

CHRONIC KIDNEY DISEASE IN RURAL AUSTRALIA



Healthy and sustainable rural, regional and remote communities across Australia

One in seven (14.2%) of Australian adults have signs of chronic kidney disease (CKD) (ABS 2025). According to the latest data, people living in *Remote* and *Very Remote* areas of Australia die from CKD at twice the rate of those in *Major Cities*. Among First Nation Australians, the death rate from chronic kidney disease is 4.1 times higher than that of non-Indigenous Australians (AIHW 2024).



Kidneys

The kidneys continuously filter the blood, clearing waste products and playing a vital role in controlling the body's level of water and various chemicals. They also produce certain essential hormones, which help to control blood pressure, red blood cell production and calcium uptake from the intestine (Kidney Health Australia 2025a).

What is CKD?

CKD refers to all kidney conditions where a person has evidence of kidney damage and/or reduced kidney function, lasting at least three months, regardless of the specific diagnosis of disease or condition causing the disease (Kidney Health Australia 2025a).

Adult Australians are at increased risk of CKD if they:

- have diabetes;
- have high blood pressure;
- have had a stroke, heart attack or have heart failure;
- have a family history of kidney failure, dialysis or kidney transplant;
- are very overweight or obese;
- are a current or former smoker/vaper;
- are 60 years or older;
- are First Nations Australians aged 18 years and over;
- have a history of acute kidney injury (Kidney Health Australia 2024).

Early detection of CKD is important as early treatment can help slow the progression of kidney disease. Therefore, it is imperative that primary health care professionals perform targeted Kidney Health Checks with people at increased risk of developing CKD; every year for people with diabetes, high blood pressure or if they are a First Nation Australian aged 18 years and over, and every two years for those with other CKD risk factors (Kidney Health Australia 2024).

A Kidney Health Check consists of:

- a blood test to measure the estimated glomerular filtration rate (eGFR)
- a urine test to measure the urine albumin/creatinine ratio (uACR)
- a blood pressure check (Kidney Health Australia 2025a)

CKD may further deteriorate into kidney failure (previously referred to as end-stage kidney disease)^a where kidney replacement therapy (dialysis or transplantation) is required to stay alive. However, if CKD is detected early, evidence indicates that disease progression may be slowed, halted or possibly even reversed (Kushner et al. 2024).

^a See [Consensus Conference on Nomenclature for Kidney Function & Disease – KDIGO](https://kdigo.org/conferences/nomenclature/) (<https://kdigo.org/conferences/nomenclature/>)

The burden of CKD in Australia

CKD is typically asymptomatic and frequently remains undetected until the disease is well progressed. It is common to lose up to 90% of kidney function before symptoms appear (Kidney Health Australia 2024).

- It is estimated that 3 in 4 Australian adults is at increased risk of developing CKD.
- In 2022, CKD contributed to around 21,800 deaths (11% of all deaths in Australia).
- CKD accounted for 1.1% of the total burden of disease in Australia in 2024 (1.1% males, 1.1% females).
- The number of people with kidney failure who received dialysis more than doubled between 2003 and 2022, from 7,700 to 15,500 (AIHW 2024; Kidney Health Australia 2025a).

The burden of CKD impacting First Nations people

First Nations peoples experience much higher levels of kidney disease than non-Indigenous Australians, regardless of whether their locality is urban, regional or rural (Kidney Health Australia 2025b).

- First Nations adults living in *Remote* and *Very Remote* areas were twice as likely to have indicators of CKD than those living in non-remote areas (32.4% and 16% respectively) (ABS 2025).
- The incidence of kidney failure among First Nations Australians is especially high in *Remote* and *Very Remote* areas, with rates up to 17 times higher than non-Indigenous peoples (AIHW & NIAA 2026).
- 2021 data shows death rates for Aboriginal and Torres Strait Islander peoples, as a result of CKD, were four times as high as the non-Indigenous rates (210 deaths compared with 53 deaths per 100,000) (AIHW 2024).

The burden of CKD in rural Australia

The burden of disease^b for CKD increases with remoteness. According to the AIHW (2024), people living in *Remote* and *Very Remote* areas experience a burden of disease for CKD that is 3.1 times higher than those in *Major Cities* (5.0 DALYs per 1,000 population compared with 1.6).

Recent ABS data (2025) also shows that adults in *Outer Regional* and *Remote* areas are more likely to have albuminuria, a biomedical indicator of CKD, with prevalence rates of 14.4% compared with 10.4% in *Major Cities*. In 2020-21, people living in *Remote* and *Very Remote* areas were 3.6 times more likely to present to an emergency department with a principal diagnosis of CKD (AIHW 2024).

CKD mortality rates also increase with both remoteness and socioeconomic disadvantage. Between 2020 and 2022, people living in *Remote* and *Very Remote* areas were

twice as likely to die from CKD than those living in *Major Cities*. This disparity was more pronounced among females, whose CKD mortality rate was 2.6 times higher than their counterparts in *Major Cities*, compared with 1.7 times higher for males (AIHW 2024).

Managing kidney failure

Kidney failure results in the body not being able to remove extra water and waste products. This can become dangerous to the affected individual's health. There are different types of kidney failure treatment options including dialysis, kidney transplant, or choosing comprehensive conservative care (Kidney Health Australia 2025c). These are explained further below.

Dialysis

Dialysis is an artificial way to remove waste and excess water from the blood and regulate safe levels of circulating agents (such as potassium, calcium and phosphorous) in the body, functions usually performed by the kidneys.

There are two types of dialysis: peritoneal dialysis and haemodialysis. Peritoneal dialysis is an internal filtration process requiring the placement of a catheter (a thin, flexible plastic tube) into the abdomen, which remains in place as long as dialysis is required. Dialysate fluid enters the peritoneal cavity through this catheter. The blood is filtered through the peritoneal membrane and extra fluids and wastes are drawn out by the dialysate. The fluid is drained and the process is repeated.

Peritoneal dialysis can be performed either by the person three or four times during the day (continuous ambulatory peritoneal dialysis) or automatically by a machine at night for about 8–10 hours while the person sleeps (automated peritoneal dialysis). As the necessary equipment is portable, peritoneal dialysis can be performed almost anywhere. Individuals do not need to be in a hospital or clinic and can usually manage the procedure without assistance.

The Rural Kidney Association provides the [Norm Bourke Box](#) in NSW for patients commencing peritoneal dialysis which consists of a blood pressure machine, bathroom scales and body wash that assist with reducing the out-of-pocket costs of patients. They are aiming to provide these Australia wide where they are not included by the state health department, by the end of 2027 (Scholes-Roberston, 2019).

Haemodialysis is an external filtration process where the blood is diverted from the body to a machine which removes waste and excess fluid. It involves an initial surgical procedure to join an artery and vein together with either a fistula or graft, that serves as the access point to the dialysis machine (dialyser). Once this access point is ready, haemodialysis sessions take place for an average of four to five hours three times per week. Once the blood has been filtered by the dialyser, it is returned to the body through the access point.

^b Burden of disease is a holistic measure of the impact of disease and death due to disease or injury. The disability-adjusted life year (DALY) is a summary measure of this burden, quantifying the years of healthy life lost from both illness and premature death.

Haemodialysis can be done at home or in specialised dialysis centres located either in hospitals or satellite units. The process involves specialised plumbing installation for the dialyser and the person requires assistance to be connected to the machine. If performed at home, the procedure may be done more frequently for shorter periods or overnight.

Kidney transplant

A kidney transplant treats but does not cure kidney failure. A transplant offers a more active life, without needing dialysis. However, the new kidney requires ongoing care including taking medications to stop the body rejecting the kidney (anti-rejection).

Comprehensive conservative care

Some people choose not to have dialysis or a transplant and instead choose comprehensive conservative care. With this option, renal replacement therapy is withdrawn as quality over quantity of life is prioritised. Treatments involve symptom management through medication, and psychological support.

Issues for Rural Patients

Early diagnosis of CKD and treatments to slow disease progression is a way for people living in rural areas to avoid the burden of dialysis for as long as possible. However, accessing a GP to complete the Kidney Health Check and a nephrologist (a doctor that specialises in kidney disease) can be challenging with severe shortages persistent in rural areas, particularly in MM 5 to 7 area (see NRHA Factsheet on [Healthcare Workforce in Rural Australia](#)).

Table 1: Nephrologists distribution by Modified Monash Model as at June 2025 (membership data provided by The Royal Australasian College of Physicians, 2026)

	MM 1	MM 2	MM 3	MM 4	MM 5	MM 6	MM 7
Active Fellows	657	69	26	<5	22	9	0
Trainees	116	14	<5	0	<5	<5	0

In 2022, the prevalence of kidney replacement therapy (either dialysis or transplantation) was almost three times higher in *Remote* and *Very Remote* areas compared with *Major Cities* (AIHW 2024).

Rural patients who plan to initiate kidney replacement therapy (having a functional kidney transplant or receiving regular dialysis) face unique challenges that may ultimately affect outcomes. Dialysis and transplantation facilities are typically located within significant population areas. The requirement to travel to access these services can cause social, emotional and cultural isolation as well as potential financial disadvantage (Scholes-Roberston et al. 2022b; Scholes-Robertson et al. 2023).

Additional challenges include:

- shortage of local dialysis chairs (within regional health services/satellite units), and lack of capacity (e.g. staffing)
- lack of local access to interventional radiology for patient's requiring permcath insertion (if fistula or new need for long-term dialysis).

Dialysis may be required for up to five hours, three times per week. In addition, those who initiate 'in-centre' or 'satellite haemodialysis' can face long travel times to attend dialysis sessions (Kidney Health Australia 2025d). Longer travel time to dialysis has been shown to be associated with increased mortality and a diminished quality of life (Scholes-Robertson et al. 2022a). Transport options are often lacking which further complicates the relocation to larger centres for dialysis treatment and in many cases, contributes to patients deciding not to pursue this treatment (choosing conservative care). Home dialysis training facilities are typically located in metropolitan or larger regional centres, making access difficult for rural and remote patients.

Providing access to home dialysis (peritoneal dialysis or home haemodialysis) or improving access to dialysis units closer to home is pivotal to improving the health and quality of life outcomes for people with kidney disease in rural Australia. Peritoneal dialysis is already commonly utilised in rural areas, with good outcomes (Scholes-Robertson et al. 2022b). Water quantity and quality and access to local training facilities may inhibit uptake of this home haemodialysis in some rural regions, but these obstacles can be overcome with appropriate planning and resourcing.

An alternative to travelling significant distances to a metropolitan kidney unit for routine dialysis or transplantation clinical assessments is to support these clinical reviews to be performed locally. Telehealth can also be used, where appropriate, for case management meetings and investigations for people in rural and remote areas.

The Purple House Model is working to improve access to dialysis in remote Aboriginal communities, allowing people to stay on Country instead of relocating far from family and culture for treatment. It operates numerous remote dialysis clinics along with the Purple Truck, which brings mobile dialysis to even more isolated areas.

The model provides culturally safe support such as respite care, community activities, self-care dialysis training and help preparing for kidney transplants. By offering treatment in familiar environments close to home, Purple House has significantly improved the wellbeing and long-term outcomes of Indigenous people needing dialysis (Purple House 2025).

The introduction of Medicare Benefits Schedule (MBS) item for remote dialysis reimbursement aims to provide greater access to dialysis services for patients in remote areas, leading to better attendance and improved health outcomes. The MBS item allows registered nurses, Aboriginal Health Workers, and Aboriginal and Torres Strait Islander Health Practitioners to bill for the supervision of dialysis in very remote areas (MM 7). This must be supervised by a medical practitioner (either in person or remotely), and the patient's care must be managed by a nephrologist, who must treat or review the patient every three to six months (DoHDA 2020).

Multiple schemes currently exist in Australia to assist with the accommodation needs of people from rural and remote areas who require access to kidney replacement therapy (see NRHA Fact Sheet on [Patient Assisted Travel Schemes](#)).

The transplant support group, Transplant Australia, helps fund accommodation for transplant recipients and their families/carers, and state and territory government travel assistance schemes^c provide some reimbursement. Most major hospitals offer subsidised accommodation located nearby, but such schemes are not universally available, and there is often high demand for places.

National Strategic Action Plan for Kidney Disease

In 2020, Kidney Health Australia released the National Strategic Action Plan for Kidney Disease (Kidney Health Australia 2019). The plan advocates for the most vulnerable in the community, including First Nations Australians and people living in rural and remote regions in Australia.

The plan aims to address some of the issues raised in this fact sheet, including advocating for:

- the introduction of a nationally coordinated approach to make it easier for people on dialysis to travel;
- improved resource/service planning so that integrated healthcare for CKD can be delivered closer to home where possible;
- partnering with local community health organisations and Non-Government Organisations to deliver care tailored to the needs of individual communities;
- developing innovative models of integrated care for more effective use of the rural and remote health workforce;
- increasing support for primary and community CKD care and enhanced integration with tertiary level kidney care;
- increasing the use of telemedicine to provide access to specialist services and advice where needed;
- supporting transplant specialist outreach in regional, rural and remote Australia to augment support of individuals post-kidney transplantation.

Kidney Health Australia's '*Kidney Code Red: The Response - A mandate for urgent action to end the kidney crisis*' report was launched on world Kidney Day 12 March 2026. The report calls for urgent action on kidney disease through:

1. Increased awareness of kidney disease, its risk factors, the burden on individuals and health systems amongst the Australian public and healthcare communities.
2. Investment in targeted early detection of CKD in those at known risk.

3. Early (and equitable) access to life changing treatments and programs for every person diagnosed with CKD.
4. A cohesive chronic disease approach, given that CKD, diabetes, and cardiovascular disease share common causes, risk factors, and have similar treatment strategies.
5. Full national implementation of the World Health Assembly resolution on kidney health, recognition of CKD as a major global health issue and integration of kidney care into national health strategies.

This report also outlines a number of key recommendations on what actions need to be taken to confront the kidney crisis head-on through early detection and decisive treatment of CKD (Kidney Health Australia 2026).

Kidney Health Australia Resources

For health professionals:

- Free accredited CPD education
- Quality improvement activities
- Dedicated Health Professional Resources Hub
- Clinical e-News
- Downloadable 'how to guides' and referral templates.
- The CKD Management in Primary Care handbook (available as hard copy for purchase or free download)

For the kidney community:

- [Kidney Health 4 Life](#) online health and wellbeing program for people with kidney disease
- Evidence-based factsheets, booklets and videos on CKD
- Tailored CKD education programs for patients
- Peer support programs
- Big Red Kidney Bus holiday dialysis service
- Kidney Health 4 Youth support and events for young people with kidney disease
- Monthly e-news and Kidney Connection Magazine

Visit [Kidney Health Australia's website](#) for more information.

Kidney Helpline provides information and support for people affected by CKD - free phone 1800 454 363 / kidney.helpline@kidney.org.au

Sign up to the [Kidney Health Professional Hub](#) to gain access to exclusive content, education, news and latest research.

^c Refer to the NRHA fact sheet Patient Assisted Travel Schemes available at <https://www.ruralhealth.org.au/publications/factsheets/>

Nicki's story

Following a short acute illness, Nicki was found to have underlying chronic kidney disease, and on biopsy was diagnosed as IgA nephropathy. Nicki's closest nephrologist was a 90-minute drive away. When the time came to start dialysis, Nicki chose to do peritoneal dialysis as she could do it at home, it was gentler and there was no haemodialysis chair available except in Tamworth, a 90-minute drive each way. Once she had commenced dialysis, she started the workup for waitlisting on the transplantation list. This involved cardiac testing, cancer screening and dentistry visits along with monthly blood tests for organ matching sensitivity.

Nicki's younger brother came forward to be a candidate for a living donor, and after much testing and trips to Sydney to the transplant hospital, 8 months after she started dialysis, they underwent surgery for Nicki to receive her brother's left kidney. At this stage Nicki was in Sydney for 9 weeks for follow-up and lots of blood

tests and medication changes. This was 11 years ago and they are both doing very well and Nicki continues to take her immunosuppression medications twice a day to help keep her kidney transplant from rejecting.

Whilst in Sydney for 9 weeks, Nicki was able to have accommodation with some friends and for a few weeks stayed in Airbnb's with her family visiting. The costs for the surgeries were covered through Medicare, medications were subsidised through the PBS but still came to about \$100-200 a month out of pocket. Her travel and accommodation costs were reimbursed partially through IPTAAS (NSW) but there were still some out-of-pocket costs that were not covered.

In 2018 Nicki started the Norm Bourke Box for people commencing peritoneal dialysis at Tamworth Hospital that included a blood pressure machine, bathroom scales, cleaning supplies and bodywash, which has now grown to supply to all peritoneal dialysis training centres in NSW.

Disclaimer:

This material has been co-developed by the National Rural Health Alliance (NRHA) and Kidney Health Australia to provide general information for policy makers, journalists, academics, and the broader community. It is not intended as medical advice. The information is based on evidence available at the time of publication and is not an endorsement of any organisation, product, or service.

References

- ABS (Australian Bureau of Statistics) (2025) *National Health Measures Survey: Data downloads, Table 11 Chronic disease biomarkers by population characteristics*, ABS, Australian Government, accessed 23 March 2026.
- AIHW (Australian Institute of Health and Welfare) (2024) *Chronic kidney disease: Australian facts*, AIHW, Australian Government, accessed 23 March 2026.
- AIHW (Australian Institute of Health and Welfare) & NIAA (National Indigenous Australians Agency) (2026), *Measure 1.10 Kidney disease, Aboriginal and Torres Strait Islander Health Performance Framework Website*, AIHW, Australian Government, accessed 22 April 2026.
- DoHDA (Department of Health, Disability and Ageing) (2020), *Changes to Renal Medicine items*, DOHDA, Australian Government, accessed 23 March 2026.
- Kidney Health Australia (2019) *National Strategic Action Plan for Kidney Disease*, Kidney Health Australia, accessed 23 March 2026.
- (2025a) *Know Your Kidneys*, Kidney Health Australia, accessed 23 March 2026.
- (2025b) *Aboriginal and Torres Strait Islander Peoples*, Kidney Health Australia, accessed 23 March 2026.
- (2025c), *Treating kidney disease*, Kidney Health Australia, accessed 23 March 2026.
- (2025d) *Types of Dialysis*, Kidney Health Australia, accessed 23 March 2026.
- (2024) *Chronic Kidney Disease (CKD) Management in Primary Care*, Kidney Health Australia, accessed 23 March 2026.

- (2026) *Kidney Code Red: The Response. A mandate for urgent action to end the kidney crisis*, Melbourne, Australia, accessed 23 March 2026.
- Kushner P, Khunti K, Cebrián A and Deed G (2024), 'Early identification and management of chronic kidney disease: A narrative review of the crucial role of primary care practitioners', *Advances in Therapy*, 41(10):3757–70, doi: 10.1007/s12325-024-02957-z.
- Purple House (2025) *Our Story*, accessed 23 March 2026.
- Scholes-Robertson N (2019), 'The Norm Bourke Box: A Patient-Led Initiative to Improve Care for Rural Patients Requiring Peritoneal Dialysis', *Peritoneal Dialysis International: Journal of the International Society for Peritoneal Dialysis*, 39(4):390–391, doi:10.3747/pdi.2019.00011.
- Scholes-Robertson N, Blazek K, Tong A, Gutman T, Craig J C, Essue B M, ... & Howell M (2023), 'Financial toxicity experienced by rural Australian families with chronic kidney disease', *Nephrology*, 28(8), 456–466.
- Scholes-Robertson N, Gutman T, Howell M, Craig J, Chalmers R and Tong A (2022a), 'Patients' Perspectives on Access to Dialysis and Kidney Transplantation in Rural Communities in Australia', *Kidney International Reports*, 7(3):591–600, doi: 10.1016/j.jekir.2021.11.010.
- Scholes-Robertson N, Gutman T, Howell M, Craig J, Chalmers R, Dyer KM, Jose M, Roberts I and Tong A (2022b), 'Clinicians' perspectives on equity of access to dialysis and kidney transplantation for rural people in Australia: a semi structured interview study', *BMJ Open*, 16(2):e052315, doi: 10.1136/bmjopen-2021-052315.