



## 3.8 Diabetes

Diabetes is a chronic condition marked by high levels of sugar (glucose) in the blood. It is caused by the body's being unable to produce insulin (a hormone made by the pancreas to control blood glucose levels) or to use insulin effectively, or both.

The main types of diabetes are:

- type 1 diabetes—an autoimmune disease that usually has an onset in childhood or early adulthood
- type 2 diabetes—the most common form of diabetes, generally having a later onset. It is largely preventable and is often associated with lifestyle factors such as insufficient physical activity, unhealthy diet, obesity and tobacco smoking. Risk is also associated with genetic and family-related factors
- gestational diabetes—when higher than normal blood glucose is diagnosed for the first time during pregnancy.

The treatment of diabetes aims to maintain healthy blood glucose levels to prevent both short- and long-term complications, such as heart disease, kidney disease, blindness and lower limb amputation. All people with type 1 diabetes need insulin replacement therapy, as do a proportion of people with other forms of diabetes as their condition worsens over time.

### How common is diabetes?

Based on self-reported estimates from the Australian Bureau of Statistics 2014–15 National Health Survey, more than 1 in 20 (6.1%, or 1.2 million) Australian adults had diabetes. However, self-reported data are likely to underestimate diabetes prevalence. Analysis of measured diabetes data from 2011–12 showed that for every 4 adults with diagnosed diabetes there is 1 with undiagnosed diabetes.

An estimated 1 in 5 (19%) Australians aged 75 and over had diabetes in 2014–15, compared with 1.3% of people aged 18–44. Diabetes was also more common in males (6.8%) than females (5.4%).

The age-standardised rate of self-reported diabetes has more than tripled over 25 years—from 1.5% in 1989–90 to 4.7% in 2014–15.

### Impact

#### Burden of disease

Diabetes was the 12th leading cause of disease burden in 2011, responsible for 2.3% of the total direct burden of disease and injury in Australia. If the health loss from both diabetes and other diseases for which diabetes is a risk factor is considered, the burden due to diabetes almost doubles.



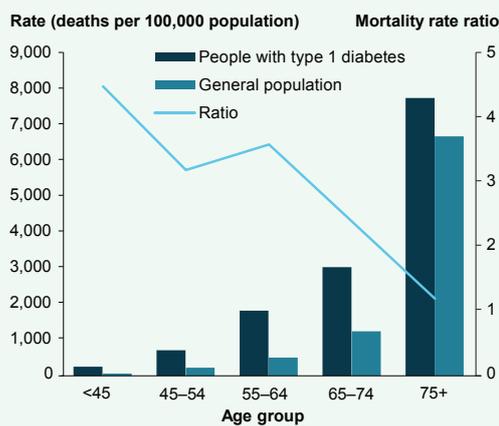
## Deaths

Diabetes was the underlying cause of around 4,770 deaths in 2016. However, it contributed to 16,450 deaths (10% of all deaths) (Supplementary Table S3.8.1).

An examination of deaths among people with diagnosed diabetes provides a more complete picture of diabetes-related deaths. Age-adjusted death rates for people with diabetes were almost double those for the general Australian population. The disparity in death rates was highest in people aged under 45 with type 1 diabetes (4.5 times as high), and type 2 diabetes (5.8 times as high) (figures 3.8.1 and 3.8.2).

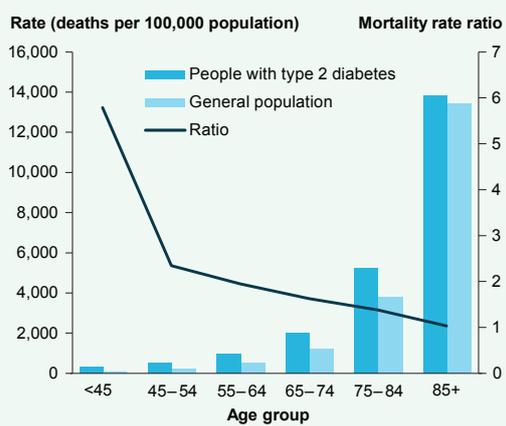
Between 2009 and 2014, death rates fell by 20% for people with type 1 diabetes but rose by 10% for people with type 2 diabetes. As death rates have been declining in the general population, the mortality gap has widened for people with type 2 diabetes but reduced for people with type 1 diabetes, compared with the general population.

**Figure 3.8.1: All-cause mortality rates for people with type 1 diabetes compared with general population, by age, 2012–2014**



Source: Table S3.8.2.

**Figure 3.8.2: All-cause mortality rates for people with type 2 diabetes compared with general population, by age, 2014**



Source: Table S3.8.3.

## Treatment and management

### Diabetes medicines

- In 2015, more than 11 million Pharmaceutical Benefits Scheme and Repatriation Pharmaceutical Benefits Scheme prescriptions for diabetes medicines were dispensed to the Australian community (Department of Health 2016).
- The most commonly dispensed prescription medicines for managing diabetes were metformin, sulfonylureas, DPP4 (dipeptidyl peptidase 4) inhibitors, and insulin. Metformin prescriptions made up almost half of all dispensed diabetes medicines; it was the ninth most dispensed medicine to the Australian community in 2015.
- In 2016, there were 27,700 people who began using insulin to treat their diabetes—9.5% with type 1 diabetes, 59% with type 2 diabetes, 29% with gestational diabetes and 1.9% with other forms of diabetes.

### Hospitalisations

Diabetes was recorded as the principal and/or additional diagnosis in around 1 million hospitalisations in 2015–16, accounting for 10% of all hospitalisations in Australia.



## Variations among population groups

The impact of diabetes varies among population groups, with rates being 3–6 times as high among Aboriginal and Torres Strait Islander people as among non-Indigenous Australians. Generally, the impact of diabetes increases with increasing remoteness and socioeconomic disadvantage. Rates were almost twice as high in *Remote/Very remote* areas compared with *Major cities*, and 2–3 times as high in the lowest socioeconomic areas compared with the highest.

Comparing rates for:	 Indigenous / non-Indigenous	 Remote and Very remote / Major cities	 Lowest / highest socioeconomic areas
Having diabetes	3.5x	Similar	2.6x
Hospitalised for type 2 diabetes	4.0x	2.0x	2.0x
Dying from diabetes	4.0x	1.8x	2.3x
Burden of disease (DALYs)	5.6x	2.3x	2.3x

### What is missing from the picture?

There are several data gaps for diabetes. Currently, there are no national data on the number of new cases of diagnosed type 2 diabetes and no regular collection of biomedical data to better understand diabetes prevalence.

There is limited national data to monitor complications associated with gestational diabetes and pre-existing diabetes in pregnancy. There is a need for national primary health care data on screening, self-care management, and appropriateness of care and health across the life course.

### Where do I go for more information?

More information on diabetes is available at [www.aihw.gov.au/reports-statistics/health-conditions-disability-deaths/diabetes/overview](http://www.aihw.gov.au/reports-statistics/health-conditions-disability-deaths/diabetes/overview).

The following reports are available for free download: *Incidence of insulin-treated diabetes in Australia*, *Deaths among people with diabetes in Australia, 2009–2014* 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).

### Reference

Department of Health 2016. Australian statistics on medicines 2015. Canberra: Department of Health. Viewed 5 December 2017, <[www.pbs.gov.au/info/browse/statistics#ASM](http://www.pbs.gov.au/info/browse/statistics#ASM)>.

