3.7 Diabetes

Diabetes is a chronic condition marked by high levels of glucose in the blood. It is caused either by the inability to produce insulin (a hormone made by the pancreas to control blood glucose levels), or by the body not being able to use insulin effectively, or both.

The main types of diabetes are type 1 diabetes, type 2 diabetes and gestational diabetes. Type 1 diabetes is a lifelong autoimmune disease that usually has onset in childhood and is believed to be caused by an interaction of genetic and environmental factors (see 'Chapter 5.3 How healthy are Australia's children?'). Type 2 diabetes, while involving a genetic component, is largely preventable by maintaining a healthy lifestyle. Modifiable risk factors that can lead to type 2 diabetes include insufficient physical activity, saturated fat intake, obesity, and tobacco smoking (see 'Chapter 4 Determinants of health'). Gestational diabetes occurs when higher than normal blood glucose is diagnosed in pregnancy.

Diabetes may result in a range of health complications, including heart disease, kidney disease, blindness and lower limb amputation. It is frequently associated with other chronic health conditions (comorbidities, see Glossary) such as cardiovascular disease and chronic kidney disease.

How common is diabetes?

- According to the ABS 2014–15 National Health Survey, an estimated 1.2 million (5.1%) people had diabetes, based on self-reported data (ABS 2015). The majority of these (85%) had type 2 diabetes and 15% had type 1 diabetes. However, information based on self-reported data only is likely to underestimate the prevalence of diabetes as it cannot include people with undiagnosed diabetes. The 2011–12 Australian Health Survey, which included both measured and self-report data, showed that for every 4 adults with diagnosed diabetes, there was 1 who was undiagnosed (ABS 2013).
- In 2014–15, diabetes was more common in males (6%) than females (4%). It increased rapidly with age, to about 16% for those aged 65–74, based on self-reported data.
- In 2011–12, around 68% of people who had diabetes (based on measured and self-reported data) also had cardiovascular disease and/or chronic kidney disease.

Insulin-treated diabetes

Insulin replacement therapy is essential for all people with type 1 diabetes, as this condition is characterised by the destruction of insulin-producing cells. However, for people with type 2 diabetes and gestational diabetes, not enough insulin is produced or it is not used effectively. Around 20% of people with type 2 diabetes and 25–40% of people with gestational diabetes use insulin. In other cases, these conditions can be managed through lifestyle modifications and/or other medications.

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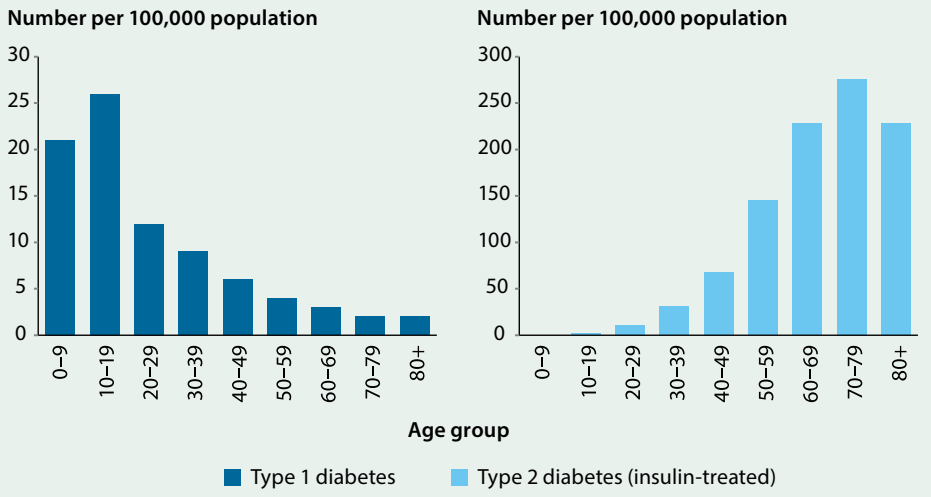
According to the National (insulin-treated) Diabetes Register, in 2014:

- around 29,400, or 1 in 800 people, began using insulin. The majority of these (19,400 people) began to use insulin for the treatment of type 2 diabetes
- almost all (93%) new cases of insulin use for type 2 diabetes occurred in those aged 40 and over, reflecting the higher prevalence of type 2 diabetes with advancing age (Figure 3.7.1)
- there were more than 2,500 new cases of type 1 diabetes, with almost two-thirds (63%) of these diagnosed in people under the age of 25 (Figure 3.7.1)
- about 6,600 women started using insulin to treat gestational diabetes, which occurs in around 6% of pregnancies.

Figure 3.7.1: New cases of type 1 diabetes and insulin-use among people with type 2 diabetes, by age, 2014



Source: AIHW National (insulin-treated) Diabetes Register.

Hospitalisations

- Diabetes contributed to around 929,000 hospitalisations in 2013–14 (9% of all hospitalisations), with the majority (95%) of the hospitalisations listing diabetes as an additional diagnosis.
- In 2013–14, 32% of hospitalisations for diabetes also had a diagnosis of cardiovascular disease, 19% had a diagnosis of chronic kidney disease, and 14% had both.

Deaths

- In 2013, diabetes contributed to 10% of all deaths in Australia (15,100), with the majority of these (71%) recording diabetes as an associated cause of death.
- Diabetes death rates have remained relatively stable between 1997 and 2013, with age-standardised rates of 53 to 62 deaths per 100,000 population each year.
- In 2013, diabetes death rates were higher for males than females (1.6 times as high for males) and most (88%) deaths occurred among those aged 65 and over.
- In 2013, where diabetes was an associated cause of death, coronary heart disease was listed as the underlying cause of death in 23% of deaths, and stroke in 6%.

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Variations among population groups

Compared with non-Indigenous Australians, **Indigenous Australians** were:

- 3.5 times as likely as non-Indigenous Australians to have diabetes
- 4.0 times as likely as Other Australians to be hospitalised for diabetes
- 4.0 times as likely as non-Indigenous Australians to die from diabetes.

Compared with those living in *Major cities*, people in **combined *Remote* and *Very remote* areas** were:

- 1.8 times as likely to be hospitalised for diabetes
- 1.9 times as likely to die from diabetes.

Compared with those living in the highest socioeconomic areas, people living in the **lowest socioeconomic areas** were:

- 3.6 times as likely to have diabetes
- 1.8 times as likely to be hospitalised for diabetes
- 2.0 times as likely to die from diabetes.

What is missing from the picture?

Further monitoring and surveillance of diabetes is crucial for guiding preventive measures, determining clinical care and informing health policy and service planning.

Currently, there are no national data on new cases of diagnosed type 2 diabetes, especially for young people. Symptoms of type 2 diabetes are often absent in the early stages and so people may go undiagnosed for a long time. Also, there can be problems with misdiagnosis, particularly among young people with type 2 diabetes, and misreporting of diabetes type.

Where do I go for more information?

The following reports are available for free download: *Incidence of insulin-treated diabetes in Australia 2014* and the *Cardiovascular disease, diabetes and chronic kidney disease—Australian facts* series (Mortality; Prevalence and incidence; Morbidity—hospital care; Risk factors; Aboriginal and Torres Strait Islander people).

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.