



4.3 Biomedical risk factors

Biomedical risk factors are bodily states that can contribute to the development of chronic disease. Abnormal levels of the three biomedical factors in this snapshot—blood pressure, blood lipids and blood glucose—pose direct and specific risks to health.

Biomedical risk factors may also be influenced by behavioural risk factors. For example, a high blood cholesterol level (biomedical) may be the result of a diet high in saturated fats (behavioural). The effects of individual biomedical risk factors on a person's health can also be amplified when other behavioural or biomedical risk factors are present. The longer a person lives with one or more risk factors, the greater the risk to their overall health and wellbeing.

The latest risk factor results have been sourced from the Australian Bureau of Statistics (ABS) 2014–15 National Health Survey and the biomedical component of the ABS 2011–12 Australian Health Survey (ABS 2013, 2015).

High blood pressure

Blood pressure is the force exerted by blood on the wall of the arteries. High blood pressure—also known as hypertension—is a risk factor for chronic diseases including stroke, coronary heart disease, heart failure and chronic kidney disease (see 'Chapter 3 Leading causes of ill health').

Poor diet (especially high salt intake), overweight and obesity, excessive alcohol consumption and physical inactivity can all contribute to high blood pressure. People with high blood pressure may be able to control their condition with lifestyle changes that reduce these risk factors, or they may require medication.

In 2014–15, 23% of adults, or 4.1 million people, had measured high blood pressure, excluding those taking medication.



- High blood pressure was more common in men (24%) than in women (22%)—except among people aged 75 and over (51% in women and 42% in men).
- The proportion with high blood pressure increased with age, from 6% for people aged 18–24 years to 47% for people aged 75 and over.
- In 2011–12, 11% of adults, or 1.5 million people, managed their high blood pressure through medications.

Note: High blood pressure is defined as systolic/diastolic blood pressure equal to or greater than 140/90 mmHg. The usual definition for the proportion of the population with high blood pressure generally includes people on blood pressure medication. These data were not available from the ABS 2014–15 National Health Survey for inclusion in this report.

The prevalence of high blood pressure is even greater among people with specific conditions. For example, in 2011–12, 77% of people with diabetes and 59% of people with chronic kidney disease had high blood pressure.



Dyslipidaemia

Dyslipidaemia—abnormal levels of blood lipids such as cholesterol and triglycerides—can contribute to the development of atherosclerosis, a build-up of fatty deposits in the blood vessels that may lead to the development of cardiovascular disease. Dyslipidaemia is a risk factor for chronic diseases such as coronary heart disease and stroke. People with dyslipidaemia are encouraged to adopt a healthy lifestyle through a balanced diet and sufficient physical activity, and may also be treated using lipid-modifying medications such as statins.



In 2011–12, 63% of adults or 8.5 million Australians had dyslipidaemia.

Of these:

- 33% had high total cholesterol
- 33% had high LDL 'bad' cholesterol
- 23% had low HDL 'good' cholesterol.

Dyslipidaemia increased with age, to a peak of 81% in people aged 65–74 and then declined. Eighty-nine per cent of people with measured dyslipidaemia (7.6 million people) were not using lipid-modifying medication.

Note: Dyslipidaemia is defined as having either total cholesterol ≥ 5.5 mmol/L, LDL cholesterol ≥ 3.5 mmol/L, HDL cholesterol < 1.0 mmol/L for men and < 1.3 mmol/L for women, triglycerides ≥ 2.0 mmol/L, or taking lipid-modifying medication.

The prevalence of dyslipidaemia is even greater among those with specific conditions. In 2011–12, 86% of people with diabetes and 78% of people with cardiovascular disease had dyslipidaemia.

Impaired glucose regulation

Impaired glucose regulation is a characteristic of pre-diabetes, a condition in which blood glucose levels are higher than normal, although not high enough to be diagnosed with type 2 diabetes. Impaired fasting glucose (IFG)—the presence of higher than usual levels of glucose in the blood after fasting—is one of two measures that are used to define impaired glucose regulation, the other being impaired glucose tolerance (IGT).

People who have IFG and IGT are at risk for the future development of diabetes and cardiovascular disease (see 'Chapter 3.7 Diabetes' and 'Chapter 3.5 Coronary heart disease'). Lifestyle changes incorporating increased physical activity and healthy eating can slow the progression of IFG to diabetes.



In 2011–12, 3.1% of adults or 416,000 Australians had IFG.

- IFG was more common in men (4.1%) than women (2.1%).
- IFG increased with age, to 7.5% in people aged 75 and over.

Note: Impaired fasting glucose is defined as a fasting plasma glucose level ranging from 6.1 mmol/L to less than 7.0 mmol/L.

The prevalence of IFG is even greater among those with specific conditions. In 2011–12, 5.9% of people with cardiovascular disease and 4.6% of people with chronic kidney disease had IFG.



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What is missing from the picture?

There is limited national data to measure progress and monitor trends in some biomedical risk factors. Future collections measuring dyslipidaemia and impaired glucose regulation will be needed to provide updated data on these risk factors and to determine trends in the Australian population.

Where do I go for more information?

More information on these biomedical risk factors is available on the AIHW website www.aihw.gov.au/risk-factors.

The report [Cardiovascular disease, diabetes and chronic kidney disease—Australian facts: risk factors](#) and other recent publications can be downloaded for free.

References

ABS (Australian Bureau of Statistics) 2013. Australian Health Survey: biomedical results for chronic diseases, 2011–12. ABS cat. no. 4364.0.55.005. Canberra: ABS.

ABS 2015. National Health Survey: first results, Australia, 2014–15. ABS cat. no. 4364.0.55.001. Canberra: ABS.