Legacy of Better Science, Better Health for Women

Janine A. Clayton, M.D.
Associate Director for Research on Women’s Health
Director, Office of Research on Women’s Health
National Institutes of Health

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Women’s Congressional Policy Institute

Advancing the Health of Women Through Science
Chapter 1
We Built Women’s Health Research Together

MOVEMENTS

Women’s Movement
Women’s Health Movement
Congress
Scientific Community

LEADERS

Edward Brandt
Ruth Kirschstein
Bernardine Healy
Vivian Pinn
Chapter 2
The Past & the Power of Research

- Women’s Health Initiative
- Decline in Breast Cancer Rates
- HPV Vaccine
- EVATAR™: Modeling the Female Reproductive Tract in 3-D
The Past & the Power of Research

• Funded by NHLBI and launched in 1993
• One of the largest disease prevention and clinical studies ever conducted for women’s health
• Ongoing, still contributing knowledge about CVD and aging
• Inspired rapid changes in medical practice, offering benefits 143 times the cost of the original research

HPV Vaccine

EVATAR™: Modeling the Female Reproductive Tract in 3-D
The Past & the Power of Research

Women’s Health Initiative

Decline in Breast Cancer Rates

HPV Vaccine

EVATAR™: Modeling the Female Reproductive Tract in 3-D
The Past & the Power of Research

Women’s Health Initiative

- Continuous progress on reducing death rates since 1990
- 1994 discovery by NIH-funded researchers of the first gene shown to be responsible for some inherited breast (and ovarian) cancer
- Discoveries in breast cancer genetics have informed screening, genetic testing, risk assessment models, and clinical management decisions
- Evidence informed menopausal hormone therapy implications

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Women’s Health Initiative

Decline in Breast Cancer Rates

- 70% of cervical cancers are caused by HPV types 16 & 18
- More than 1/3 of HPV-associated cancers are diagnosed in males (e.g., oropharyngeal) – more than half of oropharynx cancers are type 16
- NCI-funded, ORWH-supported clinical trial is testing efficacy of single-dose vaccine against cervical cancer; interim results indicate long-lasting protection
The Past & the Power of Research

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Decline in Breast Cancer Rates

HPV Vaccine

- NIH–DOD–FDA collaboration to address high rates of failure of candidate medications due to toxicity or lack of efficacy
- EVATAR™ is a miniaturized 3-D model of the female reproductive tract & liver
  - Could pave way for improved testing for infertility, endometriosis, uterine fibroids, cancer, etc.
  - Current use includes modeling PCOS and testing candidate meds
Inclusion – it’s in our DNA

- 42 USC 289a-2 and the 1993 NIH Revitalization Act require researchers to include women and men.
- Seeks distribution of participants by sex/gender, race, ethnicity, and age to reflect populations needed to meet study goals.
- In response to the 21st Century Cures Act, NIH issued the Inclusion Across the Lifespan policy:
  - Requires inclusion of all ages – unless there’s scientific or ethical rationale for exclusion.
- Requires NIH-defined applicable phase III clinical trials to report results disaggregated by sex/gender, race, and ethnicity into ClinicalTrials.gov.
Multidimensional Framework represents intersection of factors affecting the health of all women

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

https://report.nih.gov/strategicplans
Chapter 3

Putting Science to Work for the Health of Women
NIH’s policy to consider sex as a biological variable

- 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
- Fosters system-based understanding of influences of sex and gender on health & disease

ORWH advances science through focused NIH-wide research collaborations

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RFA-OD-19-029
NIH’s robust response to maternal health disparities

**IMPROVE**
- Trans-NIH Maternal Mortality Task Force
  - NICHD–OD–ORWH
  - CVD
  - Infection/immunity
  - Mental health

**IDEA States**
- Institutional Development Award States program
  - Administrative supplements to expand research and research capability

**R01 | NIHMD**
- Addressing Racial Disparities in Maternal Mortality & Morbidity
  - Intersection of domains and levels of influence

**U3**
- FY2017–20
  - >50 awards
  - Insulin resistance, neonatal adiposity
  - Sickle cell disease
  - Fibroid growth
ORWH is producing E-Learning modules on sex and gender for the biomedical and research community

SABV Primer
Introduction to the scientific basis of sex- and gender-related differences

Bench to Bedside
Integrating sex & gender to improve human health
1 – Immunology
2 – Cardiovascular Disease
3 – Pulmonary Disease
4 – Neurology

https://orwh.od.nih.gov/career-development-education/e-learning
NIH roadmap for COVID-19 research – including pregnancy-related impacts

Chapter 4
Advancing careers and diversity for better science

MISSION
“develop opportunities and support for recruitment, retention, re-entry, and advancement of women in biomedical careers”

PIVOTAL EVENTS
• BIRCWH’s 20 years of research and careers development
• NASEM Beyond Bias and Barriers (2006)
• WG on Women in Biomedical Careers
• Family-friendly policies
• Causal Factors and Interventions RFA
• Women of Color Research Network
• NASEM Promising Practices for Addressing the Underrepresentation of Women in Science, Engineering, and Medicine (2020)
• No More Manels
New programs support women during critical life events

Men

Terminal degree (MD/PhD)

~50%

Postdoc/residency

~45%

Tenure track: Assistant to Associate Prof.

40–30%

Full Professor

~20%

Women

Promoting Career Continuity for K Awardees
NOT-OD-20-054

Promoting Career Continuity for RPG Awardees
NOT-OD-20-055

NIH Challenge Prize for Enhancing Faculty Gender Diversity

Impact of COVID-19 on Biomedical Careers

Women are >70% of health care workers

Eroding progress that’s been made toward gender equity

Exacerbating challenges many women scientists already face – especially among principal caregivers

Navigating work from home, homeschooling and caregiving

Increased gender gap in publication
  • Women first authorship dropped from 35.9% in December to 20.2% in April
  • Last authorship, from 26.1% to 19.3%

Even more devastating impact on early-career investigators and women of color
Thank you!