



Equity in Research Design, Conduct, and Analysis

ADRIANNE HAGGINS, MD, MS

CLINICAL ASST. PROFESSOR

UNIVERSITY OF MICHIGAN DEPT. OF EMERGENCY MEDICINE

CLINICAL METHODS TRAINING COURSE-IOWA CITY, IA, JULY 23, 2019

Disclosures

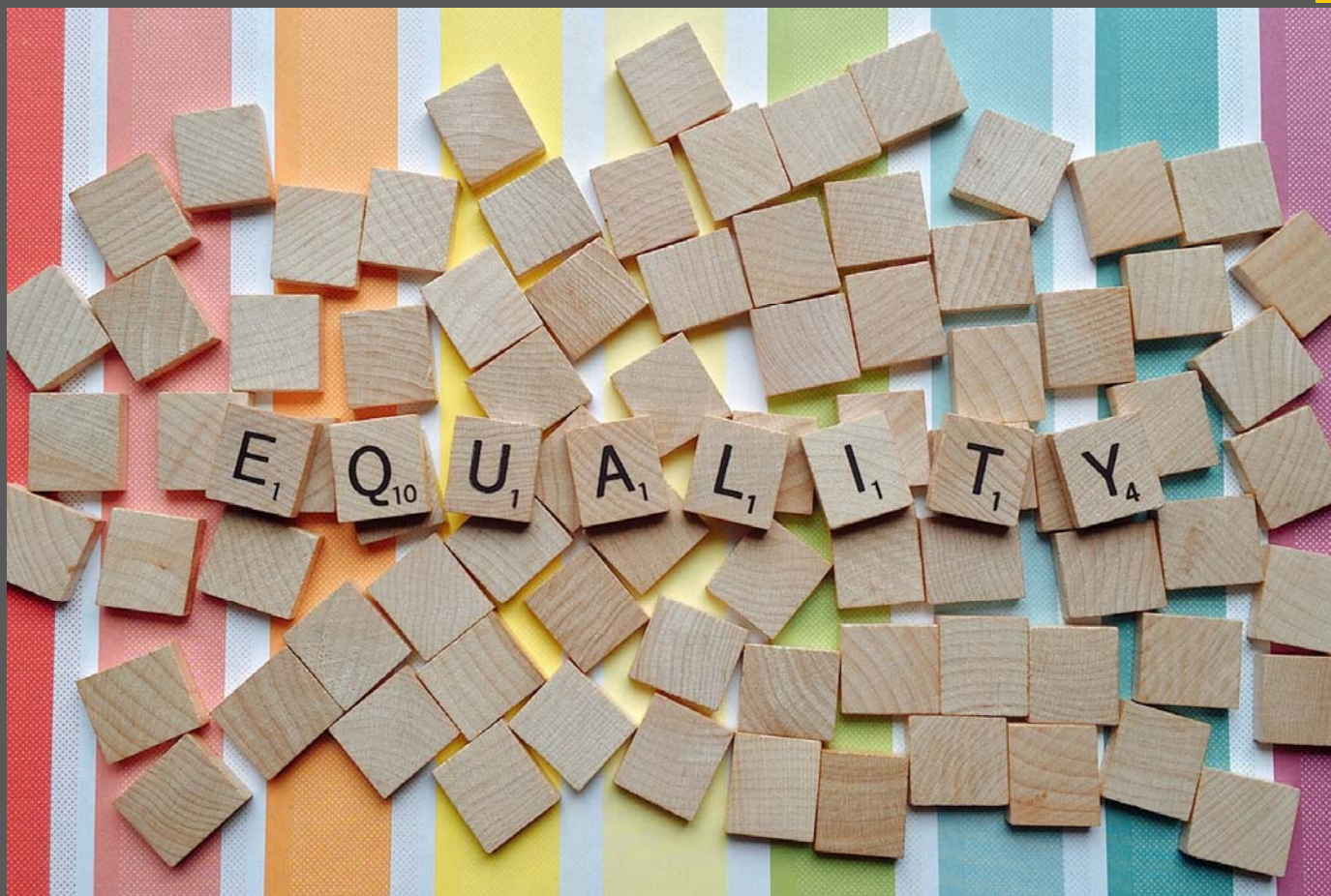
- ▶ The presenter has no commercial or financial interests, relationships, activities, or other conflicts of interest to disclose.
- ▶ This presentation will not include information on unlabeled use of any commercial products or investigational use that is not yet approved for any purpose.

Take Home Points

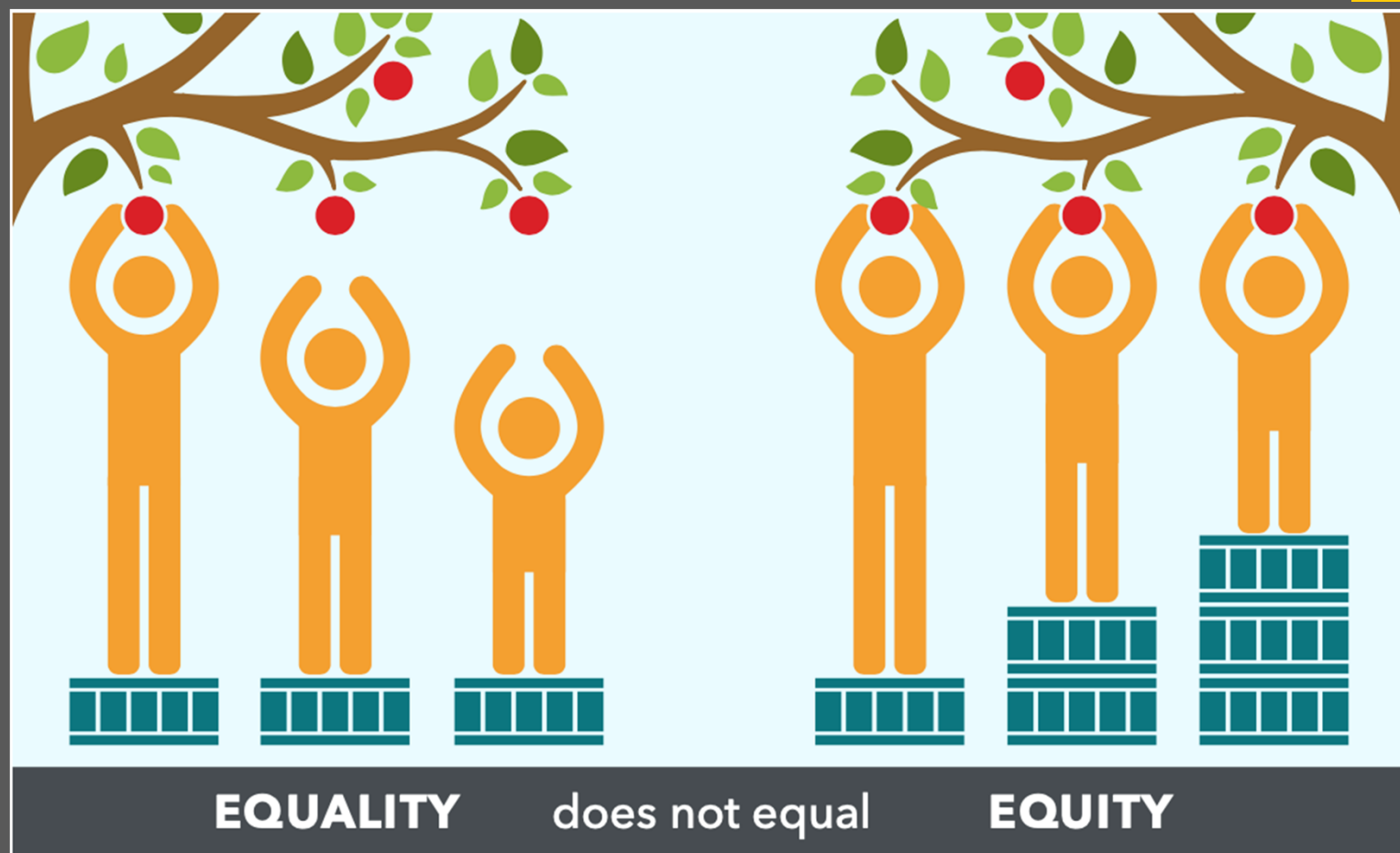
- ▶ Appreciation for the manner in which race/ethnicity/sex/gender
- ▶ Understanding the (modifiable) drivers of the disadvantage
- ▶ Equity will be challenging to achieve







<https://www.ed.ac.uk/equality-diversity/about/equality-diversity>



<https://healthequity.globalpolicysolutions.org/about-health-equity/>



Equity

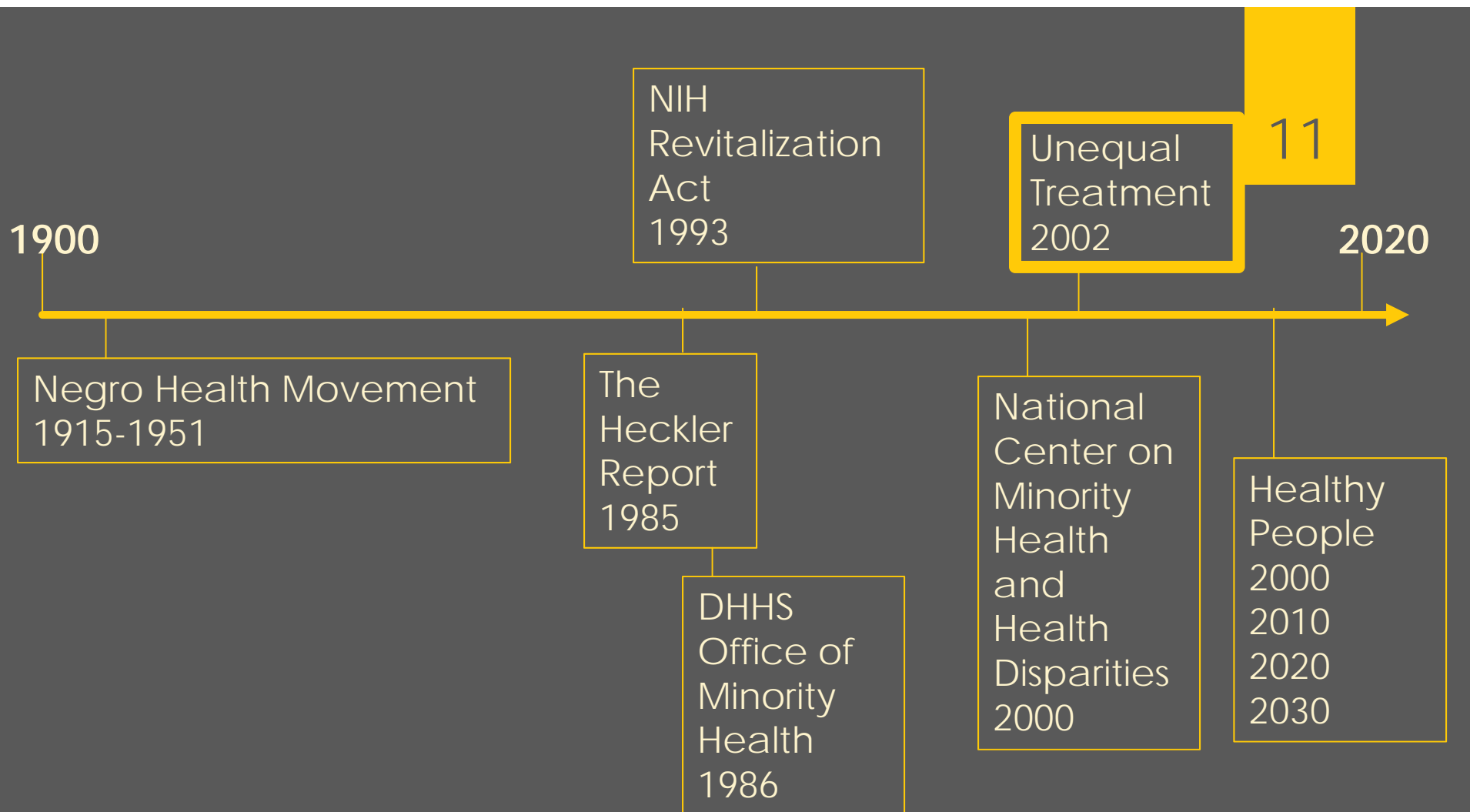
- ▶ Health
 - ▶ Absence of systematic differences in health status

Starfield, B. (2001). Improving Equity in Health: A Research Agenda. *International Journal of Health Services*, 31(3), 545–566.

Equity

- ▶ Health Services
 - ▶ No differences in health services where health needs are equal
 - ▶ Enhanced health services are provided where greater health needs are present

Starfield, B. (2001). Improving Equity in Health: A Research Agenda. *International Journal of Health Services*, 31(3), 545–566.



[Toward a Fourth Generation of Disparities Research to Achieve Health Equity](#)

Stephen B. Thomas, Sandra Crouse Quinn, James Butler, Craig S. Fryer, Mary A. Garza. Annual Review of Public Health 2011 32:1, 399-416

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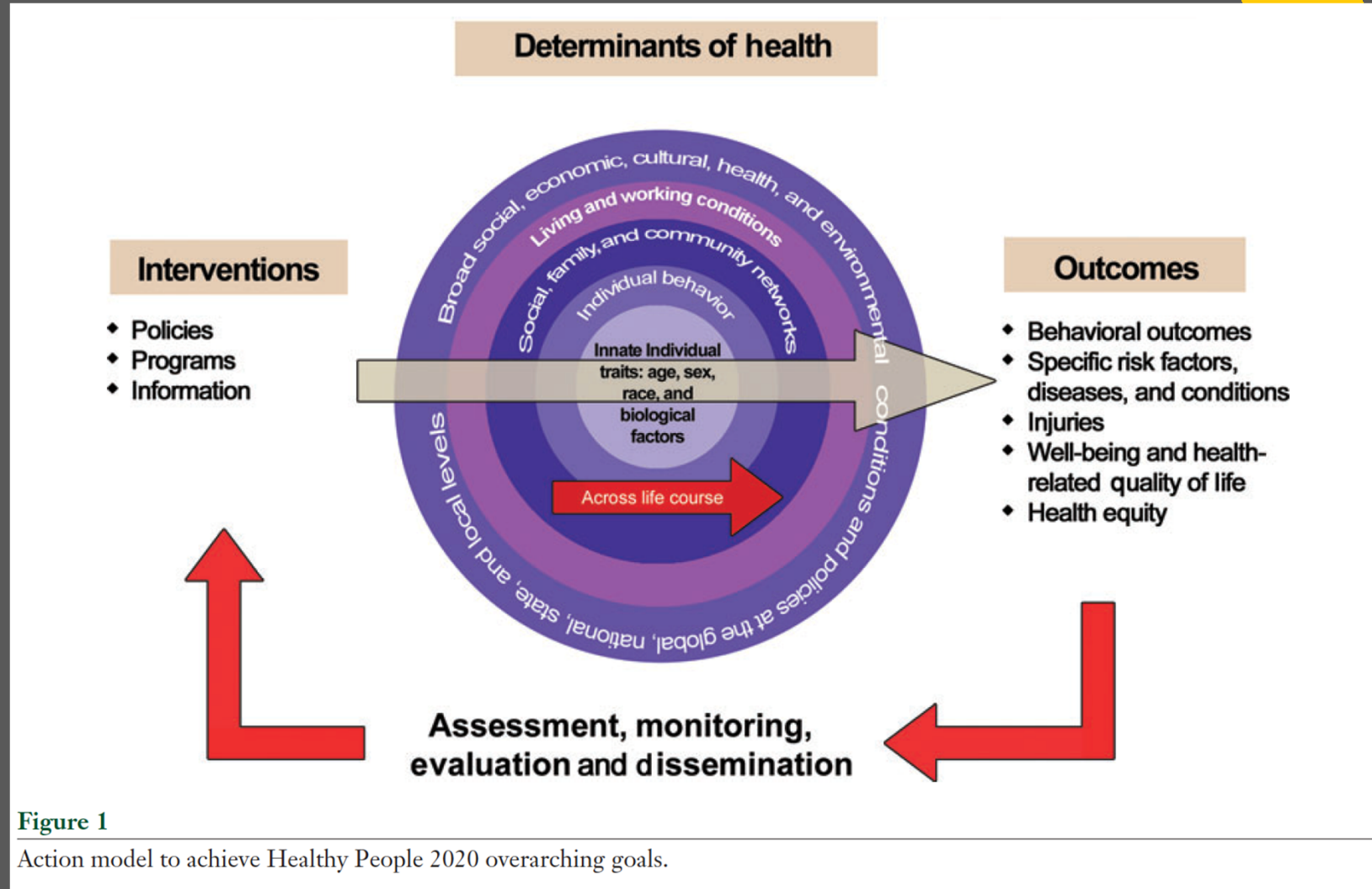


Figure 1

Action model to achieve Healthy People 2020 overarching goals.

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Stephen B. Thomas, Sandra Crouse Quinn, James Butler, Craig S. Fryer, Mary A. Garza. Annual Review of Public Health 2011 32:1, 399-416

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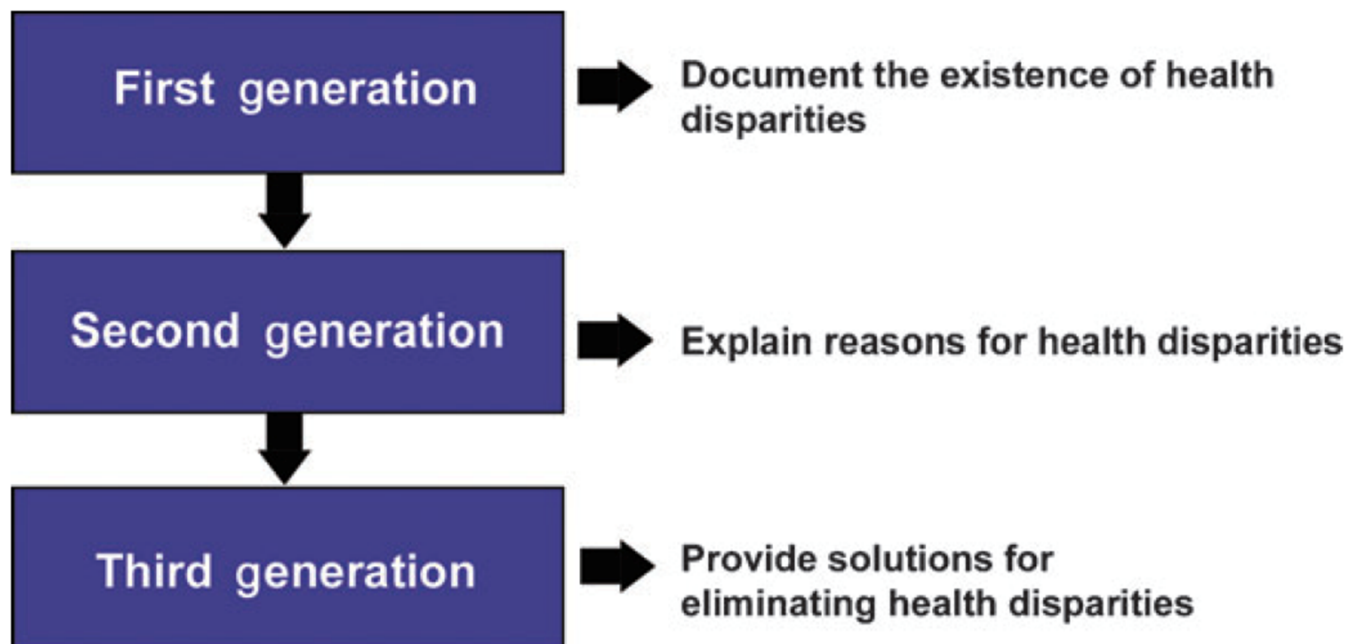
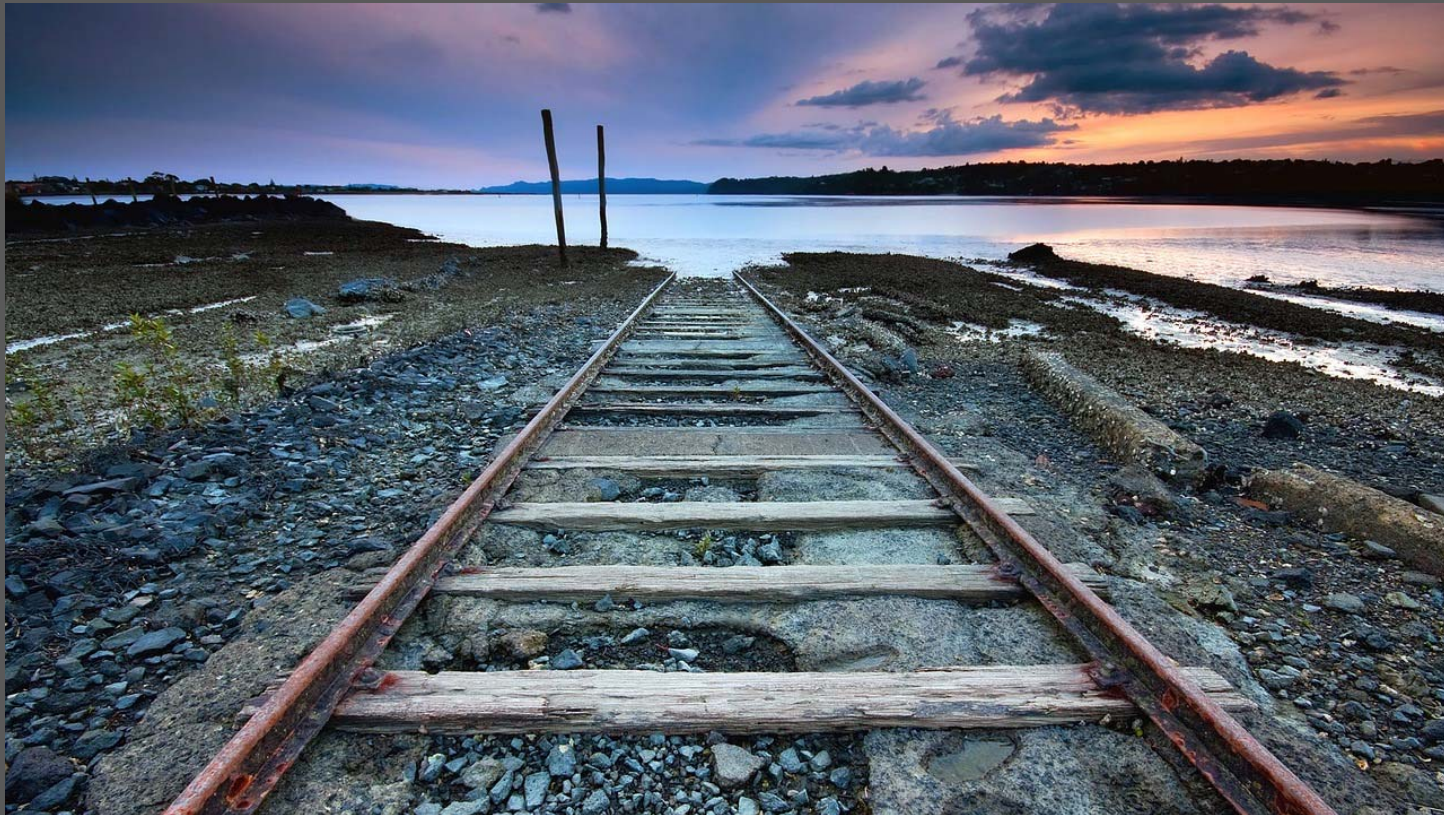


Figure 2

Generations of health disparities research (36, 60).

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Challenges with Disparities Research

- ▶ Well-defined variables

“When concepts are not adequately developed and component variables not adequately specified, we can expect problems.”

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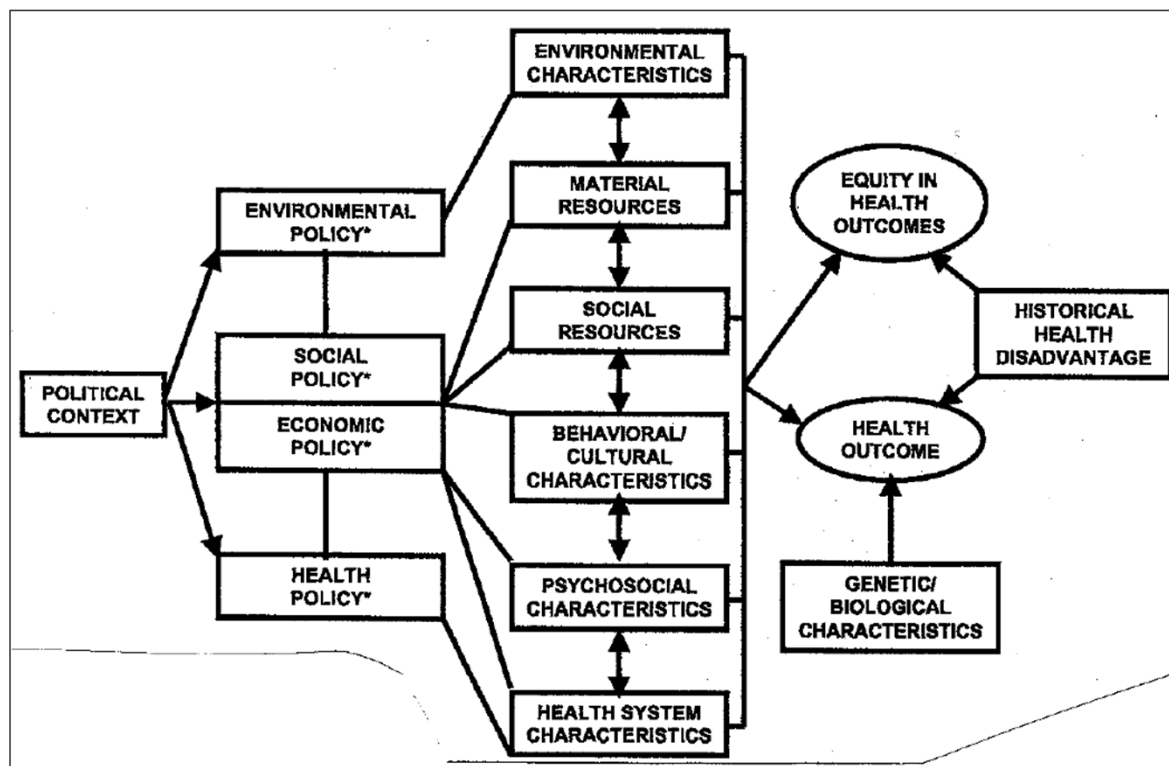
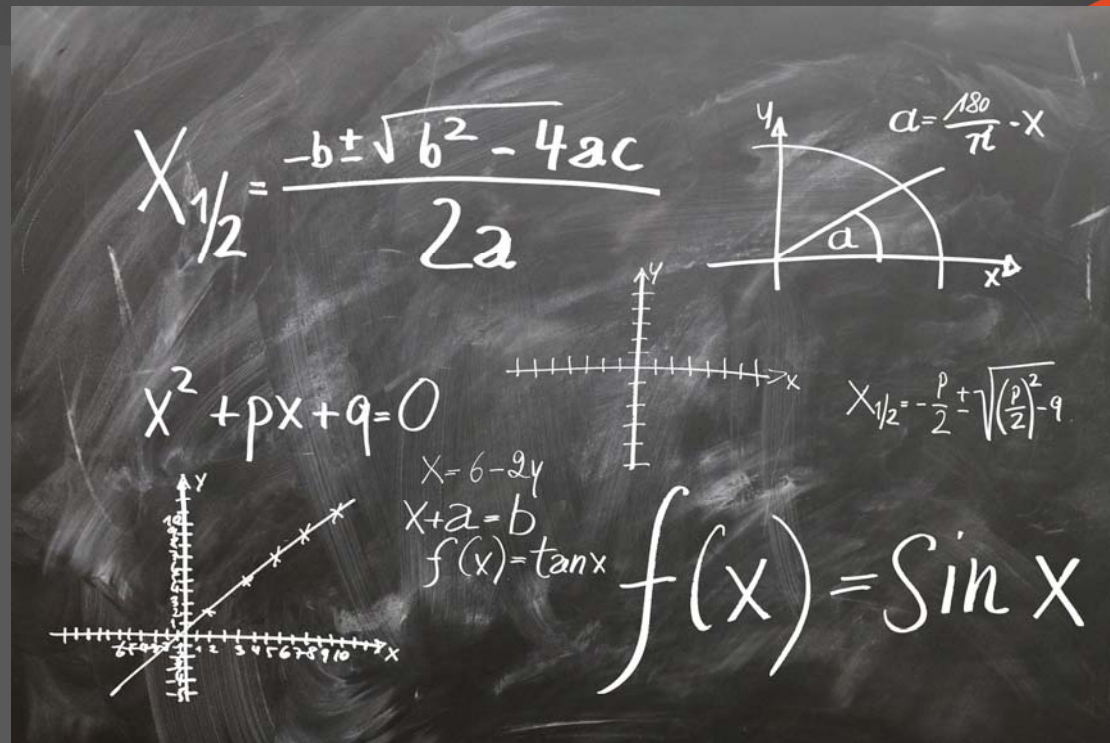


Figure 2. Conceptual framework of health determinants: population model. Determinants of health at the individual level are the same but without “Equity in Health Outcomes.”
 *Policy reflects a country’s approach to the distribution of power (political jurisdiction).

Starfield, B. (2001). Improving Equity in Health: A Research Agenda. *International Journal of Health Services*, 31(3), 545–566.

Challenges with Disparities Research



Starfield, B. (2001). Improving Equity in Health: A Research Agenda. *International Journal of Health Services*, 31(3), 545–566.

Race

"...often treated superficially, either as a demographic variable..., but rarely understood in its more complex linkage to racism and structural determinants of health."

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Stephen B. Thomas, Sandra Crouse Quinn, James Butler, Craig S. Fryer, Mary A. Garza. Annual Review of Public Health 2011 32:1, 399-416



[Relative Roles of Race Versus Socioeconomic Position in Studies of Health Inequalities: A Matter of Interpretation](#)

Amani M. Nuru-Jeter, Elizabeth K. Michaels, Marilyn D. Thomas, Alexis N. Reeves, Roland J. Thorpe Jr., Thomas A. LaVeist

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| THE RACE ISSUE |

There's No Scientific Basis for Race—It's a Made-Up Label

It's been used to define and separate people for millennia. But the concept of race is not grounded in genetics.

SHARE



SHARE



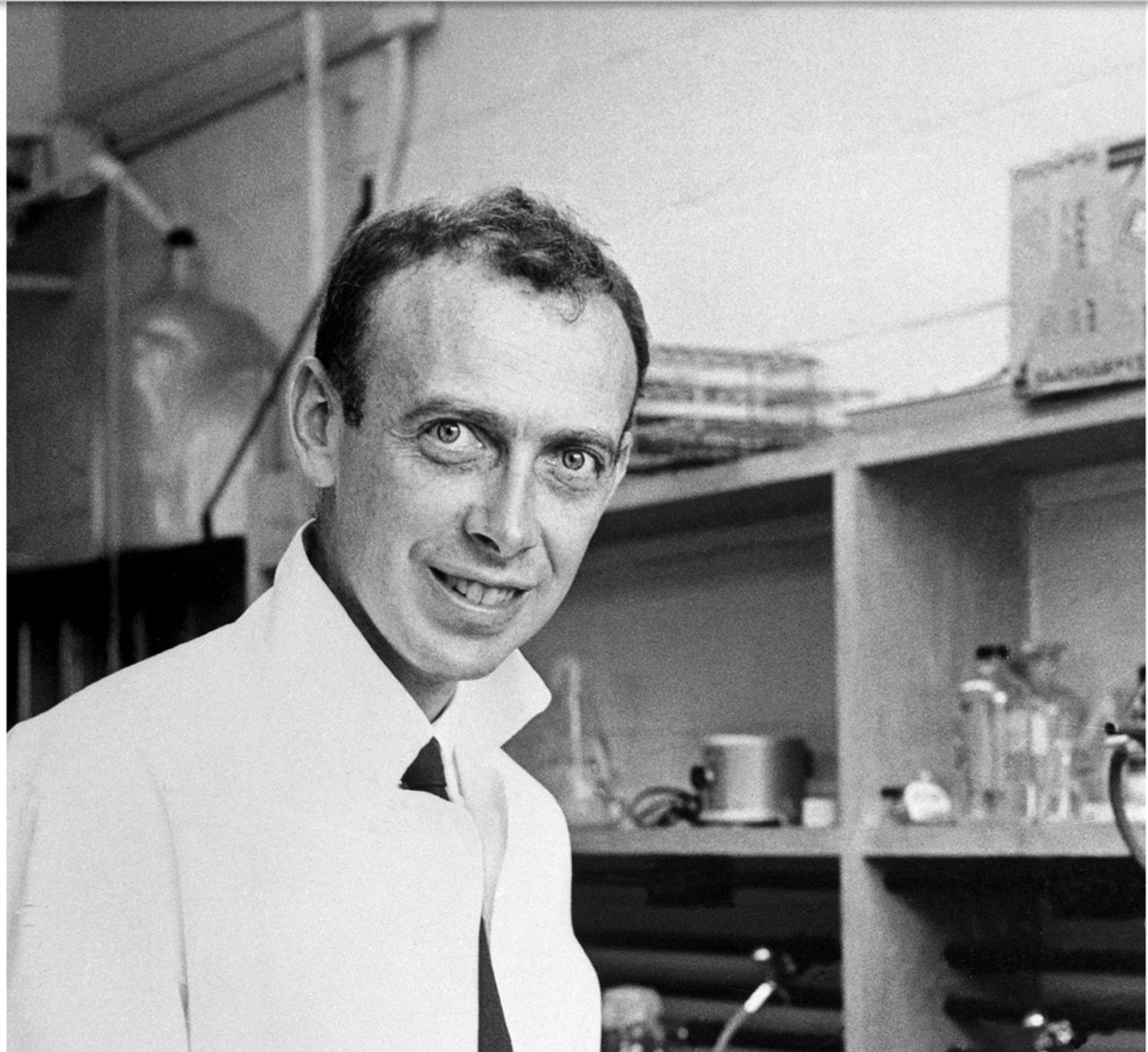
TWEET



COMMENT



EMAIL





Race

- ▶ Historical legacy
 - ▶ Labor and wages
 - ▶ Workplace
 - ▶ Social networks
 - ▶ Housing
- ▶ Educational policy

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Place Matters



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Wealth Gap

Table 1 Median net worth and income quintile by race/ethnicity, 2000. Adapted from Reference 79, *Journal of Urban Health* © 2005; 82:iii26–iii34. LaVeist TA. Disentangling race and socioeconomic status: a key to understanding health inequalities. Published by Springer. Printed with permission. All rights reserved

Income quintile	Black	White	Hispanic
Lowest 20%	<\$100	\$24,000	\$500
Second 20%	\$5,275	\$48,500	\$5,670
Middle 20%	\$11,500	\$59,500	\$11,200
Fourth 20%	\$32,600	\$98,842	\$36,225
Highest 20%	\$65,141	\$208,023	\$73,032

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Controlling for Race and Socio-economic Position

► Issues

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Conducting Research

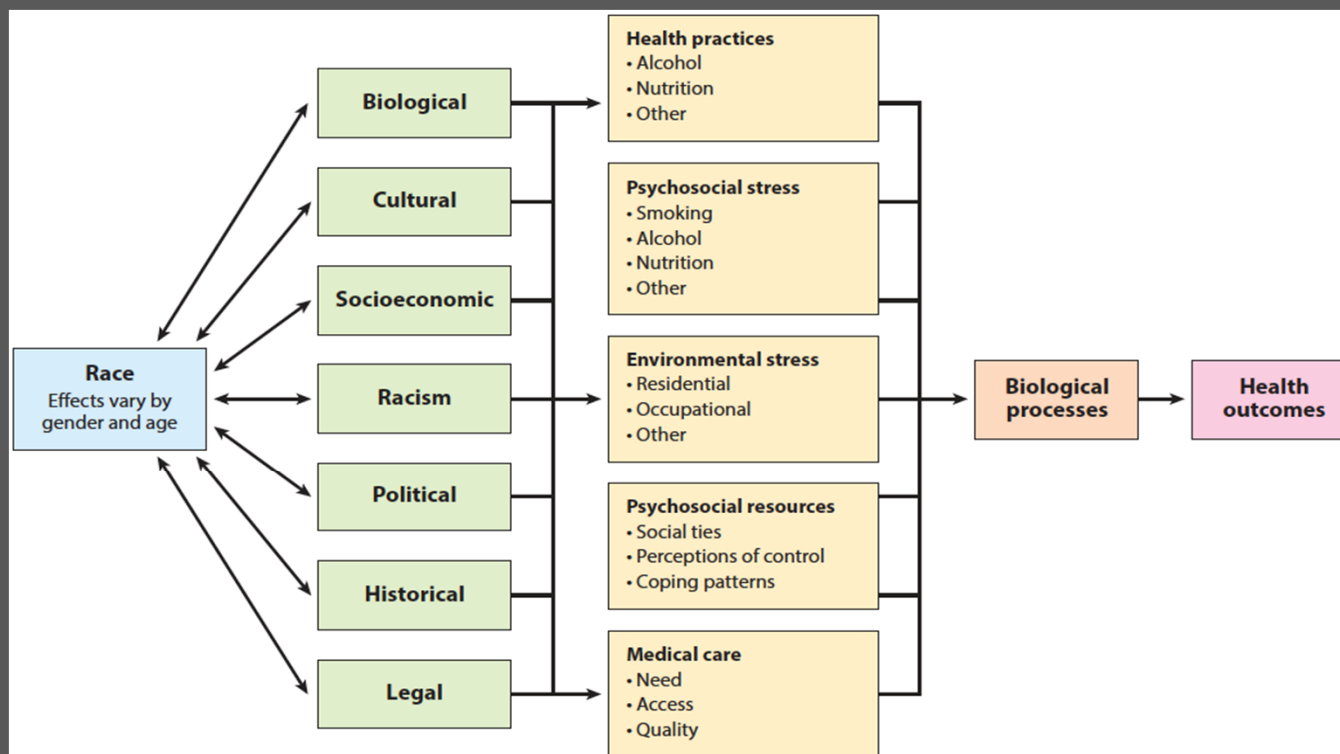


Figure 2

A framework for understanding the relationship between race and health. Adapted with permission from Reference 23, *Summary of the CDC/ATSDR Workshop* © 1993. Use of race and ethnicity in public health surveillance. Published by Prevention at the Centers for Disease Control. All rights reserved.

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Sex and Gender Equity in Research (SAGER)

Heidari S, Babor TF, De Castro P, Tort S, Curno M. Sex and Gender Equity in Research: rationale for the SAGER guidelines and recommended use. Research Integrity and Peer Review. 2016;1(1):2.

Sex



Heidari S, Babor TF, De Castro P, Tort S, Curno M. Sex and Gender Equity in Research: rationale for the SAGER guidelines and recommended use. Research Integrity and Peer Review. 2016;1(1):2.

Supported by NINDS R25NS088248 U01NS077352

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Gender



Heidari S, Babor TF, De Castro P, Tort S, Curno M. Sex and Gender Equity in Research: rationale for the SAGER guidelines and recommended use. Supported by NINDS R25NS088248 U01NS077352 Research Integrity and Peer Review. 2016;1(1):2.

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Missed Opportunities

- ▶ Attention to one sex
- ▶ Exploring sex differences

Heidari S, Babor TF, De Castro P, Tort S, Curno M. Sex and Gender Equity in Research: rationale for the SAGER guidelines and recommended use. Research Integrity and Peer Review. 2016;1(1):2.

Potential Harm

42,110 views | Jan 10, 2013, 11:04am

FDA Takes Action on Ambien; Concedes Women at Greater Risk

Zolpidem and Gender: Are Women Really At Risk?

Greenblatt, David J.; Harmatz, Jerold S.; Roth, Thomas

Journal of Clinical Psychopharmacology. 39(3):189-199, May/June 2019.

Heidari S, Babor TF, De Castro P, Tort S, Curno M. Sex and Gender Equity in Research: rationale for the SAGER guidelines and recommended use. *Research Integrity and Peer Review.* 2016;1(1):2.

Potential Harm



Heidari S, Babor TF, De Castro P, Tort S, Curno M. Sex and Gender Equity in Research: rationale for the SAGER guidelines and recommended use. Research Integrity and Peer Review. 2016;1(1):2.

ORIGINAL INVESTIGATIONS

Sex Versus Gender-Related Characteristics

Which Predicts Outcome After Acute Coronary Syndrome in the Young?



CrossMark



Roxanne Pelletier, PhD,* Nadia A. Khan, MD, MSc,† Jafna Cox, MD,‡ Stella S. Daskalopoulou, MD, PhD,§
Mark J. Eisenberg, MD, MPH,|| Simon L. Bacon, PhD,¶ Kim L. Lavoie, PhD,# Kaberi Daskupta, MD, MSc,**
Doreen Rabi, MD, MSc,†† Karin H. Humphries, DSc,‡‡ Colleen M. Norris, PhD,§§ George Thanassoulis, MD,|||
Hassan Behlouli, PhD,¶¶ Louise Pilote, MD, PhD,*§ for the GENESIS-PRAXY Investigators

SAGER Guidelines

General principles

- Authors should use the terms *sex* and *gender* carefully in order to avoid confusing both terms.
- Where the subjects of research comprise organisms capable of differentiation by sex, the research should be designed and conducted in a way that can reveal sex-related differences in the results, even if these were not initially expected.
- Where subjects can also be differentiated by gender (shaped by social and cultural circumstances), the research should be conducted similarly at this additional level of distinction.

Heidari S, Babor TF, De Castro P, Tort S, Curno M. Sex and Gender Equity in Research: rationale for the SAGER guidelines and recommended use. *Research Integrity and Peer Review*. 2016;1(1):2.

Sager Guidelines contd.

Recommendations per section of the article	
Title and abstract	If only one sex is included in the study, or if the results of the study are to be applied to only one sex or gender, the title and the abstract should specify the sex of animals or any cells, tissues and other material derived from these and the sex and gender of human participants.
Introduction	Authors should report, where relevant, whether sex and/or gender differences may be expected.
Methods	Authors should report how sex and gender were taken into account in the design of the study, whether they ensured adequate representation of males and females, and justify the reasons for any exclusion of males or females.
Results	Where appropriate, data should be routinely presented disaggregated by sex and gender. Sex- and gender-based analyses should be reported regardless of positive or negative outcome. In clinical trials, data on withdrawals and dropouts should also be reported disaggregated by sex.
Discussion	The potential implications of sex and gender on the study results and analyses should be discussed. If a sex and gender analysis was not conducted, the rationale should be given. Authors should further discuss the implications of the lack of such analysis on the interpretation of the results.

Conducting Research

- ▶ Interdisciplinary
- ▶ Community Advisory Boards
- ▶ Community Based Participatory Research

Cooper, L. A., Hill, M. N., & Powe, N. R. (2002). Designing and evaluating interventions to eliminate racial and ethnic disparities in health care. *Journal of general internal medicine*, 17(6), 477–486. doi:10.1046/j.1525-1497.2002.10633.x

CBPR

- ▶ Recruitment
- ▶ Retention
- ▶ Success of interventions
- ▶ Better generalizability

Las Nueces, D. , Hacker, K. , DiGirolamo, A. and Hicks, L. S. (2012), A Systematic Review of Community-Based Participatory Research to Enhance Clinical Trials in Racial and Ethnic Minority Groups. Health Serv Res, 47: 1363-1386. doi:[10.1111/j.1475-6773.2012.01386.x](https://doi.org/10.1111/j.1475-6773.2012.01386.x)

Design

- ▶ Representation
- ▶ Community and stakeholder input
- ▶ Mix-methods
- ▶ Location
- ▶ Sustainable
 - ▶ Process measures
 - ▶ Funding

Cooper, L. A., Hill, M. N., & Powe, N. R. (2002). Designing and evaluating interventions to eliminate racial and ethnic disparities in health care. *Journal of general internal medicine*, 17(6), 477–486. doi:10.1046/j.1525-1497.2002.10633.x

Analysis

- ▶ Limitations of:
 - ▶ Race
 - ▶ Socioeconomic position
 - ▶ Sex vs. Gender
- ▶ Explanatory

Analysis

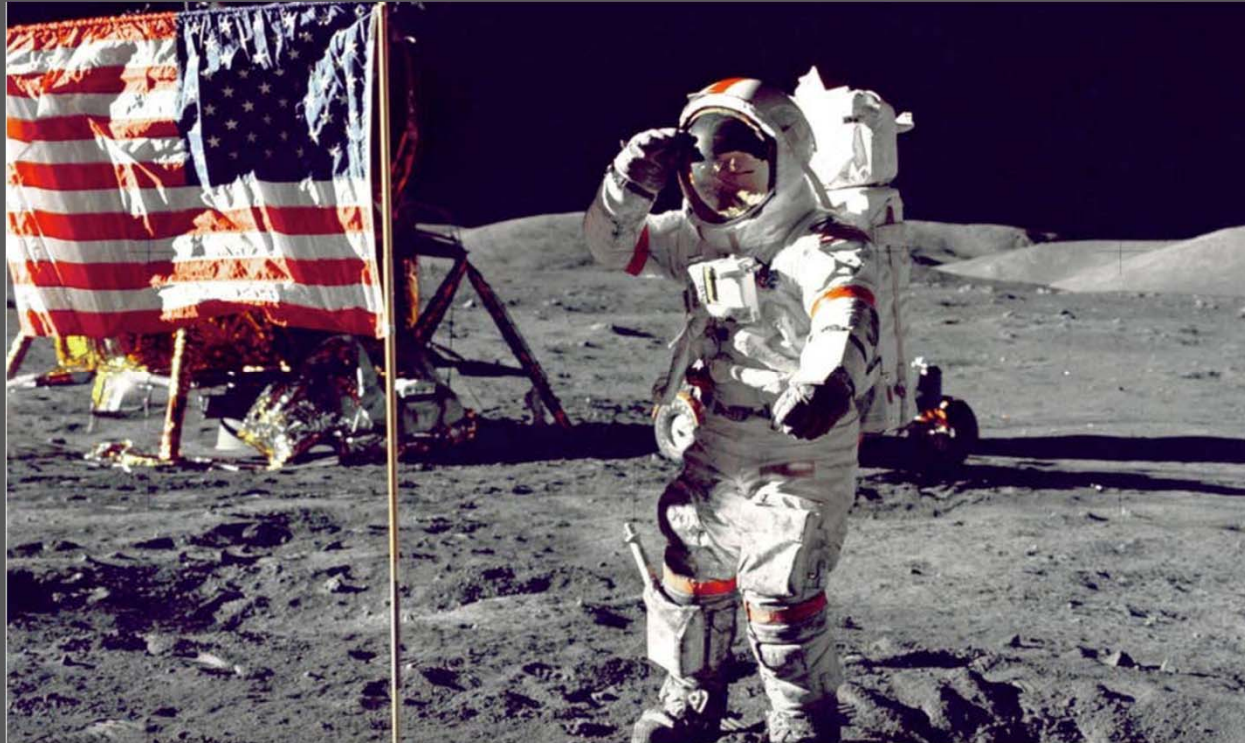
- ▶ Limitations of:
 - ▶ Race
 - ▶ Socioeconomic position
 - ▶ Sex vs. Gender
- ▶ Explanatory
- ▶ Multi-level Modeling

Analysis

- ▶ Self-reflective researcher
 - ▶ Cultural confidence

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Thank you

ahaggins@med.umich.edu