



NIH Office of Research on Women's Health

# 56<sup>th</sup> Meeting of the NIH Advisory Committee on Research on Women's Health

**Janine Austin Clayton, M.D., FARVO**

NIH Associate Director for Research on Women's Health

Director, Office of Research on Women's Health

National Institutes of Health

**April 6, 2022 – Director's Report**



Facebook: /NIHORWH

Twitter: @NIH\_ORWH

[www.nih.gov/women](http://www.nih.gov/women)

#ResearchForWomen

## Outline of ACRWH Director's Report

- I. Opening Remarks
- II. Sleep Matters: New Science and New Strategy
- III. NIH & ORWH Updates
- IV. Scientific Collaborations
- V. New in Sex and Gender
- VI. Careers
- VII. FY21 Research Programs Funding
- VIII. Closing





# Welcome & Acknowledgement

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**National Institutes of Health**  
Office of Research on Women's Health



In Memoriam

# Rebecca DelCarmen-Wiggins

1957 – 2021


## Something Beautiful Remains

The tide recedes but leaves behind  
bright seashells on the sand.  
The sun goes down, but gentle  
warmth still lingers on the land.  
The music stops, and yet it echoes  
on in sweet refrains.....  
For every joy that passes,  
something beautiful remains.

Martha Vashti Pearson







# Wake up! Why sleep matters

"When people don't get enough sleep, they don't get a strong circadian rhythm. And if we don't have a strong circadian rhythm, **the cells in our body don't get enough energy.**"

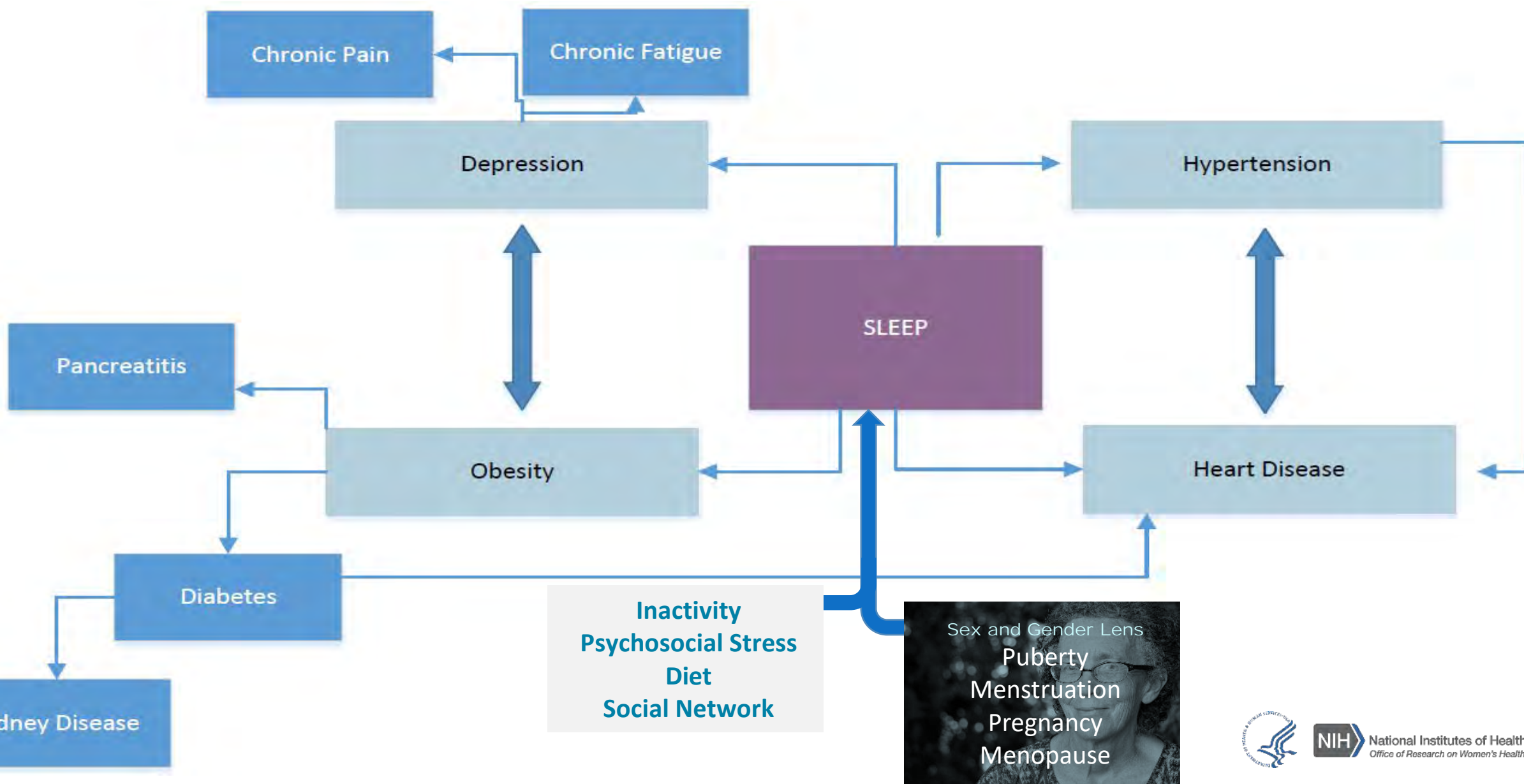
Michael Twery, Ph.D., NHLBI



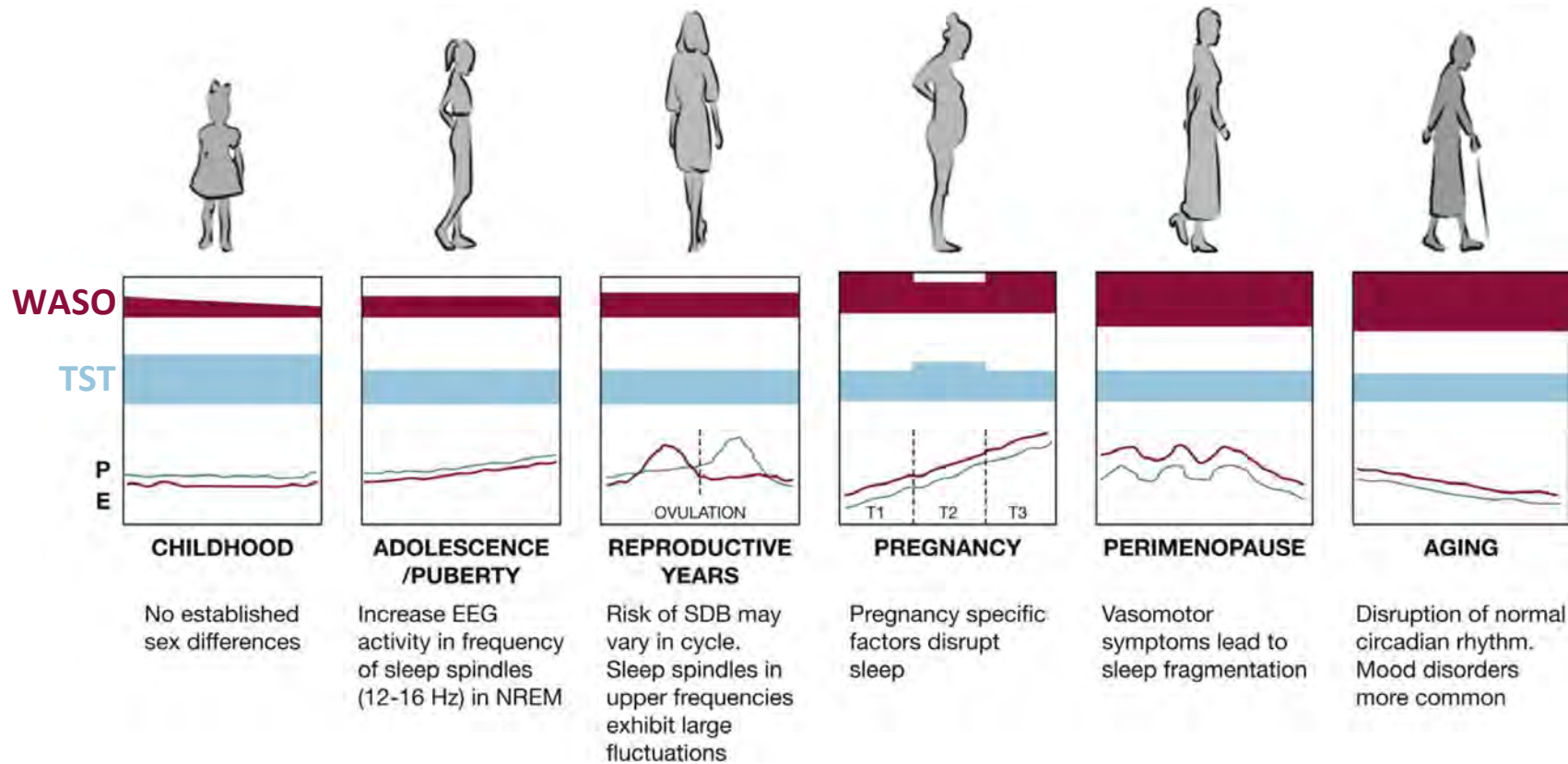
National Heart, Lung,  
and Blood Institute



# Health is interrelated and sleep is important



# Sleep disorders strike women uniquely over life course



- Respond differently to sleep disorders, deprivation and deficiency
- **Each phase** of woman's life increases risk of sleep disturbance
  - In **unique ways that**
  - May require **distinct management**
- New research – increased risk during **hormonal changes** for
  - Poor sleep quality
  - Sleep deprivation
  - Sleep disorders (e.g., OSA, restless legs syndrome, and insomnia)
- More research needed
  - Sex hormones
  - Sleep changes/post-reproductive stage
  - Interactions of aging, hormonal changes, comorbidities
  - Impact of sleep disturbances – especially in pregnancy
  - Drug metabolism

**E = estrogen** | **P = progesterone** | **TST = total sleep time** | **WASO = wake after sleep onset**





# NIH sleep research plan targets sex differences, sets high-priority research areas

Sets goals and critical research opportunities to advance sleep research – key focuses:

- Studying sleep/circadian mechanisms underlying health, disease
- Improving treatments
- **Understanding sleep's role in health disparities, including women's**
- Developing diverse workforce in sleep research

Goal 4 sets **high-priority research area** – seeks better understanding of:

- Health disparities
- Sex and gender differences
- Impact of racial discrimination and other SDOH



**Marishka K. Brown, Ph.D.**

Director, National Center on Sleep Disorder Research



# NIH & ORWH Updates

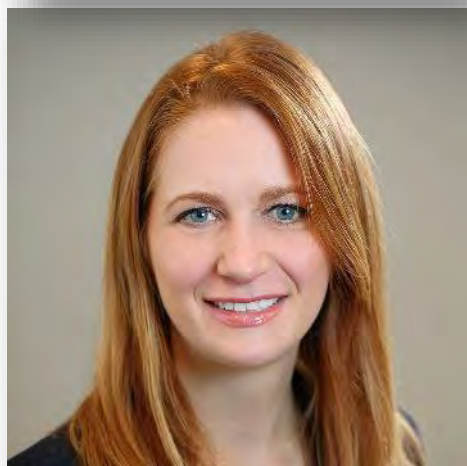
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Lawrence A. Tabak, D.D.S., Ph.D.  
Acting Director



Tara A. Schwetz, Ph.D.  
Acting Principal Deputy Director



Courtney Ferrell Aklin, Ph.D.  
Acting NIH Associate Deputy Director

11

Number of women  
IC directors

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Dr. Jennifer Webster-Cyriaque  
Deputy Director, NIDCR



**GH5050 ranks NIH a “high performer” – one of 37 and in top 30%**

- Assessed gender-related policies, practices and outcomes of the 200 leading organizations active in global health
- Examined whether and how organizations are addressing
  - Inequality of opportunity in career pathways inside organizations
  - Inequality in who benefits from the global health system
- NIH was one of just 37 “High” performing organizations, placing it in the top 30% of organizations

**Variables  
Considered\***

- **Commitment to gender equality**
- **Public definition of gender**
- **Workplace (WP) gender equality policy**
- **WP diversity & inclusion policy**
- Board diversity & inclusion policy

- **Gender parity in senior management**
- Gender parity in governing body
- **Gender-responsiveness of programmatic approaches**
- **Reporting of sex-disaggregated programmatic data**

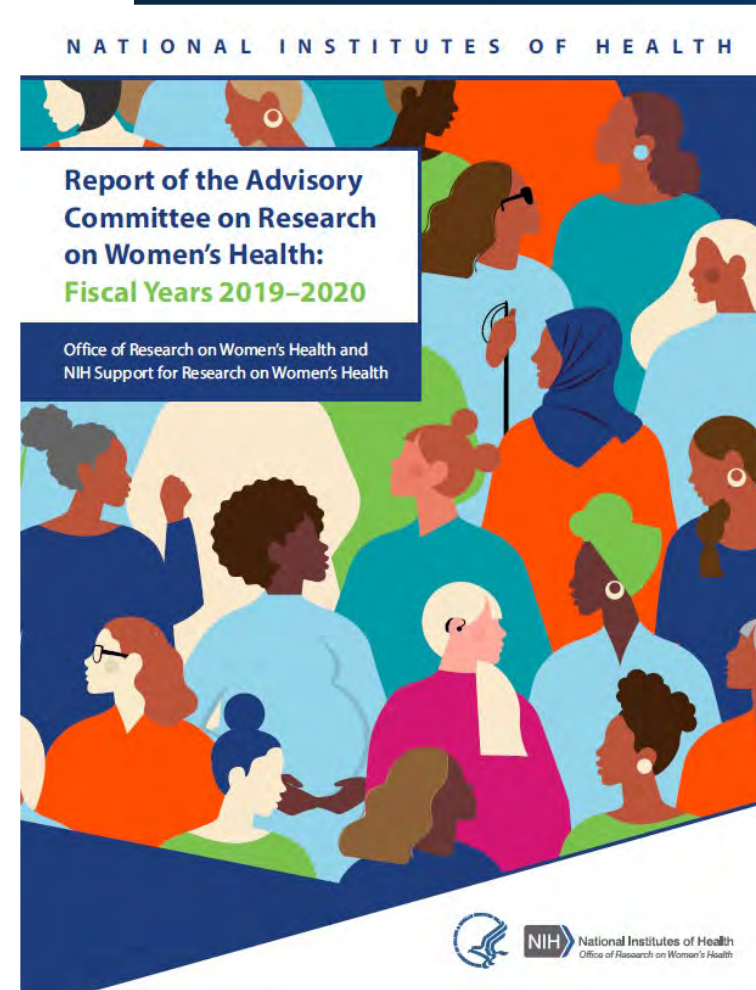
\* NIH scored highly in variables highlighted in **bold**.



# The Report of the Advisory Committee on Research on Women's Health: Fiscal Years 2019—2020

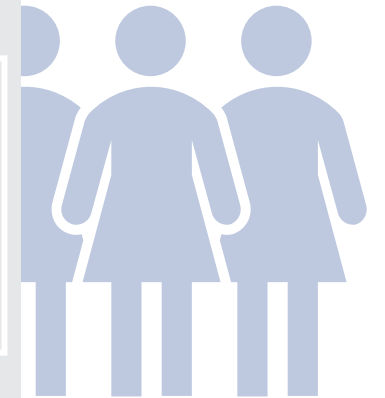
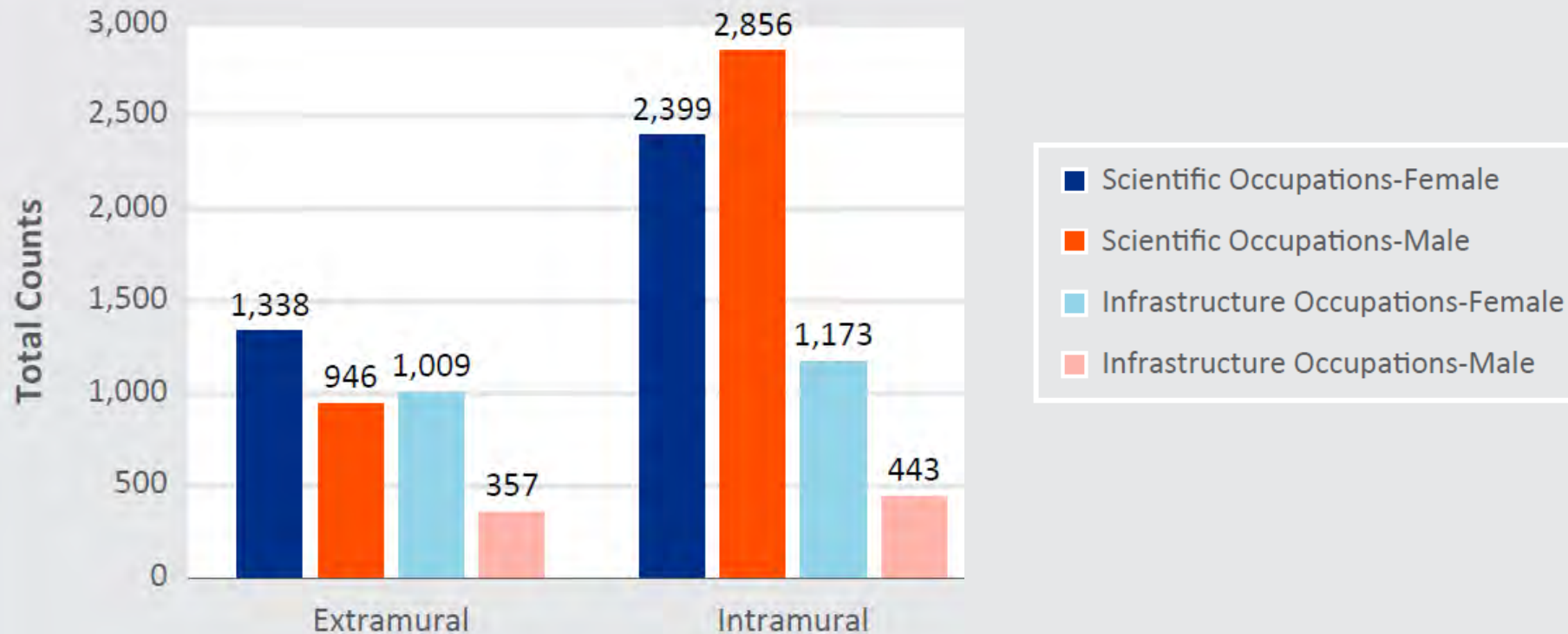
Online Release January 2022

- Thank you, partners!
- Highlights research on
  - Women's health
  - Influence of sex and gender on health and disease
- Reviews adherence to NIH inclusion policy
- Presents NIH women's health research spending for FY 2019 (and FY 2017–2018)
- New section on NIH workforce and grantees



# NIH extramural workforce is more diverse – intramural WF mirrors academia

FY 2020: Scientific and Infrastructure Workforce by Sex and Program

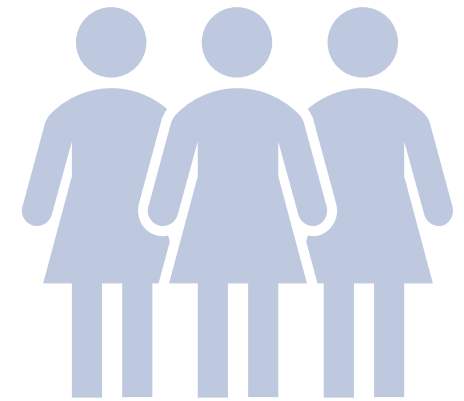
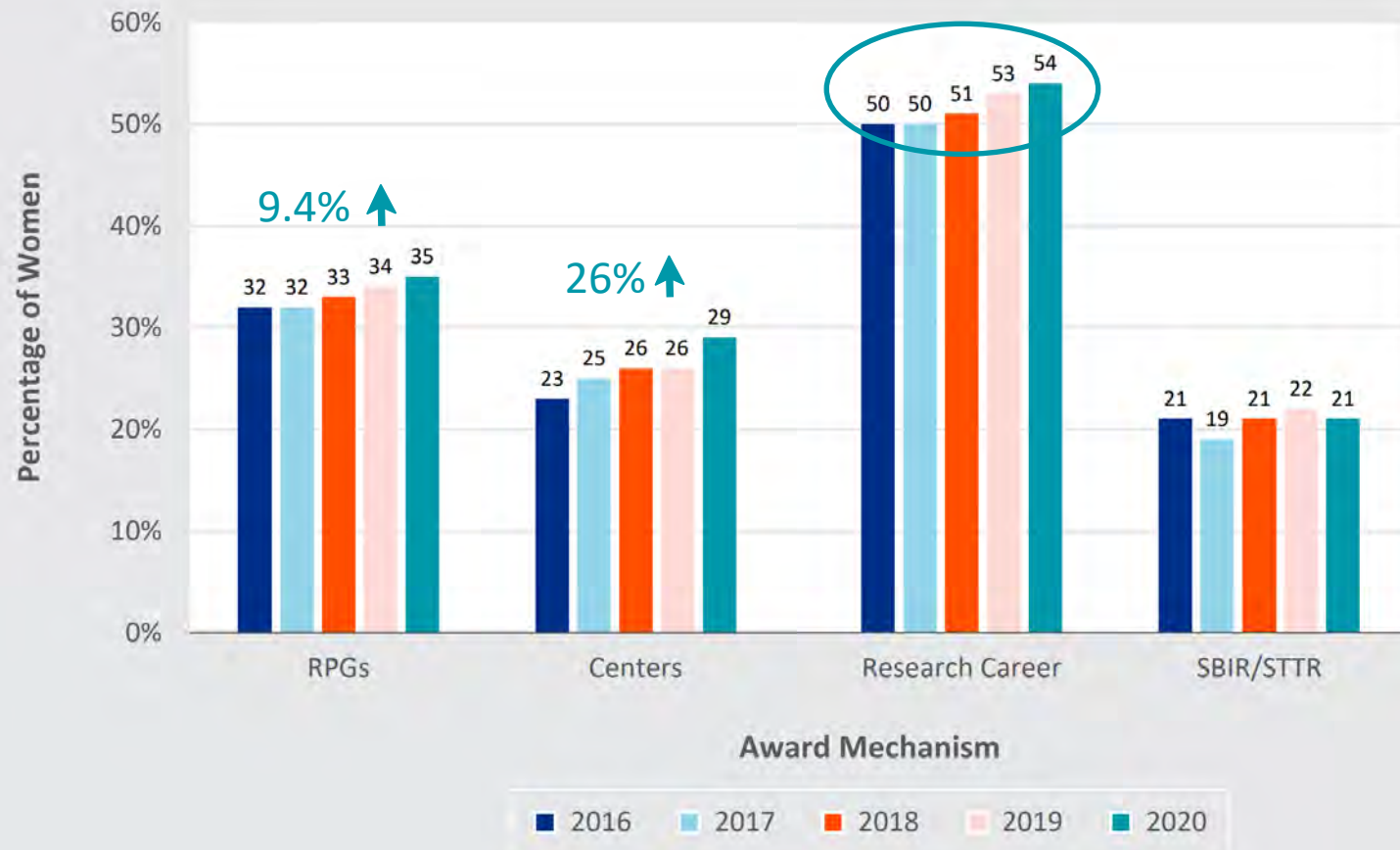


Notes: Extramural, Intramural, and Other Program types (removed) are grouped based on organizational codes. See <https://oma.od.nih.gov/DMS/pages/organizational-changes-org-chart-function.aspx>.

Sources: Data and definitions provided by the NIH Office of Equity, Diversity, and Inclusion's (EDI) Data Analytics Branch

# Award trend lines reflect gender parity in career, largest increase in centers

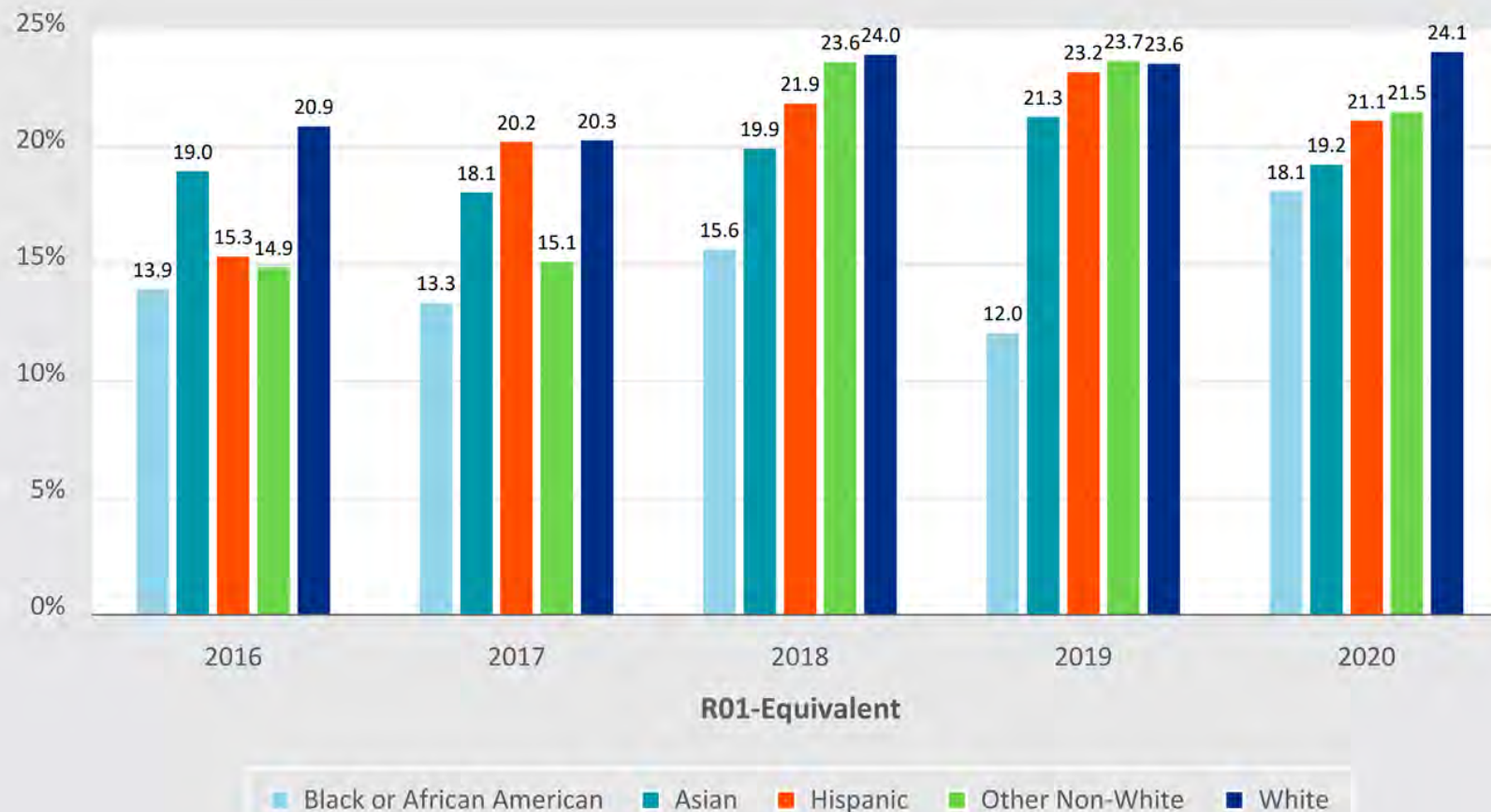
Research Grant Investigators: Percentage of Women by Award Mechanism and FY





# Analysis by race and ethnicity shows power of disaggregation – advances among Black and Hispanic researchers

NIH R01-Equivalent Grant Success Rates for Females by Race and Ethnicity



# JWH article surveys ORWH's founding, mission, programs and advances

## Background

- Authored by ORWH staff
- Marking ORWH's 30<sup>th</sup> anniversary

## Topics

- Events and “overall zeitgeist” behind formation
- Role as NIH focal point for coordinating WHR
- Mission and signature programs
- Paradigm shifts
  - Health over the **life course**
  - **Multidimensional framework** – including effects of environmental exposures
  - NIH **inclusion** and **SABV** policies
- Career programs, progress, and barriers relating to women's advancement in biomedical careers



# Three key inclusion-related reports

## GAO\* Report on inclusion closed

- 2015 report examined NIH-funded research relating to:
  - Inclusion of women
  - Analysis of sex differences
- Recommended that NIH examine and report more detailed data
- With release of 2019-2020 Biennial Report, NIH addressed the final recommendation\*\*
- GAO Report is officially closed



## NASEM report on sex and gender terminology\*\*\*

- Requested by Congress, ORWH-funded
- Drew on expertise in sociology, psychology, public health, medicine, survey methodology, statistics

### Highlights

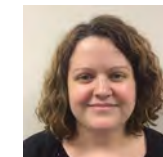
- **Assessment** of sex, gender, gender identity, sexual orientation, two spirit
- **Guiding principles** and **guidelines** for collecting data
- Recommends “forced logic” to assess
  - Sexual orientation identity
  - Sex assigned at birth
  - Gender identity
  - People with transgender experience and intersex traits

*The National Academies of*  
SCIENCES • ENGINEERING • MEDICINE

## Equator Network study

- Review of integration of sex and gender concepts in published research reporting guidelines
- Of 407 guidelines
  - 57.7% mentioned at least one sex- and gender-related word
  - 13.8% mentioned “sex”; 11%, “gender”
- Only SAGER met criteria for correct use of sex and gender concepts
  - Criteria inc. nonbinary, appropriate categorization & non-interchangeability
- Recommended: EQUATOR should
  - Encourage developers to update guidance
  - Provide “more operative information, including the use of SAGER.”

[www.equator-network.org](http://www.equator-network.org); Gogovor et al. 2021.  
[doi.org/10.1186/s13293-021-00404-0](https://doi.org/10.1186/s13293-021-00404-0)



**Dawn Corbett, M.P.H.**  
NIH Inclusion Policy Officer  
NIH Office of Extramural Research

\* United States Government Accountability Office

\*\* NIH Report on the Advisory Committee on Research on Women’s Health: Fiscal Years 2019-2020

\*\*\* Measuring Sex, Gender Identity, and Sexual Orientation, [nap.edu/catalog/26424/measuring-sex-gender-identity-and-sexual-orientation](https://nap.edu/catalog/26424/measuring-sex-gender-identity-and-sexual-orientation)





An illustration showing several hands of different skin tones reaching towards a 3x3 grid of colorful puzzle pieces. The hands are positioned around the grid, with some already touching the pieces. The puzzle pieces are in shades of teal, orange, red, and blue. The background is dark on the left and light on the right.

# Scientific Collaborations

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# NIH-wide program seeks to prevent maternal deaths, reduce maternal morbidity, promote health equity before, during, after pregnancy

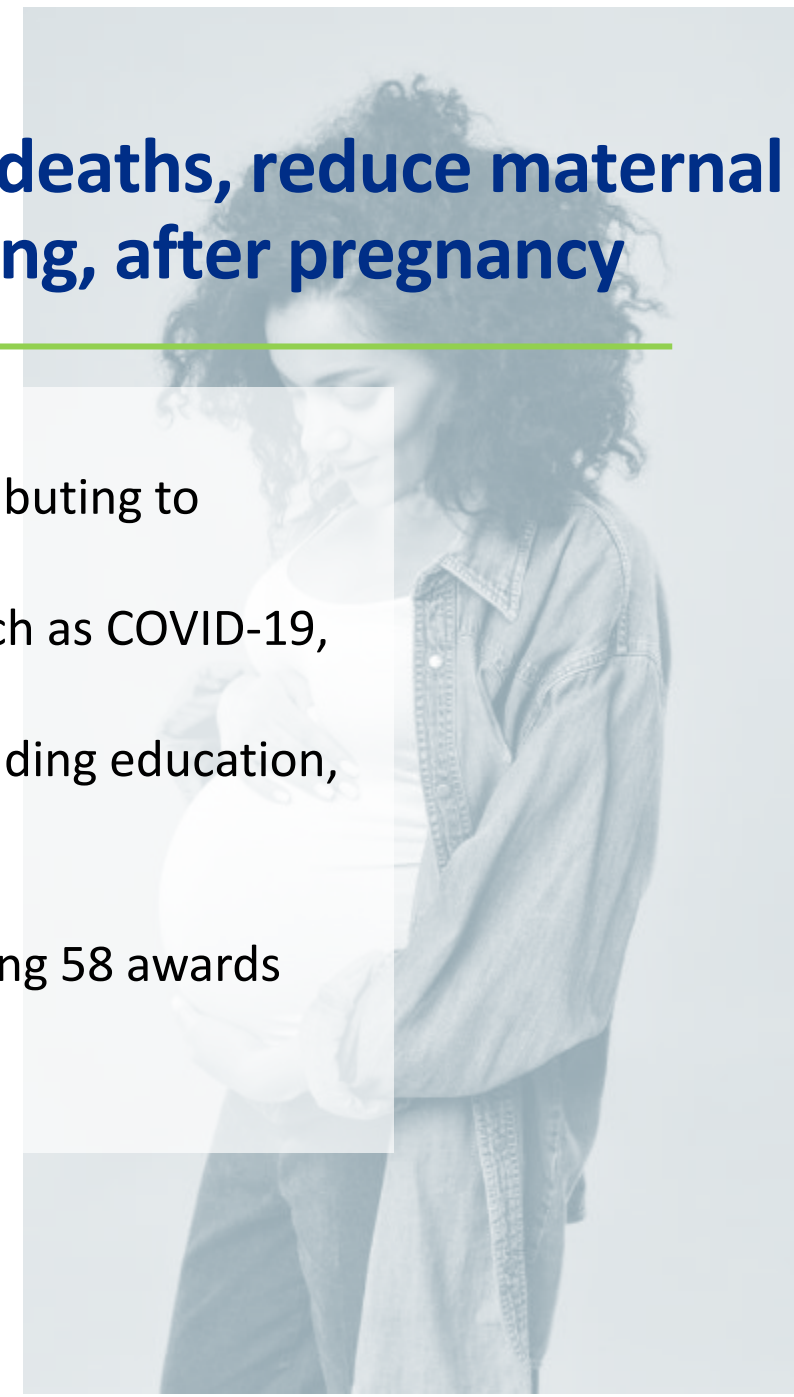
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## Focus

- Biological, behavioral, sociocultural, and structural factors contributing to maternal mortality and morbidity
- CVD, infection, immunity, and contributing health conditions such as COVID-19, mental health, substance use disorders, diabetes, obesity
- Geographical disparities and social determinants of health, including education, racism, and socioeconomic status

## Investments since FY 2020

- NIH Office of Director and 12 ICs contributed >\$20.7 M supporting 58 awards
- Recipients include 43 institutions across 21 states
- Potential funding in FY22 budget



# A closer look: Funding and activities

FOA & FY (Release Date)	Recipients/ No. of States	ICOs	Total Funding	ORWH-funded Areas of Research (Co-funding IC)
Admin. Supp. NOT-OD-21-071 FY21 (3/5/21)	22 awards 20 states	7	\$13.4 M	Inequities in birth outcomes (NICHD) Opioid use disorder (NIDA) COVID-19 (NHLBI) COVID-19 and racial discrimina
Admin. Supp. NOT-OD-20-104 FY20 (5/5/20)	36 awards 10 states	8	\$7.3 M	<b>Wellness and preventi</b>
NOSI NOT-EB-21-001 FY21 (2/22/21)	<ul style="list-style-type: none"> <li>15 applications received – none funded</li> </ul>			

- Develop **Navigating Wellness** digital tool for librarians and patrons
- **User-centered** design process
- Improve **underserved population's** access to screening and wellness information

Activities
<ul style="list-style-type: none"> <li>• Jan. 18<sup>th</sup> Workshop – Technology to Improve Maternal Health Community</li> <li>• IMPROVE Awardee Workshop, 2/15/22*</li> </ul>



## INSTITUTIONAL DEVELOPMENT AWARD (IDeA) PROGRAM

- *With ORWH leadership and funding, NIGMS expanded IDeA to include women's health*
- *Supports NIH-wide efforts to address maternal mortality and morbidity*
- *Serves parts of the country with the lowest levels of NIH funding*

### Funding Opportunities

- NOSI: Supporting research through the Centers of Biomedical Research Phase I Program (NOT-GM-21-056)
- Two administrative supplements
  - To date, 34 grants totaling \$9 million awarded in 18 IDeA States
  - ORWH co-funded 8

- Marshall U. – risk of maternal morbidity in pregnant women with obesity-associated metabolic syndrome & substance use disorder
- LSU – whether weight loss in early pregnancy can alter genetic programming and attenuate risk for adult onset cardiometabolic disease in female offspring

Admin. Supps.	Apps Rec./ No. of States	Recipients/ No. of States	ICs	Total Funding	ORWH-funded
NOT-GM-21-018 FY21	26 apps/ 17 states	15 awards/ 11 states	7	\$4.26 M	Drug abuse Nutrition Sexual and reproductive health Diabetes <b>Maternal obesity</b> Alzheimer's disease
NOT-GM-20-017 FY20	37 apps/ 15 states	19 awards/ 15 states	9	\$4.8 M	Fetal growth Cancer immunotherapy Alcohol use Alzheimer Disease

## New U3 Main Page

The screenshot shows the new U3 Main Page on the ORWH website. The page features a dark blue header with the NIH logo and the text "National Institutes of Health Office of Research on Women's Health". Below the header is a navigation bar with links to "WOMEN'S HEALTH RESEARCH", "SEX & GENDER", "IN THE SPOTLIGHT", "SCIENCE POLICY", "CAREER DEVELOPMENT & EDUCATION", and "ABOUT". The main content area is titled "U3 Interdisciplinary Research: Bringing Women of Understudied, Underrepresented, and Underreported Populations into Focus." and includes a "What is U3?" section, a "Women's Health Research" sidebar, and a "Director's Messages" section. The "What is U3?" section explains the U3 framework and its goals. The "Women's Health Research" sidebar lists various resources and programs. The "Director's Messages" section features a list of recent messages from the director.

NIH National Institutes of Health  
Office of Research on Women's Health

Putting science to work for the health of women

NIH INSTITUTES & HHS AGENCIES

WOMEN'S HEALTH RESEARCH • SEX & GENDER • IN THE SPOTLIGHT • SCIENCE POLICY • CAREER DEVELOPMENT & EDUCATION • ABOUT

HOME > U3 INTERDISCIPLINARY RESEARCH

### U3 Interdisciplinary Research:

Bringing Women of Understudied, Underrepresented, and Underreported Populations into Focus.

Women of Understudied, Underrepresented, and Underreported Populations

#### What is U3?

The United States ranks lower than other high-income countries in terms of health and health care equity. Health care inequities in the U.S. are particularly evident in the disproportionate burden of disease and adverse health outcomes experienced by women of underrepresented racial and ethnic communities, women in economically disadvantaged groups, women who live in underserved rural populations, and women of sexual and gender minority groups. Despite the need for research to understand and reduce these inequities, women of these populations remain largely Understudied, Underrepresented, and Underreported in biomedical research.

The **U3 framework** was developed by ORWH to draw attention to the lack of research on persistent disparities in women's health and healthcare and to support research and evidenced-based programs to address this gap. The U3 program also highlights the intersectional experiences of women, exploring the ways in which socially determined categories – like race and gender – overlap and interact to create different outcomes for individuals and communities.

For biomedical research to best benefit the whole population, the research participant population should reflect the diversity of the patient population. However, many clinical studies continue to underrepresent women of color and other underserved populations. ORWH's **U3 Administrative Supplement** provides support for NIH researchers from a variety of disciplines who are committed to advancing health equity by bringing women of U3 populations into focus within the research lens.

#### Women's Health Research

- What Is Women's Health Research?
- Funded Research and Programs
  - Advancing NIH Research on the Health of Women: A 2021 Conference
  - Maternal Morbidity and Mortality Web Portal
- Interdisciplinary Research
  - Building Interdisciplinary Research Careers in Women's Health
- Excellence (SCORE) on Sex Differences
- U3 Interdisciplinary Research
  - Current and Previous ORWH U3 Projects
  - U3 Publications and Resources
  - U3 Women's Health Lecture Series
  - ORWH U3 Interdisciplinary Research Administrative Supplement
- Clinical Research & Trials
- Resources

#### Director's Messages

- Aim for 20/20 Vision in 2021  
November 30, 2020
- ORWH's Strategic Approach to COVID-19 Response  
November 17, 2020
- Toward an Improved Vision for Maternal Health and Pregnancy
- Social Determinants of Health: Like Water to a Fish  
October 8, 2020

#### NIH Inclusion Policies

NIH's inclusion policies help ensure the inclusion of women, minorities, and individuals of all ages in research.

[Learn More](#)

#### U3 Interdisciplinary Research Supplement

This administrative supplement program is available for NIH researchers with active grants.

[Learn More](#)

#### Current and Previous ORWH U3 Projects

#### U3 Publications and Resources

#### U3 Women's Health Lecture Series



## ORWH updates and expands U3 webpages

### Key Highlights:

Downloadable fact sheet explains importance of each "U" in the U3 framework, with datapoints for each. Resource is friendly to non-scientific audiences

New page for researchers provides details specifically focused on the U3 Administrative Supplement

Navigational tiles invite users to explore Current and Previous U3 Projects, resources, and U3 Women's Health Lecture Series





# U3 Projects Map



*70 projects have been funded across FY17-21 in over 20 states across the US*

## U3 Current and Previous Projects Page



Putting science to work for the health of women

NIH INSTITUTES & HHS AGENCIES

WOMEN'S HEALTH RESEARCH • SEX & GENDER • IN THE SPOTLIGHT • SCIENCE POLICY • CAREER DEVELOPMENT & EDUCATION • ABOUT

HOME > U3 INTERDISCIPLINARY RESEARCH > CURRENT AND PREVIOUS ORWH U3 PROJECTS

### U3 Interdisciplinary Research:

Bringing Women of Understudied, Underrepresented, and Underreported Populations into Focus.

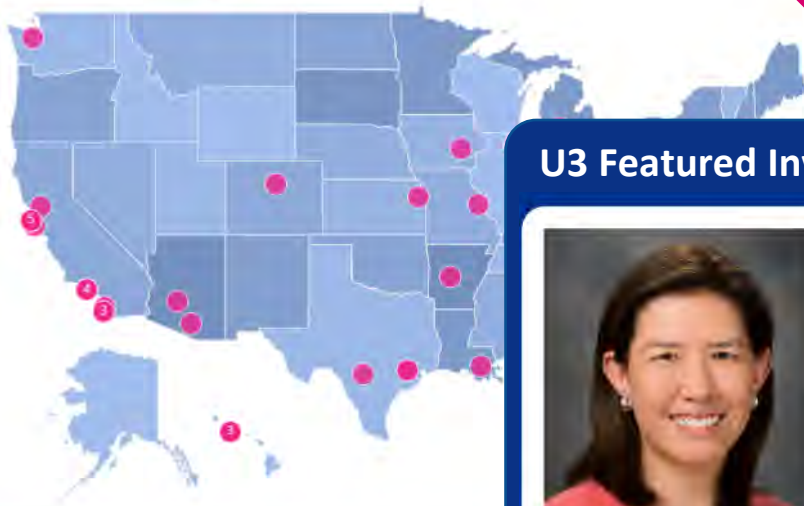
Women of Understudied, Underrepresented, and Underreported Populations



#### Current and Previous ORWH U3 Projects

Since its inception in 2017, the ORWH U3 Administrative Supplement Program has funded research projects across geographical regions and spanning divergent diseases and conditions affecting underserved populations of women.

Sort by U3 Population



70 Projects funded to date across FY17-21

20+ States across the US in which U3 projects have been funded

#### Women's Health Research

What Is Women's Health Research?

► Funded Research and Programs

► Maternal Morbidity and Mortality Web Portal

▼ Interdisciplinary Research

### U3 Featured Investigator



Dr. Lu is the Wharton Distinguished Chair in Gynecologic Oncology and Professor and Chair in the Dept. of Gynecologic Oncology and Reproductive Medicine at the University of Texas MD Anderson Cancer Center. As a Principal Investigator recipient of the ORWH-sponsored U3 administrative supplement in 2020, Dr. Lu extended the work of the Specialized Programs of Research Excellence for Uterine Cancers at her university to incorporate molecular diagnostics in clinical decision making and develop and promote novel prevention and therapeutic strategies to address the unmet needs of populations of women. This work focuses on African American/Black women.

Current and Previous Projects page features an interactive map that displays datapoints for each past and current U3 Projects.

When clicked, each datapoint provides description of project, researchers, and institution.

The “Sort by U3 Population” feature allows users to filter the map to show only projects focused on a specific population.

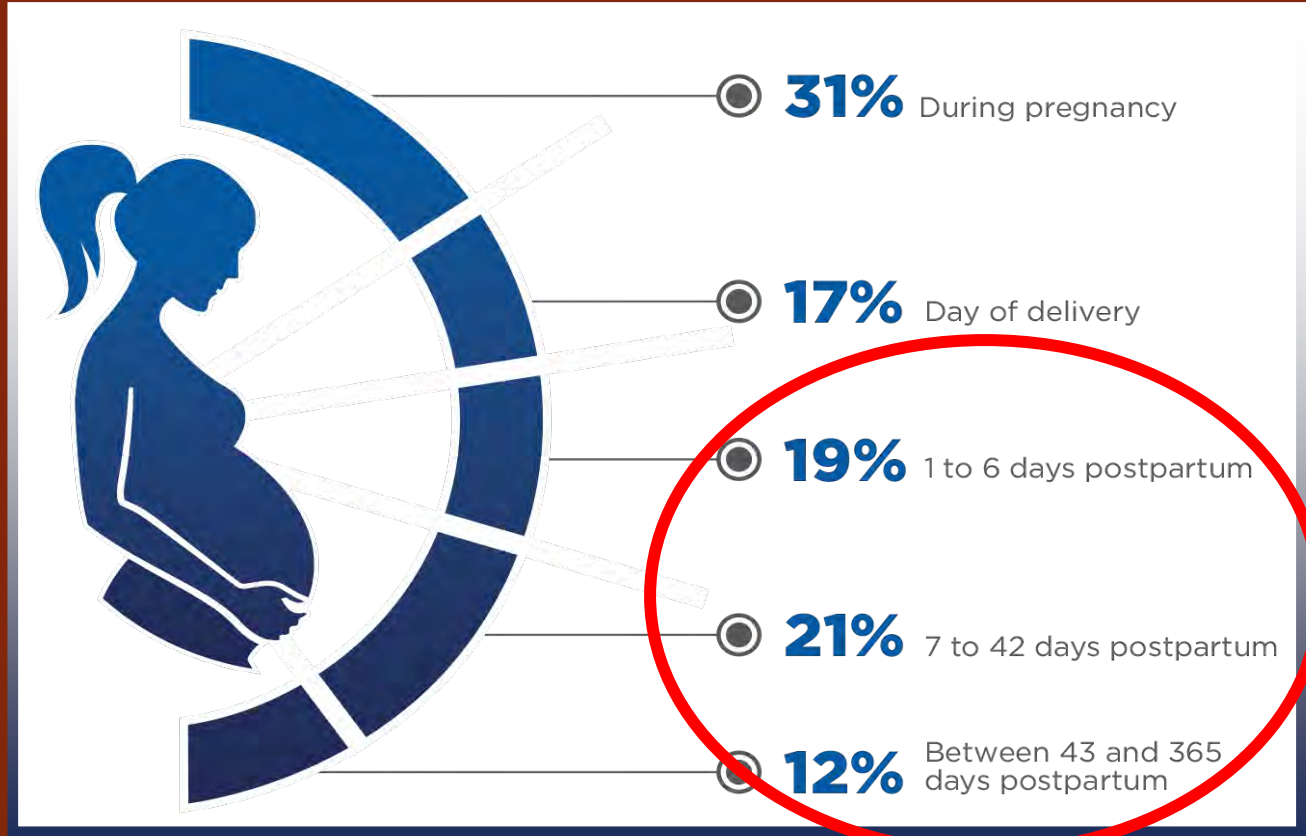
Page features U3 Investigator and is updated quarterly.



NIH National Institutes of Health  
Office of Research on Women's Health



# Identifying Risks and Interventions to Optimize Postpartum Health Workshop | Nov. 2022



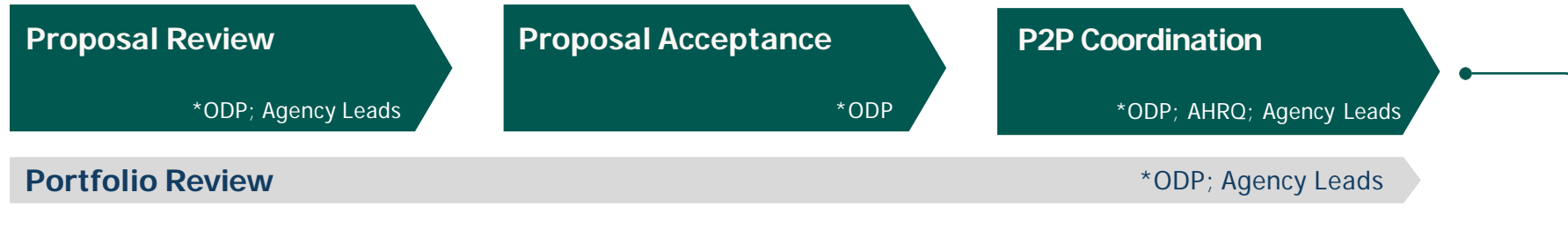
Proportion of deaths by timing of death

24

HHS. 2020. Healthy women, healthy pregnancies, healthy futures: Action plan to improve maternal health in America. [https://aspe.hhs.gov/system/files/aspe-files/264076/healthy-women-healthy-pregnancies-healthy-future-action-plan\\_0.pdf](https://aspe.hhs.gov/system/files/aspe-files/264076/healthy-women-healthy-pregnancies-healthy-future-action-plan_0.pdf)  
Petersen EE, Davis NL, Goodman D, et al. 2019. *MMWR Morb. Mortal. Wkly. Rep.* 68: 423-429. <https://www.cdc.gov/mmwr/volumes/68/wr/mm6818e1.htm>

# ODP Pathways to Prevention (P2P) Process

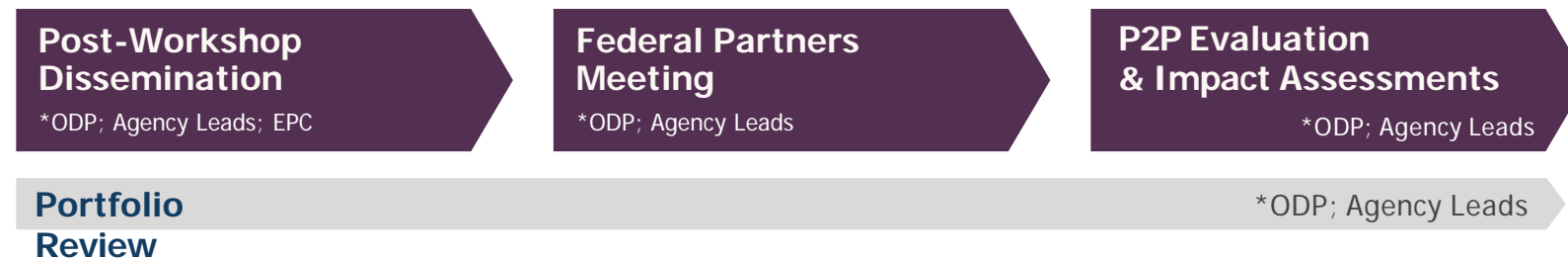
## Proposal Review, Approval, and Coordination | 9-12 months



## Planning and Implementation | 12 -15 months

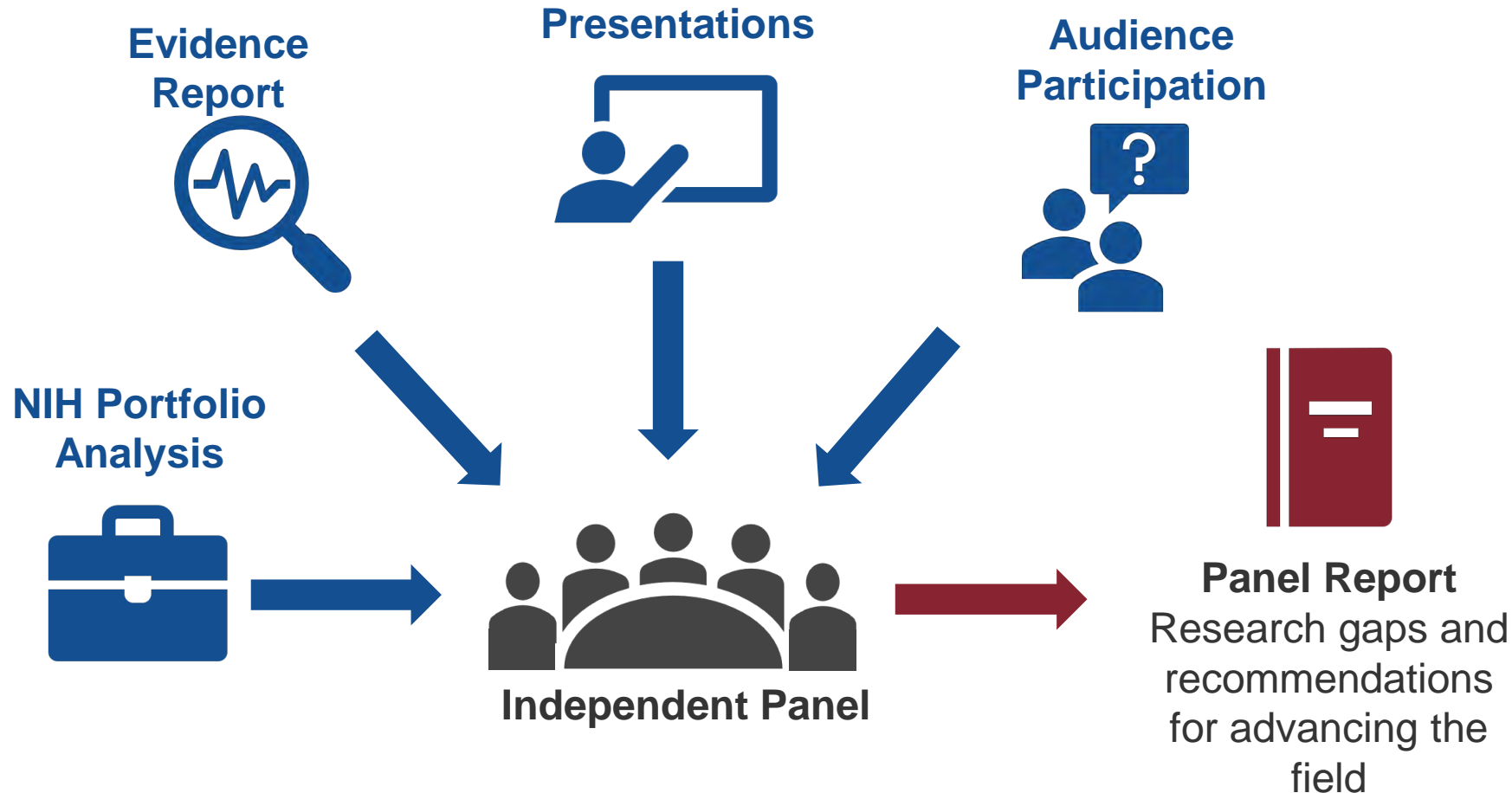


## Dissemination and Follow-up | 6 - 36 months



**\*Responsible Parties:** Agency for Healthcare Research and Quality (AHRQ); Agency Leads; Evidence-based Practice Centers (EPC); Office of Disease Prevention (ODP).  
Agency Leads: Representatives from an agency or organization outside of the ODP that serve as co-sponsors for a P2P workshop.

# Main Components of a P2P Workshop



## QUESTIONS

- At birthing person's **entry into prenatal care**, what combinations of risk indicators have greatest effect on poor postpartum outcomes?
- Do these **predictors vary by race/ethnicity**?
- Same questions, but at **immediately before or after delivery and before release** from care?





# New in Sex and Gender

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# Sex and Gender R01 program demonstrates innovation and advantages of interdisciplinary research approaches



**Julia Fridman Simard, ScD**  
Stanford University School  
of Medicine

**Cutting edge research by New Investigator is uncovering sex, gender, and race influences in clinical care**

**Problem |** Over-reliance of the evidence base and potential implicit bias may perpetuate diagnostic delay and poorer management for certain patients

**Project Focus |** Clinicians' use of mental shortcuts\* in diagnostic decision making for conditions that do not have definitive diagnostic tests

- Rules of thumb based on representativeness of given case among “the average” case
- Research shows repeated use can introduce errors into evidence base – leading to confirmation bias in evidence-based medicine

**Methods |** Novel method that combines methods from sociology, experimental design, and behavioral science

**Testing |**

- **Does patient's deviation from the “norm”** based on the evidence influence diagnosis?
- In these circumstances, **does patient's diagnosis vary** when all that differs is sex, gender, and/or race?
- Are there differences in diagnosis of **female-predominant diseases**?
- What's the **clinicians' perspective** regarding differential diagnoses?

Note: Dr. Simard is also an Early Stage Investigator

\* Cognitive heuristics

# Hypertension's disproportionate impact on Black women

- Among African-American women ages 20 and older, nearly 50 percent have heart disease<sup>1</sup>
- More than 50% of Black women over 20 have hypertension<sup>2</sup>
- African American women are twice as likely to have a stroke as compared to non-Hispanic White women<sup>3</sup>



<sup>1</sup> [www.goredforwomen.org/en/about-heart-disease-in-women/facts/heart-disease-in-african-american-women](http://www.goredforwomen.org/en/about-heart-disease-in-women/facts/heart-disease-in-african-american-women)

<sup>2</sup> [www.ama-assn.org/delivering-care/hypertension/stephanie-johnson-discusses-heart-health-priority-black-women](http://www.ama-assn.org/delivering-care/hypertension/stephanie-johnson-discusses-heart-health-priority-black-women)

<sup>3</sup> <https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=4&lvlid=28>



# Pandemic linked to increases in blood pressure – greatest among women



## Pre-Pandemic

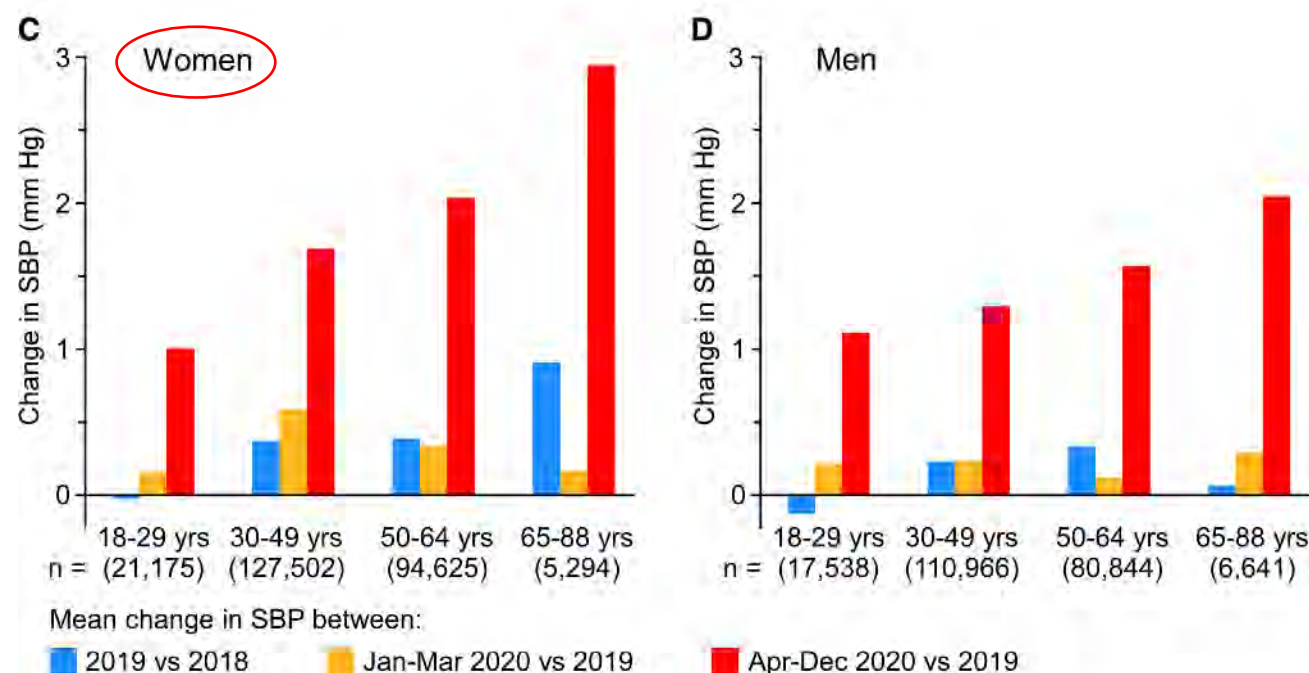
- Changes from 2019 in systolic and diastolic BP similar to those in Jan-March '20

## During Pandemic

- Annual BP increase significantly higher in April-Dec '20 [early peak] than in '19
- Mean changes each month, compared with '19, ranged from
  - 1.10 to 2.50 mm Hg for systolic BP
  - 0.14 to 0.53 mm Hg for diastolic BP
- **Larger increases seen in women**

## Multiple Factors May Explain

- Missed MD's appointments, unfilled prescriptions
- Stress-related changes: more salt and alcohol; less exercise and sleep
- Pandemic's disproportionate burden on women – related to childcare, finances, children's remote learning



**Gary H. Gibbons, M.D.**  
Director, NHLBI

# RFI seeks knowledge on intersection of COVID-19 pandemic, long COVID, and women's health

Request for Information (RFI): Inviting comments to inform the National Institutes of Health (NIH) on the intersection of the SARS-CoV-2/COVID-19 pandemic and the health of women

Notice Number:  
NOT-OD-22-092

## Key Dates

Release Date:  
March 15, 2022

Response Date:  
May 06, 2022

## Related Announcements

None

## Issued by

Office of Research on Women's Health (ORWH)

## Purpose

The National Institutes of Health (NIH) Office of Research on Women's Health (ORWH), in partnership with the NIH Coordinating Committee on Research on Women's Health (CCRWH), is publishing this request for information (RFI) to seek public comments/input on research gaps, clinical practice needs, and research opportunities to inform research priority setting at the intersection of the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)/coronavirus disease 2019 (COVID-19) pandemic and/or post-acute sequelae of SARS-CoV-2 infection (PASC), aka long COVID, and the health of

- Clinical outcomes of COVID-19 present sex differences in immune response
- Sex disparities appear to vary in relation to behaviors, health status, jobs, other social identifiers
- Seeks comments on research gaps and opportunities specific to **health consequences of COVID-19 and long COVID at the intersection of women's health concerns**—such as
  - **Sex and gender differences**
  - **Reproductive health** issues
  - **Domestic violence** or intimate partner violence
  - **Diseases** such as cancer, CVD, obesity, mental health conditions, substance use disorders
- Release Date: March 15, 2022
- Response Date: May 6, 2022

# Most people giving birth had poor heart health before pregnancy – had at least one cardiovascular risk factor

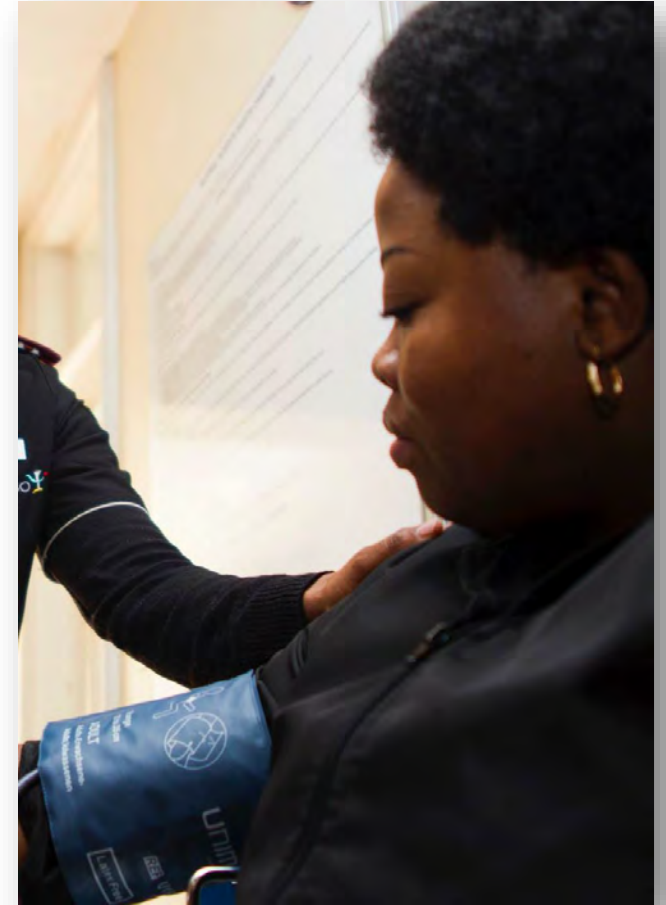
- Only about 40% of U.S. women who gave birth in 2019 had **good heart health** prior to pregnancy
  - Excess weight being major driver
  - Represents decline – from 43.5% to 40.2% – from 2016 to 2019
- Optimal heart health: BMI between 18-24.9 kg/m<sup>2</sup> and not having hypertension or diabetes
- Favorable pre-pregnancy cardiometabolic health varied
  - Younger women more likely to have good heart health
  - Less healthy: South (38.2%) and Midwest (38.8%)
  - More healthy: West (42.2%) and Northeast (43.6%)
  - Inverse correlation between
    - State-level percentage of favorable cardiometabolic health and
    - State-level percentage of high school education or less and Medicaid enrollment





# Sexual assault and harassment linked with high blood pressure in women

- Measured over 7-year period from 2008 to 2015
- Researchers drew from Nurses' Health Study II (NHS II)
- Experiences of sexual violence were common:
  - About 23% of women experienced **sexual assault**
  - 12%, workplace **sexual harassment**
  - About 6%, both
- About 21% of the women reported developing HBP over the follow-up period
- Women who experienced *both* sexual assault and workplace sexual harassment had the highest risk (HR, 1.21; 95% CI, 1.09–1.35)
  - Then, women who experienced workplace sexual harassment (HR, 1.15; 95% CI, 1.05–1.25)
  - Women who experienced sexual assault (HR, 1.11; 95% CI, 1.03–1.19)



<https://www.nimh.nih.gov/news/science-news/2022/womens-experiences-of-sexual-assault-and-harassment-linked-with-high-blood-pressure>; Lawn, R.B. et al. 2022. *Journal of the American Heart Association*. DOI: 10.1161/JAHA.121.023015

## Assessment is key to SABV Implementation

- Why? To identify and close gaps to design evidence-based resources
- Significant effort to date to move SABV from concept to policy to practice
- Support grows in biomedical community in U.S. and globally

Four Stages of SABV Implementation				
No. 1	Develop policy	Design, analyses, and reporting		<input checked="" type="checkbox"/>
No. 2	Resources	<ul style="list-style-type: none"> <li>• NIH staff</li> <li>• Applicants</li> <li>• Peer reviewers</li> <li>• Awardees</li> </ul>	<ul style="list-style-type: none"> <li>• SABV Guidance</li> <li>• FAQs</li> <li>• Road shows/ workshops</li> <li>• Primer</li> <li>• Instruction Guide</li> </ul>	<input checked="" type="checkbox"/>
No. 3	Reviews	<ul style="list-style-type: none"> <li>• SABV: A 5-Year Progress Report and Call to Action*</li> <li>• The Integration of Sex and Gender into Biomedical Research**</li> </ul>	<ul style="list-style-type: none"> <li>• NIH</li> <li>• International funding agencies</li> </ul>	<input checked="" type="checkbox"/>
No. 4	Progress Assessment	<ul style="list-style-type: none"> <li>• Applicants</li> <li>• Peer review</li> <li>• Funded investigators</li> <li>• NIH staff</li> </ul>	<ul style="list-style-type: none"> <li>• Landscape analysis</li> <li>• SABV checklist study</li> <li>• SRO survey</li> </ul>	

\* Arnegard ME et al. 2020. *Journal of Women's Health*. DOI: 10.1089/jwh.2019.8247

\*\* White J et al 2021 *Journal of Clinical Endocrinology Metabolism* DOI: 10.1210/clinem/dgab434

## NIH SABV Policy Progress Assessment

### Landscape Analysis

#### Question

Has the use of keywords associated with SABV changed from 2011 – 2021?

#### Approach

Text Mining using keywords

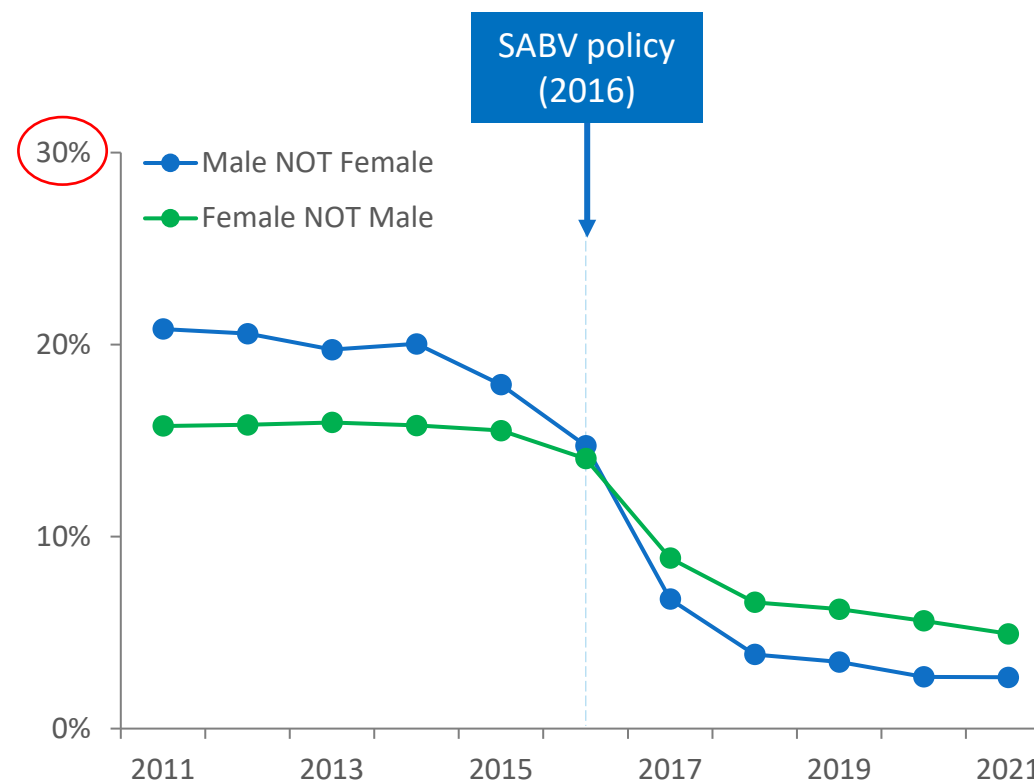
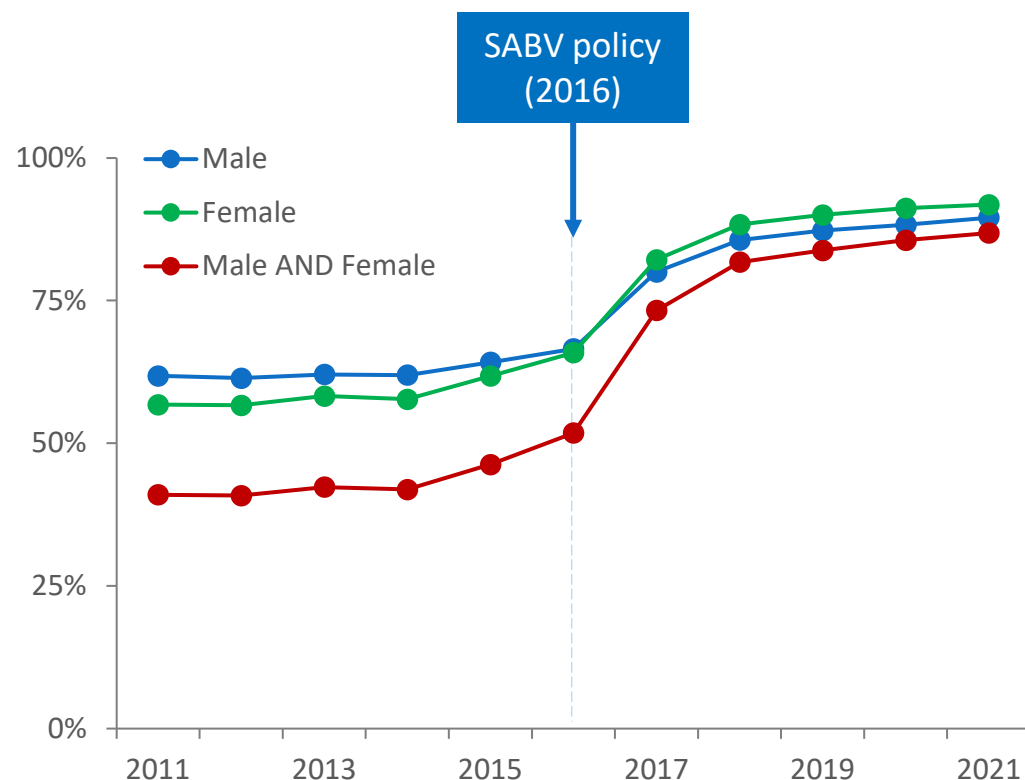
- ✓ R01, R21 and R03 applications
- ✓ Summary Statements
- ✓ Vertebrate animal studies only





# Percentage of all applications with keywords

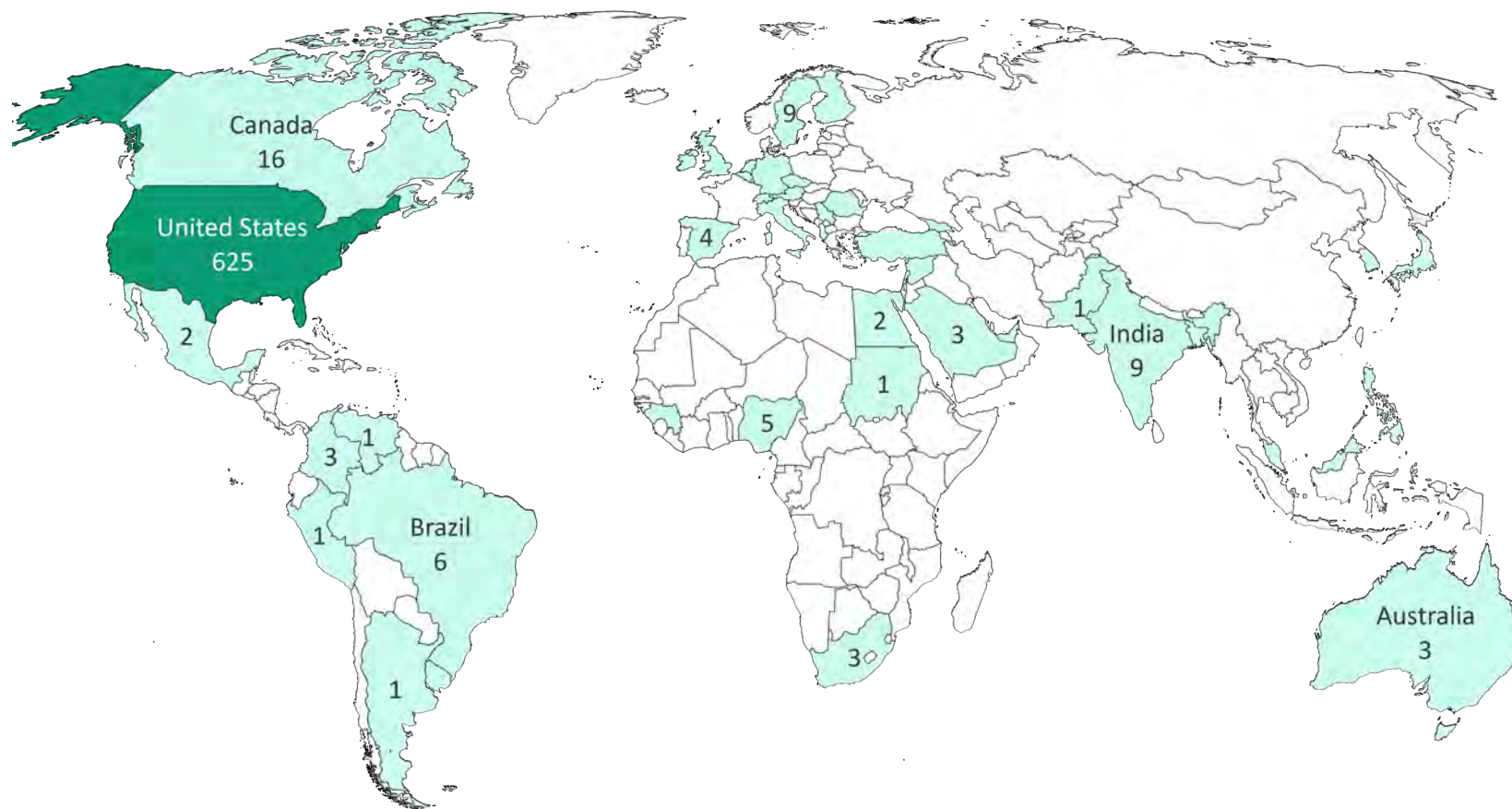
*Keyword approach shows clear increase in post-2016 use of terms relevant to SABV policy*



**SABV represents seminal change in research and medicine.**

# ORWH E-Learning has global reach

Institutional affiliations



Learners are affiliated with institutions in 48 countries

## BENCH TO BEDSIDE COURSE

- 766 either started (255) or completed (411) one module
- Most completed: Immunology (206), then CVD (134)

## SABV PRIMER

- 599 either started (159) or completed (441) one module
- Most completed: SABV and Health of Women and Men

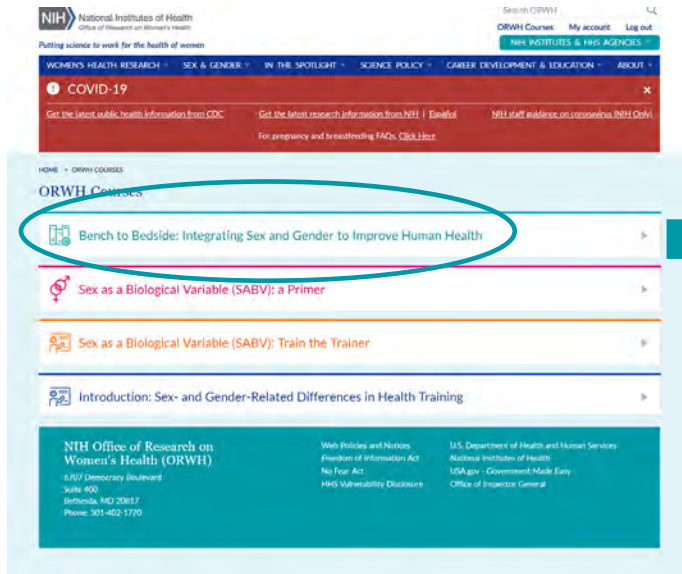
## ORWH COURSE DASHBOARD

- 1,623 registrants

## LEARNER CHARACTERISTICS

- 58% are researchers (half clinical; half basic)
- 32%, students
- 19%, professors; 19%, clinicians

As of 3/1/22



## Bench to Bedside now offers free CME credits

- Developed by ORWH in partnership with FDA Office of Women's Health
- Provides thorough, up-to-date understanding of sex and gender influences on health and disease
- For staff, researchers, clinicians, students, academic faculty
- Offered free in accordance with Accreditation Council for Continuing Medical Education through joint provision of Johns Hopkins University School of Medicine and NIH



## Introducing SABV Train the Trainer Course

- ORWH developed to train researchers, grant applicants, and trainers to account for and teach SABV policy
- Six independent, interactive modules
- Covers in-person training, virtual training, and one-on-one training
- <https://orwh.od.nih.gov/career-development-education/e-learning/sabv-primer-train-trainer>



# Global interest in sex and gender grows

- Testimony before **UK House of Commons' Science and Technology Committee** | 12/1/21
  - Non-legislative, bipartisan “caucus”
  - On effects of gender and sex bias on reproducibility
- **King's Fund podcast** “What women want: addressing women’s health inequalities” | 3/7/22
  - Why women struggle to get clinicians to listen to them
  - Impact on diagnosis, treatment, and mental and physical effects on women
- **UK research body adopts SABV policy**
  - **Medical Research Council** is part of UK govt.’s United Kingdom Research and Innovation
  - Will require sex to be specified in design of grant applications involving animals, and human and animal tissues and cells
  - Single-sex studies only where strong justification



[www.kingsfund.org.uk/audio-video/podcast/addressing-womens-health-inequalities](http://www.kingsfund.org.uk/audio-video/podcast/addressing-womens-health-inequalities)

[www.ukri.org/news/use-of-both-sexes-to-be-default-in-laboratory-experimental-design/](http://www.ukri.org/news/use-of-both-sexes-to-be-default-in-laboratory-experimental-design/)

[op.europa.eu/en/publication-detail/-/publication/ffcb06c3-200a-11ec-bd8e-01aa75ed71a1/language-en/format-PDF/source-232129669](http://op.europa.eu/en/publication-detail/-/publication/ffcb06c3-200a-11ec-bd8e-01aa75ed71a1/language-en/format-PDF/source-232129669)



**NIH** National Institutes of Health  
Office of Research on Women's Health



# Careers

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**NIH** National Institutes of Health  
Office of Research on Women's Health

## “Community voices: NIH working toward inclusive excellence by promoting and supporting women in science”

- Data continue to **shock**
  - Half of medical degrees in U.S. are awarded to women, but they account for 18% of key leadership positions
  - Are paid less
  - Women of color are dramatically underrepresented across all medical career stages (13% of faculty)
- Often cope with sexual harassment and gender discrimination
- This is **reason to redouble efforts** to support and promote women in science
  - Pandemic’s disproportionately negative effect
  - Persistent implicit bias
  - Inequities in salaries, resources, space, and opportunities for advancement



The components of **inclusive excellence** interact to foster a **diverse scientific ecosystem** and the **full inclusion of women in the scientific workforce**.







# New UNITE initiatives target health disparities and inequities



## Common Fund FOA builds MSI capacity, funds disparities research

*Transformative Research to Address Health Disparities and Advance Health Equity at Minority Serving Institutions | RFA-RM-22-001*

- Supports unusually **innovative research projects** intended to have a major impact in developing, implementing, or disseminating innovative and effective interventions to prevent, reduce, or eliminate health disparities and advance health equity
- Builds **research capacity building at Minority Serving Institutions** that
  - Serve students underrepresented in biomed research and/or biosciences and
  - Receive limited NIH grant funding
- Timeline
  - Due date May 23, 2022
  - Live Q&As – April 13th

## ComPASS concept cleared by Council of Councils

- **Com**munity **P**artnerships to **A**dvance **S**cience for **S**ociety: FY2023
- Facilitate and implement cross-IC framework for health equity structural intervention research
- Catalyze, deploy, and evaluate community-driven health equity structural interventions that leverage multisector partnerships to reduce health disparities
  1. Community-driven, health equity structural interventions
  2. Coordination Center with National Health Equity Research Assembly (National HERA)
  3. Health Equity Research Hubs for Scientific Support and Partnership



# Diverse Voices Virtual Talk: Environmental Exposures and Disparities in Pregnancy | March 31

- Part of ORWH quarterly series, “Diverse Voices: Intersectionality and the Health of Women”
- Speakers:

## **Tamarra James-Todd, Ph.D.**

Assoc. Professor of Environmental Reproductive  
Epidemiology  
Harvard T.H. Chan School of Public Health

*Environmental justice framework and the role of exposure assessment in  
understanding disparities in reproductive health outcomes*

## **Mahasin Mujahid Ph.D., M.S., FAHA**

Assoc. Professor of Epidemiology  
University of California Berkeley School of Public Health

*Historical redlining, disparities in severe maternal morbidity in marginalized  
groups; Enhancing Recruitment and Retention of Underrepresented Pregnant  
Hispanic Women Phase III Randomized Clinical Trial*



Tamarra James-Todd, Ph.D.



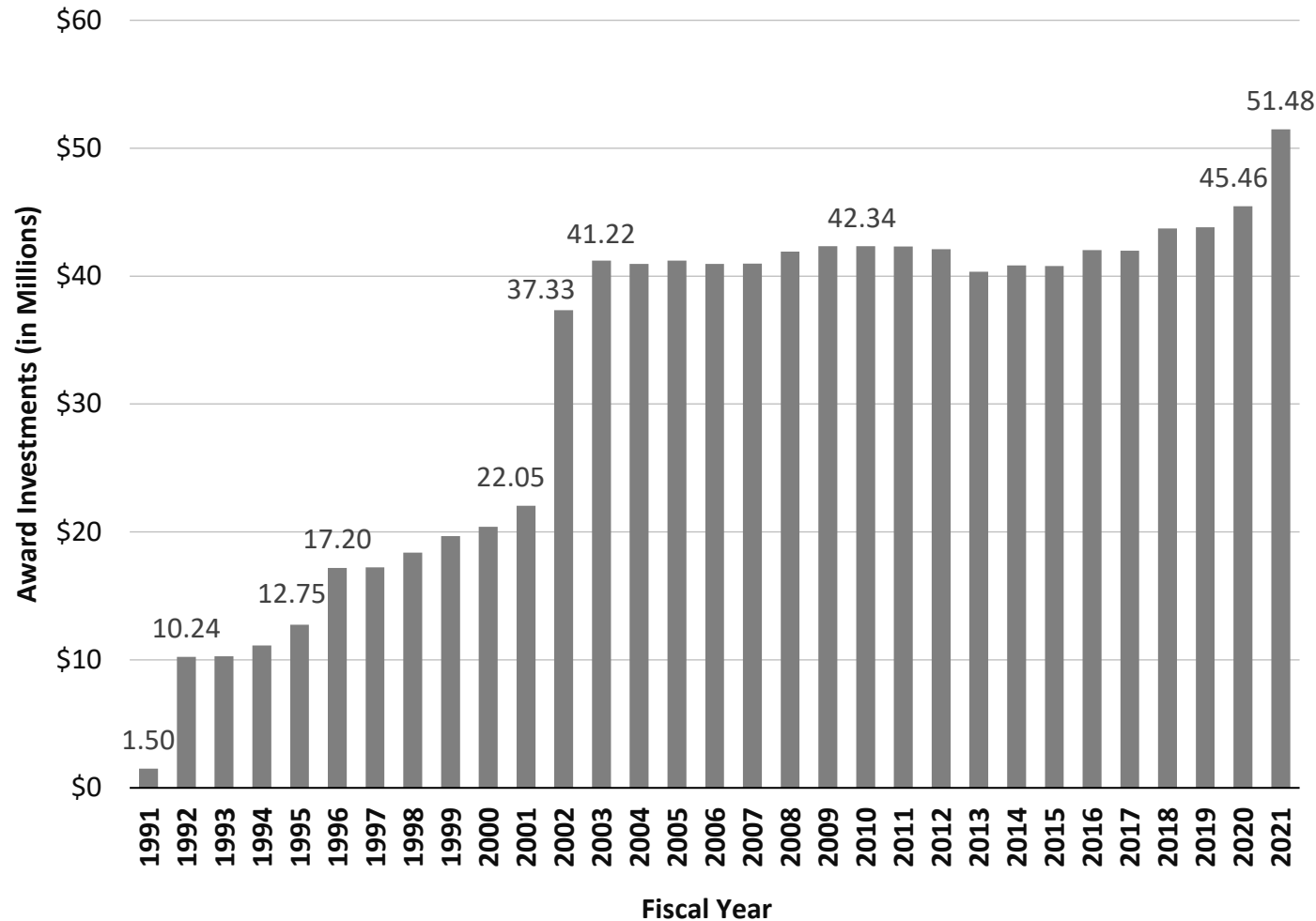
Mahasin Mujahid Ph.D., M.S., FAHA



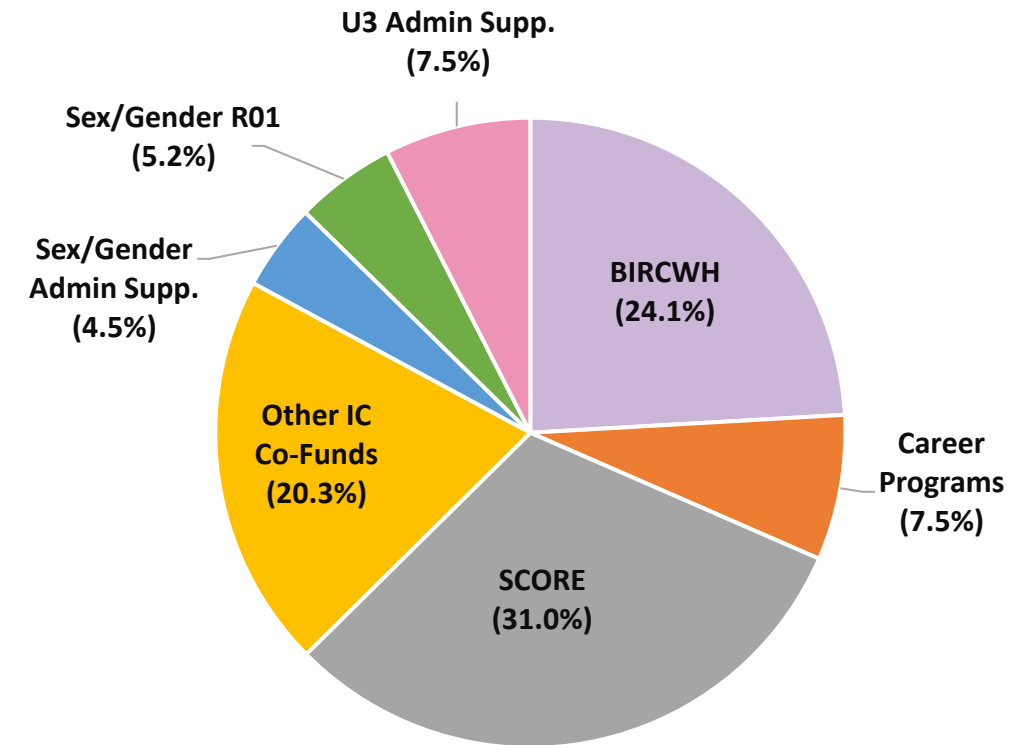
# FY21 Research Programs Funding

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# ORWH Budget History & FY2021 Extramural Grant Award Profile



Note: Award investments do not adjust for inflation.



**ORWH FY2021 Extramural Grant Awards by Program  
(as % of Extramural Budget)**

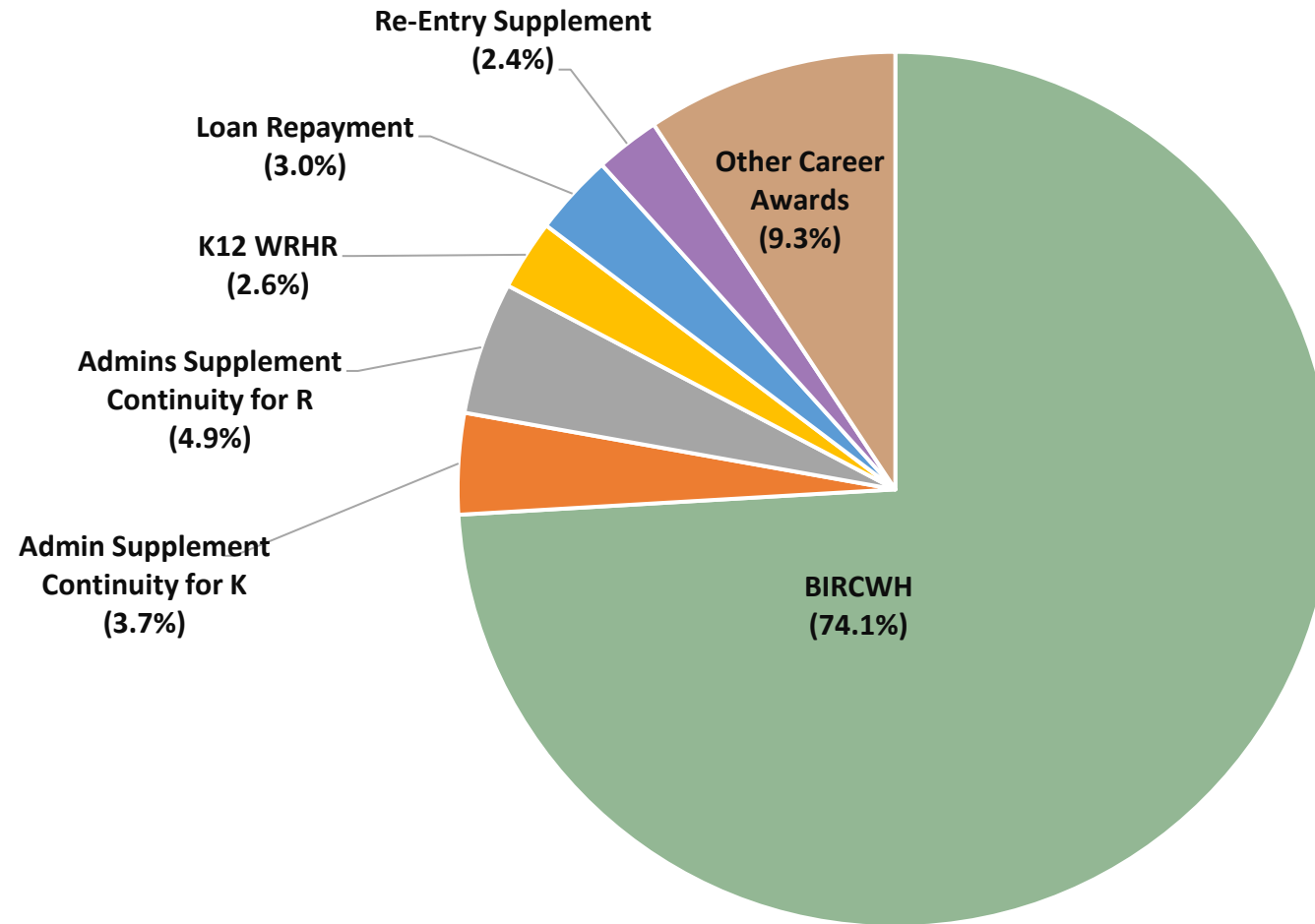
Source: NIH IMPAC II FY2021 frozen data.

Note: ORWH total investments = \$35,514,780. Funding portfolio excludes Contract R&D, IAA, and Loan Repayment awards.



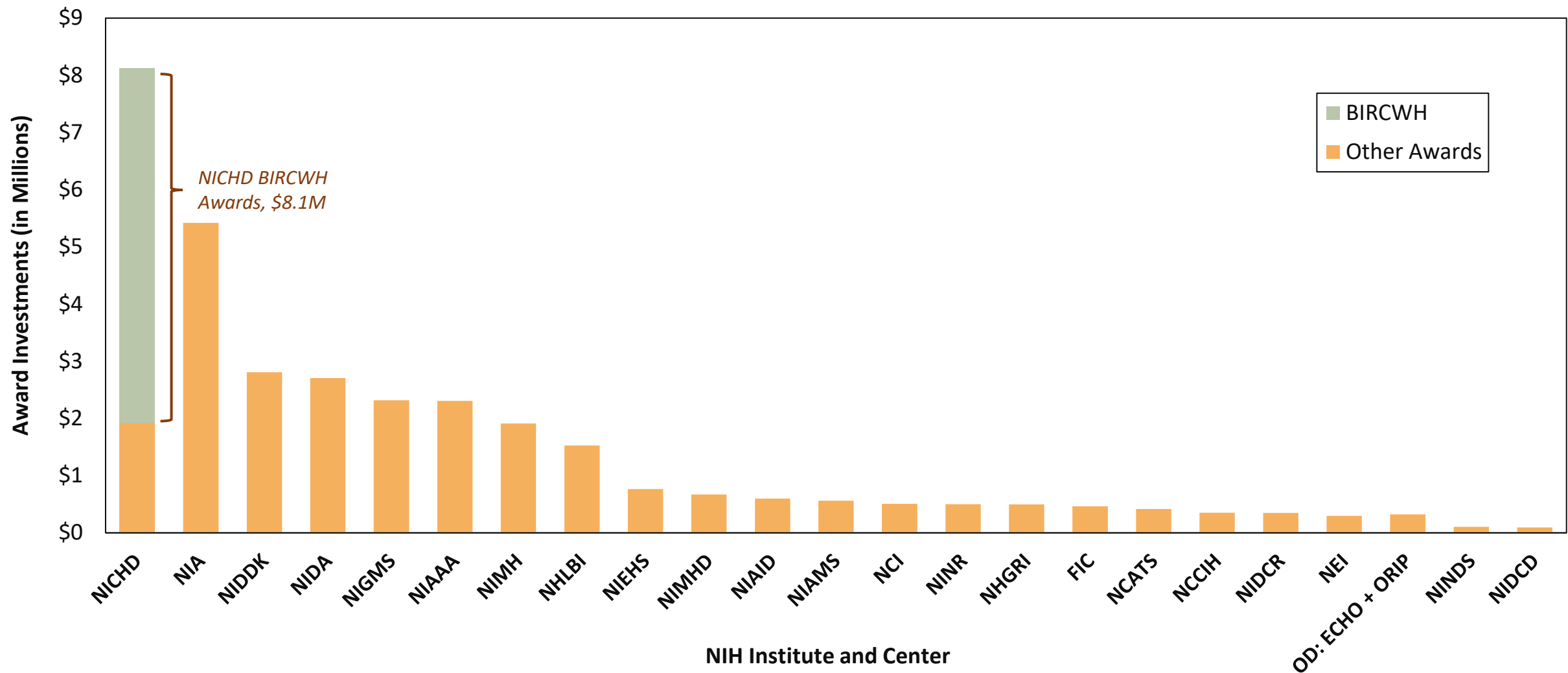
# ORWH FY2021 Career Programs

## Total = \$11,550,610 including Loan Repayment awards



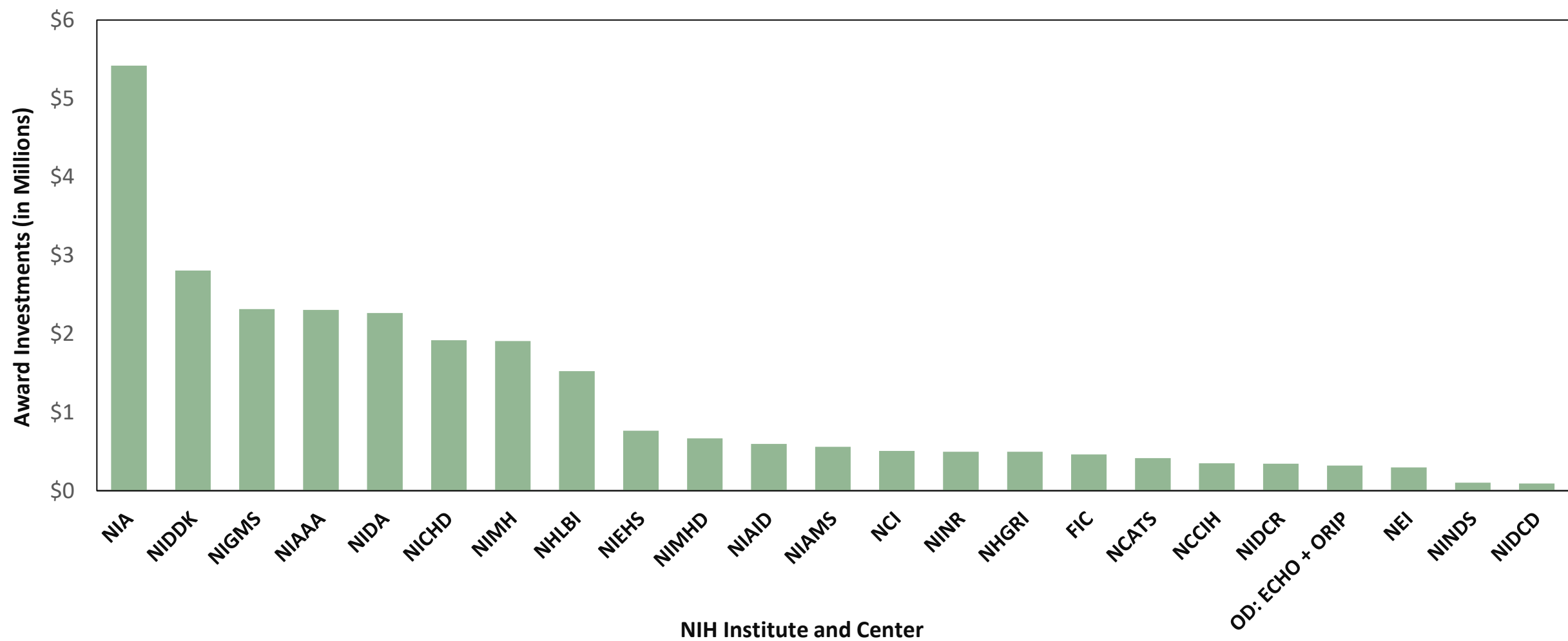
Source: NIH IMPAC II FY2021 frozen data and DPCPSI/ORWH Co-funding Portal (for Loan Repayment awards).  
Note: Excludes funding to the OITE program.

# ORWH FY2021 Extramural Award Investments by IC (including BIRCWH funding)



Source: NIH IMPAC II FY2021 frozen data.  
Note: ORWH total investments = \$35,514,780. Funding portfolio excludes Contract R&D, IAA, and Loan Repayment awards.

# ORWH FY2021 Extramural Award Investments by IC (excluding BIRCWH funding)



Source: NIH IMPAC II FY2021 frozen data.  
Note: ORWH total investments = \$26,958,545. Funding portfolio excludes NICHD and NIDA’s BIRCWH investments, Contract R&D, IAA, and Loan Repayment awards.



# ORWH Extramural Award Investments by Research Program in FY2021

Program	ORWH Investments	# of Co-Funding ICs	List of Co-Funding ICs
BIRCWH*	\$8,556,235	2	NICHD; NIDA
Career Programs:			
Without Loan Repayment	\$2,648,041	14	NCI; NHLBI; NIA; NIAAA; NIAMS; NICHD; NIDA; NIDCD; NIDCR; NIDDK; NIGMS; NIMH; NINDS; OD-ECHO
With Loan Repayment**	\$2,994,375		
SCORE	\$11,026,106	5	NIA; NIAAA; NIDA; NIDDK; NIMH
Sex/Gender R01	\$1,830,047	8	NHGRI; NHLBI; NIA; NIAID; NIDA; NIDCR; NIEHS; NINR
Sex/Gender Admin Supp.	\$1,583,262	8	NCI; NEI; NHLBI; NIAID; NIAMS; NICHD; NIDCD; NIDDK
U3 Admin Supp.	\$2,666,811	9	NCATS; NHLBI; NIA; NICHD; NIDDK; NIEHS; NIGMS; NIMHD; NINR
Other IC Co-Funds	\$7,204,278	15	FIC; NCATS; NCCIH; NCI; NHGRI; NHLBI; NIA; NIAMS; NICHD; NIDA; NIDDK; NIGMS; NIMH; NIMHD; OD-ORIP

\* In FY2021, NICHD, NIDA, NCI, NIAAA, and NIAID also supported the BIRCWH program with additional funds.

SAVE THE DATE!



# Sixth Annual Vivian W. Pinn Symposium | May 12, 2022

*Honoring the first full-time director of ORWH | Held annually during National Women's Health Week*

## The Impact of the COVID-19 Pandemic on the Careers Of Women Scientists

May 12, 2022 | Virtual Meeting



Vivian W. Pinn, M.D.

# Women's Health Research Events 2022

**8<sup>th</sup> Annual Women's Health Awareness (NIEHS) | April 9**

**Environmental Impacts on Women's Health Disparities and Reproductive Health (NIEHS) | April 27-28**

**6<sup>th</sup> Annual Vivian W. Pinn Symposium | May 12**

**Diverse Voices Virtual Talk: COVID-19 in Women | July 28**

**Diverse Voices Virtual Talk: Violence and Women | September 29**

**57<sup>th</sup> Meeting, NIH Advisory Committee on Research on Women's Health | Oct. 18**



National Institutes of Health  
Office of Research on Women's Health

**[bit.ly/ORWHevents](https://bit.ly/ORWHevents)**  
*Case sensitive*





# CONNECT WITH ORWH

## PUBLICATIONS




WOMEN'S HEALTH *In Focus* AT NIH  
A QUARTERLY PUBLICATION OF THE NIH OFFICE OF RESEARCH ON WOMEN'S HEALTH

Quarterly | [bit.ly/ORWHInFocus](https://bit.ly/ORWHInFocus)

The Pulse

Monthly | [bit.ly/ORWHpulse](https://bit.ly/ORWHpulse)

## SOCIAL MEDIA

 @JanineClaytonMD  
 @NIH\_ORWH  
 NIHORWH  
[NIH.gov/women](https://NIH.gov/women)

## EVENTS

[bit.ly/ORWHevents](https://bit.ly/ORWHevents)

## E-LEARNING

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

Sex as a Biological Variable Primer

SABV Train the Trainer Course

Introduction to the Scientific Basis of Sex- and Gender-Related Differences

[bit.ly/ORWHeLearning](https://bit.ly/ORWHeLearning)

*Bitly URLs are case-sensitive*

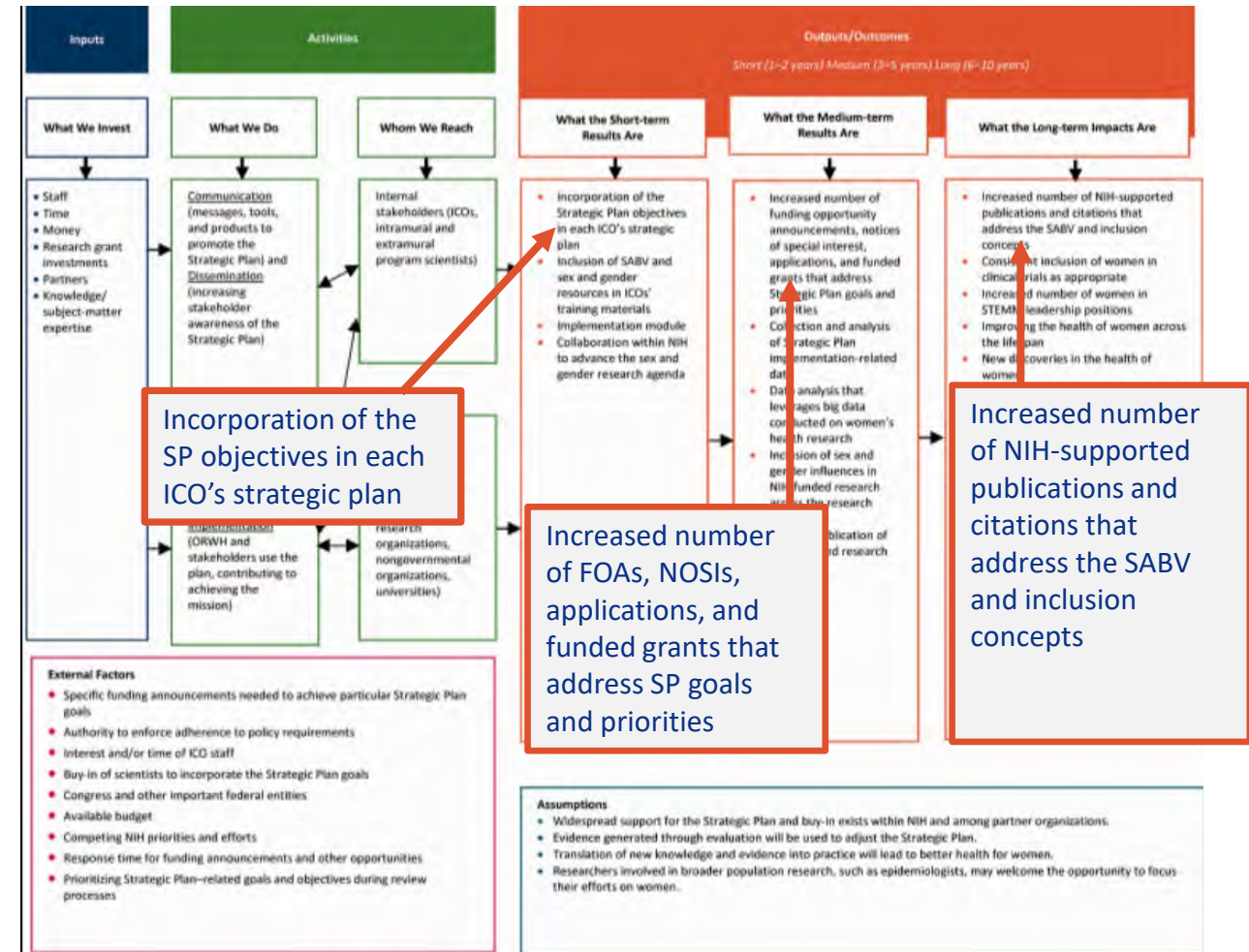


# Parking Lot



# Evaluation of Trans-NIH Strategic Plan on WHR underway – planning begun for 2024-28 plan

- ORWH developed implementation and evaluation **guide**
- ORWH and OEPR, with CCRWH SC input, developed **module** for evaluating SP's implementation
- Module intended to
  - Facilitate data collection
  - Ensure collection of appropriate data
  - Systematize process—make it easier for ICOs
- **Data calls:**
  - Summer and Winter 2021
  - Summer and Winter 2022
  - Final call – Fall 2023
- Planning for next SP has begun





# Maternal Health

Under Revision—promised for Thursday

