



NIH Office of Research on Women's Health (ORWH)

Building Interdisciplinary Research Careers in Women's Health (BIRCWH Program)

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Building Interdisciplinary Research Careers in Women's Health

Concept Clearance: Reissue of RFA-OD-19-020, and RFA-OD-21-006

Title: Building Interdisciplinary Research Careers in Women's Health, (K12, Clinical Trial Optional)

Objective/Purpose:

- To invite institutional career development award applications to the BIRCWH program which is supported by the NIH Office of Research on Women's Health (ORWH) and its participating NIH institutes and centers.
- Each award will support the mentored research career development of junior faculty members known as BIRCWH Scholars.

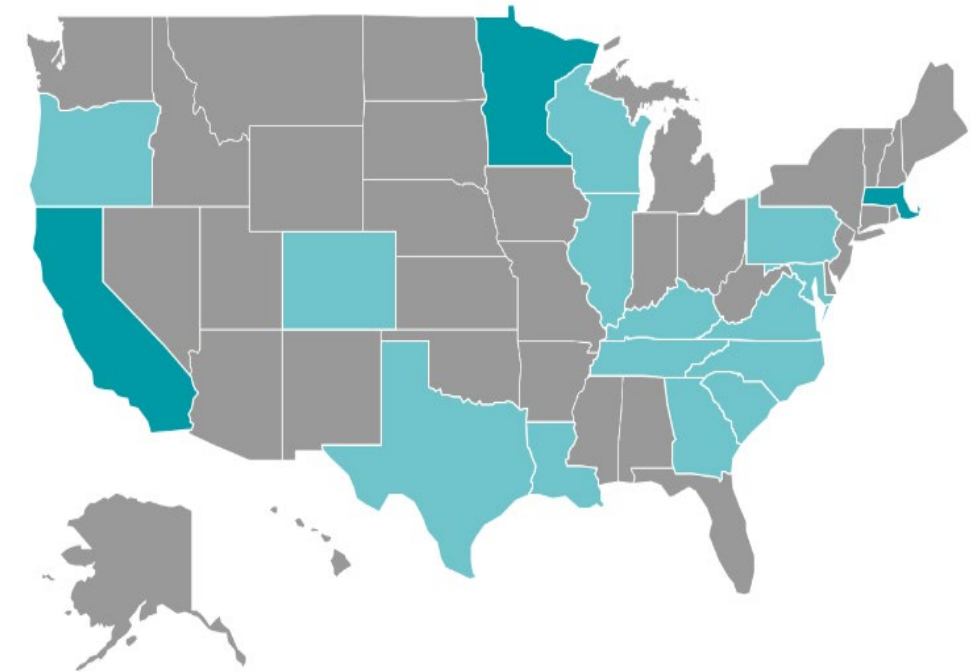
Funds Available and Anticipated Number of Awards: Contingent upon NIH appropriations, \$7.5 million for each application deadline (for FY 2025 and for FY 2027) to support up to a total of 20 meritorious BIRCWH awards across both RFA deadlines

Award Project Period: Five (5) years

Building Interdisciplinary Research Careers in Women's Health Program

- One of ORWH's main mission area is Careers/Career Development.
- The BIRCWH Program was created in FY99 with a special Congressional appropriation; two new appropriations in FY22 and FY23.
- First K12 grant awards were made in FY2000, and second RFA round in FY2002; re-issued every five years.
- There are 19 active BIRCWH awards – see map
- IC Cofunding can vary with each RFA re-issuance but currently includes NIAID, NIAAA, NICHD, NCI, and NIDA, with NIAMS and NIDA administering the grants.
- Twelve of 19 grantees have MPIs, and 14 of 19 have Physician PIs (solo or MPIs)
- More than 750 Scholars have completed the program, 88% have stayed in research, and 46% are Physician-Scientists
- Eighty percent of the Scholars are women and 20% are men

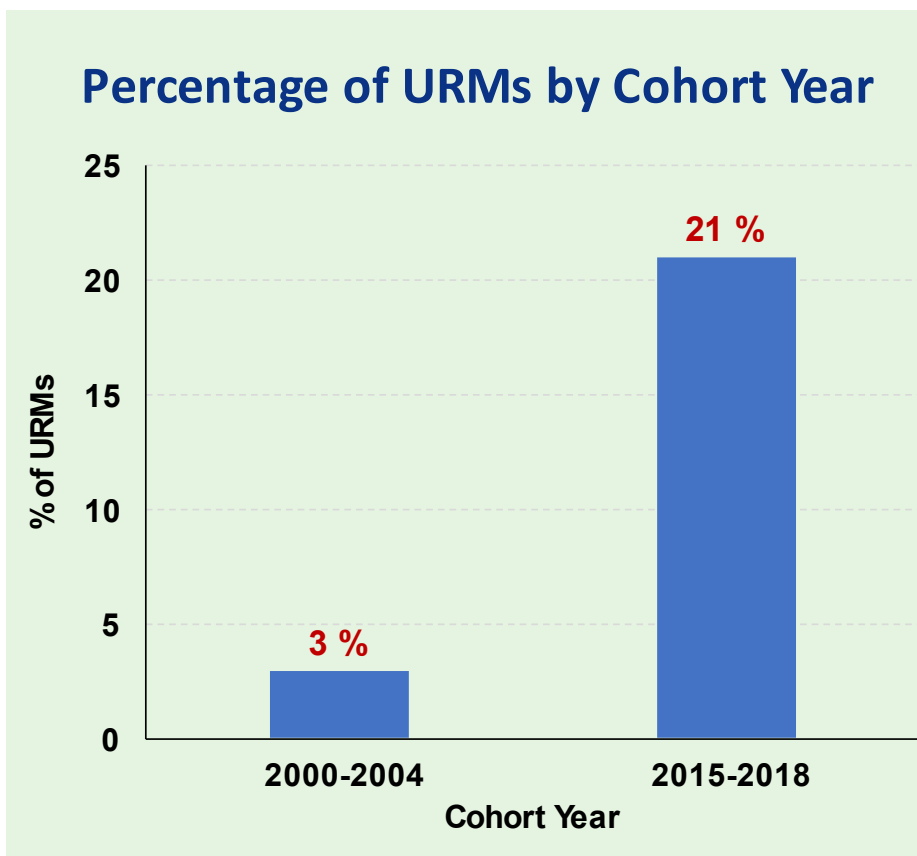
FY 2023 Active BIRCWH Programs



Map showing locations of active BIRCWH programs. Darker color indicates multiple programs located in a particular state.

Higher Numbers of Female and Underrepresented Minority (URM) BIRCWH Scholars Now

Number and Percentage of Scholars Who are Classified as URMs, by Gender



| | Female | Male | Total (%) |
|-----------|--------------|-------------|-----------------|
| Non-URM | 188 | 40 | 228 (86.69%) |
| URM | 33 | 2 | 35 (13.31%) |
| Total (%) | 221 (84.03%) | 42 (15.97%) | 263 * (100.00%) |

** Race/ethnicity information was missing for 19 scholars. Among those 19 were the 16 scholars who either did not report their gender or selected "Prefer Not to Say."*

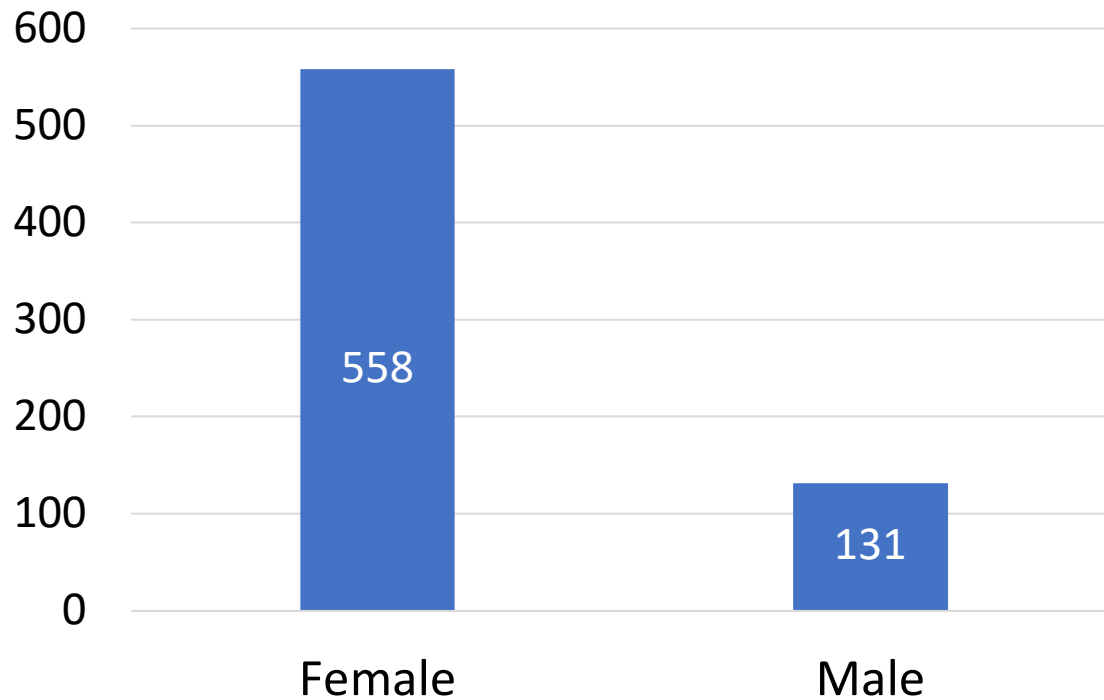
From a 2020 Evaluation of the BIRCWH Program (n=282 BIRCWH scholars surveyed)

Notice of NIH's Interest in Diversity: <https://grants.nih.gov/grants/guide/notice-files/NOT-OD-20-031.html>

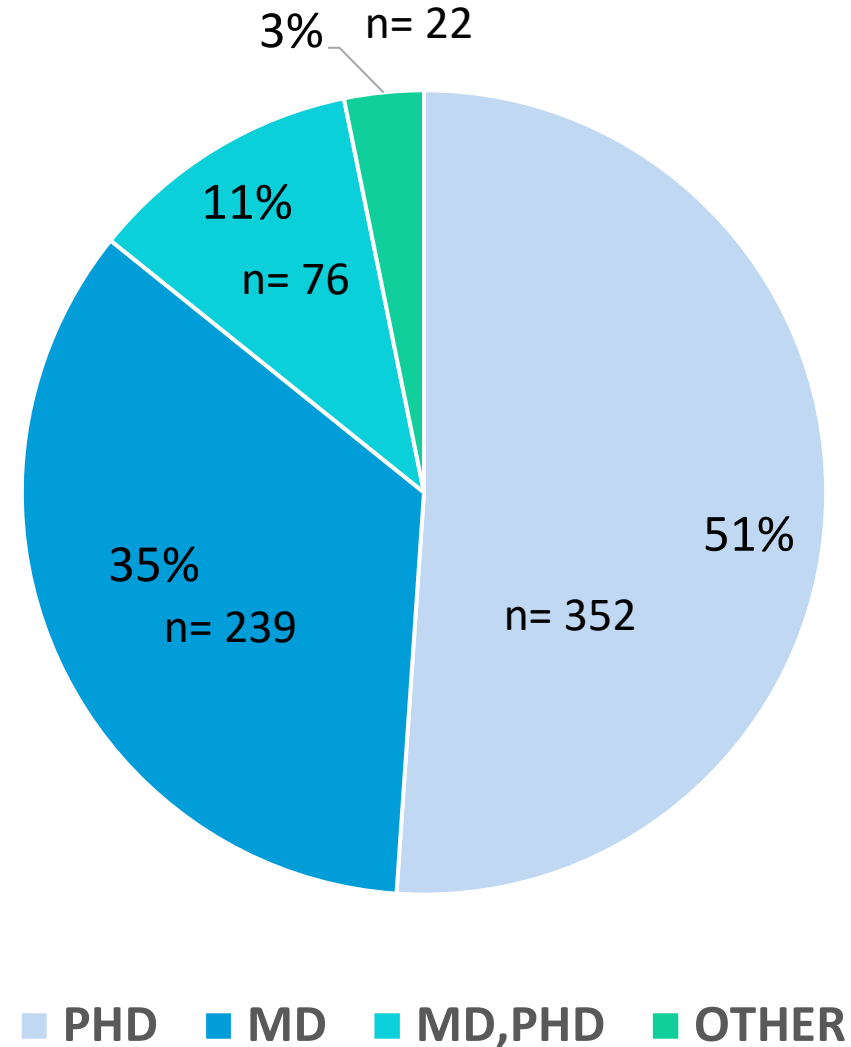


BIRCWH Demographics

80% of BIRCWH Scholars are Female Scholars



BIRCWH Scholar Primary Degrees (N=689)



From a 2022 ORWH Careers Analysis of the BIRCWH Program (n=689 BIRCWH scholars that started BIRCWH in years 2000-2019)



Careers of Scholars after BIRCWH

Analysis of BIRCWH Scholars Publications

From a 2022 ORWH Careers Analysis of the BIRCWH Scholars Publications (47 distinct grant numbers, 42 institutions n=4487 publications that tagged BIRCWH grant numbers; Data Cut off: 4/11/22)

| Parameter | Number (N=4487) | Percentage |
|---|--------------------|------------|
| Articles that addressed Women's Health topics | 3793 | 84.5% |
| Category addressed in the Framework for Chronic Debilitating Conditions in Women: * | | |
| Female Specific | 1398 | 31.2% |
| More common in women/Morbidity is greater for women | 1451 | 32.3% |
| Occurring in both sexes but potentially understudied in women | 913 | 20.3% |
| High morbidity for women | 1432 | 31.9% |

**Some papers are included in more than one category; results do not add up to 100%*

BIRCWH scholar publications has an average Relative Citation Ratio ('number of citations as compared to the average paper published with NIH support') of 1.88. This means that BIRCWH publications have almost twice as many citations per year as expected.

See: https://itools.od.nih.gov/icite/analysis?search_id=86a4suwi87jzsj3g
(for additional bibliometrics)

Careers of Scholars after BIRCWH

Analysis of NIH grant awards

From a 2022 ORWH Careers Analysis of the BIRCWH Program (n=689 BIRCWH scholars that started BIRCWH in years 2000-2019)

- **~70%** have applied for an RPG grant (some have not had time to do that yet)
- **40.2%** have received an RPG grant (some have not had time to do that yet)

Based on a survey conducted in 2019, about 88% of BIRCWH scholars have stayed in research



Harvard BIRCWH Innovation Project

- **Title:** Sex Differences in Major Depression: Impact of Prenatal Stress-Immune and Autonomic Dysregulation – *Building a Translational Workforce Innovation Network (TWIN)*
- **MPIs:** Jill M. Goldstein, Ph.D., Harvard University, and Stuart A. Tobet, Ph.D., Colorado State University
- This project will elevate the scientific mission of the SCORE and Career Enhancement Core by formulating a biomedical-science pipeline that infuses consideration of sex differences that are shared across the brain and body to create a SCORE Translational Workforce Innovation Network (TWIN) by building academic-industry (public-private) partnerships.
- TWIN will be a collaboration among the SCORE institutions: Massachusetts General Hospital-Harvard Medical School as the prime site, and Colorado State University and the University of Arizona, in Phoenix.

Team Science Leadership Scholar Program (LSP) in Women's Health, Autoimmune and Immune-Mediated Diseases (AMP-AIM)

- This is an innovative career development partnership between ORWH, NIAMS, and ODSS.
- The RFA receipt deadline was late February, scientific review was in May, and final selections were made in July.
- The LSP RFA program administration will be managed by the Oklahoma Medical Research Foundation, on behalf of AMP-AIM, and NIH.
- The awardees, all mid-career researchers, have been selected and their research will augment AMP-AIM with data sciences, machine learning, Pediatric populations, behavioral/social exposures, uveitis and lipidomics.
- The awards were formally made in September 2023, with two years of funding provided by ORWH, ODSS, and NIAMS.



For 2025: BIRCWH Evaluation

Building Interdisciplinary Research Careers in Women’s Health (BIRCWH) Program 25-year Evaluation Concept Note
Benjamin Johns, Mavreen Tuvilla

Primary research questions

| No. | Question | Expected results |
|------|--|---|
| PRQ1 | Was the BIRCWH program able to build a cadre of scientists pursuing women’s health research? | <ul style="list-style-type: none">• Engagement in scientific research• Publications related to women’s health• Qualitative analysis of career paths |
| PRQ2 | What are the other program outcomes of the BIRCWH program? | <ul style="list-style-type: none">• Publication impact (Relative citation ratio)• Funding (NIH) |
| PRQ3 | What do BIRCWH Scholars (past and current) and PIs see as the most valuable aspect of the program? | <ul style="list-style-type: none">• Likert scales of program domains• Ranking of program components• Qualitative assessment of program |

Target audiences

1. ACRWH: Provide guidance to the BIRCWH program and other programs designed to augment the women's health research workforce
2. NIH Staff: Make evidence-based suggestions on enriching the program and inform institutions that may wish to apply for BIRCWH program funding
3. Current and potential applicant institutions for BIRCWH: To inform their own programs and program designs
4. Other institutions that seek to advance early career investigators interested in women's health research: Apply the practices and lessons learned from the BIRCWH program to their own programs
5. General public, Congress, and other policy makers: Provide support to the BIRCWH program

Thank you, and Questions?