American Heart Association.

PREVENT Equations Quickstart Guide

What Are the 'PREVENT' Equations?

The **American Heart Association Predicting Risk of cardiovascular disease EVENTs (PREVENT™) equations**, released in 2023, are the newest, most comprehensive tools for estimating cardiovascular risk. They calculate **10-year and 30-year risk** for:

› **PREVENT-CVD (ASCVD + Heart Failure)**

› **PREVENT-ASCVD** › **PREVENT-HF (Heart Failure)**

Why Use the PREVENT Equations?

- More accurate and contemporary data than previous tools, including the Pooled Cohort Equations
- Incorporates broader cardiovascular-kidney-metabolic (CKM) risk inputs, including eGFR, BMI and optional fields for UACR, HbA1c and ZIP code
- Increases age range to include younger patients, ages 30–39, where short-term risk is often deceptively low
- Provides risk percentile and 'PREVENT-Age' to translate risk into an intuitive concept for patients, strengthening engagement and long-term prevention planning

When to Use the PREVENT Equations?

PREVENT equations are validated and recommended for:

- Adults 30–79 years
- Without established cardiovascular disease (no prior ASCVD or heart failure)
- With available required clinical input values

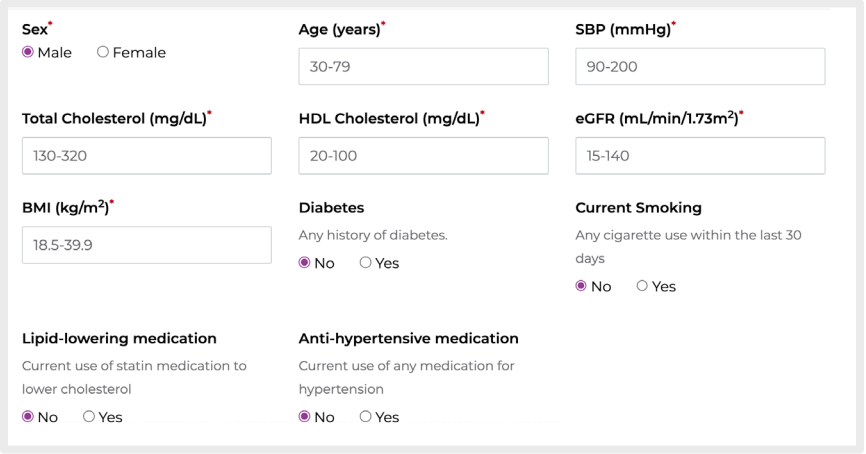
PREVENT equations are not validated for:

- Adults ages <30 or >79
- Patients with known CVD
- Individuals with missing required variables or out-of-range* values

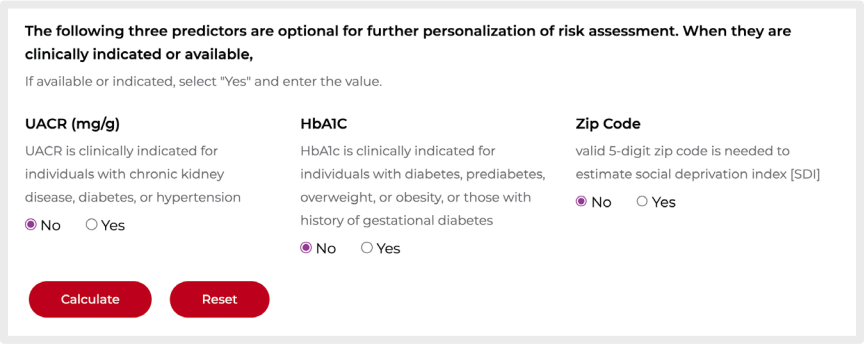
**Out-of-range values should be managed as clinically indicated. Risk can still be estimated with the closest in-range value but may represent an over- or under-estimate.*

How to Use the PREVENT Calculator?

Required Inputs (must be present)



Optional Inputs (further personalize risk assessment)



U.S. ZIP codes only
UACR – clinically indicated for individuals with CKD, diabetes, or hypertension
HbA1c –clinically indicated for individuals with diabetes, prediabetes, overweight/ obesity, or history of gestational diabetes

Results & Interpretations

The American Heart Association PREVENT™ calculator provides a 10-year and 30-year risk percentage for cardiovascular disease (CVD), Atherosclerotic Cardiovascular Disease (ASCVD) and Heart Failure (HF). The PREVENT calculator can also provide a 10-year risk-based 'PREVENT-Age' and a 30-year PREVENT-CVD risk percentile.

10-year Risk Percentage

The risk estimate provided by the PREVENT calculator reflects the likelihood that a person with similar risk facts will develop the specified cardiovascular outcome over the next 10 years.

In this example result using PREVENT-CVD, 4 out of 100 people like this patient will develop CVD over the next 10 years

This is easier for patients and helps anchor prevention decisions.

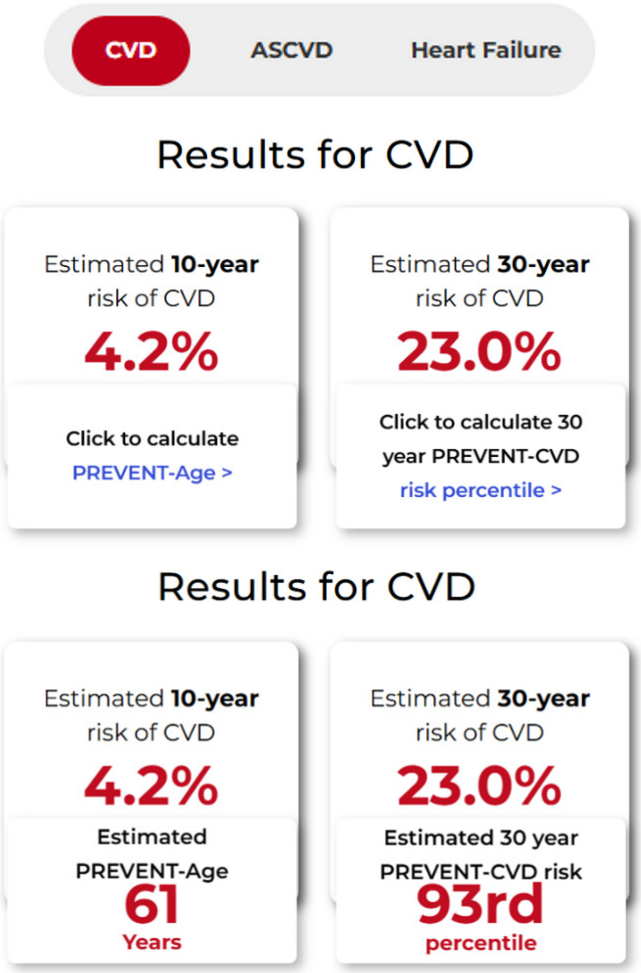
PREVENT-Age

The PREVENT calculator now provides an estimated PREVENT-Age. This translates an individual's predicted cardiovascular risk into an equivalent "risk age" or "heart age" based on the **PREVENT-CVD** equations.

When...

PREVENT-Age is greater than actual age, it suggests a higher-than-expected predicted CVD risk relative to peers of the same age.

PREVENT-Age is less than actual age, it suggests a more favorable CVD risk profile.



30-year Risk Percentage

The risk estimate provided by the PREVENT calculator reflects the likelihood that a person with similar risk facts will develop the specified cardiovascular outcome over the next 30 years.

In this example result using PREVENT-CVD, 23 out of 100 people like this patient will develop CVD over the next 30 years

This is easier for patients and helps anchor prevention decisions – especially for younger patients where a longer look ahead is motivating.

30-year PREVENT-CVD Risk Percentile

The PREVENT calculator also reports age- and sex-specific percentiles for 30-year PREVENT-CVD risk. Percentiles compare an individual's predicted long-term CVD risk with others of the same age and sex in a nationally representative population.

In this example, a 45-year-old female with a predicted 30-year PREVENT-CVD risk of 23.0% would place her at the 93rd percentile, indicating the estimated long-term CVD risk is higher than approximately 93 of 100 age- and sex-matched peers.

Visit professional.heart.org/PREVENT to learn more and use the PREVENT calculator today!