

Study: New risk score tool more accurately predicts patients' risk for cardiac disease and death

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Researchers from the Heart Institute at Intermountain Medical Center in Murray, Utah, have devised a better way to determine an individual's risk for problems, such as heart attack and heart failure, according to a new study.

The research team has developed the Intermountain Risk Score, a measurement tool that looks at age and sex, but also adds the results of routine blood tests, which are not included in the assessment system commonly used by physicians today.

Researchers at Intermountain compared the Intermountain Risk Score with the Framingham Risk Score, currently the gold standard for measuring future coronary heart disease risk. The Framingham index looks at total cholesterol, HDL cholesterol, blood pressure, diabetes, age, and gender.

"Framingham does a good job of classifying groups of patients. But it's not as good at indentifying an individual's risk for disease," says Benjamin Horne, PhD, director of cardiovascular and genetic epidemiology at the Heart Institute at Intermountain Medical Center, and the principal author of the study.

That's where the Intermountain Risk Score can help.

"Our research has shown that the Intermountain Risk Score really improves a doctor's ability to measure patient risk. And it does it by including two simple and inexpensive tests: the complete blood count and metabolic profiles," he says.

Results of the study from the Heart Institute at Intermountain Medical Center will be presented at 1:30 pm, EST, on Sunday, March 14, at the American College of Cardiology's 59th annual scientific session in Atlanta.

Researchers followed over 5,000 patients who were treated for angiography, or vascular imaging. By combining the patients' Framingham Risk Score with their Intermountain Risk Score, researchers found that they were 30 percent more likely to correctly determine a woman's risk, and 57 percent more likely to determine a man's risk for a cardiovascular problem or death within 30 days of the angiography. The results remained substantially better than the Framingham score alone after one year (23 percent for women and 46 percent for men) and at five years (29 percent for women and 25 percent for men).

"Adding the Intermountain Risk Score to the Framingham Risk Score substantially improves our ability to determine an individual's risk of future [coronary heart disease](#) and associated problems," says Dr. Horne.

The Framingham Risk Score was developed as part of the Framingham Heart Study, which began in 1948 as a project of the National Heart, Lung and Blood Institute and Boston University. The objective of the study was to identify common characteristics that contribute to cardiovascular disease by following its development over a long period of time in a large group of participants who had not yet developed symptoms or suffered a [heart attack](#) or stroke.

Researchers at Intermountain Medical Center followed patients an average of three years after their angiogram, and some were followed for up to 10 years.

"We are in the process of replicating these findings at an academic center in North Carolina. Our previous studies of the Intermountain Risk Score showed that it applies very well both to patients and to the general population in different geographic settings, so we expect it will improve on the Framingham Risk Score in that East Coast population as well," Dr. Horne said. "We are also evaluating which health conditions are best predicted by the Intermountain Risk Score, and how changes over time in laboratory values influence the scoring system's ability to predict health outcomes."

Dr. Horne says that the goal at Intermountain Healthcare is to create an online risk score calculator to help clinicians around the world better assess their patients' health.

Provided by Intermountain Medical Center

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