

4.11 Chronic kidney disease

Chronic kidney disease (CKD) refers to all kidney conditions where a person has evidence of kidney damage and/or reduced kidney function, lasting at least 3 months. Many people do not know that they have kidney disease as up to 90% of kidney function can be lost before symptoms appear (Kidney Health Australia 2014). Fortunately, simple tests of kidney function and damage can detect the early signs of CKD.

End-stage kidney disease (ESKD), the most severe form of CKD, usually requires kidney replacement therapy (KRT) to survive. KRT has 2 forms—a kidney transplant or dialysis. Dialysis is an artificial way of removing waste substances from the blood and is mostly provided in hospitals or satellite dialysis units, but can also be provided in a home setting. Not all patients with ESKD receive KRT. Prognosis, anticipated quality of life (with or without KRT), treatment burden on the patient, and patient preference all play a part in the decision for or against KRT (Murtagh et al. 2007).

CKD is common, and largely preventable as many of its risk factors are modifiable, such as high blood pressure, tobacco smoking and obesity (see Chapter 5 'Biomedical risk factors' and 'Behavioural risk factors'). Many of the risk factors for CKD also apply to other chronic diseases such as cardiovascular disease and diabetes, which in turn, are risk factors for CKD.

How common is chronic kidney disease?

- According to the 2011–12 Australian Health Survey, 1 in 10 people (or 1.7 million Australians) aged 18 and over have biomedical signs of CKD (ABS 2013).
- There were about 2,500 new cases of KRT-treated-ESKD in 2011 (equating to an age-standardised rate of 10 people per 100,000 population or 7 new treated-ESKD cases per day).
- Diabetes was the leading cause of KRT-treated-ESKD in 2011, accounting for 1 in 3 new cases (ANZDATA 2013).

Deaths

- In 2011, CKD contributed to over 10% of all deaths in Australia (15,000 deaths)—with the vast majority of these deaths recorded as an *associated cause of death* (11,900 deaths; see Glossary for 'cause of death' definitions and Chapter 3 'Multiple causes of death in Australia').

Health care

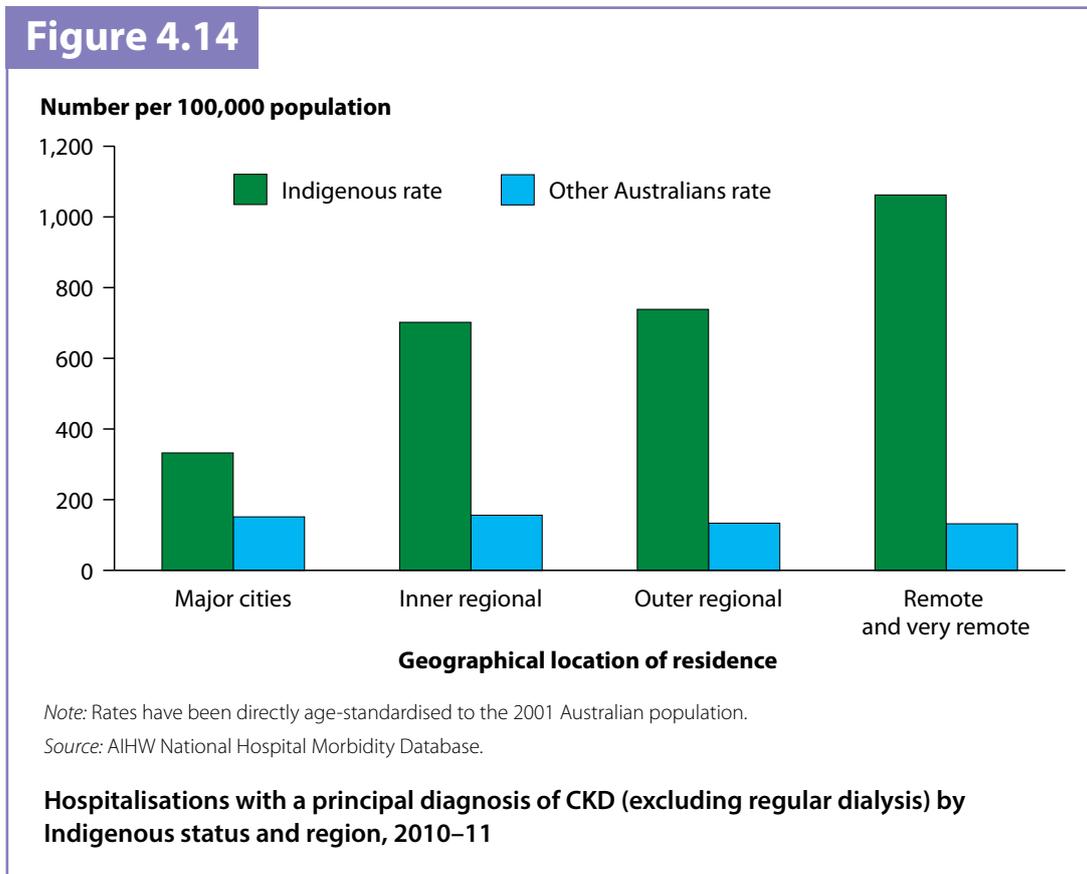
- Of the 1.4 million hospitalisations for CKD in 2011–12, 86% were for regular dialysis treatment. Dialysis treatment is the most common reason for hospitalisation in Australia.
- Over the last decade, the number of hospitalisations for dialysis has almost doubled. In addition, the hospitalisation rate for CKD (excluding dialysis) has also increased substantially from an age-standardised rate of 125 to 156 per 100,000 people between 2000–01 and 2011–12.

- The number of people with a functioning kidney transplant or on dialysis for ESKD has been increasing more rapidly for Indigenous Australians than non-Indigenous Australians. Over the period 2001 to 2011, the number of Indigenous Australians with KRT-treated-ESKD almost doubled (from 762 to 1,491); this compares with a 59% increase among non-Indigenous Australians over the same period (from 11,613 to 18,289).
- In 2011, dialysis was the most common form of KRT for ESKD, with 56% of KRT-treated-ESKD patients receiving dialysis and the remaining 44% treated with a transplant. Indigenous Australians with ESKD were far less likely to be treated with a functioning kidney transplant than their non-Indigenous counterparts in 2011 (13% compared with 47%, respectively).
- Over the period 2001 to 2011, the proportion of dialysis patients receiving treatment in the home setting decreased from 37% to 27% of dialysis patients.
- Not all people with ESKD receive dialysis or a transplant. During 2002–2010, for every new case of ESKD that received KRT, there was 1 that did not.
- There were 825 kidney transplants in 2011, an increase from 470 in 1991 (ANZDATA 2013).
- Over the last 2 decades, there has been a 45% increase in transplants from deceased donors, increasing from 392 to 570 deceased donor transplants between 1991 and 2011. There has also been a rapid rise in transplants from living donors—a fourfold increase from 78 to 354 living donor transplants between 1991 and 2008. However, in recent years the number of transplants from living donors has fallen (354 to 255 between 2008 and 2011, respectively).

Variations among population groups and impact

- In 2010–11, almost 11% of people with ESKD who were beginning KRT identified as Indigenous, despite making up only 3% of the total population.
- CKD hospitalisation rates (excluding dialysis) are also higher among Indigenous Australians, with the difference between Indigenous and other Australians increasing with remoteness—from twice as high in *Major cities* to 8 times as high in *Remote and very remote areas* (Figure 4.14).
- The higher CKD hospitalisation rates among Indigenous Australians are due in part to the considerably higher rates of obesity and diabetes in this population.

For dialysis patients, the need to adhere to strict treatment protocols and the need for frequent treatment—normally 4–5 hour sessions 3 times per week for in-centre dialysis—places a large health, time and cost burden on patients, especially Indigenous Australians living in rural and remote areas who often need to relocate to access KRT (Preston-Thomas et al. 2007). This can result in a loss of social and cultural connectedness, loss of autonomy and control, and loss of status and authority (George Institute for Global Health 2011).



What is missing from the picture?

Nearly all people with ESKD in Australia who receive KRT are recorded in the Australian and New Zealand Dialysis and Transplant (ANZDATA) Registry. But information on the number of people with ESKD *not* receiving KRT is lacking. By using data linkage techniques across the ANZDATA registry, and mortality and hospitals data, it may be possible to estimate the total number of *current* cases of ESKD in Australia (including cases not receiving KRT). This work would expand on the AIHW's work on estimating the total number of new cases of non-KRT-treated and KRT-treated-ESKD.

Where do I go for more information?

The following reports are available for free download on the AIHW website:

[Dialysis and kidney transplantation in Australia: 1991–2010](#), [Chronic kidney disease in Aboriginal and Torres Strait Islander people](#), [Chronic kidney disease: regional variation in Australia](#) and Cardiovascular, diabetes and kidney disease: Australian facts 2014 (forthcoming).



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.
- ANZDATA (Australian and New Zealand Dialysis and Transplant) 2013. ANZDATA Registry report 2012. Adelaide: Australia and New Zealand Dialysis and Transplant Registry.
- George Institute for Global Health 2011. Central Australia renal study—final report. Canberra: DoHA.
- Kidney Health Australia 2014. Fast facts on CKD in Australia. Kidney Health Australia. Viewed 18 February 2014, <<http://www.kidney.org.au/Kidneydisease/FastFactsonCKD/tabid/589/Default.aspx>>.
- Murtagh FE, Marsh JE, Donohoe P, Ekbal NJ, Sheerin NS & Harris FE 2007. Dialysis or not? A comparative survival study of patients over 75 years with chronic kidney disease stage 5. *Nephrology, Dialysis, Transplantation* 22:1955–62.
- Preston-Thomas A, Cass A & O'Rourke P 2007. Trends in the incidence of treated end-stage kidney disease among Indigenous Australians and access to treatment. *Australian and New Zealand Journal of Public Health* 31:419–21.