

Online tool predicts heart disease events in young adults

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An online calculator using lifestyle metrics showed initial success at predicting the risk of heart disease events among young, healthy adults, according to a new study published in *JAMA Internal Medicine*.

Donald Lloyd-Jones, MD, ScM, senior associate dean for clinical and translational research and chair of Preventive Medicine, was a senior author of the study.

The Healthy Heart Score ([HHS](#)), a free, web-sited tool developed by Harvard investigators, allows individuals to assess their risk of heart disease by answering simple questions about nine key lifestyle factors, such as weight, smoking habits, exercise and diet.

The tool was developed for and validated in middle-age and older [adults](#), however, and had never been assessed in young, healthy adults—a group that could potentially benefit most from early prevention measures.

"We were very interested in understanding how lifestyle—and this particular [score](#) that encompasses healthy lifestyles—might be useful in younger people to help us predict whether there might be the onset of early heart attacks and strokes," said Lloyd-Jones, also director of the Northwestern University Clinical and Translational Sciences Institute (NUCATS) and a professor of Medicine in the Division of Cardiology.

In the study, the team of investigators used data from healthy adults 18 to 30 years old who had been included in the Coronary Artery Risk

Development in Young Adults (CARDIA) study to calculate the Healthy Heart Score of each individual.

They discovered that overall, HHS performed moderately well at estimating the 25-year risk for premature cardiovascular events—such as heart attack and stroke—in this group of young, healthy adults. In particular, the tool was most accurate when performed in men, white participants and those who did not have any [heart disease risk](#) factors—such as diabetes or hypertension—at baseline.

The hope is that the HHS might now serve as a valuable tool for [young adults](#) to gauge their risk of [heart disease](#) and if necessary, make appropriate changes.

"This is a tool that physicians and a patient could use together, or a patient on their own, to understand what about their lifestyle is contributing to some risk," Lloyd-Jones said. "That should then hopefully start a conversation about what might be successful strategies to improve their lifestyle now to help avoid some of these later complications."

Lloyd-Jones, also the Eileen M. Foell Professor of Heart Research, added that the personalized, interactive nature of the HHS might make it particularly impactful.

"With the score, you get a more personalized sense of what your risk is—rather than just generic advice about eating well and moving more," he said. "This helps to make more concrete the risk that is associated with these health behaviors, and hopefully helps to spur the behavior change that we're looking to see in our patients."

In future research, the investigators plan to assess whether there might be a critical time period when it is most crucial to rectify health

behaviors, as well as examine how to best implement the Healthy Heart Score in clinical practice.

More information: Holly C. Gooding et al. Application of a Lifestyle-Based Tool to Estimate Premature Cardiovascular Disease Events in Young Adults, *JAMA Internal Medicine* (2017). [DOI: 10.1001/jamainternmed.2017.2922](https://doi.org/10.1001/jamainternmed.2017.2922)

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