Cardiovascular disease risk factors

Cardiovascular disease (CVD) includes coronary heart disease, stroke, and other vascular disease such as peripheral arterial disease and renovascular disease. Heart attack and stroke are the leading causes of death and ill health in the world. The majority of patients who develop a cardiovascular event have identifiable and modifiable cardiovascular risk factors (see Box 3.1) that are amenable to behavioural and therapeutic (including drug) interventions. Improvements in the management of major risk factors such as smoking, elevated blood pressure (BP) and dyslipidaemia have led to a marked decline in the overall death rate for CVD in the past 20 years.

Absolute CVD risk is defined as the probability (expressed as a percentage) of a person having a cardiovascular event within a specified period of time. Assessment of absolute CVD risk takes into account multiple interacting risk factors. This is superior to using a single risk factor (eg elevated BP) for clinical decision-making, as it more accurately predicts who will have a subsequent adverse cardiovascular event such as a heart attack or stroke. It can identify people who would otherwise not be recognised as being at high risk (eg because their individual risk factor levels are not markedly elevated), as well as those at low risk who might otherwise be ‘medicalised’ (eg because a single risk factor is elevated).

Risk factors for cardiovascular disease (Box 3.1)

**Modifiable risk factors**

• smoking [NB1]

• elevated blood pressure [NB1]

• dyslipidaemia [NB1]

• diabetes [NB1]

• central obesity

• poor nutrition

• sedentary lifestyle

• excessive alcohol intake

**Nonmodifiable risk factors**

• age [NB1]

• sex [NB1]

• family history of premature cardiovascular disease [NB2]

• cultural identity and ethnicity (eg Aboriginal and Torres Strait Islander, South Asian, Maori and Pacific Islander, Middle Eastern peoples)

• lower socioeconomic status

**Related conditions**

• left ventricular hypertrophy [NB1]

• chronic kidney disease

• familial hypercholesterolaemia

• mental health (eg depression)

NB1:  These risk factors are included in the absolute risk calculator, based on the Framingham risk equation.

NB2:  This applies to cardiovascular disease occurring in a first-degree relative aged less than 60 years.

Who should have their absolute cardiovascular risk estimated

Estimate absolute CVD risk in all adults aged 45 years or older and Aboriginal and Torres Strait Islander adults aged 35 years or older who are not known to have CVD.

People who have established CVD or any of the other risk factors listed in Box 3.2 are already known to be at high risk of a cardiovascular event, so do not need formal risk calculation before starting therapy. For advice on the management of people with established CVD, see Ongoing management of patients with stable coronary artery disease, Peripheral arterial disease and Stroke and transient ischaemic attack: management. For the management of people with atrial fibrillation, see Atrial fibrillation.

For people with any of the risk factors in Box 3.2 but without established CVD, see People at high absolute risk for appropriate management.

People who do not have established CVD or any of the other risk factors listed in Box 3.2 require further assessment to determine their level of risk and the appropriate management.

Estimate absolute CVD risk in all adults aged 45 years or older and Aboriginal and Torres Strait Islander adults aged 35 years or older who are not known to have CVD.