

## Labor Income Losses Associated with Heart Disease and Stroke From the 2019 Panel Study of Income Dynamics

The following is a synopsis of “Labor Income Losses Associated with Heart Disease and Stroke From the 2019 Panel Study of Income Dynamics” published in *JAMA Network Open* on March 13, 2023.



### What is already known on this topic?

In 2021, heart disease was the first leading cause of death in the United States and stroke was the fifth leading cause of death.<sup>1</sup> These cardiovascular diseases (CVD) also contribute to functional decline and long-term disability which can affect income earnings and labor force participation.<sup>2,3</sup> One study reported labor force participation decreased 5% for acute myocardial infarction patients, 12.9% for cardiac arrest patients, and 19.8% for stroke patients at 3 years after hospitalization.<sup>3</sup> The American Heart Association estimated the 2018-2019 total annual average costs of heart disease and stroke in the United States as \$239.9 and \$56.5 billion respectively.<sup>2</sup> While these cost estimates include direct medical costs and indirect costs such as loss of productivity due to premature death or sick leave, they do not account for estimates of lost productivity from morbidity-associated income losses.

### What is added by this article?

The authors used data from the nationally representative 2019 Panel Study of Income Dynamics (PSID) to estimate labor income losses (due to either lower wages or withdrawal from the labor market) associated with heart disease and stroke. The study sample included 12,166 adults aged 18-64 years with available labor income, chronic condition, and socioeconomic data. Mean labor income was \$27,285 among persons with a history of heart disease compared with \$49,129 for those without heart disease, while the proportion reporting zero income was 2.5 times greater among those with heart disease. Differences in income and labor market participation were greater among persons with a history of stroke, with a mean income of \$17,880 compared to \$48,869 among those without stroke, and the proportion reporting zero income was 3 times greater among persons with stroke.

After adjustment for sociodemographic characteristics and other chronic conditions, persons with heart disease would earn a mean of \$13,463 less on labor income than those without heart disease. This amount is more than 25% of the model-estimated mean labor income, meaning persons with heart disease earn roughly a quarter less on average than those without heart disease. Persons with stroke would earn a mean of \$18,716 less (approximately 40% less) labor income than those without stroke. Based on the prevalence of heart disease and stroke, the authors estimated that the total labor income loss in the US in 2018 for heart disease and stroke were approximately \$203.3 billion and \$63.6 billion, respectively.

## What are the implications of these findings?

The findings show the magnitude of underestimation in current estimates of total cost of CVD, which only include estimates of lost productivity due to premature mortality and highlight the need to account for CVD morbidity. When compared with previously reported labor income losses due to premature mortality from heart disease (\$119.9 billion) and stroke (\$19.4 billion), the labor income losses associated with morbidity of heart disease (\$203.3 billion) and stroke (\$63.6 billion) were greater. Comprehensive estimates of the economic costs of heart disease and stroke which incorporate productivity losses due to morbidity can support decision makers in assessing the benefits of allocating resources to the prevention, management, and control of CVD.



## Resources:

### American Heart Association

[2023 Heart Disease and Stroke Statistics Update Fact Sheet | AHA](#)

### Centers for Disease Control and Prevention

[Public Health Economics | CDC](#)

## References

1. Centers for Disease Control and Prevention, National Center for Health Statistics. National Vital Statistics System, Mortality 2018-2021 on CDC WONDER Online Database, released in 2023. Data are from the Multiple Cause of Death Files, 2018-2021, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Accessed at <http://wonder.cdc.gov/mcd-icd10-expanded.html> on Jun 2, 2023 1:02:52 PM
2. Garlad A, Jeon S-H, Stepner M, Rotermann M, Fransoo R, Wunsch H, et al. Effects of cardiovascular and cerebrovascular health events on work and earnings: a population-based retrospective cohort study. *CMAJ*. 2019;191(1):E3-E10.
3. Tsao CW, Aday AW, Almarzooq ZI, Anderson CA, Arora P, Avery CL, Baker-Smith CM, Beaton AZ, Boehme AK, Buxton AE, Commodore-Mensah Y. Heart disease and stroke statistics—2023 update: a report from the American Heart Association. *Circulation*. 2023 Feb 21;147(8):e93-621

## Citation

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