov/ending-structural-racism>

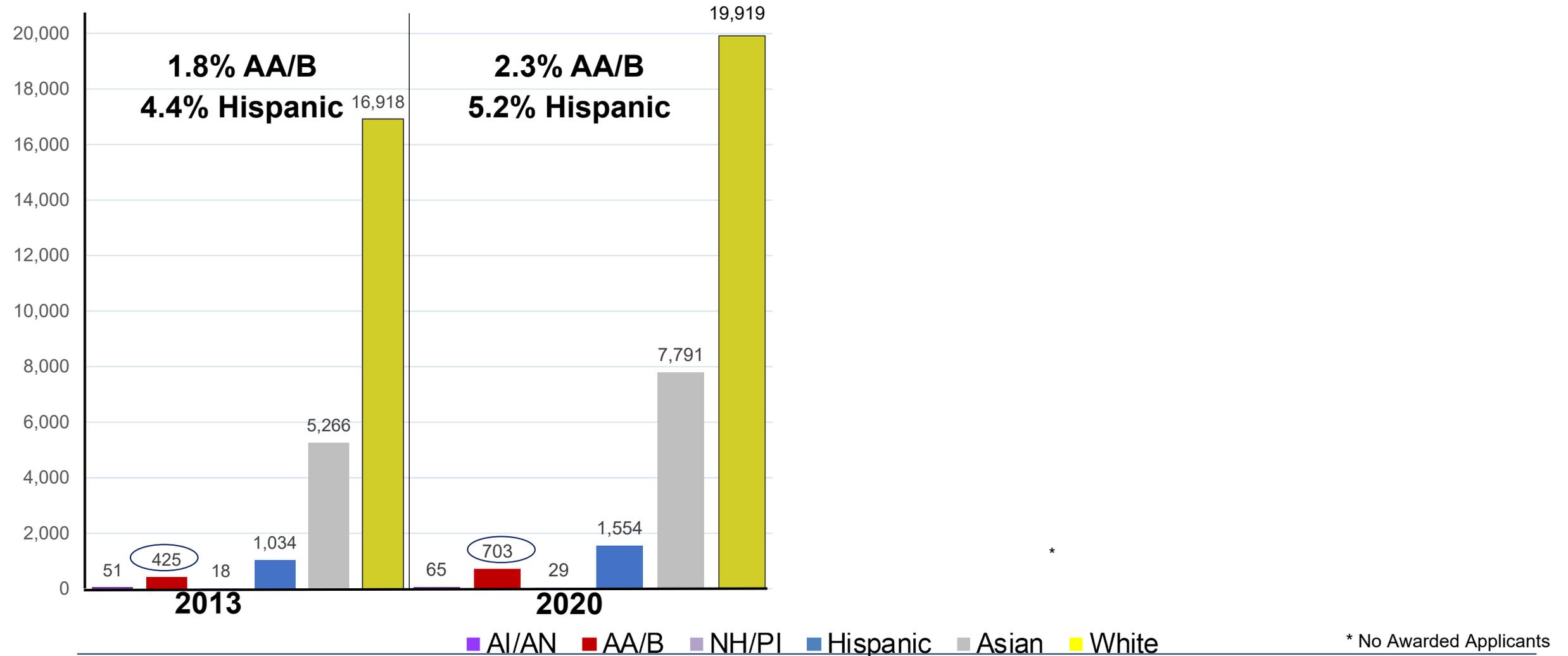
Initial UNITE Recommendations and Actions



- Publicly commit to identifying and correcting any NIH policies or practices that may have helped to perpetuate structural racism – *Published 3/1/21*
- Continue to aggressively implement approaches to address the “Ginther Gap” and enhance portfolio diversity

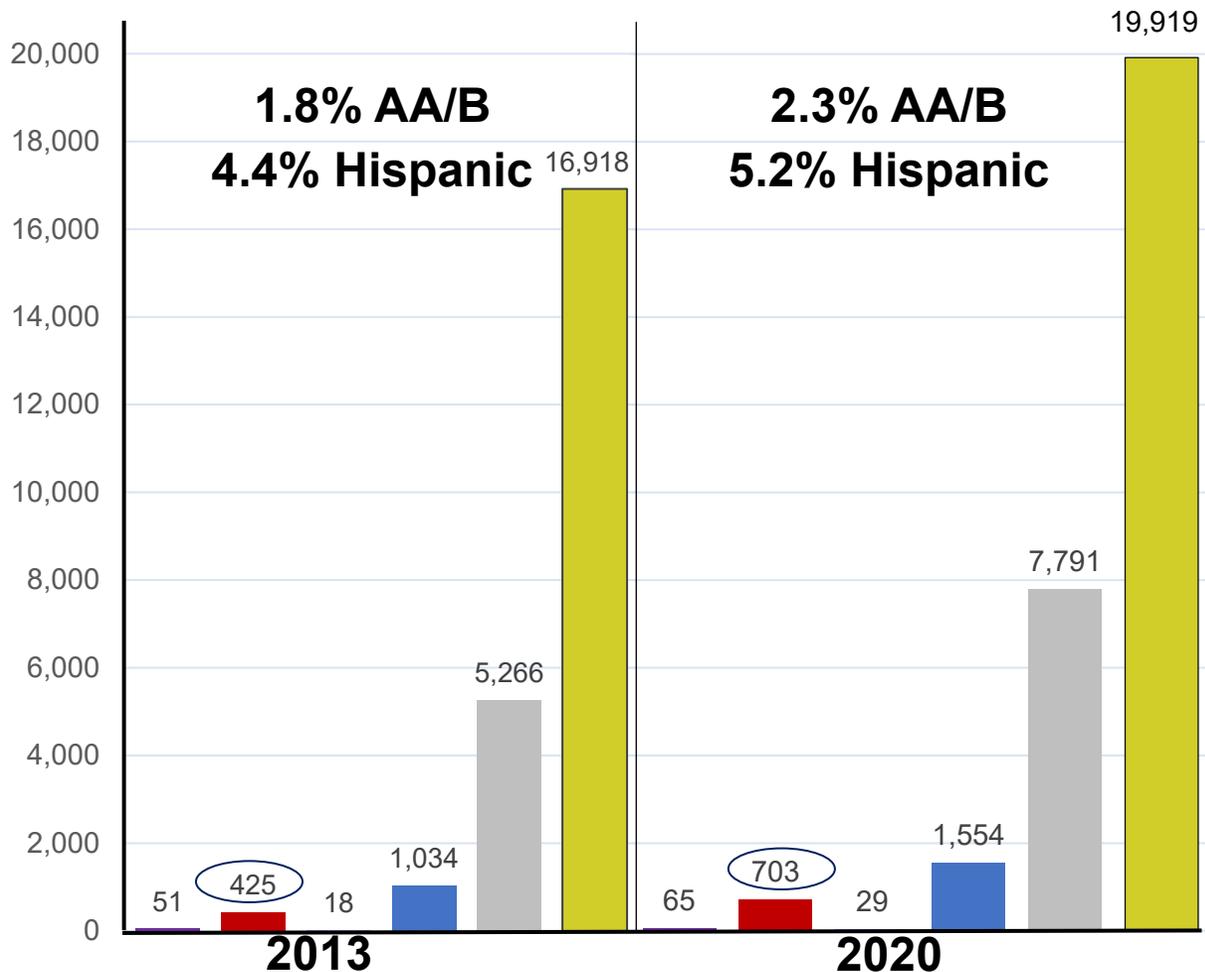
R01eq Applicants and Funding Rates Type 1 and Type 2: FY2013 and FY2020 (by Race/Ethnicity)

Number of Applicants

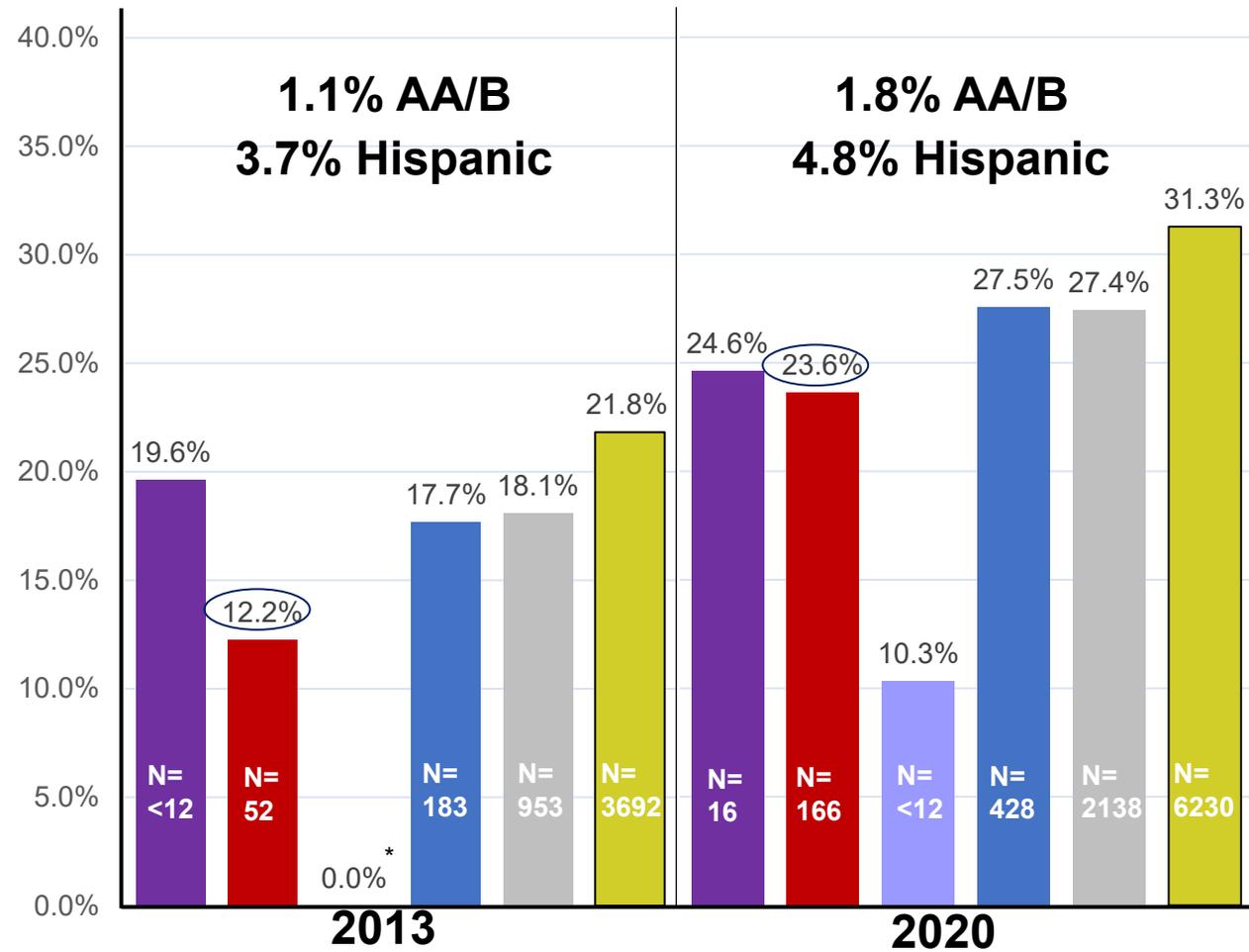


R01eq Applicants and Funding Rates Type 1 and Type 2: FY2013 and FY2020 (by Race/Ethnicity)

Number of Applicants



Funding Rates



■ AI/AN ■ AA/B ■ NH/PI ■ Hispanic ■ Asian ■ White

* No Awarded Applicants

Initial UNITE Recommendations and Actions



- Publicly commit to identifying and correcting any NIH policies or practices that may have helped to perpetuate structural racism – *Published 3/1/21*
- Continue to aggressively implement approaches to address the “Ginther Gap” and enhance portfolio diversity - *Ongoing*
- Launch a multi-phased, -tiered, and -integrated Common Fund Initiative focused on transformative health disparities research initiatives to reduce health disparities/inequities

Action



NIH Common Fund Transformative Research to Address Health Disparities and Advance Health Equity

Two FOAs released 3/26/21:

- 1) RFA-RM-21-021 Transformative Research to Address Health Disparities and Advance Health Equity (U01 Clinical Trial Allowed) - <https://grants.nih.gov/grants/guide/rfa-files/RFA-RM-21-021.html>
- 2) RFA-RM-21-022 Transformative Research to Address Health Disparities and Advance Health Equity at Minority Serving Institutions (U01 Clinical Trial Allowed) - <https://grants.nih.gov/grants/guide/rfa-files/RFA-RM-21-022.html>

Action



NIH Common Fund Transformative Research to Address Health Disparities and Advance Health Equity – Committed up to \$58M

Two FOAs released 3/26/21: **11 awards announced 10/13/21**

- 1) RFA-RM-21-021 Transformative Research to Address Health Disparities and Advance Health Equity (U01 Clinical Trial Allowed) – **6 awards**
- 2) RFA-RM-21-022 Transformative Research to Address Health Disparities and Advance Health Equity at Minority Serving Institutions (U01 Clinical Trial Allowed) - **5 awards; additional competition FY 22**

Initial UNITE Recommendations and Actions



- Publicly commit to identifying and correcting any NIH policies or practices that may have helped to perpetuate structural racism – *Published 3/1/21*
- Continue to aggressively implement approaches to address the “Ginther Gap” and enhance portfolio diversity - *Ongoing*
- Launch a multi-phased, -tiered, and -integrated Common Fund Initiative focused on transformative health disparities research initiatives to reduce health disparities/ inequities – *Implemented*
- Ensure a robust NIH Enterprise-wide commitment to support the NIMHD FOA focused on the effects of structural racism and discrimination on health disparities/ inequities; encourage funding levels that are commensurate with overall IC resources

Action



Funding Opportunity Title
Activity Code
Announcement Type
Related Notices
Funding Opportunity Announcement (FOA) Number
Companion Funding Opportunity
Number of Applications

Understanding and Addressing the Impact of Structural Racism and Discrimination on Minority Health and Health Disparities (R01 Clinical Trial Optional)

R01 Research Project Grant

New

None

RFA-MD-21-004

None

See [Section III. 3. Additional Information on Eligibility.](#)

With the commitment of up to \$30.8 M by 25 ICOs:

- **Letters of intent due 7/20/21**
- **Applications due 8/24/21**

<https://grants.nih.gov/grants/guide/rfa-files/RFA-MD-21-004.html>

Action – BRAIN FOA

First NIH FOA using Plan to Enhance Diverse Perspectives as a consideration for scoring



Department of Health and Human Services

Part 1. Overview Information

Participating Organization(s)

National Institutes of Health (NIH)

Components of Participating Organizations

National Institute of Mental Health (NIMH)

National Eye Institute (NEI)

National Institute on Aging (NIA)

National Institute on Alcohol Abuse and Alcoholism (NIAAA)

National Institute of Biomedical Imaging and Bioengineering (NIBIB)

Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)

National Institute on Deafness and Other Communication Disorders (NIDCD)

National Institute on Drug Abuse (NIDA)

National Institute of Neurological Disorders and Stroke (NINDS)

National Center for Complementary and Integrative Health (NCCIH)

Funding Opportunity Title

<https://grants.nih.gov/grants/guide/rsa-files/RFA-MH-21-180.html>

BRAIN Initiative: Reagent Resources for Brain Cell Type-Specific Access and Manipulation to Broaden Distribution of Enabling Technologies for Neuroscience (U24 Clinical Trial Not Allowed)

Initial UNITE Recommendations



- Publicly commit to identifying and correcting any NIH policies or practices that may have helped to perpetuate structural racism – *Published 3/1/21*
- Continue to aggressively implement approaches to address the “Ginther Gap” and enhance portfolio diversity - *Ongoing*
- Launch a multi-phased, -tiered, and -integrated Common Fund Initiative focused on transformative health disparities research initiatives to reduce health disparities/ inequities – *RFAs published 3/26/21*
- Ensure a robust NIH Enterprise-wide commitment to support the NIMHD FOA focused on the effects of structural racism and discrimination on health disparities/ inequities; encourage funding levels that are commensurate with overall IC resources – *RFA published 3/23/21 with 25 ICOs*
- Develop a sustainable process to systematically gather and make public the demographics of our internal and external workforce

Action – NIH Data by Race/Ethnicity, Disability Status



REPORTS

[Home](#) > [Report Catalog](#) > Report Catalog Results

Search Results for Reports and Statistics

[NEW SEARCH](#)

Topic:
 Funding Mechanism:
 Fiscal Year:

Admin Institute/Center:
 Activity:

Portfolio:
 Variable:

2 records found.

Report Title	Topic	Variable	Start Year	End Year	Format
▶ Research Grant Investigators by Mechanism, Gender, Race, Ethnicity, and Disability Status, FY2016-FY2020	Investigators, Funded Investigators, Funding Rates Investigators, Gender Investigators, Race/Ethnicity	Disability Status FY Gender IC Mechanism Race/Ethnicity	2016	2020	VIEW REPORT

[https://report.nih.gov/sites/report/files/docs/NIH Principal Investigators by Gender Race Ethnicity and Disability 2016-2020 02 23 2021 PDF.pdf](https://report.nih.gov/sites/report/files/docs/NIH_Principal_Investigators_by_Gender_Race_Ethnicity_and_Disability_2016-2020_02_23_2021_PDF.pdf)

Action – NIH Internal Data FY 21, Q2

RACE / ETHNICITY



SCIENTIFIC OCCUPATIONS



INFRASTRUCTURE OCCUPATIONS



HEALTH & RESEARCH OCCUPATIONS

White	60.5%	5,235
Black or African American	6.4%	550
Asian	28.6%	2,472
Hispanic or Latino	3.5%	300
Two or More Races	0.7%	59
American Indian or Alaska Native	0.4%	32
Native American or Other Pacific Islander	0.1%	7

White	49.0%	3,766
Black or African American	33.7%	2,592
Asian	10.1%	772
Hispanic or Latino	4.6%	356
Two or More Races	1.5%	115
American Indian or Alaska Native	1.0%	77
Native American or Other Pacific Islander	0.1%	6

White	48.5%	1,037
Black or African American	30.7%	656
Asian	16.0%	342
Hispanic or Latino	3.2%	68
Two or More Races	0.5%	11
American Indian or Alaska Native	1.0%	22
Native American or Other Pacific Islander	0.1%	3

Employees classified in the five racial groups or Two or more races are all non-Hispanic or Latino. Employees classified as Hispanic or Latino may identify with any combination of the five racial categories.

<https://www.edi.nih.gov/people/resources/advancing-racial-equity/nih-workforce-profile-fy21q02>



UNITE Recommendations and Actions Going Forward

UNITE Actions/Priorities Going Forward – Next 6 Months



- To facilitate HD/MH/HE research, the President's budget has proposed increased funding for NIMHD, NINR, NHLBI, and FIC

UNITE Actions/Priorities Going Forward – Next 6 Months



- To facilitate HD/MH/HE research, the President’s budget has proposed increased funding for NIMHD, NINR, NHLBI, and FIC
- Additional FOAs that focus on IC-specific disease/topic areas related to HD/MH/HE
- Develop programs to spur institutional culture change in support of inclusivity and equity

Faculty Institutional Recruitment for Sustainable Transformation (FIRST)

Overarching Goal

- Create cultures of inclusive excellence

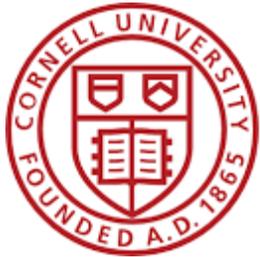
Program Objectives:

- Faculty cohort model for hiring, multi-level mentoring, professional development
- Integrated, institution-wide systems to address bias, faculty equity, mentoring, and work/life issues
- Coordination and Evaluation Center (CEC): Independent program evaluation - faculty and institutional level

Estimated Funds Available: \$241 M over 9 years

Inclusive Excellence

Initial FIRST Cohorts



Cornell University



TUSKEGEE
UNIVERSITY



SAN DIEGO STATE
UNIVERSITY



Icahn
School of
Medicine at
Mount
Sinai



THE UNIVERSITY OF
ALABAMA AT BIRMINGHAM

Inclusive Excellence
FIRST Coordination and Evaluation Center



MOREHOUSE

SCHOOL OF MEDICINE

UNITE Actions/Priorities Going Forward – Next 6 Months



- To facilitate HD/MH/HE research, the President’s budget has proposed increased funding for NIMHD, NINR, NHLBI, and FIC
- Additional FOAs that focus on IC-specific disease/topic areas related to HD/MH/HE
- Develop programs to spur institutional culture change in support of inclusivity and equity
- Increase URG career opportunities, starting with increasing IC participation in Science Education Partnership Award (SEPA) – targeting K – 12 STEM education

UNITE Actions/Priorities Going Forward – Next 6 Months



- **Examine NIH staff (e.g., PO, SRO) interactions with applicants (e.g., URG applicants) to address bias or inequities that may impact funding opportunities**
- **Develop programs to expand NIH interactions with and support of HBCUs, TCUs and other MSIs**



*Injustice anywhere is a threat to justice
everywhere*

Martin Luther King, Jr



Cell

Leading Edge

 CellPress

Commentary

Affirming NIH's commitment to addressing structural racism in the biomedical research enterprise

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[DOI: 10.1016/j.cell.2021.05.014](https://doi.org/10.1016/j.cell.2021.05.014) (2021).

The NIH UNITE Initiative

UNITE Co-Chairs

- **Marie A. Bernard**, NIH Office of the Director/Office of the Chief Officer for Scientific Workforce Diversity
- **Alfred Johnson**, NIH Office of the Director/Office of Management
- **Lawrence Tabak**, NIH Office of the Director

UNITE Program Manager

- **Victoria Rucker**, Center for Information Technology/NIH Office of the Director

UNITE Program Support

- **Brittany Chao**, NIH Office of the Director
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Kevin Davis (CIT)
Leslie Littlejohn (NIAMS)
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Kathy Etz (NIDA)
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Vonda Smith (CSR)
James Washington (NINDS)
Maryam Zaringhalam (NLM)
+Mark Stevens (OM/OD)

Committee Co-Chairs
+Staff Leads

Scientific Workforce Diversity Seminar Series SWDSS

Monday, September 27, 2021, 1:30–3:00 pm

“Is Implicit Bias Training Effective?”

Outside Panelists:

- Marcus Brauer – University of Wisconsin
- Molly Carnes – University of Wisconsin
- Shelly Correll – Stanford University
- Frank Dobbins – Harvard University
- Robert Sellers – University of Michigan
- <https://videocast.nih.gov/watch=43767>.



SWDSS

October 25, 2021
2-3 p.m.
NASEM Briefing

The National Academies of SCIENCES
ENGINEERING
MEDICINE

About Us Events Our Work Publications To

Addressing Diversity, Equity, Inclusion, and Anti-Racism In 21st Century STEMM Organizations: A Summit

<https://diversity.nih.gov/science-diversity/swd-seminar-series>.

Scientific Workforce Diversity Seminar Series

Achieving Equity in Faculty Hiring: Pros and Cons of Cohort Recruitment



December 8, 2021

1 – 2 p.m.



National Institutes of Health

Office of the Director

Scientific Workforce Diversity



Great minds think differently.



Check out our website: diversity.nih.gov



Sign up for our [quarterly newsletter](#) and visit our [SWD blog](#) for twice monthly updates



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Email us at SWD_Talks@nih.gov