Health 2000 score - development and validation of a novel cardiovascular risk score.

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Abstract: Previous risk scores for predicting myocardial infarctions and strokes have mainly been based on conventional risk factors. We aimed to develop a novel improved risk score that would incorporate other widely available clinical variables for predicting the broadest range of endpoints, including revascularizations.

A nationwide sample of 5843 Finns underwent a clinical examination in 2000-2001. The participants were followed for a median of 11.2 years for incident cardiovascular events. Model discrimination and calibration were assessed and internal validation was performed.

Sex, age, systolic blood pressure, total cholesterol, HDL cholesterol, smoking status, parental death from cardiovascular disease, left ventricular hypertrophy, hemoglobin A1c, and educational level remained significant predictors of cardiovascular events (p<0.005 for all). The share of participants with =10% estimated cardiovascular risk was 28.9%, 18.5%, 36.9% and 23.8% with the Health 2000, Finrisk, Framingham and Reynolds risk scores. The Health 2000 score (c-statistic: 0.850) showed superior discrimination to the Framingham (c-statistic improvement: 0.021) and Reynolds (c-statistic improvement: 0.007) scores (p?