# State of Cardiovascular Health Research among SGM Populations: Gaps & Opportunities

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### **BACKGROUND**

- Cardiovascular disease (CVD) is the leading cause of death worldwide
- More than 70% of CVD risk is attributed to modifiable risk factors
- Sex, racial, ethnic, & SES disparities in CVD prevalence and treatment are well-documented, but there has been considerably less research on CVD risk in sexual and gender minority (SGM) populations



### **BACKGROUND**

REPORT BRIEF MARCH 2011

#### INSTITUTE OF MEDICINE

OF THE NATIONAL ACADEMIES

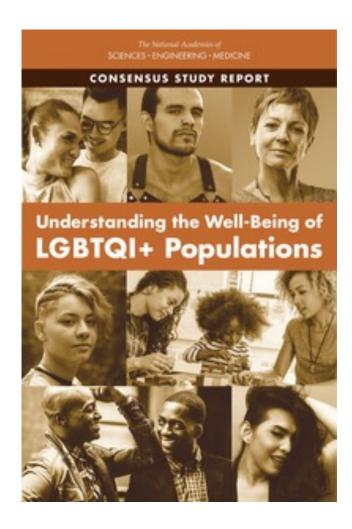
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## The Health of Lesbian, Gay, Bisexual, and Transgender People

Building a Foundation for Better Understanding





### **BACKGROUND**

- Social and structural determinants contribute to negative health outcomes among SGM individuals
  - Poor mental health
  - Substance use
  - HIV & other STIs
- Fewer studies have investigated social and structural determinants of cardiovascular health in SGM populations

### **Circulation**

#### **AHA SCIENTIFIC STATEMENT**

## Assessing and Addressing Cardiovascular Health in LGBTQ Adults

A Scientific Statement From the American Heart Association

Endorsed by the American Academy of Physician Assistants

The American Medical Association affirms the educational benefit of this document.

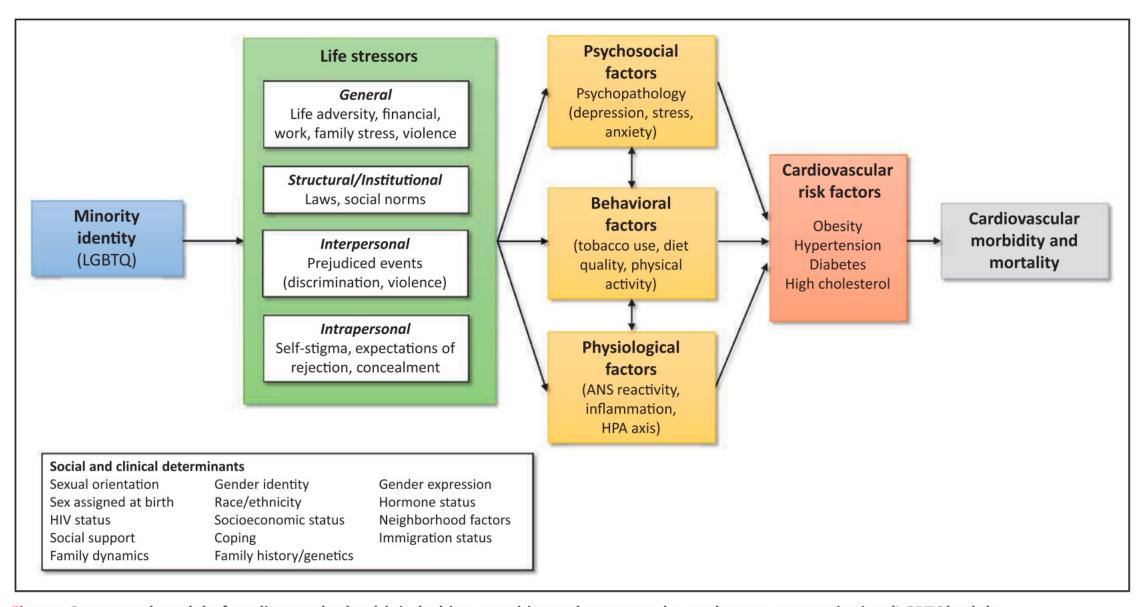


Figure. Conceptual model of cardiovascular health in lesbian, gay, bisexual, transgender, and queer or questioning (LGBTQ) adults.

### Circulation

### **AHA SCIENTIFIC STATEMENT**

# Assessing and Addressing Cardiovascular Health in People Who Are Transgender and Gender Diverse

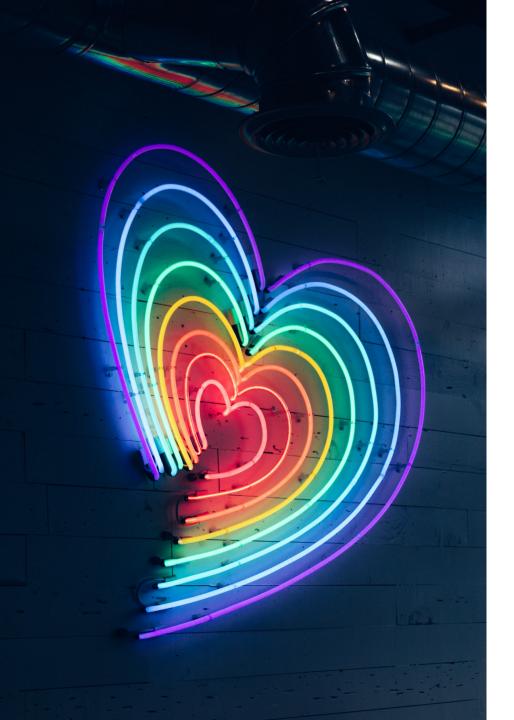
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### MINORITY STRESSORS & CVD RISK

- There is limited research on the impact of minority stressors on the cardiovascular health of SGM individuals
- Some studies have shown that minority stressors are associated with a higher prevalence of tobacco use among SGM adults
- Analyzing longitudinal data, Caceres & colleagues found that internalized homonegativity was associated with higher odds of developing hypertension among sexual minority women



### ADDITIONAL CONSIDERATIONS

- Violence
- Poverty
- Gender-affirming hormone therapy
- HIV/AIDS
- Lack of access to culturally appropriate healthcare
- Fear of discrimination



### **TOBACCO USE**

- Sexual minority adults are more likely to report current and lifetime tobacco use compared to heterosexual adults
- Conflicting results for transgender adults
- Data from U.S. Transgender Survey:
  - Greater exposure to discrimination >
    increased cigarette smoking and dual
    cigarette use

Caceres et al., 2020; Hoffman et al., 2018; Kcomt et al., 2020

### DIET

Current Atherosclerosis Reports https://doi.org/10.1007/s11883-022-00991-2

NUTRITION (K. PETERSEN, SECTION EDITOR)



### Diet, Food Insecurity, and CVD Risk in Sexual and Gender Minority Adults

Billy A. Caceres 10 · Melissa Bynon 1 · Danny Doan 1 · Nour Makarem 2 · Amanda C. McClain 3 · Nicole VanKim 4

#### REVIEW PAPER



# Sexual and gender minority sleep: A narrative review and suggestions for future research

Eliana S. Butler<sup>1</sup> | Eleanor McGlinchey<sup>1,2</sup> | Robert-Paul Juster<sup>3</sup>

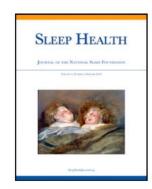


Contents lists available at ScienceDirect

### Sleep Health

Journal of the National Sleep Foundation

journal homepage: sleephealthjournal.org



An intersectional approach to examine sleep duration in sexual minority adults in the United States: findings from the Behavioral Risk Factor Surveillance System

Billy A. Caceres, PhD, RN, AGPCNP-BC <sup>a,\*</sup>, Kathleen T. Hickey, EdD, RN, ANP-BC, FNP-BC <sup>a</sup>, Elizabeth M. Heitkemper, PhD, RN <sup>b</sup>, Tonda L. Hughes, PhD, RN <sup>a</sup>

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### **SLEEP DURATION**

- Sexual minority women were more likely than heterosexual women to report very short sleep duration (< 4 hours)</li>
  - Magnitude of this disparity was greater for Black lesbian and bisexual women
- Sleep disparities were more pronounced among gay and bisexual men when analyses were stratified by race and ethnicity
  - Black gay men
  - Bisexual men of color



# CARDIOVASCULAR DIAGNOSES

- Research on CVD diagnoses among SGM adults has been hindered by limited available clinical data
- Analyses of EHR data show that transgender women on estrogen therapy have a higher incidence of ischemic stroke

Caceres et al., 2020; Getahun et al., 2019; Streed et al. 2021

### SEXUAL MINORITY POPULATIONS

- Consistently higher prevalence of tobacco use
- Evidence on disparities in diet quality and physical activity is mixed
- Lesbian and bisexual women are at higher risk for heavy drinking, short sleep duration, obesity, and diabetes
- Bisexual men are at higher risk for obesity, diabetes, and hypertension
- Gay men may have more favorable cardiovascular health profiles

### SEXUAL MINORITY POPULATIONS

- Cardiovascular health disparities are more pronounced among Black and bisexual individuals
- Growing evidence that these disparities emerge in adolescence

### **GENDER MINORITY POPULATIONS**

- Most research has focused on the impact of gender-affirming hormone therapy on CVD risk in transgender adults with limited examination of social determinants
- Findings for obesity, hypertension, diabetes, and hyperlipidemia are largely conflicting
- Strength of evidence limited by methodological concerns
- Very few studies have examined CVD risk in other groups of gender minority individuals

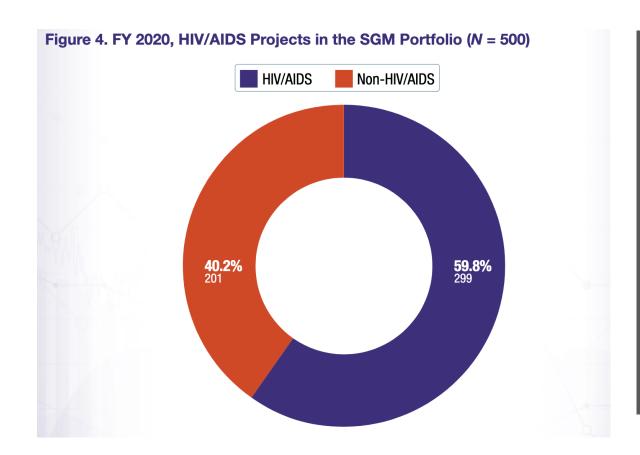
### RESEARCH GAPS

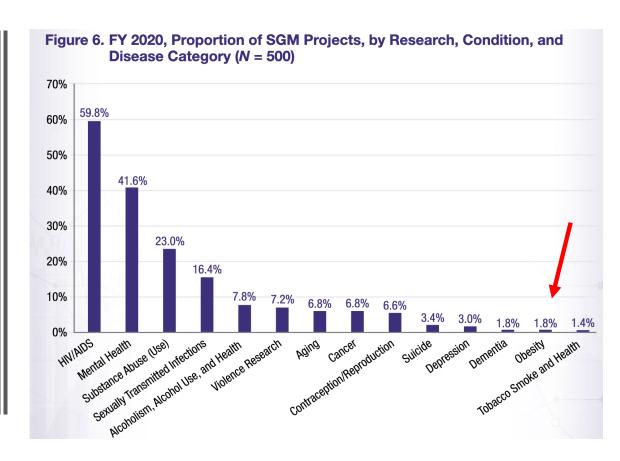
- Cross-sectional designs
- Lack of attention to intersectionality
- Limited testing of mechanisms
- Limited investigation of social and structural determinants of cardiovascular health
- Few evidence-based interventions to address chronic disease risk reduction in SGM people
- Focus primarily on adulthood

### RECOMMENDATIONS

- Conduct longitudinal assessments to examine social and structural determinants of cardiovascular health in diverse samples of SGM people
- Design and test culturally tailored interventions for CVD risk reduction in SGM populations
- Partner with SGM communities to inform the design, conduct, and dissemination of cardiovascular health research
- Investigate the needs and experiences of SGM people living with CVD

### NIH FUNDING





### CONCLUSIONS

- Considerable progress has been made in SGM cardiovascular health research, but significant gaps remain related to social determinants and intervention research
- There is a need for additional research that assesses and addresses root causes of the cardiovascular health disparities observed among SGM individuals



### Thank you!

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### REFERENCES

- Havranek EP, Mujahid MS, Barr DA, et al. Social determinants of risk and outcomes for cardiovascular disease.
   Circulation. 2015;132(9):873-898. doi:10.1161/CIR.000000000000228
- Tsao CW, Aday AW, Almarzooq ZI, et al. Heart disease and stroke statistics—2023 update: A report from the American Heart Association. *Circulation*. 2023;147(8). doi:10.1161/CIR.00000000001123
- Yusuf S, Joseph P, Rangarajan S, et al. Modifiable risk factors, cardiovascular disease, and mortality in 155 722 individuals from 21 high-income, middle-income, and low-income countries (PURE): A prospective cohort study. *The Lancet*. 2020;395:14.
- Caceres BA, Brody A, Luscombe RE, et al. A systematic review of cardiovascular disease in sexual minorities. *American Journal of Public Health*. 2017;107(4):e13-e21. doi:10.2105/AJPH.2016.303630
- Caceres BA, Streed CG, Corliss HL, et al. Assessing and addressing cardiovascular health in LGBTQ adults: A scientific statement from the American Heart Association. *Circulation*. 2020;142(19):2747-2757 doi:10.1161/CIR.0000000000000014
- National Academies of Sciences, Engineering, and Medicine. Understanding the Well-Being of LGBTQI+ Populations. The National Academies Press; 2020.

### REFERENCES

- Kcomt L, Evans-Polce RJ, Veliz PT, Boyd CJ, McCabe SE. Use of cigarettes and e-cigarettes/vaping among transgender people: Results from the 2015 U.S. Transgender Survey. *American Journal of Preventive Medicine*. 2020;59(4):538-547. doi:10.1016/j.amepre.2020.03.027
- Poteat TC, Divsalar S, Streed CG, Feldman JL, Bockting WO, Meyer IH. Cardiovascular disease in a population-based sample of transgender and cisgender adults. *American Journal of Preventive Medicine*. 2021;61(6):804-811. doi:10.1016/j.amepre.2021.05.019
- Hoffman L, Delahanty J, Johnson SE, Zhao X. Sexual and gender minority cigarette smoking disparities: An analysis of 2016 Behavioral Risk Factor Surveillance System data. *Preventive medicine*. 2018;113:109-115. doi:10.1016/j.ypmed.2018.05.014
- Caceres BA, Bynon M, Doan D, Makarem N, McClain AC, VanKim N. Diet, food insecurity, and CVD risk in sexual and gender minority adults. *Curr Atheroscler Rep.* Published online February 2, 2022. doi:10.1007/s11883-022-00991-2
- Butler ES, McGlinchey E, Juster RP. Sexual and gender minority sleep: A narrative review and suggestions for future research. *Journal of Sleep Research*. 2020;29(1):e12928-e12928. doi:10.1111/jsr.12928
- Caceres BA, Hickey KT, Heitkemper EM, Hughes TL. An intersectional approach to examine sleep duration in sexual minority adults in the United States: Findings from the Behavioral Risk Factor Surveillance System. Sleep Health. 2019;5(6):621-629. doi:10.1016/j.sleh.2019.06.006
- Kinsky S, Stall R, Hawk M, Markovic N. Risk of the metabolic syndrome in sexual minority women: Results from the ESTHER Study. *Journal of Women's Health*. 2016;25(8):784-790. doi:10.1089/jwh.2015.5496

### REFERENCES

- Semlyen J, Curtis TJ, Varney J. Sexual orientation identity in relation to unhealthy body mass index: Individual participant data meta-analysis of 93 429 individuals from 12 UK health surveys. *Journal of Public Health*. 2019;42(1):98-106. doi:10.1093/pubmed/fdy224
- López Castillo H, Tfirn IC, Hegarty E, Bahamon I, Lescano CM. A meta-analysis of blood pressure disparities among sexual minority men. LGBT Health. 2021;8(2):91-106. doi:10.1089/lgbt.2019.0121
- Streed CG, Harfouch O, Marvel F, Blumenthal RS, Martin SS, Mukherjee M. Cardiovascular disease among transgender adults receiving hormone therapy: A narrative review. *Annals of Internal Medicine*. 2017;167(4):256-267. doi:10.7326/M17-0577
- Getahun D, Nash R, Flanders WD, et al. Cross-sex hormones and acute cardiovascular events in transgender persons: A cohort study. Annals of Internal Medicine. Published online July 2018:1-10. doi:10.7326/M17-2785