Will you have a heart attack or stroke?

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Will you have a heart attack or a stroke in your lifetime? Your odds may be worse than you think.

Men and women may have a false sense of security about their chances of having a heart attack or stroke based on the current practice of calculating a patient's risk 10 years into the future. New Northwestern Medicine research shows a young or middle-aged adult who is at low risk in the short term may be at very high risk in the long term -- if he or she has just one or two risk factors such as higher than optimal cholesterol or blood pressure levels.

This is the first study to examine the lifetime risk of heart disease in white and black men and women. Previous studies have been in whites and predominantly males. It's also the first study to look at the entire adult age spectrum. The research also looked at the risk across multiple birth cohorts and found the effect of the risk factors remained consistent regardless of the decade in which a person was born.

The study is published in the New England Journal of Medicine. Part of the Cardiovascular Lifetime Risk Pooling Project, the research tracks more than 250,000 participants from 18 different groups of people living in the community over a period of more than 50 years. The patients' risk factors for cardiovascular disease -- blood pressure, cholesterol levels, smoking status and diabetes status -- were measured at ages 45, 55, 65 and 75 years for each participant.

"We are giving incomplete and misleading risk information if we only

focus on the next 10 years of someone's life," said principal investigator Donald Lloyd-Jones, MD, chair and associate professor of preventive medicine at Northwestern University Feinberg School of Medicine and a physician at Northwestern Memorial Hospital. "With even just one risk factor, the likelihood is very large that someone will develop a major cardiovascular event that will kill them or substantially diminish their quality of life or health."

The risk-factor profile was considered optimal when a participant had a total cholesterol level of less than 180 milligrams per deciliter and untreated blood pressure of less than 120 over less than 80, was a nonsmoker and did not have diabetes.

The new research on long-term risk may be important in estimating the future burden of cardiovascular disease in the general population, Lloyd-Jones noted.

Some key findings of the study:

- Men who are 45 years old and have all risk factors at optimal levels have a 1.4 percent risk of having a heart attack or stroke or other form of death from heart disease while having two or more risk factors hike the risk to 49.5 percent.
- For 45-year-old women with all risk factors being optimal, the chance of having a heart attack or stroke in their lifetimes is 4.1 percent while having two or more risk factors boost it to 30.7 percent.

"Just even one small increase in risk, from all optimal risk factors to one that isn't optimal, like slightly elevated cholesterol or blood pressure, significantly bumps up a person's lifetime risk," Lloyd-Jones said. (Non-optimal means a person doesn't have diabetes and doesn't smoke but

either cholesterol is 180 to 199 or blood pressure is 120 to 130 on top or 80 to 89 on the bottom. These numbers aren't at levels that need to be treated with medication, but they are still higher than desired.)

- Women have a higher risk than men for a stroke over their lifetimes but a lower risk for a heart attack.
- African-Americans have higher risk factors such as more hypertension and diabetes than whites, but because they also tend to die at younger ages, their lifetime risk of having a heart attack or stroke ends up being the same as whites.

"This study underscores the importance of lifestyle -- particularly diet, exercise and smoking cessation -- all the lifestyle patterns that are important in reducing the development of the risk factors in the first place," said Jarett Berry, MD, who worked on the study when he was at Northwestern's Feinberg School and is now assistant professor of medicine at University of Texas Southwestern Medical Center.

"We need to do a much better job of making sure these risk factors don't develop in the first place, getting kids and young adults off to better starts so they don't gain weight and are following healthier lifestyles throughout their lives," Lloyd-Jones said.

Lloyd-Jones pointed out that maintaining the full package of optimal risk factors through middle age had a dramatic effect on the remainder of a person's life. "It appears that the whole is greater than the sum of the parts," he said.

Provided by Northwestern University

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