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4.11 Biomedical risk factors

Biomedical risk factors are bodily states that have an impact on a person's risk of disease. This snapshot focuses on three biomedical risk factors: blood pressure, blood lipids and blood glucose—elevated levels of which have been directly linked to specific health outcomes such as cardiovascular disease, chronic kidney disease and diabetes. Obesity, which is also a biomedical risk factor, is discussed in Chapter 4.10 'Overweight and obesity'.

The information in this snapshot is based on the Australian Bureau of Statistics 2011–12 Australian Health Survey (ABS 2013) and 2014–15 National Health Survey (ABS 2017).

High blood pressure

High blood pressure—also known as hypertension—is a risk factor for chronic conditions, including heart failure, chronic kidney disease and stroke. See Chapter 3 for more information on these chronic conditions.

In 2014–15, an estimated 1 in 3 (34%, or 6 million) Australian adults had high blood pressure. This comprised 23% who had uncontrolled high blood pressure and 11% whose blood pressure was controlled by blood pressure medication.

The proportion of men with high blood pressure was slightly higher than for women (35% and 32%, respectively) and increased with age, being highest in people aged 75 and over (82%) (ABS 2014; Supplementary Table S4.11.1).

Abnormal blood lipids

Abnormal levels of blood lipids, such as cholesterol and triglycerides—also known as dyslipidaemia—can lead to the build-up of fatty deposits in the blood vessels and contribute to the risk of cardiovascular disease.

In 2011–12, an estimated 2 in 3 (65%, or 8.4 million) Australian adults had abnormal blood lipid levels. This included 59% with uncontrolled blood lipids and 6.7% with normal blood lipid levels who were taking lipid-modifying medication (ABS 2014; Supplementary Table S4.11.2).

Impaired glucose regulation

Impaired glucose regulation is a condition where blood glucose levels are higher than normal, but not high enough to be regarded as type 2 diabetes. People with impaired glucose regulation are at increased risk of diabetes and cardiovascular disease.

Measurement of blood glucose levels after fasting provides a measure of glucose regulation.

In 2011–12, an estimated 3.1% (416,000) Australian adults had impaired glucose regulation, affecting a greater proportion of men (4.1%) than women (2.1%). Impaired glucose regulation was highest in people aged 75 and over (7.5%).

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Multiple biomedical risk factors

Biomedical risk factors can have an interactive or cumulative effect on disease risk. Multiple risk factors can increase the risk of disease, lead to earlier disease onset, increase severity and complicate treatment.

The development of one risk factor can lead to the occurrence of another, or they may have shared causes. For example, high blood pressure and dyslipidaemia are often related to poor diet and being overweight.

- In 2011–12, an estimated 1 in 4 (25%) Australian adults had both high blood pressure and abnormal blood lipids. This increased with age, from 4.3% in people aged 18–34 to 65% in people aged 75 and over.

- Almost 3 in 4 (71%) adults had either high blood pressure, abnormal blood lipids or both risk factors. This was highest in people aged 75 and over (96%) (ABS 2014; Supplementary Table S4.11.3).

29%	46%	25%
Neither risk factor	High blood pressure or abnormal lipids	Both risk factor
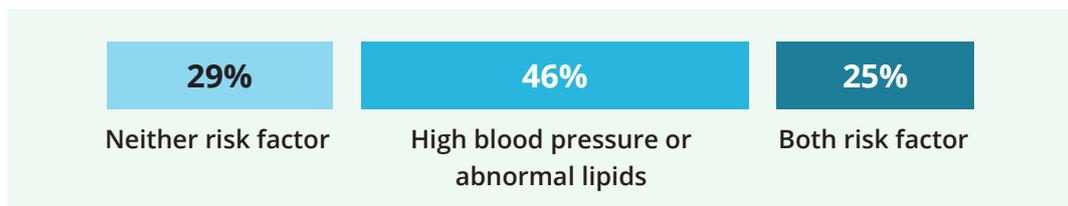
Managing risk factors

Treating or managing biomedical risk factors includes changes in lifestyle (such as dietary modifications or increased physical activity), use of medications, and surgery. Improvements in biomedical risk factors can prevent disease, delay disease progression and improve treatment outcomes, and have the potential to improve the health of the population.

- In 2014–15, an estimated 15% of adults had measured high blood pressure but were not taking any blood pressure medication.

- Around 8.1% of adults with measured high blood pressure reported that they took medicines to lower blood pressure. Measured high blood pressure, despite the use of medication, was highest in people aged 75 and over (33%) (ABS 2014; Supplementary Table S4.11.1).

- In 2011–12, the majority of people with measured dyslipidaemia (87%) were not using lipid modifying medications. This reflects current guidelines, which state that prescription of lipid modifying medications is not based on abnormal blood lipids alone, but on the absolute risk of cardiovascular disease (RACGP 2016). The absolute risk of cardiovascular disease considers risk factors, such as blood pressure and cholesterol levels, in combination.

- A total of 7.7% of people were identified as having abnormal blood lipids, despite reporting using lipid lowering medications. Poorly controlled blood lipids, despite the use of medication, was highest in people aged 65–74 (20%) (ABS 2014; Supplementary Table S4.11.4).

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What is missing from the picture?

National surveys collecting information on biomedical risk factors are infrequent. The most recent national data on blood lipid and blood glucose levels were collected in 2011–12. More surveys will be needed to continue to monitor the levels of these risk factors in the Australian population.

Where do I go for more information?

More information on biomedical risk factors is available at <www.aihw.gov.au/reports-statistics/behaviours-risk-factors/biomedical-risk-factors/overview>.

The report *Cardiovascular disease, diabetes and chronic kidney disease—risk factors* is available for free download.

References

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