

New report tracks latest trends in global cardiovascular health

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Cardiovascular disease (CVD) remains the leading cause of death across the globe, according to a new "almanac"-style special issue of the *Journal of the American College of Cardiology (JACC)*. The issue looks at 18 specific cardiovascular conditions and 15 risk factors across 21 global regions to provide a broad view of the global burden of cardiovascular disease. While CVD rates are high globally, Central Asia

and Eastern Europe were estimated to have the highest rates of CVD mortality. High blood pressure, high cholesterol, dietary risks and air pollution were the leading causes of CVD worldwide.

The Global Burden of Cardiovascular Diseases Collaboration is an alliance between *JACC*, the Institute for Health Metrics and Evaluation, and the National Heart, Lung, and Blood Institute. Serving as an update to "The Global Burden of Diseases, Injuries, and Risk Factors Study 2019," the 2022 publication includes data from 204 countries and territories, highlighting the leading global modifiable cardiovascular risk factors, their contribution to disease burden and recent prevention advancements.

"We need to keep shining a light on the current state of cardiovascular health across the globe. Cardiovascular health has a major impact on our quality of life and the health care system as a whole," said Gregory A. Roth, MD, MPH, senior author of the paper and associate professor in the Division of Cardiology and director of the Program in Cardiovascular Health Metrics at the Institute for Health Metrics and Evaluation at the University of Washington. "Over 80% of cardiovascular disease is preventable. With this update, we are measuring some alarming global trends and reviewing the current interventions that can help countries make good, evidence-based choices for their health systems."

This special report assessed deaths using vital and sample registration data and produced estimates for the 15 leading environmental (air pollution, household air pollution, [lead exposure](#), low temperature, high temperature), metabolic ([systolic blood pressure](#), LDL-cholesterol, body mass index, fasting plasma glucose, kidney dysfunction) and behavioral (dietary, smoking, secondhand smoke, alcohol use, physical activity) risks for cardiovascular diseases.

The CVD mortality rates are broken down by location, along with age, sex and time categories since 1990. The report also looked at disability-adjusted life years (DALYs), the years of life lost due to premature mortality (YLLs), and years lived with disability (YLDs).

"It is truly exciting to see this multi-year Global Burden of Cardiovascular Diseases Collaboration culminate into a dedicated issue of the Journal to inform the global cardiovascular community," said Valentin Fuster, MD, Ph.D., an author of the paper, director of Mount Sinai Heart, physician-in-chief of The Mount Sinai Hospital and editor-in-chief of JACC. "This issue focuses both on the modifiable risk factors, as well as the global [cardiovascular disease](#) and [death rates](#) in 21 regions across the world."

Key takeaways from the report:

- Ischemic heart disease is the leading cause of cardiovascular [death](#), accounting for 9.44 million deaths in 2021 and 185 million DALYs.
- High systolic blood pressure remains the leading modifiable risk factor for premature cardiovascular deaths, accounting for 10.8 million CV deaths and 11.3 million deaths overall in 2021. The all-cause DALYs due to high blood pressure were 2,770 per 100,000 people.
- Dietary risks accounted for 6.58 million CV deaths and 8 million deaths overall in 2021. Dietary risks include food types that are under-consumed globally (fruits, vegetables, legumes, whole grains, nuts and seeds, milk, fiber, calcium, omega-3 fatty acids and polyunsaturated fatty acids) and over-consumed (red and processed meats, sugar-sweetened beverages, trans-fatty acids and sodium). All-cause DALYs due to dietary risks were 2,340 per 100,000 people.
- Central Asia, Central Sub-Saharan Africa and Eastern Europe

were the regions with the highest rates of CVD burden attributable to elevated systolic blood pressure. The regions with the highest rates of CVD burden attributable to dietary risk were Central Asia, Oceania and Eastern Europe.

- Central Asia had the highest age-standardized total CVD mortality at 516.9 deaths per 100,000. In contrast, high-income Asia Pacific had the lowest age-standardized total CVD mortality at 76.6 deaths per 100,000 people.
- Since 1990, Australasia has had the largest percent reduction (64.2%) in age-standardized CVD per 100,000 out of all other regions. This percent decrease was highest in [ischemic heart disease](#) at 71.8%.

"This visual atlas serves as a timely reminder about the importance of modifiable [risk factors](#) for heart disease, like high blood pressure," said George A. Mensah, MD, an author of the paper and director of the Center for Translation Research and Implementation Science at the National Heart, Lung, and Blood Institute. "Deaths due to hypertension have steadily increased in the U.S. for the past 20 years, which mirrors trends in other regions and leaves researchers eager to find practical and innovative solutions."

"Of really great concern is the finding that [high blood pressure](#) control rates have progressively declined in the U.S. over the last decade," he added.

More information: Global Burden of Cardiovascular Diseases and Risks Collaboration, 1990-2021, *Journal of the American College of Cardiology* (2022). [DOI: 10.1016/j.jacc.2022.11.001](https://doi.org/10.1016/j.jacc.2022.11.001)

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