PREVENT Calculator

The American Heart Association's (AHA) risk calculator for clinicians to estimate a patient's 10-year and 30-year risk for total cardiovascular disease (CVD), ASCVD, and heart failure (HF).

https://www.heart.org

Overview

The PREVENT (Predicting Risk of Cardiovascular Disease EVENTs) Calculator is a clinical decision support tool developed by the American Heart Association (AHA) in 2023. It is designed to estimate a patient's absolute risk of developing total cardiovascular disease (CVD), atherosclerotic cardiovascular disease (ASCVD), and heart failure (HF) over 10 and 30 years. It is intended for use by healthcare professionals for primary prevention in adults aged 30–79 years without known CVD.

Key Features and Capabilities:

Comprehensive Risk Assessment: PREVENT is the first risk tool to integrate cardiovascular, kidney, and metabolic health measures (CKM) for a more holistic risk picture.

Multi-Outcome Prediction: Provides separate risk estimates for total CVD (PREVENT-CVD), ASCVD (PREVENT-ASCVD), and Heart Failure (PREVENT-HF).

Dual Time Horizons: Offers both 10-year and 30-year risk estimates, which is particularly valuable for younger adults whose 10-year risk may be low but whose long-term risk is high.

Required Inputs: Includes age, sex, total cholesterol, HDL cholesterol, systolic blood pressure (SBP), BMI, eGFR, current smoking status, use of anti-hypertensive medication, and use of statins.

Optional Predictors: Allows for further personalization of risk estimates with optional inputs: urine albumin-creatinine ratio (UACR), hemoglobin A1c (HbA1c), and Social Deprivation Index (SDI) via ZIP code.

Race-Free Calculation: Unlike its predecessor (the Pooled Cohort Equations), PREVENT omits race as a variable and instead offers the optional use of the Social Deprivation Index (SDI) to account for social determinants of health.

Target Users and Use Cases:

Target Users: Clinicians, healthcare providers, health systems, and researchers. The tool is not intended for patients to access or use on their own.

Primary Use Case: Facilitating shared decision-making between a clinician and patient regarding primary prevention strategies, including lifestyle modifications and the initiation of preventive therapies like statins or anti-hypertensive drugs.

Integration: The American Heart Association provides open access to the PREVENT source code at no cost to healthcare organizations and researchers via a license agreement for integration into Electronic Medical Records (EMRs) and other health risk assessment tools.

Key Features

- 10-year and 30-year risk estimation
- Total CVD, ASCVD, and Heart Failure (HF) risk prediction
- Incorporates Cardiovascular-Kidney-Metabolic (CKM) health factors
- Race-free risk calculation
- Optional Social Deprivation Index (SDI) via ZIP code
- Guidance for primary prevention treatment decisions

Pricing

Model: free

The online calculator is free to use. The source code is also available at no cost to authorized healthcare professionals, clinics, systems, and researchers under a license agreement for integration into other platforms (e.g., EMRs).

Target Company Size: small, medium, enterprise

Integrations

Electronic Medical Records (EMR) / Electronic Health Records (EHR) Systems

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