

Sexual Minorities are at Elevated Risk of Cardiovascular Disease from a Younger Age than Heterosexuals

The following is a synopsis of “Sexual Minorities are at Elevated Risk Cardiovascular Disease from a Younger Age than Heterosexuals” published in January 2022 in the *Journal of Behavioral Medicine*.



What is already known on this topic?

Cardiovascular disease (CVD) remains the leading cause of death in the United States and worldwide. While mental health and human immunodeficiency virus (HIV) disparities are well documented for sexual minorities (SMs; see Figure 1 for terms), more systematic and high-quality research addressing CVD causes, incidence, and appropriate prevention strategies for these populations is needed.¹ In the United States (U.S.), mortality rates for SMs are higher than for the whole population, even after adjusting for demographic factors and HIV. However, it is unclear if CVD is the leading cause of death among SMs.² The minority stress model is a framework underlying the study of health outcomes, including CVD, for minorities including racial, sexual, and gender minorities. The model links minorities’ experiences of discrimination to physiological, behavioral, and psychological reactions leading to poorer health outcomes.¹ SMs experience discrimination from very young ages, even before they may

recognize their own sexual identity and are known to experience adverse childhood events at substantially higher rates than heterosexuals.³ SMs have elevated rates of tobacco use, alcohol use, illicit drug use, and mental health disorders.⁴ Lower incomes, discrimination in employment, and lack of partner coverage, mean SMs are less likely to have health insurance.⁵

Figure 1. Key Terms and Definitions

Key Terms	Definitions
Gender	A multidimensional construct that links gender identity, gender expression, and social and cultural expectations about status, characteristics, and behaviors that are associated with sex traits and may be non-binary (not just woman, man)
Sexual Orientation	A multidimensional construct encompassing emotional, romantic, and sexual attraction, identity, and behavior e.g., gay for men attracted to men
Sexual Minorities (SMs)	The group of people who have a sexual orientation other than heterosexual, including gay, lesbian, bisexual, questioning, or queer
Heterosexuals	Sexually oriented toward people of a different, usually binary, gender e.g., women attracted to men

Source: National Academies of Sciences, Engineering and Medicine. (2022). *Measuring Sex, Gender Identity, and Sexual Orientation*. Washington, DC: The National Academies Press. ISBN 978-0-309-27510-1, DOI:10.17226/26424.



Estimates of the extent to which SMs experience higher incidences of CVD differ across studies. The differences reflect weaknesses in existing data collection and a related lack of longitudinal studies using clinically verified indicators of CVD.⁴ A recent wide-scale literature review found evidence for elevated CVD in SM men including diastolic blood pressure, overall blood pressure, heart rate, CrP (an inflammatory precursor for CVD), and diabetes. Bisexual men additionally showed higher rates of blood pressure medication use and an increased risk of CVD unexplained by risk behavior and other factors.⁴ Studies examining SM women found evidence for elevated blood pressure, although in some cases only for those over 40 years. A larger number of studies additionally found high rates of elevated blood pressure, use of blood pressure medication, and a history of diabetes for bisexual women.⁴

What is added by this article?

This article adds important new evidence about CVD in SMs by:

- Using a novel data source. It utilizes the [Population Assessment of Tobacco and Health Study](#) (PATH) which examines tobacco and e-cigarette use and collects participants'

sexual orientation. Many previous studies on SMs have used Behavioral Risk Factor Surveillance System (BRFSS) data, so it is important to corroborate their results in other samples.

- Using recent data covering a sample of the whole adult population. Several important articles on CVD in SMs use older data or focus on specialized populations such as those with partners.
- Collecting the age at first reported diagnosis for key CVD measures.

PATH is a national longitudinal study of tobacco use and its effects on health that started in 2013. It includes 49,000 participants in the U.S., aged 12 and older. Publicly available PATH data report SM status for persons aged 18 or older as yes or no. This article corroborated existing evidence that SMs use tobacco, a risk factor for CVD, at higher rates than heterosexuals. The reported adjusted risk ratio (aRR) for SM women and SM men were 1.56 and 1.18, respectively (95% Confidence Intervals (CI), 1.49, 1.75; 1.01, 1.37). The aRR for e-cigarette use, another risk factor for CVD, was significantly higher for SM women (2.23, CI 1.87, 2.66) but not for SM men (1.28, CI 0.98, 1.66) compared to heterosexuals.





The authors examined rates of reported diagnosis for high blood pressure, high cholesterol, congestive heart failure, stroke, heart attack, and other heart conditions. All were significantly more likely to have been diagnosed for SM men than heterosexual men, but not for SM women compared to heterosexual women. The absence of differences among women may have been influenced by the authors' adjustment for BMI, which is greater on average for SM than for heterosexual women. Finally, using self-reported age at first diagnosis, the study found that SM women relative to heterosexual women were diagnosed at younger ages with high cholesterol, stroke, and heart attack. SM men were likely to be diagnosed at a younger age than heterosexual men with stroke. Overall, this article adds to evidence that risks for CVD, and rates of CVD, are more prevalent in SMs, and notably are first occurring at earlier ages than for heterosexuals.

What are the implications of these findings?

The finding that CVD shows up earlier in SMs reinforces earlier physiological findings that young SMs have elevated levels of CrP, and elevated diastolic blood pressure, suggestive of earlier onset of hypertension and that SMs in a cross-section of the population differ from heterosexuals in age trends for CVD.^{4,6,7} Earlier onset of CVD could mean earlier screening of SMs for CVD may be beneficial, and research on whether there are benefits to starting earlier screening may be warranted. More frequent collection of sexual orientation in cardiovascular studies would improve our understanding of the significance of earlier onset of CVD. These results signal that SMs have higher risks for, rates of, and experience earlier onset of, CVD raising the value of targeted research and prevention strategies from a public health perspective.

Resources

American Heart Association

[Scientific Statement on Cardiovascular Health in Sexual Minorities](#)

National Academies of Sciences, Engineering and Medicine

[Measuring Sex, Gender Identity, and Sexual Orientation](#)

Centers for Disease Control and Prevention

[Sexual orientation differences in access to care and health status, behaviors, and beliefs](#)

References

1. Caceres, B.A., Streed, C.G. Jr, Corliss, H.L., et al. (2020). Assessing and Addressing Cardiovascular Health in LGBTQ Adults: A Scientific Statement from the American Heart Association, *Circulation*, 142(19), doi:10.1161/CIR.0000000000000914.
2. Cochran, S.D., Björkenstam, C., Mays, V.M. et al. (2016). Sexual Orientation and All-Cause Mortality Among US Adults Aged 18 to 59 Years, 2001–2011, *American Journal of Public Health*. 106(5) doi:10.2105/AJPH.2016.303052.
3. Xu, Y., Rahman, Q., & Montgomery, S. (2022). Same-sex partnership and cardiovascular disease in men: the role of risk factors in adolescence. *LGBT Health*, 9(1), 18-26, doi: 10.1089/lgbt.2021.0183
4. Caceres BA, Brody A, Luscombe RE, et al. (2017). A Systematic Review of Cardiovascular Disease in Sexual Minorities. *American Journal of Public Health*. 107(4), e13-e21. doi:10.2105/AJPH.2016.303630.
5. Badgett, L., Carpenter, CS, & Sansone, D. (2021). LGBTQ+ Economics. *Journal of Economic Perspectives*, 35(2), 141-170, doi: 10.1257/jep.35.2.141
6. López Castillo H, Tfirm IC, Hegarty E, Bahamon I, Lescano CM. (2021). A Meta-Analysis of Blood Pressure Disparities Among Sexual Minority Men. *LGBT Health*. 8(2), 91-106. doi:10.1089/lgbt.2019.0121
7. Rice CE, Vasilenko SA, Fish JN, Lanza ST. (2019). Sexual minority health disparities: an examination of age-related trends across adulthood in a national cross-sectional sample. *Annals of Epidemiology*. 31, 20-25. doi:10.1016/j.annepidem.2019.01.001.

Citation

Sherman J, Dyar C, McDaniel J, et al. (2022). Sexual minorities are at elevated risk of cardiovascular disease from a younger age than heterosexuals. *J Behav Med.*, 45, 571-579. Published 2022 Jan 16. doi:10.1007/s10865-021-00269-z



**U.S. Department of
Health and Human Services**
Centers for Disease
Control and Prevention
