



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)

Sex* <input checked="" type="radio"/> Male <input type="radio"/> Female	Age (years)* <input type="text" value="30-79"/>	SBP (mmHg)* <input type="text" value="90-200"/>
Total Cholesterol (mg/dL)* <input type="text" value="130-320"/>	HDL Cholesterol (mg/dL)* <input type="text" value="20-100"/>	eGFR (mL/min/1.73m²)* <input type="text" value="15-140"/>
BMI (kg/m²)* <input type="text" value="18.5-39.9"/>	Diabetes Any history of diabetes. <input checked="" type="radio"/> No <input type="radio"/> Yes	Current Smoking Any cigarette use within the last 30 days <input checked="" type="radio"/> No <input type="radio"/> Yes
Lipid-lowering medication Current use of statin medication to lower cholesterol <input checked="" type="radio"/> No <input type="radio"/> Yes	Anti-hypertensive medication Current use of any medication for hypertension <input checked="" type="radio"/> No <input type="radio"/> Yes	

Optional Inputs (further personalize risk assessment)

The following three predictors are optional for further personalization of risk assessment. When they are clinically indicated or available, If available or indicated, select "Yes" and enter the value.

UACR (mg/g) UACR is clinically indicated for individuals with chronic kidney disease, diabetes, or hypertension <input checked="" type="radio"/> No <input type="radio"/> Yes	HbA1c HbA1c is clinically indicated for individuals with diabetes, prediabetes, overweight, or obesity, or those with history of gestational diabetes <input checked="" type="radio"/> No <input type="radio"/> Yes	Zip Code valid 5-digit zip code is needed to estimate social deprivation index [SDI] <input checked="" type="radio"/> No <input type="radio"/> Yes
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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.

CVD

ASCVD

Heart Failure

Results for CVD

Estimated **10-year**
risk of CVD

4.2%

Click to calculate
[PREVENT-Age >](#)

Estimated **30-year**
risk of CVD

23.0%

Click to calculate 30
year PREVENT-CVD
[risk percentile >](#)

Results for CVD

Estimated **10-year**
risk of CVD

4.2%

Estimated
PREVENT-Age
61
Years

Estimated **30-year**
risk of CVD

23.0%

Estimated 30 year
PREVENT-CVD risk
93rd
percentile

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!