

# SABV Primer Preview

**Chyren Hunter, Ph.D.**  
Associate Director,  
Basic and Translational Programs

ACRWH Meeting  
November 2, 2020



**OFFICE OF RESEARCH  
ON WOMEN'S HEALTH**

*Advancing the Health of  
Women Through Science*

 /NIHORWH

 @NIH\_ORWH

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

**#ResearchForWomen**



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

## Career Development & Interprofessional Education



**New tab & updated educational resources**

Science for the Health of Women requires a well-trained, diverse, and robust workforce, which is the engine of progress. Building interdisciplinary research careers in women's health and training scientists, clinicians, and other professionals on sex and gender influences in health and disease will accelerate the translation of knowledge into health care for women. The development and effective implementation of innovative programs that attract, retain, and advance women in biomedical science careers will increase gender diversity in the biomedical research workforce at all levels, and coordinated efforts are needed to increase representation of women at the senior faculty and leadership



**Mentored Career Development**



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



**Re-Entry into Biomedical Research Careers**



**NIH Working Group on Women in Biomedical Careers**



**E-Learning**



**Videocasts & Webinars**



**Educational Resources**



### Career Development & Education

- ▶ **Mentored Career Development**
- ▶ **Building Interdisciplinary Research Careers in Women's Health (BIRCWH)**
  - Re-Entry into Biomedical Research Careers
- ▶ **NIH Working Group on Women in Biomedical Careers**
- ▶ **E-Learning**
  - Videocasts & Webinars
  - Educational Resources

### Related Resources

- **Achieving Gender Equity at Conferences**
- **Women in STEM Research: Better Data and Information Sharing Could Improve Oversight of Federal Grant-making and Title IX Compliance**
- **Civil Rights Protections in NIH-Supported Research, Programs, Conferences and Other Activities**
- **Fact Sheet: ORWH Career Development Initiatives**
- **Career Development & Mentoring Resources**
- **Women Scientists in Action**
- **Local Legends: Celebrating America's Local Women Physicians**



## E-Learning

New to the Course?

[Create ORWH Account](#)

Already Have an Account?

[Log In to Your Account](#)

The courses are open to the public, and registration is free.

### Bench to Bedside

*Bench to Bedside: Integrating Sex and Gender to Improve Human Health* was developed in partnership with the Food and Drug Administration (FDA) Office of Women's Health (OWH). This online course gives users a thorough and up-to-date understanding of sex and gender influences on health and disease so users can apply this knowledge when conducting research and interpreting evidence for clinical practice. Course material showcases examples from basic science through clinical trials and translation into practice to ensure participants understand the importance of considering the influence of sex and gender throughout the research spectrum and beyond. The course focuses on key health conditions on which sex and gender have an impact. Three modules—Immunology, Cardiovascular disease, and Pulmonary disease—are currently available. Three additional modules—Neurology, Endocrinology, and Mental Health—will be released later this year.

[Visit the course page for Bench to Bedside: Integrating Sex and Gender to Improve Human Health](#)

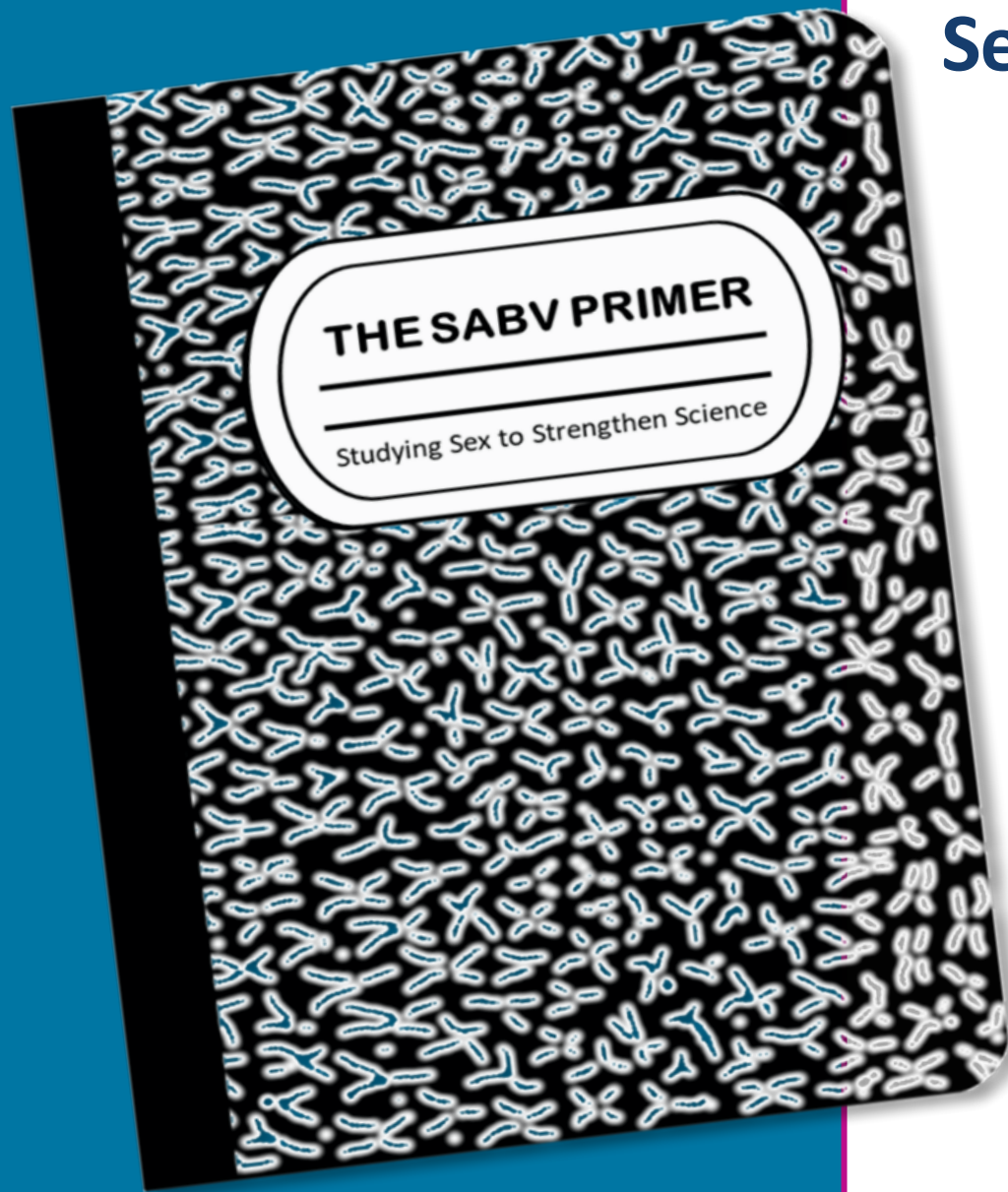
### Sex as a Biological Variable: A Primer

Sex as a biological variable (SABV) is a key focus of the NIH initiative to enhance reproducibility through rigor and transparency. NIH expects that SABV will be factored into research designs, analyses, and reporting in vertebrate animal and human studies. SABV: A Primer includes four interactive modules that will walk you through how to consider SABV in all stages of the biomedical

**AVAILABLE  
NOV 2020!**

- **Bench to Bedside: Integrating Sex and Gender to Improve Human Health**
- **Sex as a Biological Variable: A Primer**
- **Introduction to the Scientific Basis of Sex- and Gender-Related Differences**

<https://orwh.od.nih.gov/career-development-education/e-learning>



## Sex as a Biological Variable (SABV) Primer

PARTNERSHIP\*



- **Clarify the SABV policy**
  - what is required and what is not
- **Create better buy-in and compliance**
  - myth-busting
  - address perceived challenges
- **Help investigators better apply the policy to their research**
  - research design /analysis /reporting
  - basic /pre-clinical /clinical /population health

\* In Partnership with NIH/NIGMS

Rebecca DelCarmen-Wiggins Ph.D, & Elena Gorodetsky M.D., Ph.D

# NIH Sex as a Biological Variable (SABV)\* Primer

## Module 1: SABV and the Health of Women and Men



## Module 2: SABV and Experimental Design



## Module 3: SABV and Analyses



## Module 4: SABV and Research Reporting



**Includes knowledge checks, complete reference lists, and a companion instructor guide**

# Sex as a Biological Variable: A Primer



## Welcome to the SABV Primer

This course was developed by the National Institutes of Health (NIH) Office of Research on Women's Health (ORWH), with funding support from the National Institute of General Medical Sciences. [Click here](#) for information on course authors, reviewers, and leadership.

The course consists of four independent, interactive modules that are designed to help the biomedical research community—including researchers, NIH grant applicants, and peer reviewers—account for and appropriately integrate SABV across the full spectrum of biomedical sciences. The NIH SABV policy originated in a notice titled “Consideration of Sex as a Biological Variable in NIH-funded Research.” It summarizes NIH’s expectation that SABV will be factored into research designs, analyses, and reporting in vertebrate animal and human studies.

- Module 1: SABV and the Health of Women and Men
- Module 2: SABV and Experimental Design
- Module 3: SABV and Analysis
- Module 4: SABV and Research Reporting

OMB # 0925-XXXX  
Expiration Date: XX/XXXX  
[Public reporting burden statement](#)

## Career Development & Education

- ▶ Mentored Career Development
- ▶ Building Interdisciplinary Research Careers in Women's Health (BIRCWH)
- ▶ Re-Entry into Biomedical Research Careers
- ▶ NIH Working Group on Women in Biomedical Careers
- ▶ Women of Color Research Network

### ▼ E-Learning

Bench to Bedside: Integrating Sex and Gender to Improve Human Health [Courses](#)

[Sex as a Biological Variable: A Primer](#)

# SABV Primer Preview

**Chyren Hunter, Ph.D.**  
Associate Director,  
Basic and Translational Programs

ACRWH Meeting  
November 2, 2020



**OFFICE OF RESEARCH  
ON WOMEN'S HEALTH**

*Advancing the Health of  
Women Through Science*

 /NIHORWH

 @NIH\_ORWH

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

[#ResearchForWomen](https://twitter.com/ResearchForWomen)



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



Select items on the checklist to gain insights on completing these tasks. The first one has been selected for you.

### SABV Checklist

- 1. Consider the influence of sex when formulating research questions
- 2. Review available literature for the influence of sex
- 3. Account for the influence of sex in study design
- 4. Incorporate both males and females
- 5. Alternatively, articulate a strong justification for a single-sex study
- 6. Collect, analyze data, and report data disaggregated by sex
- 7. Characterize the influence of sex in the interpretation of results
- 8. Communicate appropriately generalized research findings

#### 1. Consider the influence of sex when formulating research questions

When formulating research questions, it is important to consider the influence of sex because sex can potentially affect a disease process by means of differences in chromosomal complement, gene expression, hormones, organ systems, and other physiological processes.

Sex can also affect disease presentation. Sex-skewed disease prevalence may suggest underlying sex-based influences on physiological or pathological processes. Asking the right questions about the influence of sex can lead not only to a better understanding of biological differences, but also to better or more appropriate treatments.


[Clayton & White, 2017](#)





### Exercise for Reporting SABV

In each of the following examples, please use the red pen to identify the guidelines appropriate for scientific publishing on SABV.




**Management of Coronary Artery Disease in Males and Females**

Scientific publishing is the major way that biomedical researchers make their ideas, methods, and results transparent.

Scientific publications have focused on how to improve the reporting of sex in articles. In addition, guidance is available to help researchers, journal editors, and peer reviewers do their part to improve the reporting of sex information in manuscripts submitted for publication.

Select the most appropriate comment for the example provided.

- Correct usage of sex and gender terminology.*
- Good specification of sex in the title.*
- Appropriate indication of whether sex differences are expected.*
- Effective review of the implications of sex on the study results.*
- Appropriate data analysis by sex.*
- Sufficient description of how you took sex into account in the research design.*

Submit 



## OFFICE OF RESEARCH ON WOMEN'S HEALTH

*Advancing the Health of  
Women Through Science*

SAVE THE DATE!

Dec. 14, 2020

BIRCWH Annual Meeting, 20<sup>th</sup> Anniversary | Virtual

Dec. 15, 2020

ORWH 30<sup>th</sup> Anniversary Symposium | Virtual

Dec. 16-17, 2020

SCORE Annual Meeting | Virtual

## Connect With Us

 @JanineClaytonMD    [NIH.gov/women](https://www.nih.gov/women)

 @NIH\_ORWH     NIHORWH

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

1. Go to the ORWH Stage Environment  
<https://orwh-stage.cit.nih.gov/>
2. The ORWH E-Learning Course (<https://orwh-stage.cit.nih.gov/career-development-education/e-learning>) are found under the “Career Development & Education” section of the main navigation