Women’s Health Research is Trending at NIH

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NIH Associate Director for Research on Women’s Health
Director, Office of Research on Women’s Health

Jan. 14, 2020 – The Endocrine Society Congressional Briefing
Women’s Health Research Across NIH’s 27 Institutes and Centers
30 years of addressing women’s health at NIH

- 50% participants of NIH clinical studies are women
- Women’s Health Initiative (WHI) reported risks of menopausal hormone therapy
- Decreased breast cancer rates
- Development of HPV vaccine – prevents cervical cancer
- Prevention of maternal to child transmission of HIV
• Report % women/men by disease categories
• Report clinical trial results by sex/gender and race/ethnicity in ClinicalTrials.Gov
• Include all age groups in studies
• Increase coordination of women’s health research across NIH
• Establish Task Force Specific to Pregnant and Lactating Women
ORWH Mission

- Enhance and expand women’s health research
- Include women and minority groups in clinical research
- Promote career advancement for women in biomedical careers

NIH Vision

- Sex and gender integrated into biomedical research
- Every woman receives evidence-based care
- Women in science careers reach their full potential
Men and women may follow different paths to disease

Starting point: Sex-specific physiology, causes, and risk factors

End point: Disease
Framework for the health of women across the life course

The Health of Women Across the Life Course

Women in Context—External Factors
such as gender, social determinants of health, behaviors, environment, & policies

Preconception In Utero Childhood Adolescence Adulthood

Biological Perspective—Internal Factors
such as sex influences at genetic, molecular, cellular, & physiological levels

NIH Strategic Plans and Visions
https://report.nih.gov/strategicplans
Strategic Plan | Goals

Advance rigorous research relevant to the health of women

Develop methods & leverage data sources that consider sex and gender

Enhance dissemination & implementation of evidence to improve the health of women

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

Improve evaluation of research relevant to the health of women
ORWH signature research programs advance science

- **SCORE**
  Specialized Centers of Research Excellence on Sex Differences

- **Sex/Gender**
  Studies that are preclinical, clinical, or both preclinical and clinical

- **U3**
  Understudied, Underreported, or Underrepresented populations

**Disease Agnostic Research Centers**

**Program to Expand Sex & Gender Data**

**More Populations of Women**
SCORE investigates sex differences in diseases of women

Differences between women & men in:
- Vaccine response
- Metabolism & bioenergetics
- Obesity, diabetes, dyslipidemia

Sabra Klein, PhD
Bloomberg School of Public Health
Johns Hopkins University
# Accelerating research on sex and gender differences by augmenting funding

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<td>Glioblastoma cell invasion profiles/therapeutic response</td>
<td>Forest White, Ph.D.</td>
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<td>Epigenomic predictors of PTSD &amp; traumatic stress in African Americans</td>
<td>Monica Uddin, Ph.D.</td>
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Administrative Supplements
ORWH co-funds research on Understudied, Underreported & Underrepresented Populations of Women

- **Study intersections** of sex/gender, race/ethnicity, and influences of other social determinants
- **Focuses on health disparities**
- U3’s focus will lead to better interventions for these populations
  - PTSD
  - Chronic pain/urban women
  - Shared decision-making for Gestational Diabetes
  - Breast cancer surveillance in Black & Hispanic women
Supports research across various scientific areas
Understand how sex and gender influence health and disease
Address Strategic Goal of Trans-NIH Strategic Plan

Investigate
- Basic differences between females & males
- Influence of sex & gender on disease
- Effects of exposures on health outcomes

Promote research on influence of sex & gender and mind & body and its impact on health

Expand research on female-specific conditions

Advances rigorous research relevant to women’s health
Multiple ORWH collaborations across NIH

• NIH Pain Consortium
• Diabetes Prevention Program Outcomes Study
• Brain Research through Advancing Innovative Neurotechnologies® (BRAIN) Initiative
• HEAL (Helping to End Addiction Long-term℠)
# Women’s health research across NIH

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<td>▪ WHI Sleep Hypoxia Effects on Resilience</td>
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<td>▪ Role of Sex/Gender in Mechanisms of Heart, Lung, Blood, and Sleep Diseases and Disorders</td>
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<td>▪ Premenopausal Breast Cancer Collaborative Group</td>
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<td>▪ Endocrine Disrupting Chemicals and the Health of Women</td>
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<td>▪ Study of Women’s Health Across the Nation (SWAN)</td>
<td>▪ Genetic Variants Associated with Early Menopause Increase Risk of Cardiovascular Events in Women</td>
<td>▪ Sex and Gender Differences in Alzheimer’s Disease</td>
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<td>▪ Women’s Health Initiative Memory Study (WHIMS)</td>
<td>▪ Group Class Reduces Urinary Incontinence (UI) Symptoms in Women</td>
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NIH research addresses women’s health from head to toe

Breast Cancer in Young Women

Sex Differences in Alzheimer’s Disease

Gut Microbiome and Polycystic Ovarian Syndrome

NIEHS
NIA
NICHD
Maternal Health
U.S. maternal mortality rate rises, as peer nations’ decline

Deaths per 100,000 live births

Libya (22.8)
Turkey (15.8)
Vietnam (15.6)

U.S.A. (26.4)

NIH invests in maternal health research

**Chronic Hypertension and Pregnancy** evaluates treatment effectiveness & safety during pregnancy

**Heart Health Study** evaluates links between preeclampsia, sleep & future maternal CV health

**HAPO Follow-up Study** found high blood sugar during pregnancy ups risk of mother’s T2D & child’s obesity

**Human Placenta Project** is developing tools to study how the placenta develops and functions throughout pregnancy

**Task Force on Research Specific to Pregnant and Lactating Women**

**PregSource®** crowdsourcing research project

*Estimates for FY 2019 and future years are based on RCDC actual data.
Coordinating resources to drive impact

3,171 Total
2,139 Unique

600 Disseminated

As of 1/13/2020

Online audience >213M
NIH Working Group on Women in Biomedical Careers

Stay tuned for NASEM report!

EXAMINE
• How women’s participation varies across disciplines
• How intersection of race & gender impacts WOC
• What interventions have produced sustained improvements in representation and leadership?
• Why interventions haven’t been scaled up or adopted

DEVELOP
• Actionable recommendations to improve representation and leadership

Develop family friendly policies
Evaluate programs to advance women
Share best practices

womeninscience.nih.gov
“NIH expects that sex as a biological variable will be factored into research designs, analyses, and reporting in vertebrate animal and human studies.”
Informs and improves design of clinical research and human trials

Informs development of sex- and gender-appropriate medical care

Enables individualized care for women and men

Foster systems-based understanding of influences of sex & gender on health & disease

ORWH is developing new courses to educate the biomedical community on sex & gender

- Bench to Bedside: Integrating Sex and Gender to Improve Human Health
- Sex as a Biological Variable (SABV)* Primer

* In development

https://orwh.od.nih.gov/career-development-education/e-learning/bench-bedside
Study Both Sexes = Better Science = Better Health