

New model for predicting cardiovascular disease risk worldwide

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Researchers have developed the first global model for predicting cardiovascular disease (CVD) risk. The model—developed by Harvard T.H. Chan School of Public Health, Imperial College London, and colleagues—will be of particular help to public health professionals, clinicians, and patients in developing countries for prevention of CVD.

A paper on the new CVD risk prediction method, and its application in several example countries, appears online March 26, 2015 in *The Lancet Diabetes & Endocrinology*.

"This new tool allows healthcare professionals around the world to make optimal clinical decisions about treatment of their [patients](#) and for health policy makers to efficiently allocate resources to CVD prevention," said Goodarz Danaei, assistant professor of global health at Harvard Chan School.

To develop the model, which will be available later this year at <http://www.globorisk.org>, the researchers analyzed data from more than 50,000 participants in eight existing long-term studies, which included risk factors such as blood pressure, cholesterol, diabetes, and smoking, as well as gender and age.

The researchers generated risk charts that estimated risk of fatal CVD over a span of 10 years for 11 countries in different regions of the world. The risk of fatal CVD was lowest in South Korea, Spain, Japan, and Denmark, and highest in the Czech Republic, China, Iran, and Mexico.

In the former group of countries, only 5%-10% of men and women had more than a 10% risk of fatal CVD. But in China, 33% of men and 28% of women had a 10-year fatal CVD risk of 10% or higher. In Mexico the prevalence of high-risk CVD was 16% for men and 11% for women.

The researchers found that more people were at high risk of CVD in many [developing countries](#) compared with developed ones. Within [developed countries](#), they found that the U.S. had a larger share of its population at high risk of CVD than England, Japan, South Korea, Denmark, or Spain.

The results emphasize the need to use the current momentum for universal health coverage to ensure that people at high risk of CVD in low- and middle-income countries receive the same basic treatments available to those in the high-income world, according to the authors. The U.S. results also demonstrate the urgent need for equitable access to primary health care as a tool for CVD prevention.

More information: "GloboRisk - A novel risk score for predicting cardiovascular disease risk in national populations: a pooled analysis of prospective cohorts and health examination surveys," Kaveh Hajifathalian, Peter Ueda, Yuan Lu, Mark Woodward, Alireza Ahmadvand, Carlos A. Aguilar-Salinas, Fereidoun Azizi, Renata Cifkova, Mariachiara Di Cesare, Louise Eriksen, Farshad Farzadfar, Nanyu Ikeda, Davood Khalili, Young-Ho Khang, Vera Lanska, Luz León-Muñoz, Dianna Magliano, Kelias P. Msyamboza, Kyungwon Oh, Fernando Rodríguez-Artalejo, Rosalba Rojas-Martinez, Jonathan E. Shaw, Gretchen A. Stevens, Janne Tolstrup, Bin Zhou, Joshua A Salomon, Majid Ezzati, and Goodarz Danaei, *Lancet Diabetes & Endocrinology*, online March 26, 2015, [DOI: 10.1016/S2213-8587\(15\)00081-9](https://doi.org/10.1016/S2213-8587(15)00081-9)

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