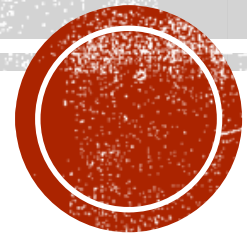


**HALF RIGHT CAN'T BE THE ANSWER:  
HOW CAN WE IMPROVE THE SCIENCE, PRACTICE AND  
POLICY THAT INFLUENCES WOMEN'S HEALTH?**

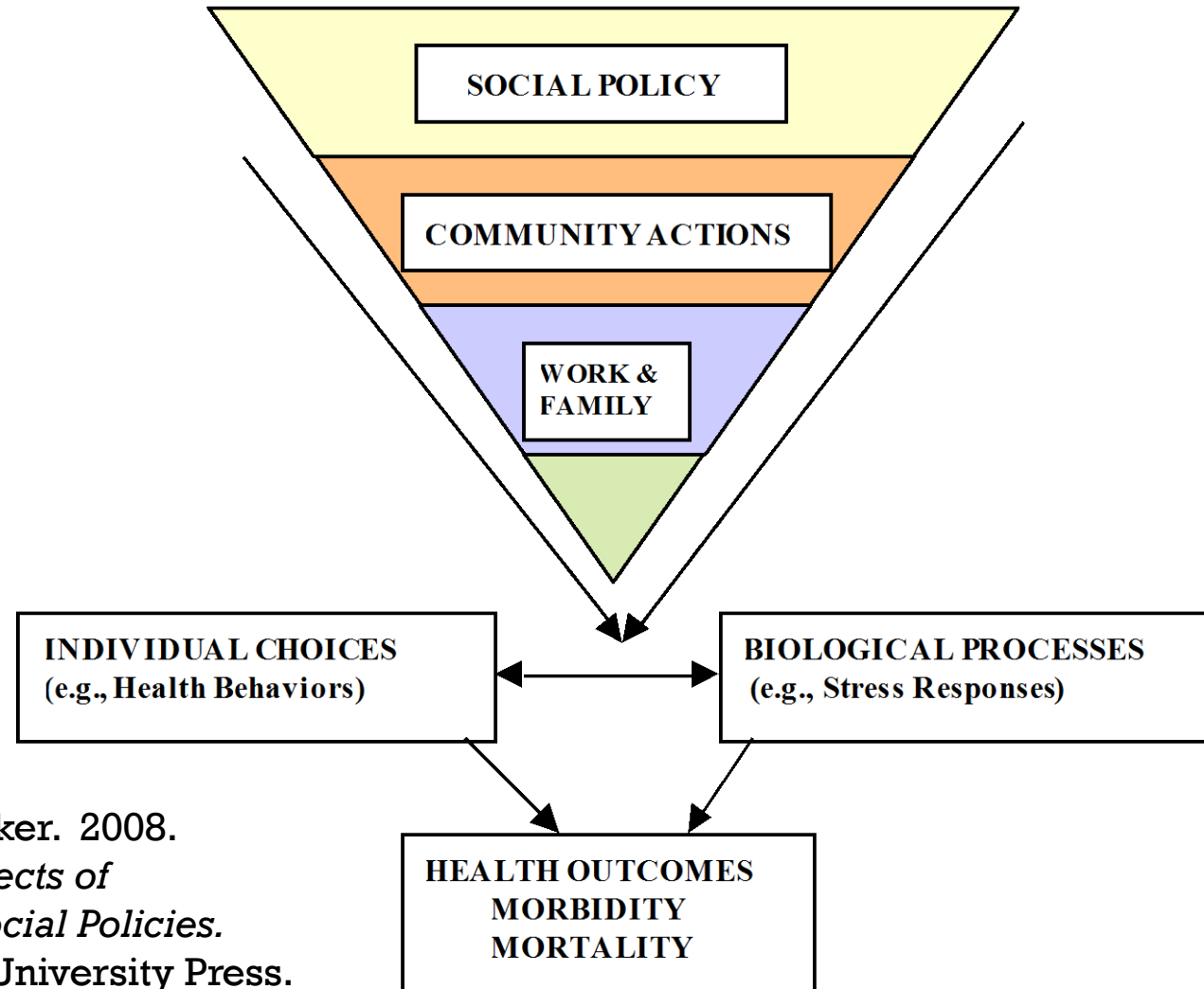
**Chloe E. Bird, PhD, FAAAS, FAAHB**

**March 7, 2018**

**National Academies of Science**



# CONSTRAINED CHOICE



Chloe Bird and Patricia Rieker. 2008.  
*Gender and Health: The Effects of  
Constrained Choices and Social Policies.*  
New York, NY: Cambridge University Press.



# OUR CHARGE FOR TODAY

- To support the development of scientific knowledge and foster a critical understanding around multilevel approaches to researching women's health issues across the life course to improve the mental health of diverse populations of women.

Perhaps more to the point:

- What can we do as researchers to close the gaps?



# THE GOOD NEWS

Addressing the gaps involves improving research on mental health, needs assessment and evaluation will inform:

- Understanding of mental health and mental illnesses in women/girls
- Analyses of mechanisms in women and girls
- Identification of barriers to diagnosis, treatment, and positive outcomes in women/girls

All of which require the same basic approach.



- Better population samples make better science
- Sex/gender based-analysis makes better science
- Half right can't be the answer



# NO ONE PLANNED TO KNOW LESS ABOUT THE HEALTH OF WOMEN

- For experimental research, population samples were too complicated
  - Results in females weren't the same as in males
  - Differences were assumed to be attributable to hormones
- For research on humans, there was a struggle over whether physicians or scientists would define effective medical practice
  - The physicians won, but we subsequently had DES and Thalidomide
  - The need for evaluation of whether new medical interventions were safe and effective was established
  - It was resolved never to let that happen again
  - Women were excluded from trials because they might become pregnant, and were classified with children and those deemed mentally incapable of informed consent





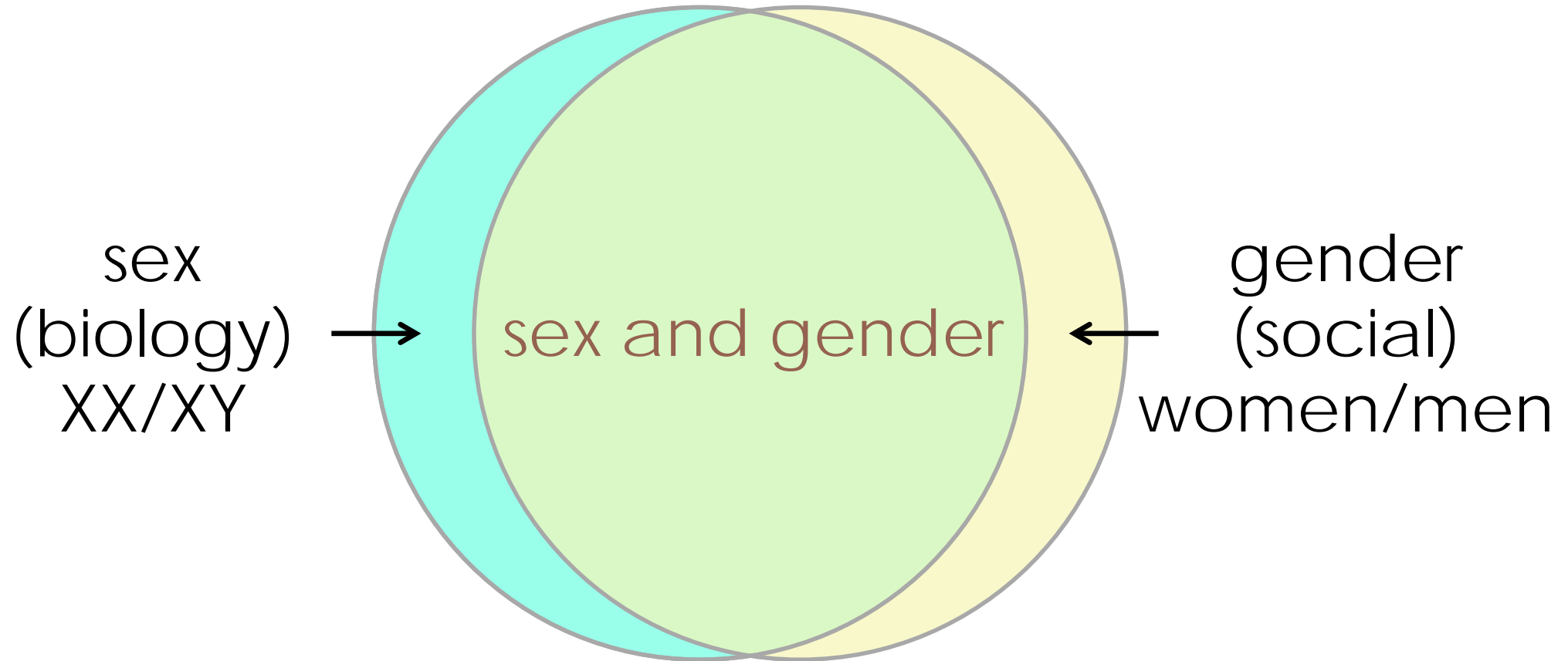
# STEPS TO IMPROVE SCIENCE, PRACTICE AND POLICY

- Improve our conceptual models of sex and gender influences on health and disease
- Recognize what we do and don't know
- Asking better questions

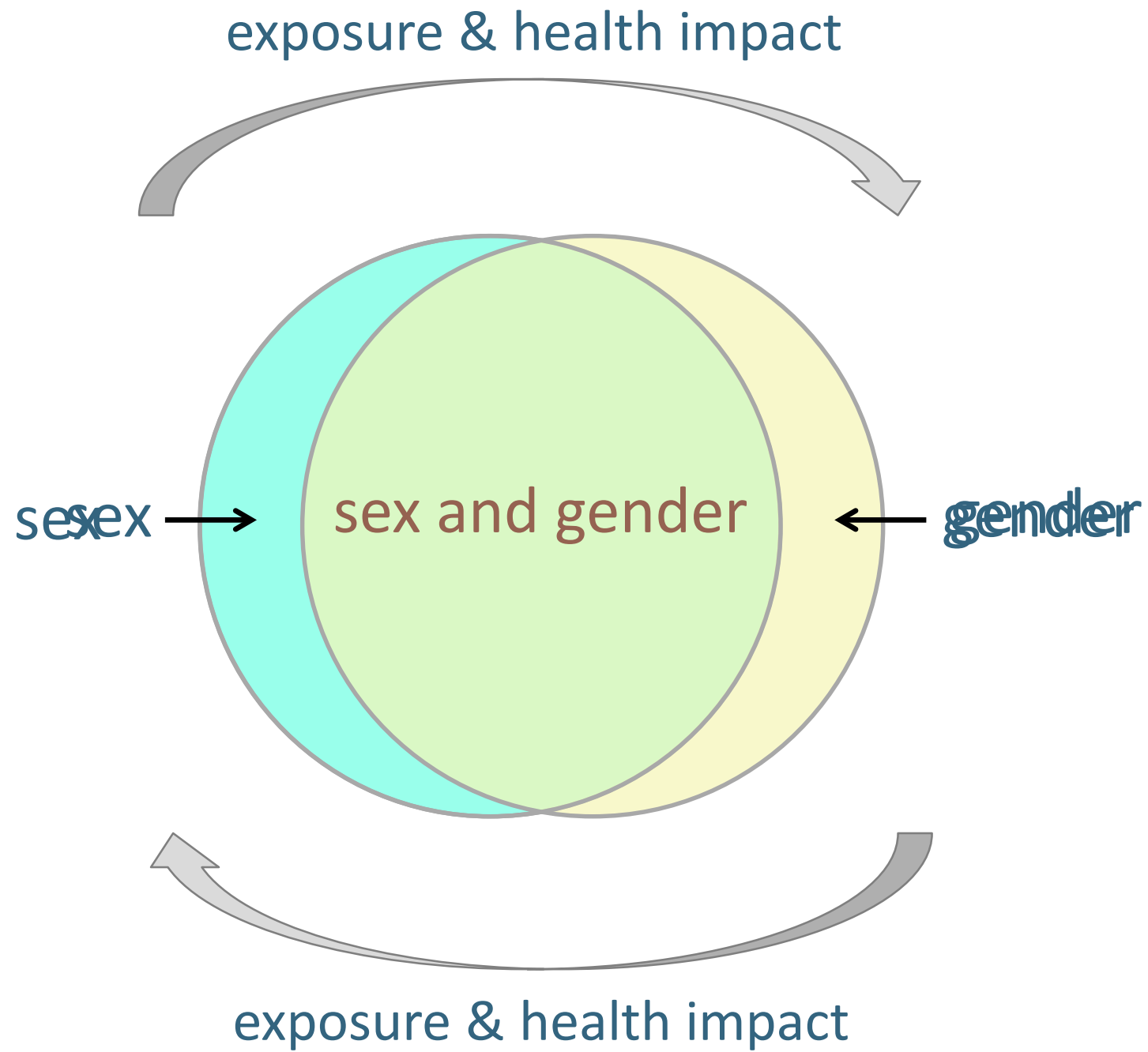
**Because half right can't be the answer.**



# A CONCEPTUAL MODEL OF SEX/GENDER







# Scientific advances arise from a clear understanding of the limits of knowledge

little known

WELL-KNOWN



# Gender-based investigational implications



A10448-CB-30



# THE EVIDENCE BASE IS UNEVEN

- 100+ years of research, primarily on male subjects and even male tissue samples.
- Reports of such research have typically:
  - Ignored this critical limitation
  - Failed to characterize the theories and findings as based on and potentially only generalizable to males
  - Assumed that methodological and statistical rigor were sufficient to overcome these limitations and that it is sufficient and appropriate as we add females to samples



# HOW DO WE ASK BETTER QUESTIONS?



- Is the foundation solid?
- Are we aware of the gaps in the evidence base regarding the health of women?
- Are we aware of our assumptions of generalizability?

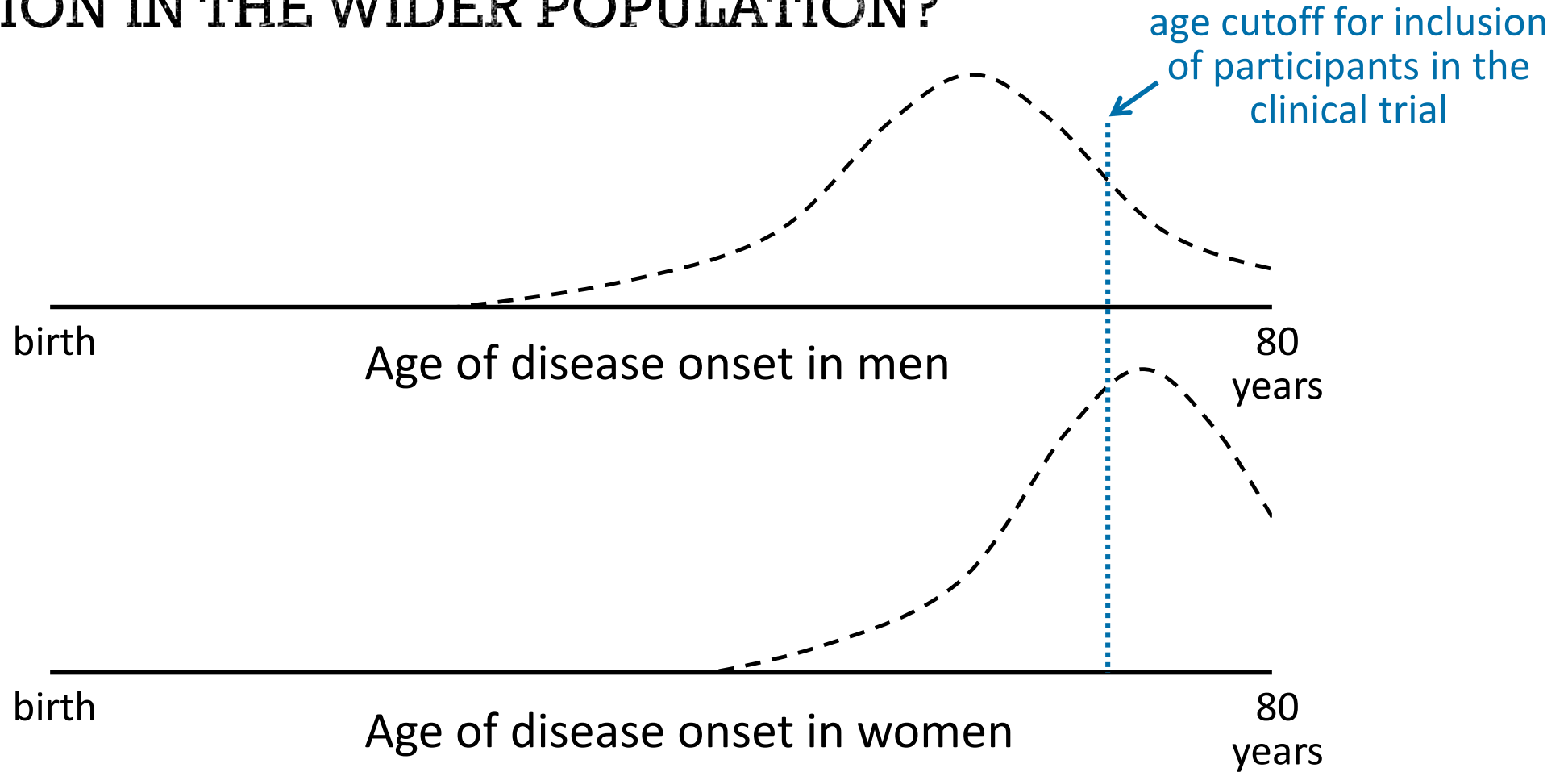


# HOW RIGOROUS IS OUR RESEARCH?

- Are we building our science, needs assessments and evaluations on studies that:
  - Include population samples?
  - Test and validate assumptions?
  - Assess whether mechanisms operate differently in females than males?
  - Evaluate whether interventions are as effective in women/girls as in men/boys?
  - Report on evidence of differences to inform future research?
- Or are we:
  - Ignoring sex/gender?
  - Including women and simply adjust for a dichotomous sex/gender measure?
  - Assuming generalizability beyond the data to women or older women?



# IS THE STUDY POPULATION ENROLLED IN A CLINICAL TRIAL REPRESENTATIVE OF THOSE WITH THE DISEASE OR CONDITION IN THE WIDER POPULATION?





# A BOLD PROPOSITION

For journals to require electronic appendices reporting stratified analyses

Why?

Average results do not mean one size fits all.

Because half right can't be the answer.



# IMPROVING POLICIES THAT IMPACT WOMEN'S HEALTH REQUIRES BETTER SCIENCE

- Better population samples make better science
- Sex/gender based-analysis makes better science
- Half right can't be the answer.





## Putting Women's Health and Healthcare on the Map

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