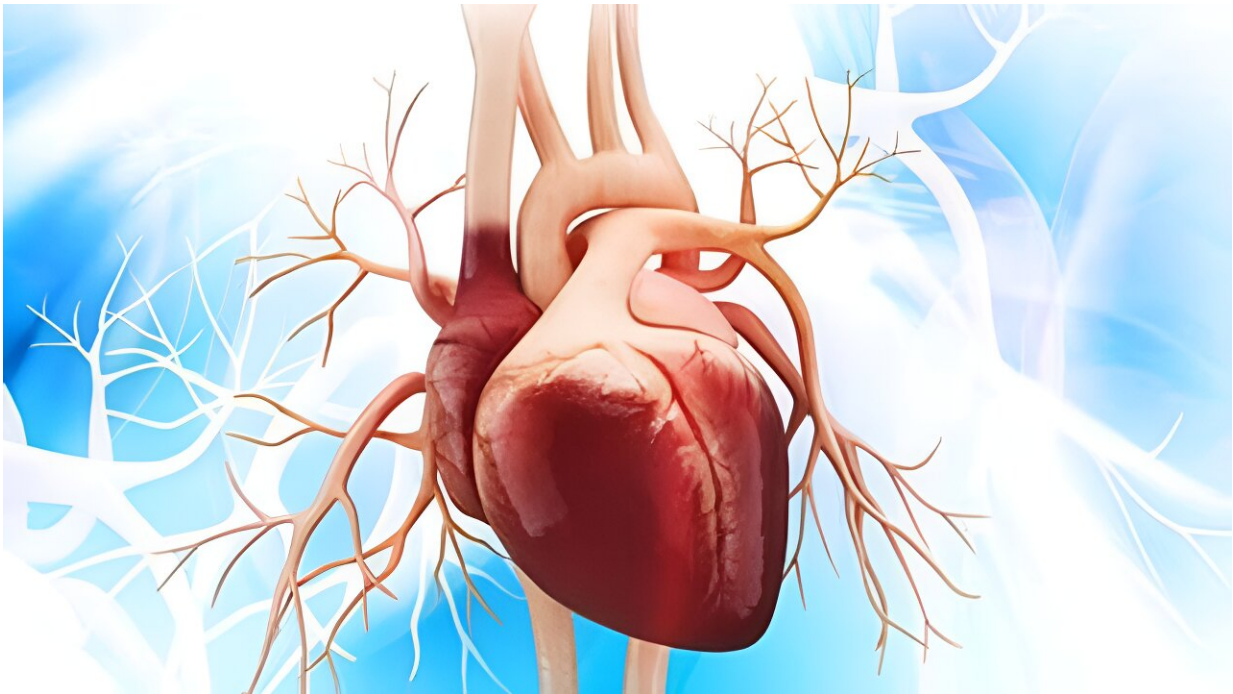# Model based on age: Routine lab tests predicts atherosclerotic CVD accurately

December 12 2023, by Elana Gotkine

The CANHEART (Cardiovascular Health in Ambulatory Care Research Team) Lab Models can predict atherosclerotic cardiovascular disease (ASCVD) with similar accuracy to more complex models, according to a study published online Dec. 12 in the *Annals of Internal Medicine*.

Maneesh Sud, M.D., Ph.D., from Sunnybrook Health Sciences Center in

Toronto, and colleagues developed and validated sex-specific prediction models for ASCVD using age and routine laboratory tests in a derivation and internal validation cohort of 2,160,497 women and 1,833,147 men aged 40 to 75 years without cardiovascular disease from April 2009 to December 2015 and an external validation cohort of 31,697 primary care patients from January 2010 to December 2014.

Prediction model performance was compared to that of the pooled cohort equations (PCEs).

The researchers found that the sex-specific models were well calibrated; for both sexes, the relative differences were less than 1 percent between the mean predicted and observed risk.

The C-statistics were 0.77 and 0.71 in women and men, respectively. A relative difference of less than 14 percent was seen in external validation in primary care patients; in both sexes, there was an absolute difference of less than 0.3 percentage points in mean predicted and observed risks. For the laboratory models, the C-statistics were 0.72 for both sexes and did not differ significantly from those of the PCEs for women or men.

"Future studies are needed to determine whether automating these models in daily practice improves prescribing of preventive treatments according to clinical practice guidelines," the authors write.

More information: Maneesh Sud et al, Development and Validation of the CANHEART Population-Based Laboratory Prediction Models for Atherosclerotic Cardiovascular Disease, *Annals of Internal Medicine* (2023). DOI: 10.7326/M23-1345

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