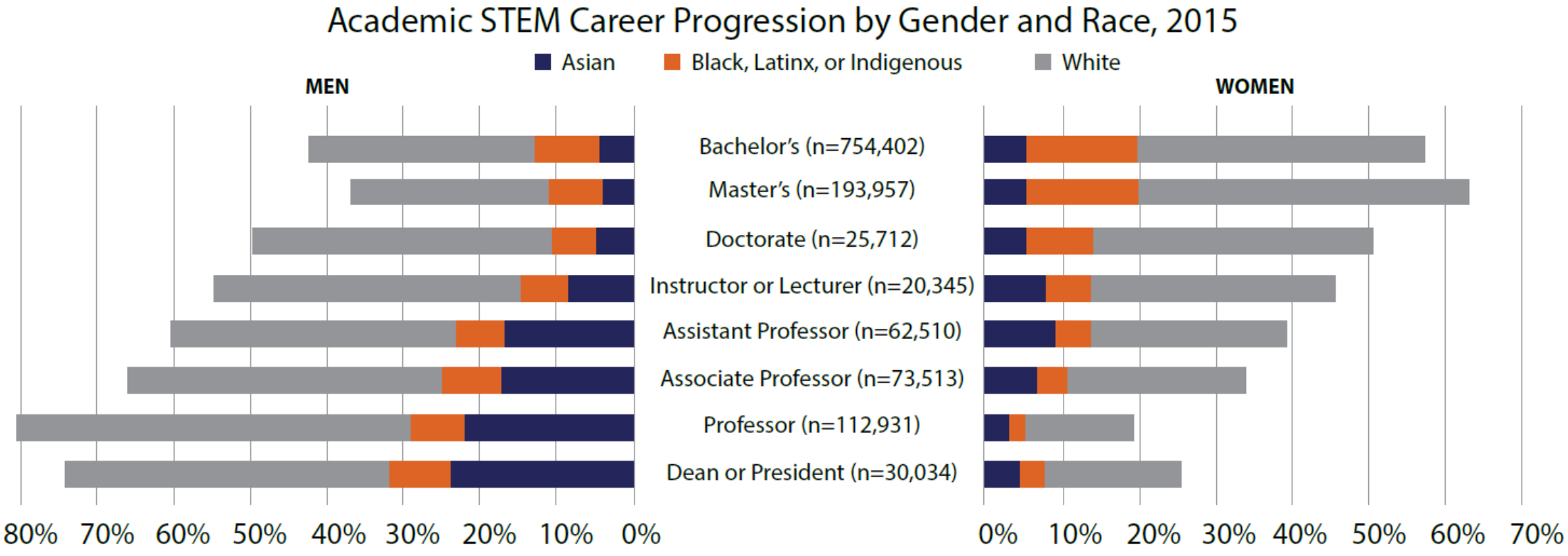
49th Meeting of the
NIH Advisory Committee on Research on Women's Health

# Concept Clearance for Challenge Prize and Other Concepts of the NIH Working Group on Women in Biomedical Careers

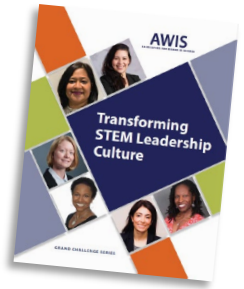
October 23, 2019

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

# What is the problem that we are trying to solve?




Source: Metcalf, H. and Russell, A. (2019). Original Analysis of 2015 NSF Survey of Doctorate Recipient and IPEDS Data.




2019 Association for Women in Science Membership Report. Transforming STEM Leadership Culture. https://www.awis.org/wp-content/uploads/2019-Leadership-Report_FINAL_WEB.pdf

## Career Development Award (CDA) Administrative Supplement Concept

- P. Kay Lund, Ph.D., Division of Biomedical Research Workforce, OER

## First-Time Independent Research Project Grant (RPG) Administrative Supplement Concept

- Melissa Ghim, Ph.D., ORWH

## Achieving Gender Diversity (AGD): Inclusive and Sustainable Institutional Approaches

- Lynn Morin, M.A., ORWH

## RFI For Gender Diversity in the Biomedical Research Workforce Prize

- Teraya Donaldson, Ph.D., ORWH

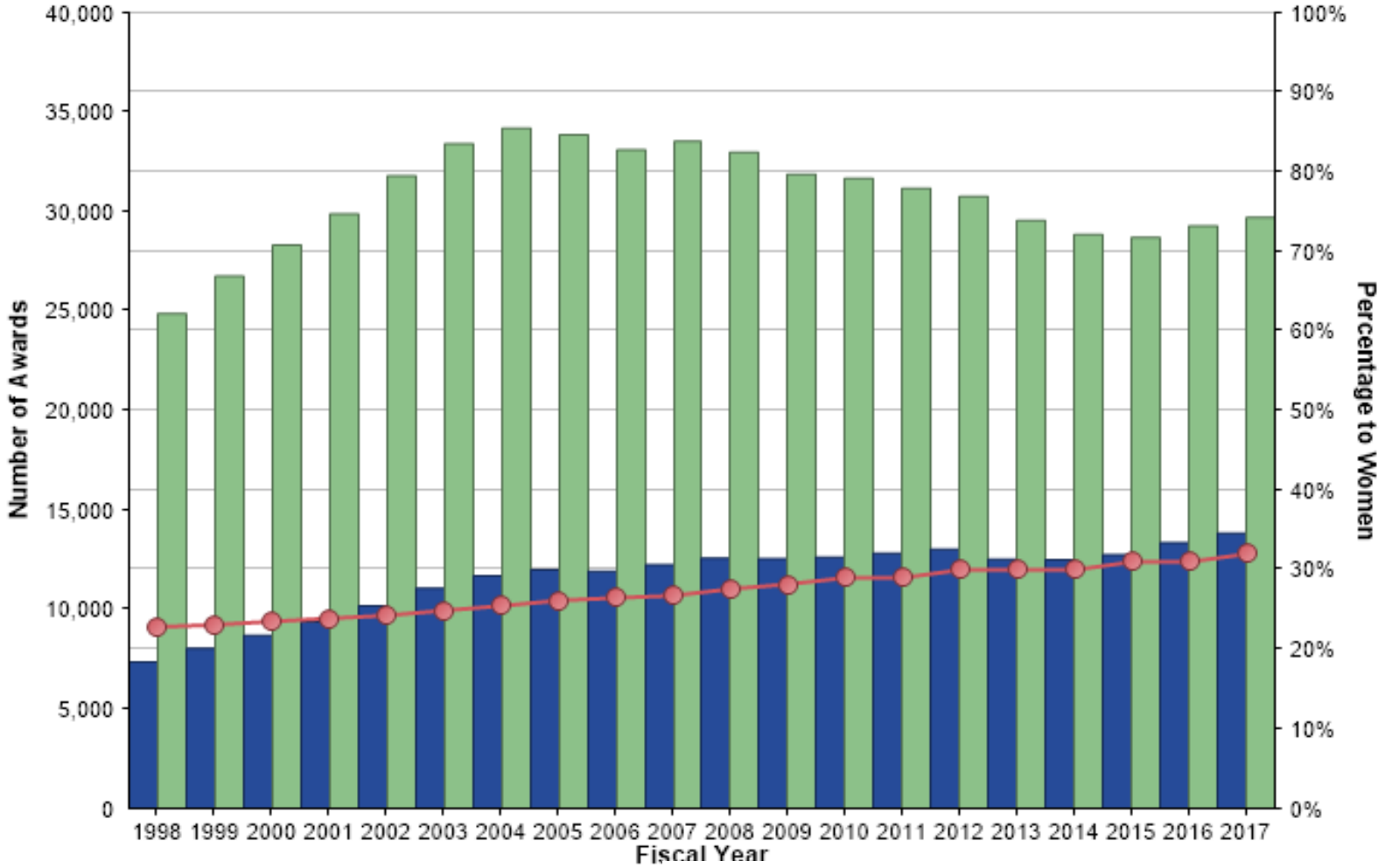

# NIH Supplements to Promote Research Continuity & Retention of NIH Mentored Career Development (K) Award Recipients

P. Kay Lund, Ph.D.
Shoshana Kahana, Ph.D.
Director Division of Biomedical Research Workforce

49th Meeting of the National Institutes of Health (NIH)
Advisory Committee on Research on Women's Health
October 23, 2019

National Institutes of Health
Office of Extramural Research

# Since 2005, women have represented 30-33% of the RPG funded workforce

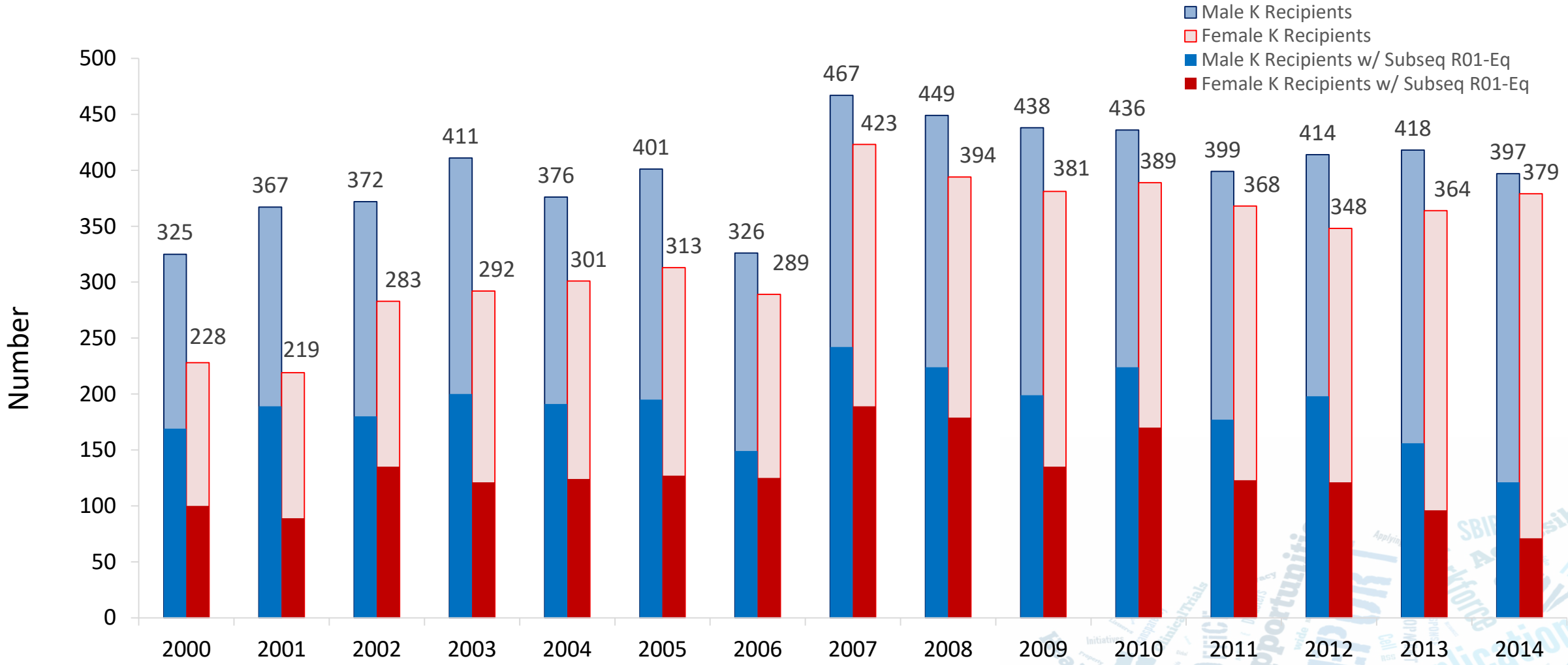



**At this same rate, attaining gender parity will take a *very* long time**

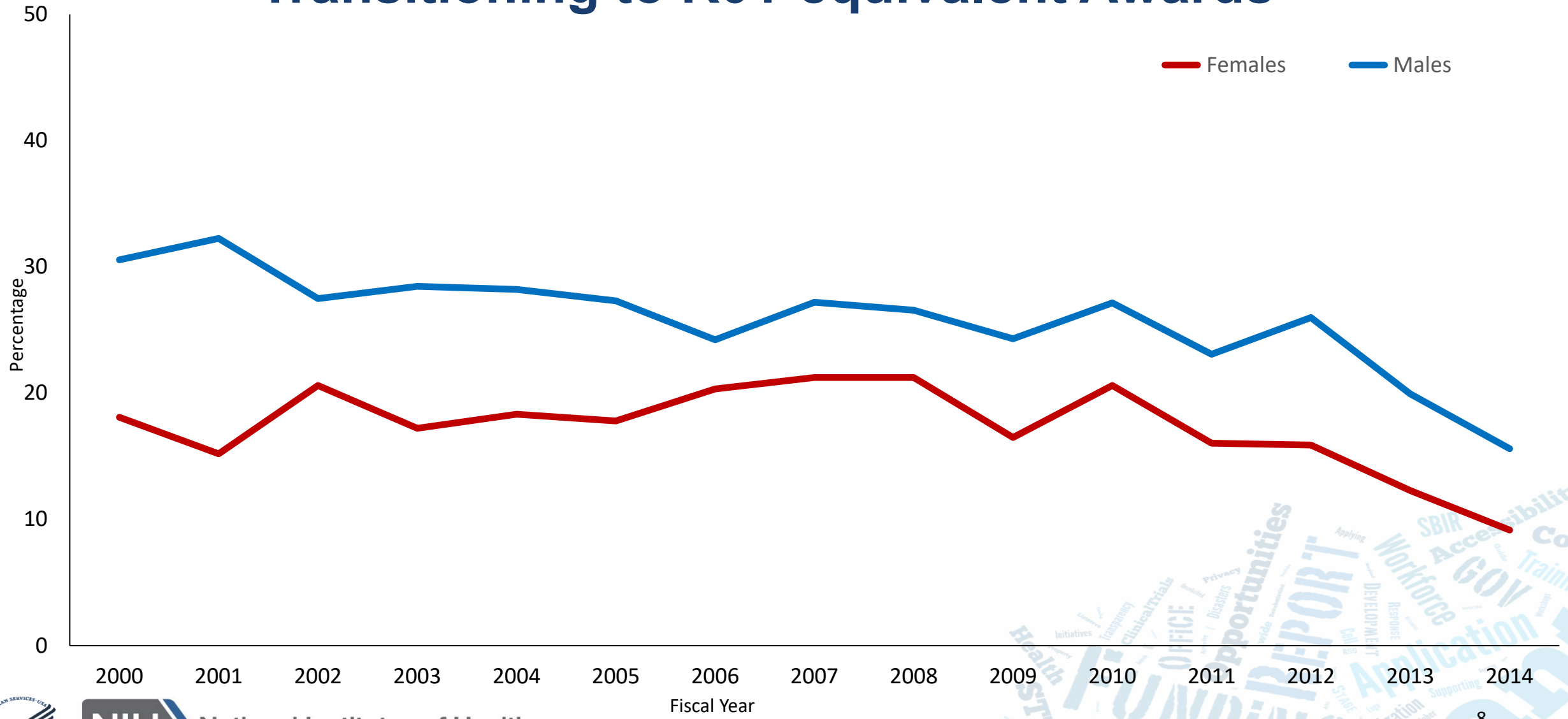
# K to R Transition Represents a Particularly Vulnerable Career Stage

- Women comprised just 31% of the (initial) NIH RPG pool from 1991-2010 (Hechtman, Moore, Schulkey, Miklos, Calcagno, Aragon, Greenberg: PNAS 2018 115 7943-48)
- Previous evaluations of K awardees found that male K awardees applied for & received subsequent NIH grants at higher rates than their female counterparts
- These data highlight the need to retain women in the NIH-funded workforce during critical transition periods (e.g., postdoc to faculty)
- Surveys of postdoctoral scientists indicate that family responsibilities are a major driver for women opting out of academic research

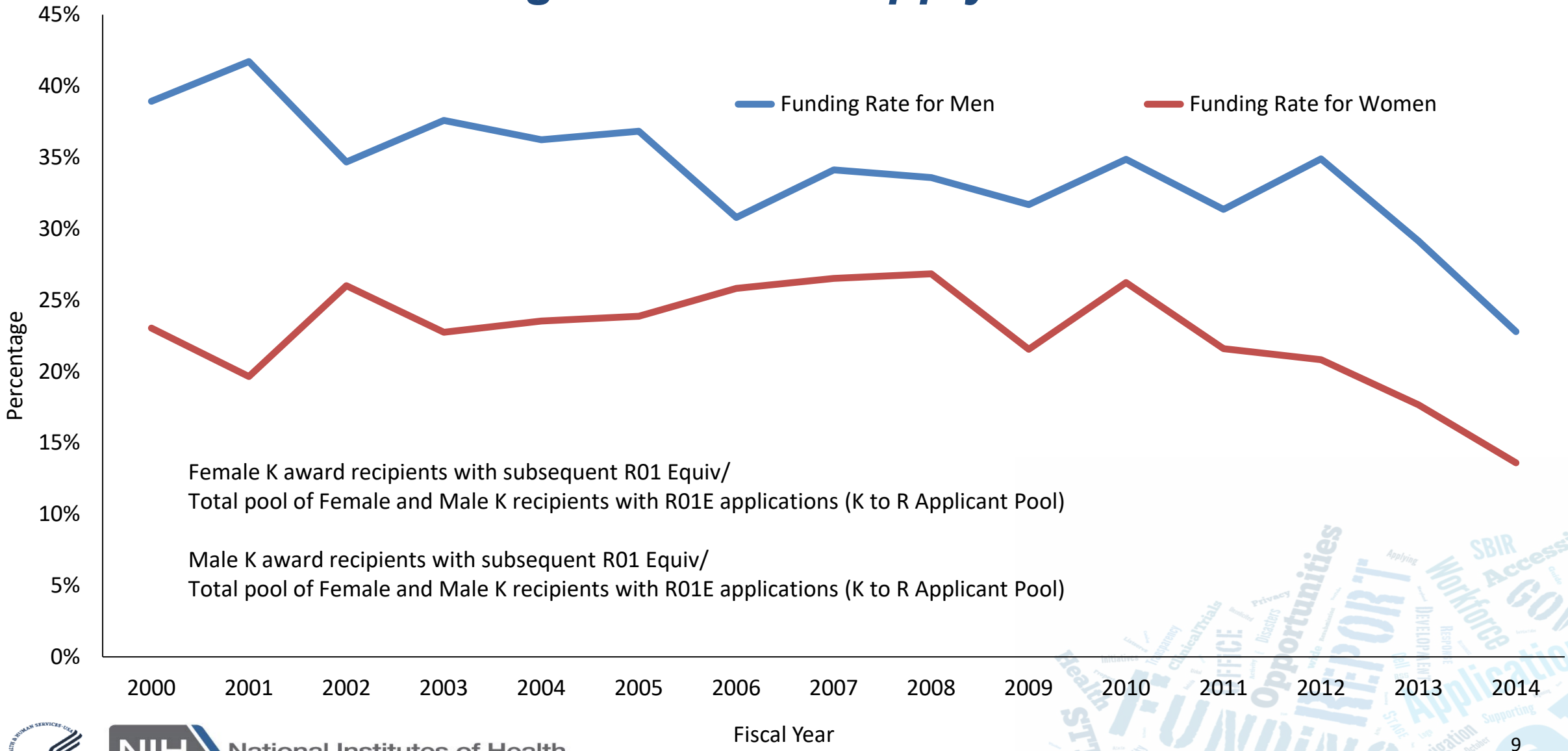
# Number of Male & Female K Award Recipients with Subsequent R01 Equivalent Awards



# Percentage of Male or Female K Award Recipients Transitioning to R01-equivalent Awards



# Funding Rate of PIs Transitioning from K to R01-equivalent Awards *Among Those Who Apply*: Male and Female



# NIH Supplements to Promote Research Continuity & Retention of Individual NIH Mentored Career Development (K) Award Recipients

- **Overarching goal**: to support transition & retention of investigators from mentored career development to research independence & to minimize departures from biomedical research workforce at critical junctures
- **Supplement program:** provides temporary **supplemental research support** to help sustain the investigator's research **during critical life events**
  - *For the purposes of this program, childbirth & primary caregiving responsibilities of young children or ailing relatives are circumstances that would qualify for consideration*
- **Supplement may be used to hire additional personnel:** to promote the continuity of the career development research project, during a period when the PD/PI experiences an issue which impacts progress or potential productivity
- **K awardees** who are late-stage post doctorates, instructors, early stage-tenure-track or non-tenure-track faculty & recipients of individual mentored K awards are encouraged to apply


Q&A

Concept

# New Administrative Supplement Program (Pilot)

## Continuity of Biomedical and Behavioral Research Among Recipients of First-Time NIH Independent Research Awards

**Objective:** to enhance the retention of investigators who are transitioning to the first renewal of their first independent research award and to provide additional support during critical life events to maintain/enhance continuity of research, productivity, and competitiveness for first renewal or 2nd independent research award

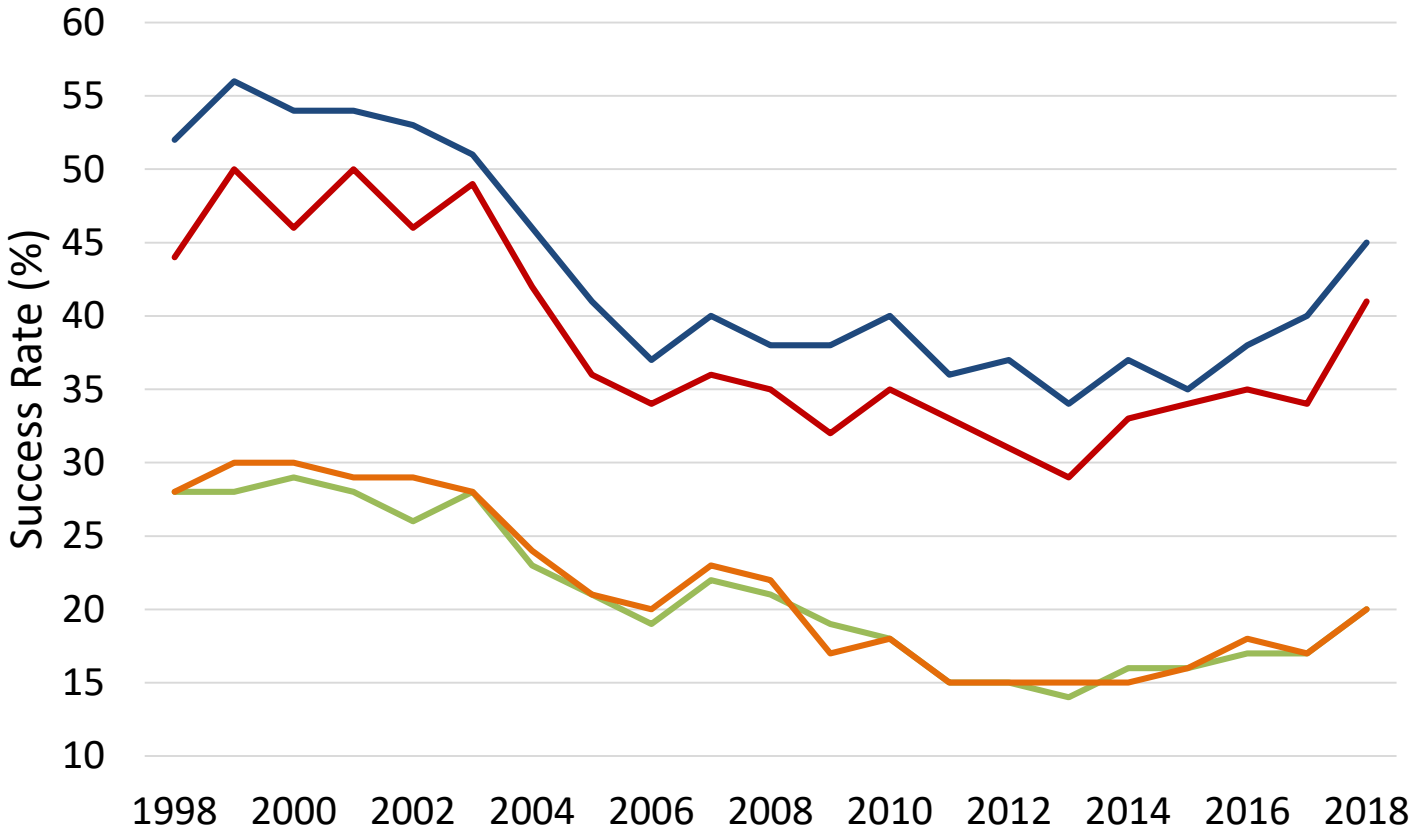
**Eligibility:** critical life event such as childbirth, adoption, or primary caregiving responsibilities

**Funds Available and Anticipated Number of Awards:** contingent upon NIH appropriations and the submission of applications

**Budget Period:** 1 year

**Council Action:** vote for support of the new "Continuity of Biomedical and Behavioral Research Among Recipients of First-Time NIH R01-Equivalent Awards"

# Vulnerable Career Stage for Women



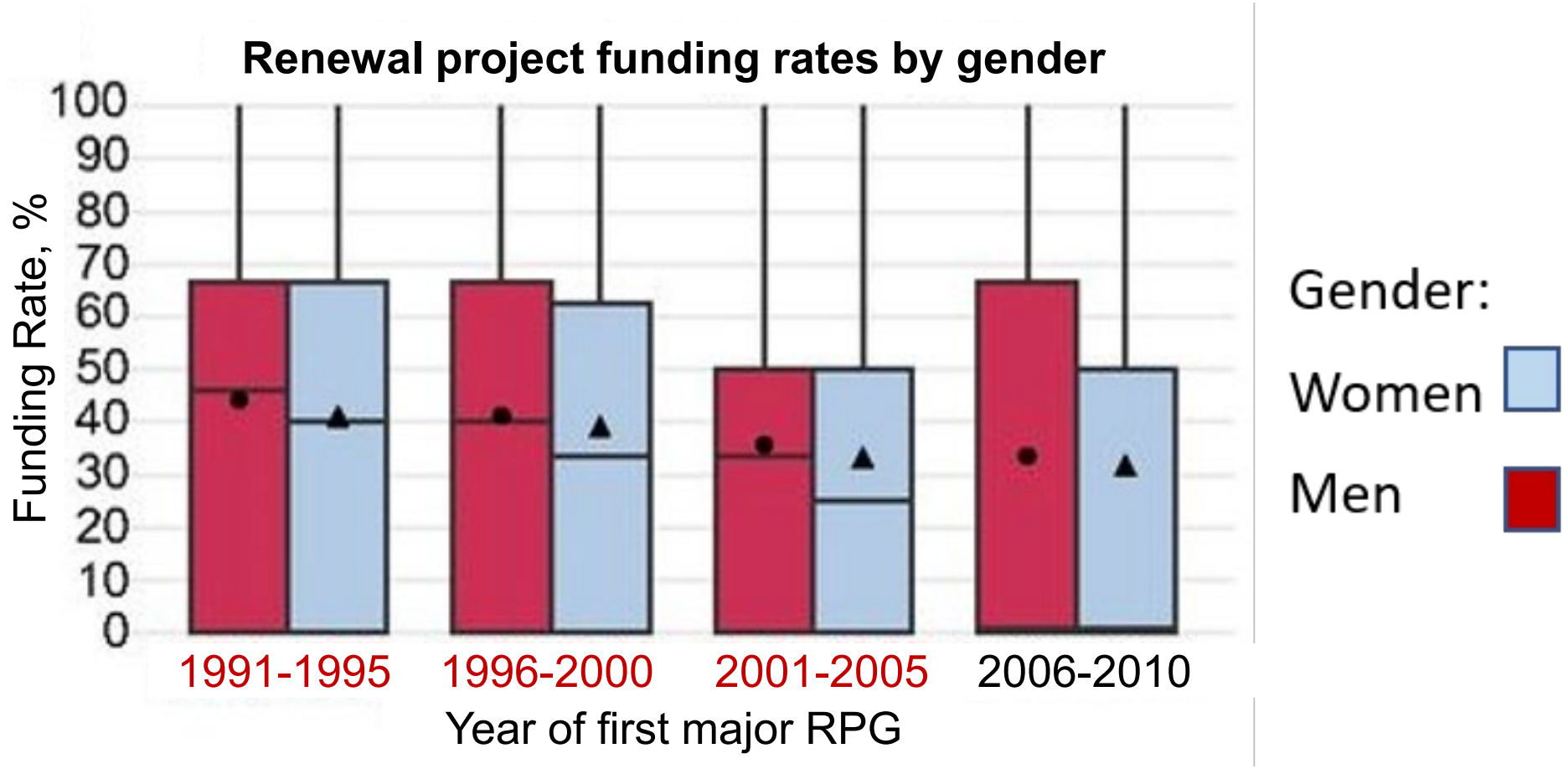

Renewal (Type 2) R01-Equivalent Success Rates: W M

New (Type 1) R01-Equivalent Success Rates: W M

Women individually hold fewer grants, submit fewer applications, and are less successful in renewing grants, making their research career trajectories less stable, especially during critical life events.

2018 NIH Data Book Report ID: 131

# Renewal funding rates vary by gender, but submission rate disparities between men & women are a stronger predictor of sustained funding




*Hechtman et al., PNAS 2018; 115:31:7943-7948*

PNAS

# Focused & unique effort to provide supplemental research support to investigators

**Anticipated broad impact** from use of R01-equivalent awards and other RPGs used to establish research independence

**Flexible use** of supplemental funds within the scope of the parent project, including **supported effort of additional scientific staff** to sustain the PD/PI's research during a critical life event.

Targets **"at-risk"** investigators.


Q&A

Concept

# Investigation, Adaptation, & Implementation of Evidence-Based Practices

## Achieving Gender Diversity (AGD): Inclusive and Sustainable Institutional Approaches

**Objective:** support institutional development of broad sustainable strategies to achieve change toward enhanced gender equity.

**Funds Available and Anticipated Number of Awards:** contingent upon the NIH appropriations and the number of applications submitted.

**Award Project Period:** 2-phase award for a total of up to 5 years

**Council Action:** vote for support for ORWH to work with ICs to implement the Funding Opportunity Announcement (FOA).

# Ultimate Goal: Retention and promotion of gender diversity

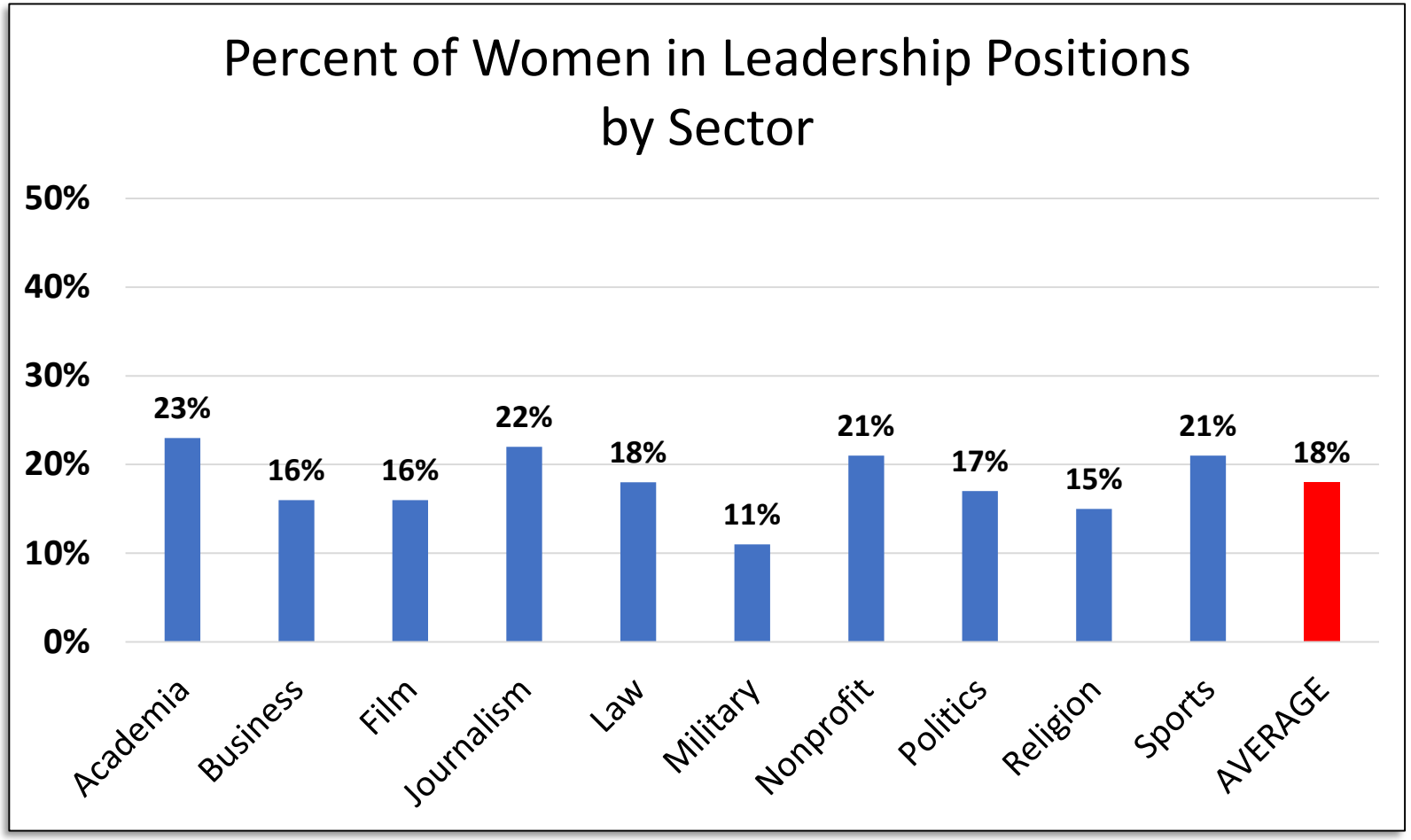

***Metrics:*** Improvement in policies and practices (e.g. hiring, advancement, retention) and extent of gender diversity

*Carr (2019) JGIM - https://link.springer.com/article/10.1007%2Fs11606-018-4547-y*

# Not Just a Pipeline Issue

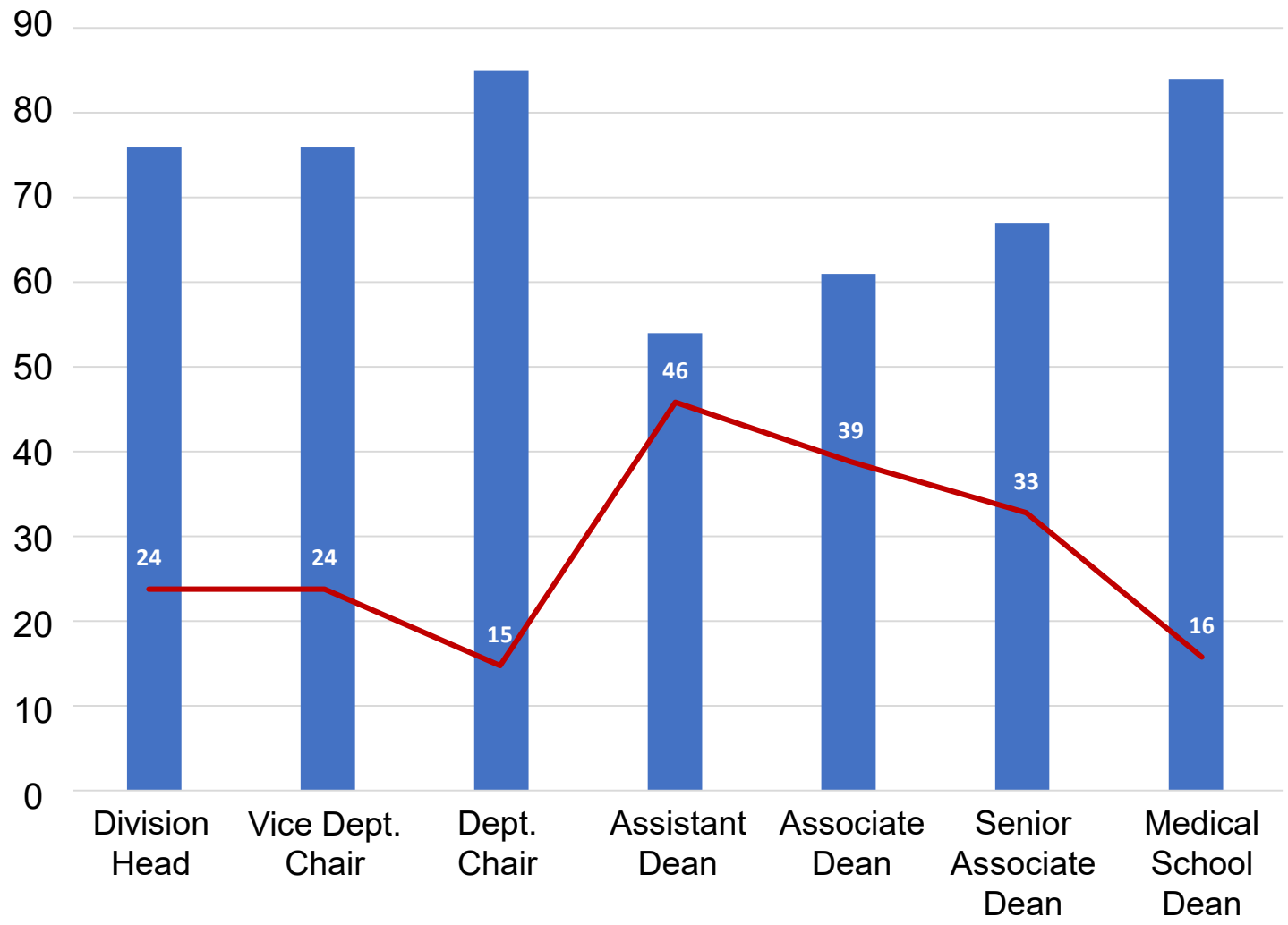
Women represent:

- 57% of all college students since 2009
- ≥ 50% of all bachelor's degrees since 1980
- > 50% of all master's degrees since 1987
- ≥ 50% of all doctoral degrees since 2006



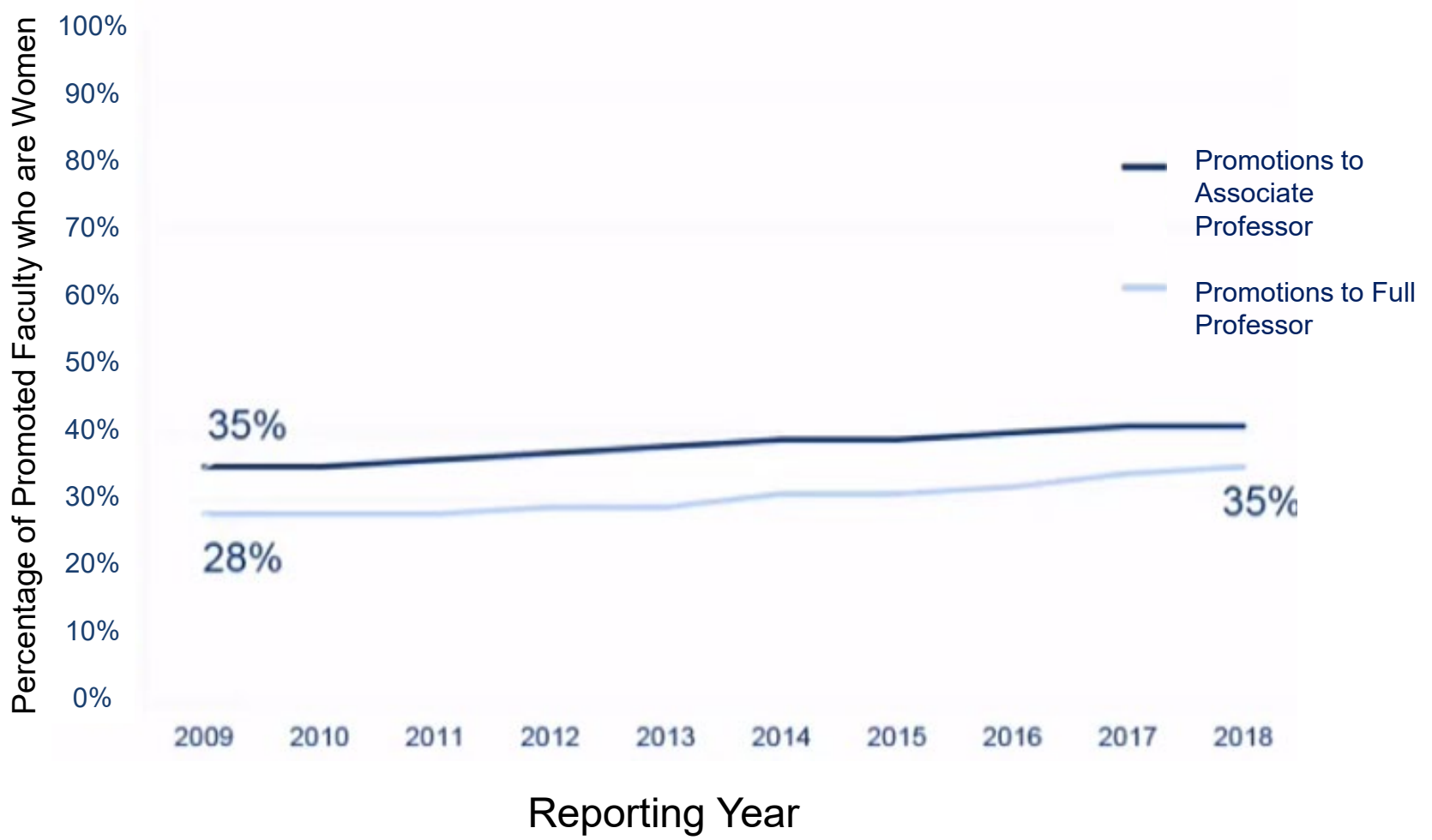

*The White House Project Report on Benchmarking Women's Leadership (2009)*

# Percentage of Leadership Positions Held by Women in U.S. Medical Schools (2013 – 2014)




*The State of Women in Academic Medicine: The Pipeline and Pathways to Leadership, 2015-2016.*

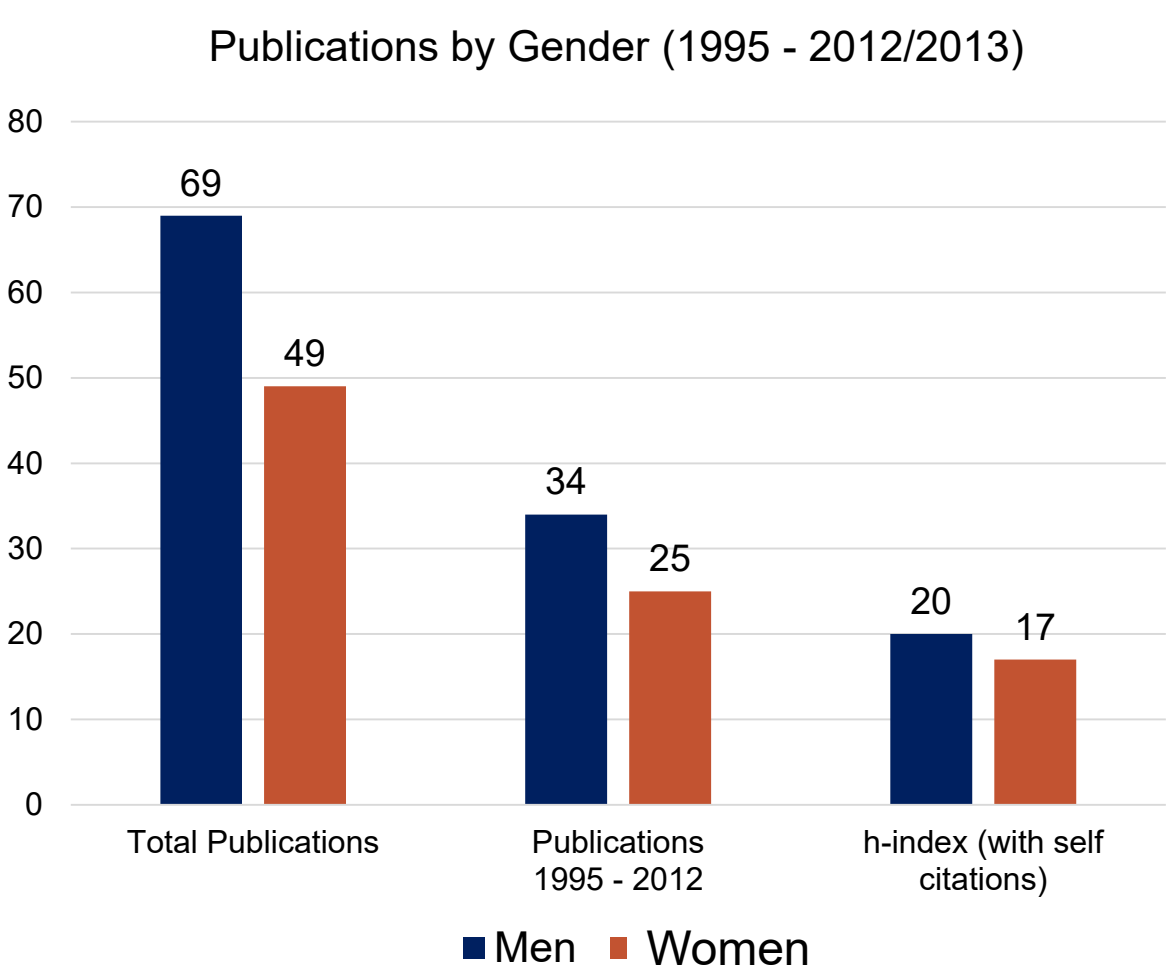
# Average Full-time Women Faculty Promotions by Rank Academic Years 2005 - 2006 through 2017 - 2018



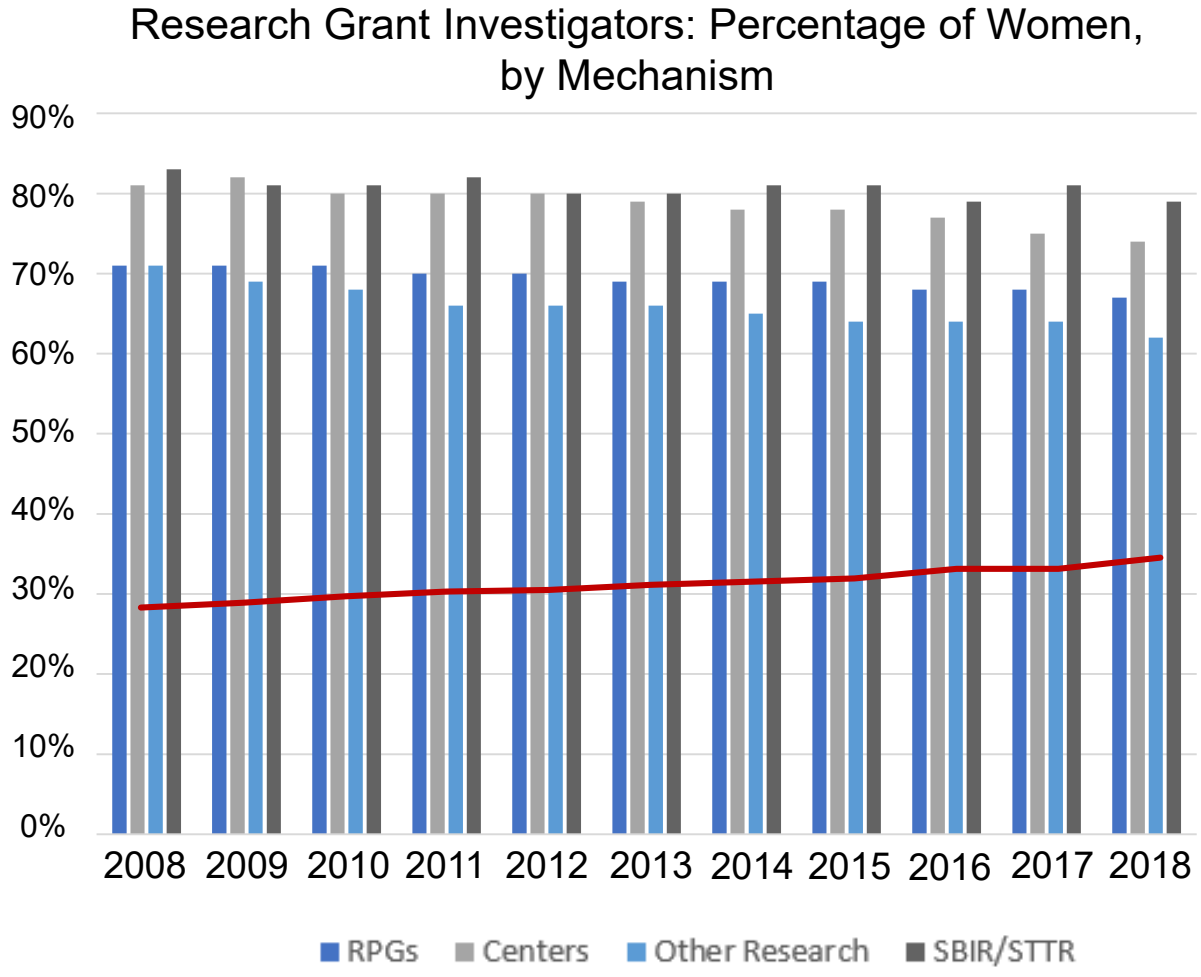
# Productivity, Stereotypes and Unconscious Bias

- Publications and grants
- Service work
- Gender-role stereotyping

# Publication Rates and Research Grants as a Factor

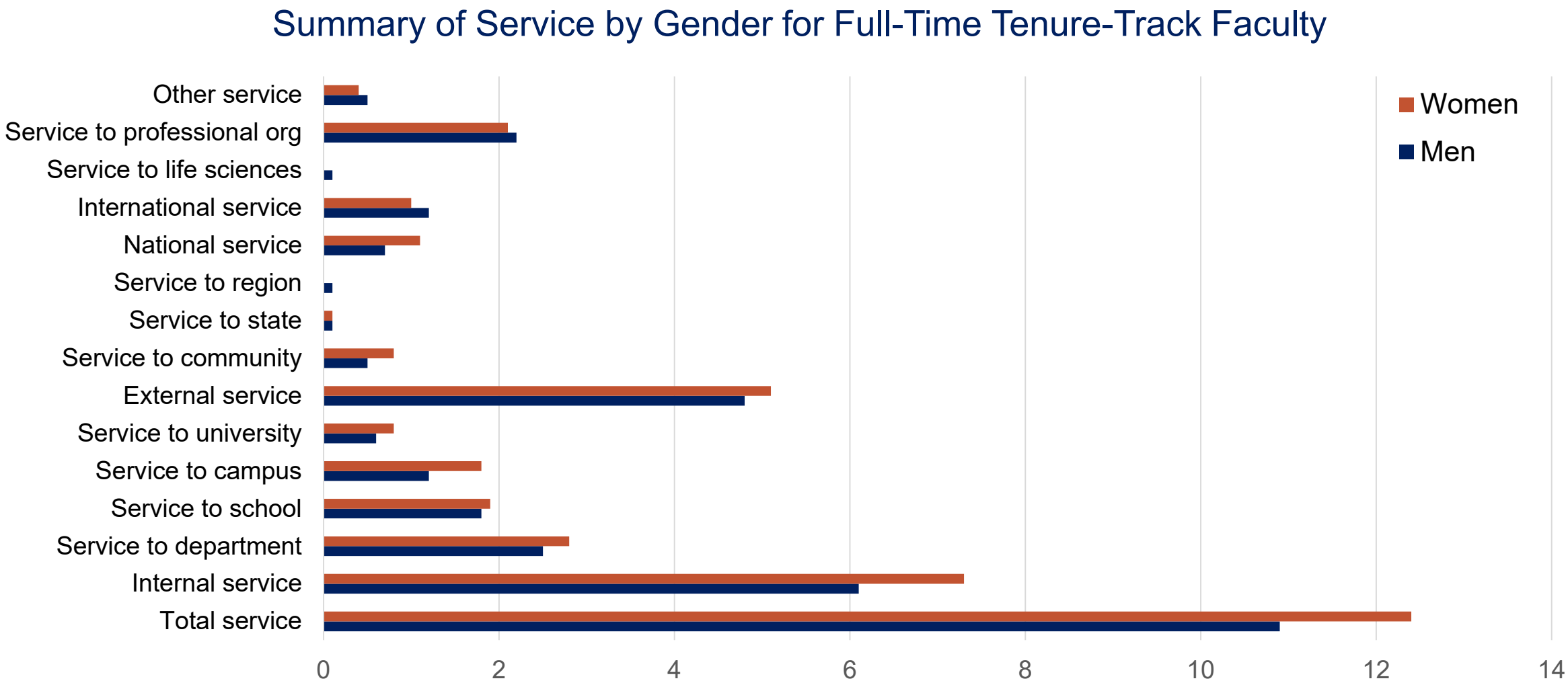



*Raj, A, et.al (2016). Acad Med. 91:1074-1079*




*NIH Databook, downloaded 9.26.2019 from* https://report.nih.gov/nihdatabook/

# Women are shouldering more of the service activities




*Guarino CM, Borden VMH. Faculty service loads and gender: Are women taking care of the academic family? Res High Educ. 2017;58:672–694.*

# Gender Role Stereotyping

Many institutions are reducing administrative staff, as technology has improved automation; however, much of the “service work” still falls on women, who tend to take on more administrative tasks.

*Bartel, S. (2018, December 19). Leadership barriers for women in higher education. BizEd: AACSB International. Retrieved from https://bized.aacsb.edu/articles/2018/12/leadership-barriers-for-women-in-higher-education*

# Multi-Level Approaches Required for Systemic & Sustainable Change


**Overarching goal**: Provide support for institutions to implement a multi-pronged, trans-institutional strategy to enhance faculty gender diversity in biomedical and behavioral disciplines.

- More and regular collection of data on the areas where barriers exist.
- Increasing the number and engagement of women in academic leadership positions.
- Equity in hiring, promotion and career development opportunities

# Thank you

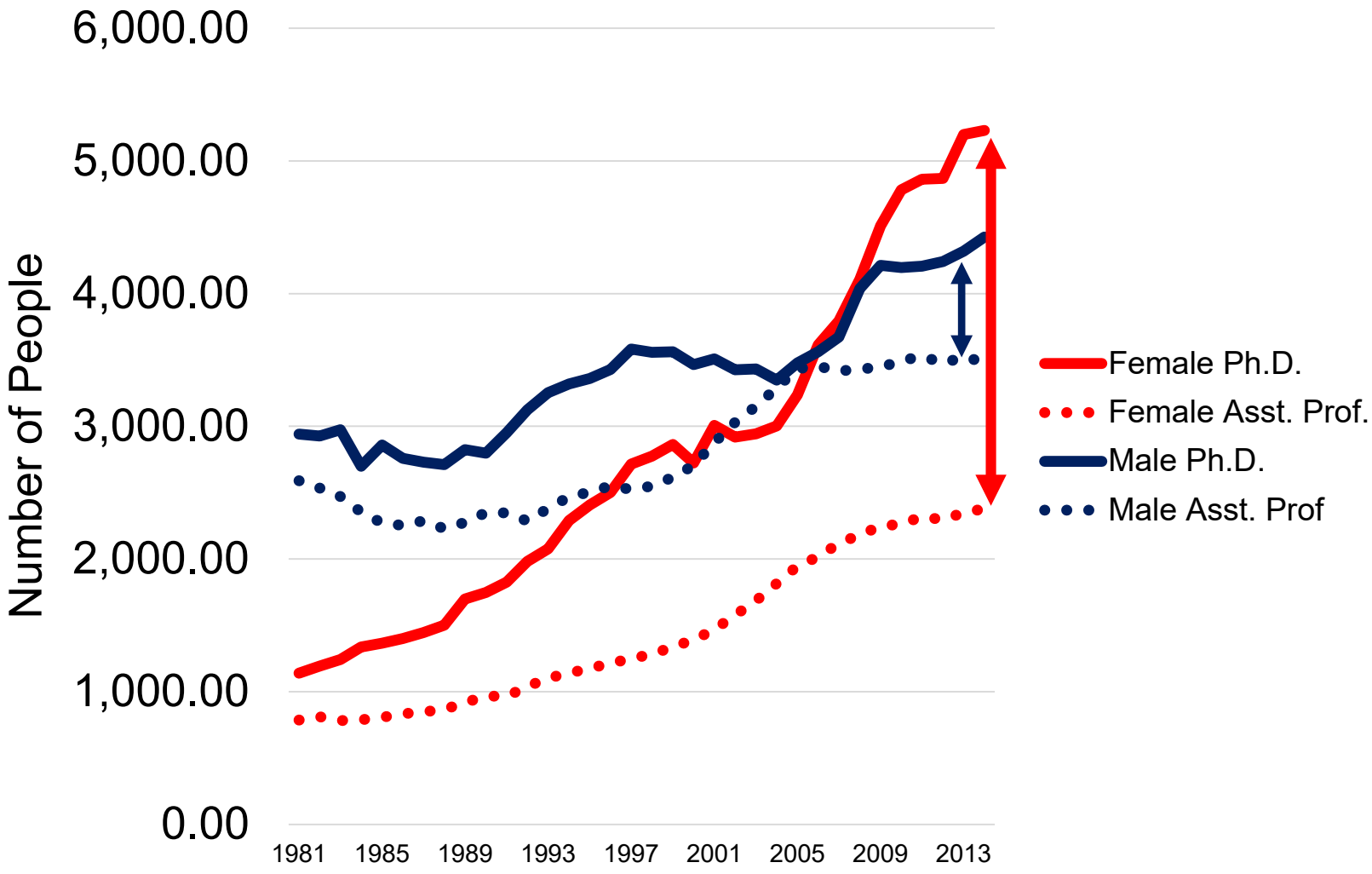
# Request for Information on Prize Competition (NOT-OD-19-141)

**Inviting comments and suggestions on the development of a prize competition for Diversity in the Biomedical Research Workforce**

**Objective:** To seek feedback on a proposed prize competition that aims to recognize institutions that have demonstrated commitment to systemically addressing faculty diversity and equity issues within the biomedical and behavioral science departments.

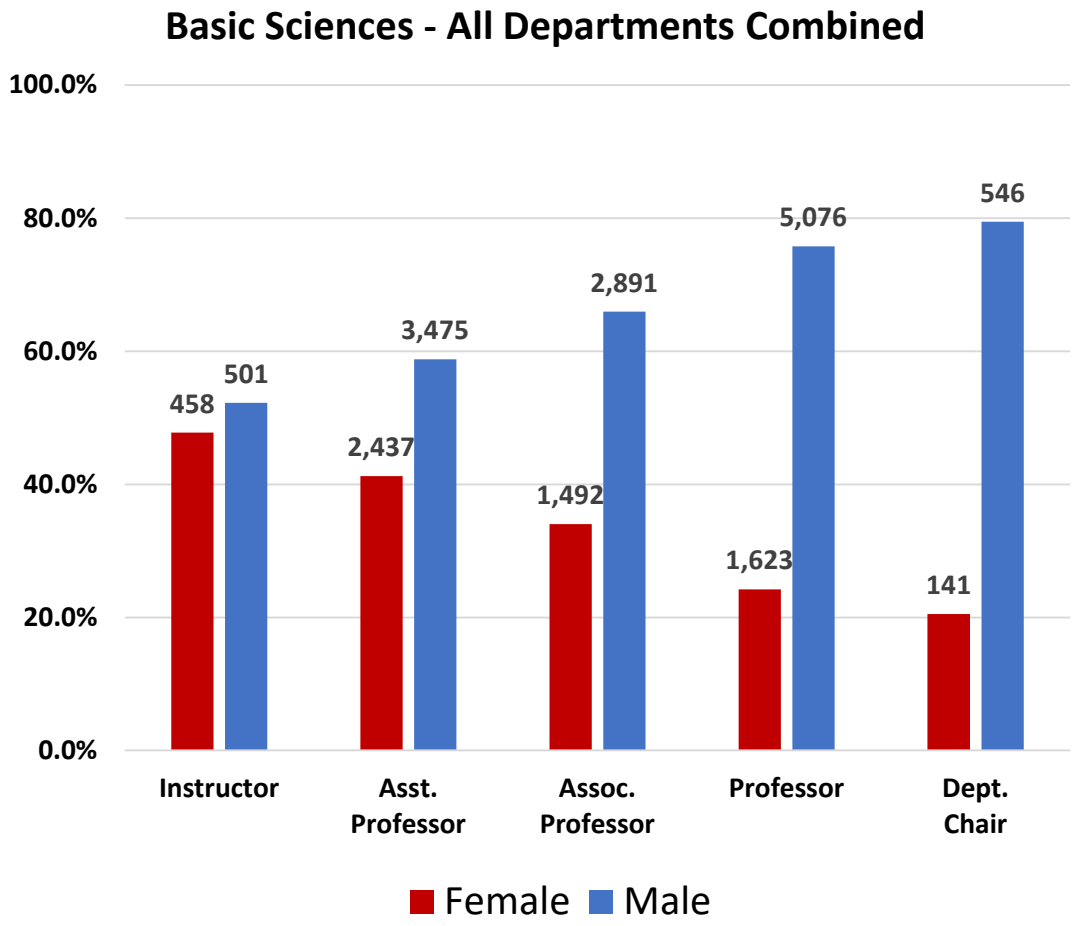
**Council Action:** **DISCUSSION** of the RFI for Diversity in the Biomedical Research Workforce

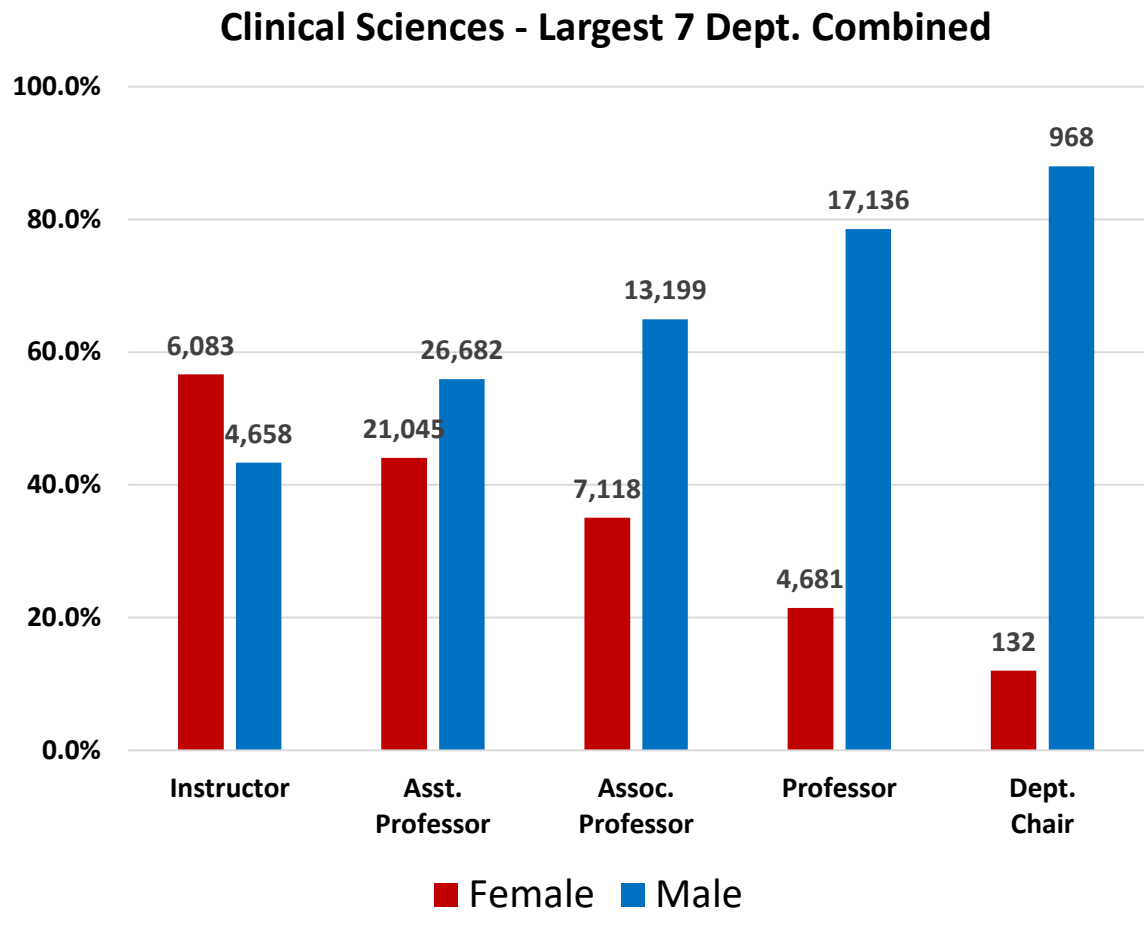
# Women Assistant Professors Lags Behind the Growth in Ph.D. Recipient Pool




Adapted from Gibbs, K. D., et al. (2016). *Decoupling the minority PhD talent pool and assistant professor hiring in the medical school basic science departments in the US*.

# Women in Senior & Leadership Positions Lag Behind Male Peers




Sources: AAMC, 2015 Faculty Roster Table 13; AAMC, The State of Women in Academic Medicine: The Pipeline and Pathways to Leadership, 2015-2016, Table 11

# Incentivizing Change: A Different Approach

By acknowledging transformative structures, systems, projects, and processes that have enhanced faculty gender equity and diversity within an institution, could this serve as an impetus for future change?

Additionally, what are the best practices for disseminating institutional approaches that have led to an environment conducive to the retention and advancement of women faculty in biomedical and biobehavioral disciplines in academic institutions?

Through an anticipated contest, the potential prize seeks to highlight practices that have created a more inclusive environment for faculty.

# America COMPETES Act 2010 – Prize Authority

Prize competitions are defined as being one or more of the following:

(1) A competition that rewards and spurs the development of a solution
(2) A competition that helps identify and promote a broad range of ideas
(3) Competitions that encourage participants to change their behavior or develop new skills during and after the competition
(4) Any other competition the head of an agency considers appropriate to stimulate innovation and advance the agency's mission.

**Why a Prize?**

- Establish an ambitious goal within a relatively short time frame without bearing high levels of risk and paying only for results
- Promote solutions for and draw awareness and attention to a need
- Establish clear success metrics and validation protocols that themselves become defining tools and standards for the subject or field

| | |
|---|---|
| Structure of the Prize Competition | • If this prize is judged on retrospective achievements in meeting gender diversity and equity goals, suggestions on when past interventions had to occur<br>➢Examples include: 5 years ago, 8 years ago, 10 years ago, other, etc. |
| Content | • Range of metrics that would be appropriate for different sizes and types of institutions or discipline/science focus |
| Judging Criteria | • Ways to measure the impact of increased faculty gender equity and diversity on the department, institution, research, etc. |
| Dissemination | • Ways to best disseminate approaches that have increased faculty diversity |
| Potential Barriers in Applying | • Major barriers that may impede applying for the prize competition. Comments may reflect considerations about what potential solutions, if any, may be available to overcome such barriers. |

# Recognition and Promotion of Interventions for Diversity in STEMM

**Recognition** of institutions employing practices that have led to the diversification of scientific workforce may encourage other institutions to implement interventions. **Promotion** of the effective approaches may provide models for institutions that are looking to increase **diversity of the STEMM workforce**.

# How to Submit a Response

Please submit responses and additional comments about the NOT-OD-19-141 RFI electronically to **ORWHPrize@od.nih.gov**


Q&A