50th Meeting of the NIH Advisory Committee on Research on Women’s Health

Janine A. Clayton, M.D.
NIH Associate Director for Research on Women’s Health
Director, Office of Research on Women's Health
National Institutes of Health
April 21, 2020 – Director’s Report
COVID-19 is affecting us all yet early evidence suggests sex differences in mortality

210 countries reporting cases/deaths
- Only 19 reporting sex-disaggregated data

Possible explanations:
- Women have more robust innate & adaptive immune responses
- Toll-like receptor responses differ by sex
- TMPRSS2 protease activity is androgen responsive
- Genetic variants of TMPRSS2 possible disease modulators

More men are dying of COVID-19 than women

Data are incomplete and show importance of incorporating sex analysis into preparedness & response.
Vulnerable populations in US are bearing disproportionate share of COVID-19 burden

Hospitalization Rates by Age

- 0-49 yrs (25.5%)
- > 50 yrs (74.5%)

Underlying Conditions Among Hospitalized

- No Underlying Condition (10.7%)
- Underlying Condition (89.3%)

Most Common Underlying Conditions:

<table>
<thead>
<tr>
<th>Condition</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypertension</td>
<td>49.7%</td>
</tr>
<tr>
<td>Obesity</td>
<td>48.3%</td>
</tr>
<tr>
<td>Chronic Lung Disease</td>
<td>34.6%</td>
</tr>
<tr>
<td>Diabetes Mellitus</td>
<td>28.3%</td>
</tr>
<tr>
<td>CVD</td>
<td>27.8%</td>
</tr>
</tbody>
</table>

Deaths involving COVID-19, pneumonia, and influenza reported to NCHS by sex, U.S. Week ending 2/1/2020 to 4/11/2020 (As of 4/17)

https://www.cdc.gov/nchs/nvss/vsrr/COVID19/
Patterns in other pandemics suggest a gender impact on health outcomes

More likely to have underlying respiratory disease-related vulnerabilities due to smoking prevalence

Incur economic impacts as caregiving roles are often unpaid

Increased domestic violence & abuse

Increased psychological trauma of being primarily responsible for the ill

Lancet Gender and COVID-19 Working Group
Importance of governments and global health institutions to:

- Consider the sex and gender effects of COVID-19
- Incorporate voices of women on front line of response and those most affected into preparedness and response policies/practices

NIH is working hard to combat COVID-19 and inform public

Research on the 2019 Novel Coronavirus and the Behavioral and Social Sciences. (NOT-OD-20-097)

Investigators are encouraged to look at the downstream health impacts of various mitigation efforts including differences in risk and resiliency based on gender, race and ethnicity, socioeconomic status, and other social determinants of health. Investigators are strongly encouraged to include a range of groups and include medically underserved regions and vulnerable populations such as:

- pregnant women
- the homeless
- prison populations
- people with disabilities

Updated 4/14/2020

https://www.nih.gov/health-information/coronavirus

New NIH Resource from OPA

https://nexus.od.nih.gov/all/category/blog/open-mike/

https://icite.od.nih.gov/covid19/search/
Converging on public health problem with coherent coordination

**HHS MMM Activities:**
- Including multiple federal partners

**CDC**
- Data Related Activities

**HRSA**
- AIM Bundles

**FDA**
- Pregnancy Exposure Registries

**NIH** Maternal Mortality Task Force
- OD - NICHD - ORWH

**NICHD Efforts**
- Workshop Series

**ORWH Efforts:**
- MMM Web Portal & Booklet
- >4000 portal views

**PRGLAC**

Pregnancy and Maternal Conditions That Increase Risk of Morbidity and Mortality Workshop
- May 19-20, 2020
- NICHD - ORWH - NHLBI - ICs
Heart health across the life course message heard across NIH and Capitol Hill

Maternal Mortality: What Do We Know and How is the NIH Addressing It?
NHLBI Council, Feb. 11

American Heart Month: A Focus on Women’s Health
Gary H. Gibbons, M.D.
Director
National Heart, Lung, and Blood Institute
AHA/WomenHeart/NHLBI Briefing
March 5, 2020

Maternal Mortality: What Do We Know and How is the NIH Addressing It?
NHLBI Council, Feb. 11
Measuring impact of biologic and social determinants of health to predict maternal risk/resilience

External Stressors
- Environment
- Finances
- Relationships

Internal Stressors
- Job
- Housing
- Structural Racism
- Illness
- Fear
- Insecurity
- SubSTANCE ABUSE
- Food Insecurity
- Poor Sleep
- Discrimination

Biological Variables
- Delivery and access to high-quality unbiased care

Community Variables

Pregnancy is a stress test, and we are failing our mothers
Maternal mortality data reveal racial & ethnic disparities – NIH is funding research to address them

FY2017-19 | 49 awards
21 in FY19 ($4.7M) w/ 10 ICOs – maternal health awards include

- Insulin resistance, neonatal adiposity, race/ethnicity
- Sickle cell disease & maternal morbidity
- Fibroid growth in African American women

Graph adapted from National Vital Statistics Reports, 2020, 69(2). 
*To Include AI/AN Data from Morbidity and Mortality Weekly Report, Sept. 2019, 68(75): 762-765.

https://orwh.od.nih.gov/about/director/messages/

Maternal mortality data reveal racial & ethnic disparities – NIH is funding research to address them

Addressing Racial Disparities in MMM (R01 Clinical Trial Optional)
RFA-MD-20-008

APPLICATIONS DUE MAY 29, 2020

US has the highest maternal death rate of any developed nation. California is trying... | 04.16 CNN

Black Maternal Health: Amplify Conversation and Act | ORWH Dir.’s Message, 04.08

Women of Understudied, Underrepresented, and Underreported Populations

FY2017-19 | 49 awards
21 in FY19 ($4.7M) w/ 10 ICOs – maternal health awards include

- Insulin resistance, neonatal adiposity, race/ethnicity
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- Fibroid growth in African American women

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*To Include AI/AN Data from Morbidity and Mortality Weekly Report, Sept. 2019, 68(75): 762-765.

www.cnn.com › 2020/04/14 › health › maternal-deaths-California; https://orwh.od.nih.gov/about/director/messages/
ORWH expands e-learning – new courses educate biomedical community on sex & gender

Bench to Bedside: Integrating Sex & Gender to Improve Human Health

Module 1 - Immunology
Module 2 - Cardiovascular Disease
Module 3 - Pulmonary Disease

Coming This Fall!
Neurology | Endocrinology | Mental Health

https://bit.ly/ORWHonline
LEADING THE WAY
16 of 27 ICs have women deputy directors!

An increase of 3 since Fall 2019
Welcome to the ORWH Careers Team

Xenia T. Tigno, PhD, MS(Epi)
Associate Director for Careers

Lisa Begg, Dr.PH, RN
Health Scientist Administrator

Melissa Ghim, PhD
Health Scientist Administrator

Lynn Morin, MA
Health Scientist Administrator

Caroline Goon, MBA
Scientific Consultant in Career Development

Samantha-Rae Dickenson, PhD
Scientific Consultant in Career Development
Scientific Collaborations
ORWH & NIGMS partner to address women’s health across US IDeA States Program – maternal and infant MM focus

**Institutional Development Award States**
Women’s Health Research Supplement

**NOT-GM-20-017**

**Due April 30, 2020**

- Based on idea from NIGMS Deputy Director, Dr. Judith Greenberg, via CCRWH*
- Address at least 1 strategic goal of Trans-NIH Strategic Plan for WHR

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**NIGMS**
Zuzana Justinova, M.D., Ph.D.  
zuzana.justinova@nih.gov

**ORWH**
Regine A. Douthard, M.D., M.P.H.  
douthardr@mail.nih.gov
**SCORE Research Highlights**

**JHU** | Role of sex steroids in vaccine-induced immune responses (Potluri et al. 2019. NPJ Vaccines)


**MUSC** | Effect of oxytocin on cocaine cue reactivity (Joseph et al. 2020. Psychopharmacology)

**SCORE Career Enhancement Core**

**U Colorado** | Integrating sex & gender considerations in research: educating scientific workforce (Regensteiner et al. 2019. Lancet Diabetes Endocrinol.)


**Mayo** | Created hub for SABV education & dissemination involving grant-writing workshops, curriculum dev. & SABV symposia

**Emory** | Established schedule of mentoring & training programs for pilot investigators, inc. motivational interviewing, improv acting techniques for conflict management, and team science training


Specialized Centers of Research Excellence on Sex Differences
NIAAA study finds sex difference in drinking and harms

Men accounted for 76.4% of alcohol-related deaths – however, women’s death rate was more than double men’s

Largest annual increase – among NH White women

Women appear to be at greater risk for:

• Alcohol-related CVD
• Liver disease
• Alcohol use disorder
• Comorbid depression, anxiety disorders

“alcohol-related”: an alcohol-induced cause was listed as underlying cause or contributing cause of death


“Although the vast majority of alcohol-related deaths occurred among men…, the death rate tied to alcohol for women increased by much more – 85% versus less than 40% for males.”

U.S. News
SABV in action! ABCD research finds sex effects

• Sex-based analyses revealed sex differences in predictors of BMI. Boys who had stimulant medication had lower BMI. Social problems and reward responsiveness exhibited particularly strong positive associations with BMI in girls. *Psych Med J*

• Maternal depressive history remained significant predictor of brain volume (right putamen and right accumbens) in boys (smaller volumes) but not in girls. *J Am Acad Child Psy*

• Boys exhibited higher rates of suicidal ideation and non-suicidal self-injury, but *no sex differences found in prevalence of attempts.* *JAMA Netw Open*

R01 – Intersection of Sex & Gender Influences on Health & Disease
- Applications to [RFA-OD-19-029] recently reviewed by CSR
- Next application due dates are **25 Nov 2020** and **26 Nov 2021**

Sex and Gender Admin. Supp. [NOT-OD-20-049]-FY20 25 ICOs
- Next application due date is **25 Jan 2021**
- Program is under evaluation – PI survey to be launched soon

Sex as a Biological Variable: 5-Year Progress Report
- Arnegard, Whitten, Hunter, Clayton (2020)
  DOI: [10.1089/jwh.2019.8247](https://doi.org/10.1089/jwh.2019.8247)

Ongoing
- **Summer ‘20 In Focus Quarterly** to focus on SABV
- **SABV Primer** – online course to be launched in 3rd quarter of 2020
- **Pilot SABV checklist** to evaluate SABV Policy compliance – to be validated
ORWH seeks reliable tool to assess SABV in grant apps

- Statistically reliable **assessment tool** to:
  - Assess SABV in grant applications
  - Identify relevant reviewer comments in summary statements
- Test analysis tool on select applications and corresponding summary statements
- Assess inter-rater reliability of tool
- Evaluate tool’s utility, validity and limitations
- Refine tool for large scale analysis
Multisponsor trials were more likely to recruit women, especially those involving the National Institutes of Health ..., perhaps illustrating the success of the National Institutes of Health’s Office of Research on Women’s Health’s initiatives in drawing attention to the issue of appropriate representation of women in trials.

*Circulation* | 2020

Updated

NIH Inclusion Outreach Toolkit
How to Engage, Recruit, and Retain Women in Clinical Research

orwh.od.nih.gov/toolkit

Updated

NIH Inclusion Outreach Toolkit
How to Engage, Recruit, and Retain Women in Clinical Research

orwh.od.nih.gov/toolkit
FY 2019 Research Investments

Photos on left by Andy Al Mesura, Oliver Ragfelt, Jordan Rowland on Unsplash
ORWH Budget History & FY19 Extramural Award Profile

Source: NIH IMPAC II FY2019 frozen data.
Note: ORWH total investments = $28,446,687. Funding portfolio excludes Contract R&D and IAA awards.
ORWH FY2019 Extramural Award Investments by IC
(includes BIRCWH funding)

Source: NIH IMPAC II FY2019 frozen data.
Note: ORWH total investments = $28,446,687. Funding portfolio excludes Contract R&D and IAA awards
ORWH FY2019 Extramural Award Investments by IC
(excludes BIRCWH funding)

NIA NIDA NIDDK NCI NHLBI NICHD NINR NCCIH NIMH NIEHS NIMHD NHGRI FIC NIAID NINDS NIDCR NEI NIDCD NIAAA NIBIB NIAMS NIGMS

Award Investments (in Millions)

NIH Institute and Center

Source: NIH IMPAC II FY2019 frozen data.
Note: ORWH total investments = $21,368,335. Funding portfolio excludes BIRCWH program investments, Contract R&D, and IAA awards.
## ORWH Extramural Award Investments by Research Program in FY2019

<table>
<thead>
<tr>
<th>Program</th>
<th>ORWH Investments</th>
<th># of Co-Funding ICs</th>
<th>List of Co-Funding ICs</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIRCWH*</td>
<td>$7,078,352</td>
<td>2</td>
<td>NICHD; NIDA</td>
</tr>
<tr>
<td>SCORE</td>
<td>$4,853,731</td>
<td>3</td>
<td>NIA; NIDA; NIDDK</td>
</tr>
<tr>
<td>R56</td>
<td>$1,177,091</td>
<td>4</td>
<td>NCI; NHLBI; NIMH; NINR</td>
</tr>
<tr>
<td>Sex/Gender Admin. Supp.</td>
<td>$3,759,059</td>
<td>16</td>
<td>NCCIH; NCI; NEI; NHLBI; NIA; NIAAA; NIAI; NIAMS; NICHID; NIDCR; NIDDK; NIEHS; NIMH; NINDS; NINR</td>
</tr>
<tr>
<td>U3 Admin Supp.</td>
<td>$4,666,751</td>
<td>10</td>
<td>NCCIH; NCI; NHLBI; NIA; NICHID; NIDCD; NIDDK; NIEHS; NIMH; NIMHD</td>
</tr>
<tr>
<td>Other IC Co-Funds</td>
<td>$6,911,703</td>
<td>18</td>
<td>FIC; NCCIH; NCI; NEI; NHGRI; NHLBI; NIA; NIAAA; NIAID; NIAMS; NIBIB; NICHID; NIDA; NIDDK; NIGMS; NIMH; NINDS; NINR</td>
</tr>
</tbody>
</table>

* In FY2019, NIAID co-funded BIRCWH with an additional amount of $375,000. NIAAA, NCI, and NIDCR also supported BIRCWH.
FY2015 to FY2019 NIH-Wide Investments on Women’s Health Research, by IC and FY

Note: NIDDK FY2018-FY2019 investments include Type 1 Diabetes funds.
FY2015 to FY2019 NIH-Wide Investments on Women’s Health Research, by IC and FY
(Excludes NCI)

Note: NIDDK FY2018-FY2019 investments include Type 1 Diabetes funds.
Looking Back, Looking Forward on Careers
NIH created several programs directly targeting the barriers experienced by women in science

1992

Supplements to Promote Reentry Into Biomedical & Behavioral Research Careers

2007

NIH funds research on causal factors and interventions
14 Grants
$16.8M/4 years
>120 Publications

2013-2014

Scientific Workforce Diversity Office

BUilding Infrastructure to Lead Diversity

2018-2019

NOT-OD-20-011

Pathway to Independence (K99/R00) Award
eligibility extension for childbirth

- Early Stage Investigator (ESI) status extension for childbirth
NIH has made progress through a broad range of policies, programs, and practices

Trans-NIH Strategic Plan:
Goal 4

Promote training and careers to advance science for the health of women

Goal 4 Objectives

4.1 Enhance knowledge of sex and gender influences on health and disease among scientists, clinicians, and other health professionals to accelerate translation of knowledge into practice.

4.2 Develop next generation of researchers to advance science on the health of women.

4.3 Enhance and develop programs to recruit, support, retain, and advance women at all stages of their research careers...

4.4 Promote and support policies, mentoring and networks, collaborations, and infrastructure to retain and advance women in their careers.

4.5 Promote and disseminate research on barriers to retention and advancement of women in biomedical careers and on interventions to improve retention and advancement.
Impressive gains, but not impressive enough

Medical Schools

Medical School Enrollment

Medical School Administration

Impressive gains, but not impressive enough

Medical Schools

Medical School Enrollment

Women earned $0.88 for every $1 received by men

- After adjusting for term length, specialty, inflation, title and regional COL differences, the salary difference by sex was $67,517.
- Among chairs who served for over 10 years, men were paid significantly more than women ($127,411 [95% CI, $55 028-$199 793]; P < .01)

Notice of NIH's Interest in Diversity emphasizes “women”

• 2020 Guide Notice* supersedes 2018 diversity language, which stated
  NIH encourages institutions to diversify their student and faculty populations to enhance the participation of individuals from groups that are underrepresented in the biomedical, clinical, behavioral and social sciences...” – including “individuals from disadvantaged backgrounds”**

• 2020 notice clarifies definition of “disadvantaged background,” and also emphasizes...
  NIH encourages institutions to consider women for faculty-level, diversity-targeted programs to address faculty recruitment, appointment, retention or advancement.

* NOT-OD-20-031
** NOT-OD-18-210
Conceptual overview of Careers landscape

- AAAS SEA Change
- NSF ADVANCE
- NASEM Reports
- Working Group on Women in Biomedical Careers
- Challenge Prize
- Institutional Approaches
- Retention & Continuity
- Re-Entry
- AAAS SEA Change
- NSF ADVANCE
- ORWH
- OER
- ACD WG
- IRP Comm
- BIRCWH
- SCORE
- OSWD
- IRP Comm
- BIRCWH
- SCORE
- Re-Entry
- Retention & Continuity
- Working Group on Women in Biomedical Careers
- Challenge Prize
- Institutional Approaches
New programs were launched to support women during critical life events

Terminal degree (MD/PhD)
- Men: ~50%
- Women: ~50%

Postdoc/residency
- Men: ~45%
- Women: ~55%

Tenure track: Assistant to Associate Prof.
- Men: 40–30%
- Women: 30–40%

Full Professor
- Men: ~20%
- Women: ~20%

Mentored Phase

F Training Grants
K Awards
RPGs

Promoting Career Continuity for K Awardees (NOT-OD-20-054)
Promoting Career Continuity for RPG Awardees (NOT-OD-20-055)

20 years of advancing interdisciplinary research and biomedical careers

Dec. 2019 Meeting Topics

- Next-Generation Data & WH
- Body Composition & Cardiometabolic Health in Transgender Youth
- Inflammatory Response to Acute Psych. Stress & Risk of Major Adverse CV Events in Patients with CHD: Sex Differences
- Association Between Testosterone & Asthma and Eosinophils in M/Fs

Judith G. Regensteiner, Ph.D.
Ruth L. Kirschstein Memorial Lecturer

Building Interdisciplinary Research Careers in Women’s Health
One of Our Own Making History

Jessica Shantha, MD
BIRCWH Scholar
Emory

- Rising star in the study of eye disease in Ebola survivors
- With Emory team, studied prevalence/treatment of uveitis in Sierra Leone
- Lead author of study that found that post-Ebola cataract surgery can safely restore vision
- Team in 2019 won NIH grant to continue study

Elsevier report reveals gender impacts on the researcher journey

Median ratio of women to men among authors increased across all countries and subjects

- Ratio is lowest in physical sciences, highest in life & health sciences subjects (close to parity in most)

More last authors and corresponding authors are men

Among first authors, average Field-Weighted Citation Impact for men is higher – and men have a longer publication history

Men have more co-authors, with gap widening over time

Women authors collaborate more with women; men, more with men

“Our biases and institutional structures have helped produce a work force that is far from representative. The National Academies study defines a number of promising practices to change all that.”

Francis S. Collins, M.D., Ph.D., Dir., NIH Symposium on Addressing the Underrepresentation of Women in STEMM. March 19, 2020

“Some would say progress is being made and we need to let the current tends take care of this inequity..., but that would take decades and that’s not sufficient. NIH is determined to do our part to produce a discontinuity in those curves of representation of women and other underrepresented groups in science.”

Francis S. Collins, M.D., Ph.D., Dir., NIH
Symposium on Addressing the Underrepresentation of Women in STEMM March 19, 2020

“The gender gaps that have characterized most U.S. STEMM fields for the past 50 years merit attention because such gaps exact both explicit and opportunity costs for the nation’s scientific enterprise. Multiple components of STEMM fields demonstrably benefit from gender diversity.”
Diversity, inclusion, and equity require sustained and intentional institutional commitment

Data-Driven Accountability
Committed Leadership
Tangible Rewards, Resources & Recognition

Climate
Culture
Norms

Solution will require coordinated efforts from many stakeholders

“[R]eal progress on this issue will require culture change driven by systemic, coordinated efforts from a range of stakeholders—Congress, the White House, federal agencies, faculty, employees, academic administrators, professional societies, and others.”

Women in science offer career advice in growing video series

Men are part of the solution!

Marie A. Bernard, M.D.
Deputy Director
National Institute on Aging

Anna María Nápoles, Ph.D.
M.P.H., Scientific Director

Vivian W. Pinn, M.D.
Former Director

Nora Volkow, M.D.
Director

Facebook Lives on careers reach tens of thousands

<table>
<thead>
<tr>
<th>Host</th>
<th>People Reached*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sadhanna Jackson, MD Feb 2019</td>
<td>3,304</td>
</tr>
<tr>
<td>Faustine Williams, MD Aug 2019</td>
<td>3,488</td>
</tr>
<tr>
<td>Panel, March 4, 2020</td>
<td>28,788</td>
</tr>
<tr>
<td>TOTALS</td>
<td>35,580</td>
</tr>
</tbody>
</table>

*As of April 6, 2020

Join NIH Women of Color Research Network
https://womeninscience.nih.gov/women-of-color/
ORWH 30th Anniversary Scientific Symposium

December 15, 2020
9:00 AM – 5:00 PM
NIH Main Campus, Natcher Building (Building 45)

Connect With Us

@JanineClaytonMD  NIH.gov/women
@NIH_ORWH  NIHORWH
In Focus Quarterly bit.ly/ORWHInFocus
### NIH Funding Opportunities for COVID-19

<table>
<thead>
<tr>
<th>FON / FOA #</th>
<th>Organization / Division</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOT-AG-20-022</td>
<td>NIA / NIA</td>
<td>Notice of Special Interest (NOSI): NIA Availability of Administrative Supplements and Revision Supplements on Coronavirus Disease 2019 (COVID-19)</td>
</tr>
<tr>
<td>NOT-AI-20-030</td>
<td>NIAID</td>
<td>Notice of Special Interest (NOSI) regarding the Availability of Urgent Competitive Revisions to Existing NIH Grants and Cooperative Agreements for Tissue Chips Research on the 2019 Novel Coronavirus (2019-nCoV)</td>
</tr>
<tr>
<td>NOT-AI-20-031</td>
<td>NIAID</td>
<td>Notice of Special Interest (NOSI): Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) and Coronavirus Disease 2019 (COVID-19)</td>
</tr>
<tr>
<td>NOT-AI-20-034</td>
<td>NIAID / NIAID</td>
<td>Notice of Special Interest (NOSI) regarding the Availability of Urgent Competitive Revisions for Research on Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) and Coronavirus Disease 2019 (COVID-19)</td>
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<tr>
<td>NOT-AI-20-040</td>
<td>NIAID / NIAID</td>
<td>Notice of Early Expiration of “Notice of Special Interest (NOSI) regarding the Availability of Urgent Competitive Revisions for Research on the 2019 Novel Coronavirus (2019-nCoV)”</td>
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<tr>
<td>NOT-CA-20-042</td>
<td>NC/DCB</td>
<td>Notice of Special Interest (NOSI): National Cancer Institute Announcement Regarding Availability of Urgent Competitive Revision and Administrative Supplements on Coronavirus Disease 2019 (COVID-19)</td>
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<tr>
<td>NOT-CA-20-043</td>
<td>NC/DCB</td>
<td>Notice of Special Interest (NOSI): National Cancer Institute Announcement Regarding Availability of Competitive Revision SBIR/STTR Supplements on Coronavirus Disease 2019 (COVID-19)</td>
</tr>
<tr>
<td>NOT-DA-20-047</td>
<td>NIDA / NIDA</td>
<td>Notice of Special Interest (NOSI) regarding the Availability of Urgent Competitive Revisions and Administrative Supplements on Coronavirus Disease 2019 (COVID-19) and the Causative Virus SARS-CoV-2</td>
</tr>
<tr>
<td>NOT-DK-20-018</td>
<td>NIDDK / NIDDK</td>
<td>Notice of Special Interest (NOSI): Availability of Urgent Competitive Revision Supplements on Coronavirus Disease 2019 (COVID-19) within the Mission of NIDDK</td>
</tr>
<tr>
<td>NOT-EB-20-006</td>
<td>NIBIB / NIBIB</td>
<td>Notice of Special Interest (NOSI): Development of Biomedical Technologies for Coronavirus Disease 2019 (COVID-19)</td>
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<tr>
<td>NOT-EB-20-017</td>
<td>NIBIB / NIBIB</td>
<td>Notice of Special Interest (NOSI): Availability of Urgent Competitive Revision and Administrative Supplements on Biomedical Technologies for Coronavirus Disease 2019 (COVID-19)</td>
</tr>
<tr>
<td>NOT-ES-20-014</td>
<td>NIEHS / NIEHP</td>
<td>Notice of Special Interest: NIEHS Worker Training Program Coronavirus and Infectious Disease Response Training (Admin Supp Clinical Trial Not Allowed)</td>
</tr>
<tr>
<td>NOT-ES-20-017</td>
<td>NIEHS / NIEHS</td>
<td>Notice of Early Expiration of “Notice of Special Interest (NOSI): NIEHS Support for Understanding the Impact of Environmental Exposures on Coronavirus Disease 2019 (COVID-19)”</td>
</tr>
<tr>
<td>NOT-FD-20-019</td>
<td>FDA / FDA</td>
<td>FDA - Flexibilities Available to Applicants and Recipients of Federal Financial Assistance Affected by COVID-19</td>
</tr>
<tr>
<td>NOT-GM-20-025</td>
<td>NIGMS</td>
<td>Notice of Special Interest (NOSI) regarding the Availability of Urgent Competitive Revisions for Research on Coronavirus Disease 2019 (COVID-19) and the Causative Virus SARS-CoV-2</td>
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<tr>
<td>NOT-GM-20-027</td>
<td>NIGMS</td>
<td>Guidance for Cost-Related Flexibilities Available to Support of Competitive Research (SCORE) Award Recipients Affected by COVID-19</td>
</tr>
<tr>
<td>NOT-HG-20-030</td>
<td>NHGRI / NHGRI</td>
<td>Notice of Special Interest (NOSI) regarding the Availability of Urgent Competitive Revisions for Research on the 2019 Novel Coronavirus</td>
</tr>
<tr>
<td>NOT-HL-20-757</td>
<td>NHLBI / NDD</td>
<td>Notice of Special Interest (NOSI): Availability of Urgent Competitive Revisions and Revision Supplements on Coronavirus Disease 2019 (COVID-19)</td>
</tr>
<tr>
<td>NOT-HL-20-840</td>
<td>NHLBI / NDD</td>
<td>NHLBI Announces Availability of Freedom to Ask Questions for NOT-HL-20-757, Notice of Special Interest: Availability of Urgent Competitive Revisions and Revision Supplements on Coronavirus Disease 2019 (COVID-19)</td>
</tr>
<tr>
<td>NOT-HS-20-007</td>
<td>AHRQ / AHRQ</td>
<td>Notice of Intent: Revision Supplements to Existing AHRQ Grants and Cooperative Agreements to Address Health System Responsiveness to COVID-19</td>
</tr>
<tr>
<td>NOT-HS-20-010</td>
<td>AHRQ / AHRQ</td>
<td>Flexibilities Available to AHRQ Recipients and Applicants Directly Affected by the Novel Coronavirus (COVID-19) Due to Loss of Operations</td>
</tr>
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<td>NOT-MD-20-019</td>
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<td>NIAID Notice of Special Interest (NOSI): Clinical and Translational Science Award (CTSA) Program Applications to Address 2019 Novel Coronavirus (COVID-19) Public Health Need</td>
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<td>NIAID Notice of Special Interest (NOSI) regarding the Availability of Urgent Competitive Revisions to Existing NIH Grants and Cooperative Agreements for Tissue Chips Research on the 2019 Novel Coronavirus</td>
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