Australian Government
Australian Institute of
Health and Welfare

Chronic kidney disease: Australian facts

Web report | Last updated: **27 May 2026** | Topic: Chronic kidney disease

About

This web report is part of Australian Centre for Monitoring Population Health

Chronic kidney disease: Australian facts provides key information for monitoring chronic kidney disease (CKD) in the Australian population, focussing on CKD risk factors, treatment and impact. Incidence, prevalence, hospitalisation and mortality are described with additional analysis of priority population groups.

This report is regularly updated with data from a range of sources. There are differences in the source year and frequency of publication. For more information see Data sources and Notes.

Cat. no: CDK 20

- Australian stories about CKD
- Explore the data
- Data

Key findings

- 2 million hospitalisations recorded CKD as a diagnosis in 2023–24 – 17% of all hospitalisations in Australia
- In 2024, 30,000 people with kidney failure received kidney replacement therapy (KRT) in Australia
- For each person who started KRT in 2021, there was one person with kidney failure who did not undertake KRT
- Chronic kidney disease contributed to around 21,300 deaths in 2024 – 11% of all deaths in Australia

In this report

How many people are living with chronic kidney disease in Australia?

Explore CKD prevalence (existing cases) and incidence (new cases)

- How many people are living with chronic kidney disease in Australia?

Risk factors and comorbidity

Explore the factors that increase the risk of a person developing CKD and explore comorbidity of CKD, diabetes and cardiovascular disease

- Risk factors for chronic kidney disease
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Treatment and management of chronic kidney disease

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Impact of chronic kidney disease

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- Burden of chronic kidney disease
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- Impact of chronic kidney disease

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Explore CKD deaths

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Summary

Chronic kidney disease is an Australia's health topic

In this section

- How common is chronic kidney disease?
- Treatment and management of chronic kidney disease
- Impact of chronic kidney disease
- Priority population groups
- Where do I go for more information?

Chronic kidney disease (CKD) refers to all conditions of the kidney affecting the filtration and removal of waste from the blood for 3 months or more. It is identified by reduced filtration by the kidney and/or by the leakage of protein or albumin from the blood into the urine.

CKD is mostly diagnosed at more advanced stages when symptoms become more apparent. Kidney failure occurs when the kidneys can no longer function adequately, at which point people require kidney replacement therapy (KRT) – a kidney transplant or dialysis – to survive.

Key facts

- An estimated 14.2% of Australians adults had biomedical signs of chronic kidney disease (CKD) in the 2022-24 period, only 7.4% of which self-reported having the condition. This estimate includes early and asymptomatic stages.
- The estimated number of Australian adults with moderate to severe loss of kidney function increased by over 60%, from 620,900 to 1 million between 2011–12 and 2022–24, driven by the growth in the population of older people.
- Kidney failure (KF), the most advanced stage of CKD, requires kidney replacement therapy (KRT) for survival. In 2024, 14,000 people were living with a functioning kidney transplant and 16,000 people were undertaking dialysis. After adjusting for changes in the age structure of the population, the rate has increased by 40% over the last two decades, driven by people remaining on KRT for longer.
- Dialysis has a high burden on the individual and the Australian health system. In 2023–24, 1.7 million (14%) hospitalisations in Australia were for dialysis. Conservative estimates from linked data suggest an average of 91 hospital separations for dialysis per person admitted for the year.
- Not everyone with KF will undergo KRT, some opt to receive comprehensive conservative care, with a focus on quality of life instead of efforts to prolong life. For each person who started KRT in 2021, there was one person with KF who did not undergo KRT. The probability of not undergoing KRT increases sharply after age 75.

How common is chronic kidney disease?

In 2022–24:

- an estimated 14.2% of people (2.7 million Australians) aged 18 and over had biomedical signs of CKD, according to Australian Institute of Health and Welfare (AIHW) analysis of the Australian Bureau of Statistics (ABS) National Health Measures Survey (NHMS) (ABS 2025a)
- the prevalence of CKD increased rapidly with age, affecting around 47% of people aged 75 and over
- only 7.4% of NHMS respondents (18 years and over) who showed biomedical signs of CKD self-reported having the disease, indicating that CKD is a largely under-diagnosed condition (ABS 2025b).

For more information on the incidence and prevalence of CKD, see How many people are living with chronic kidney disease in Australia?

Change over time

Three national surveys have been conducted in Australia that provide data on biomarkers of CKD – the 1999–2000 Australian Diabetes, Obesity and Lifestyle Study (AusDiab), the 2011–12 NHMS and most recently the 2022–24 NHMS.

Between 2011–12 and 2022–24:

- the age-standardised CKD prevalence rate among Australian adults increased slightly, with the rate in 2022–24 being 1.2 times as high as in 2011–12.
- the number of Australians with moderate to severe loss of kidney function increased by over 60%, from 620,900 to 1 million.

This increase was mostly driven by growth in the population of older people (as people live longer), the proportion of people aged 65 and older with moderate to severe loss of kidney function remained around 20%. While low, the proportion among people aged 18-64 doubled from 0.6% to 1.3% (AIHW analysis of ABS 2025a).

For more information, see Trends over time.

Kidney failure

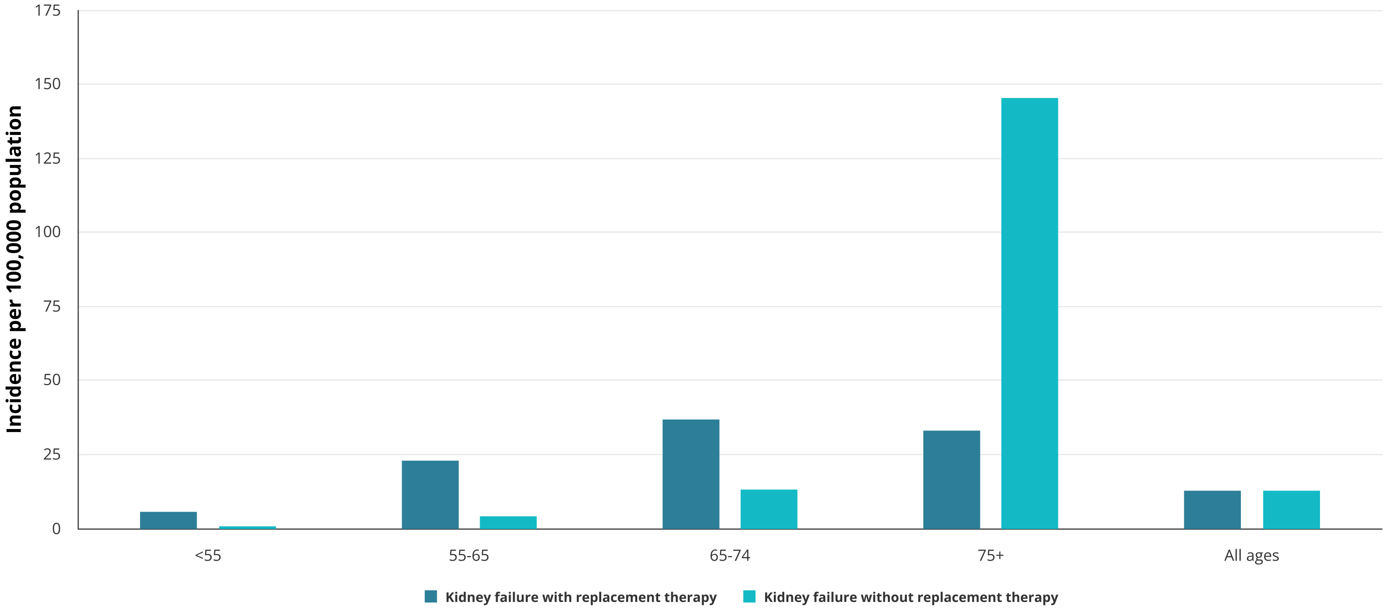
Not everyone with kidney failure chooses to receive KRT, opting instead for end-of-life care. Therefore, prevalence and incidence estimates for kidney failure need to count people both with and without replacement therapy. The most recent data available to examine this are linked data from the Australia and New Zealand Dialysis and Transplant (ANZDATA) Registry and the National Death Index, covering the period 2000 to 2021.

In 2021:

- there were around 6,500 new cases of kidney failure in Australia – around 18 per day – of these, half (50%) were receiving KRT
- 94% of people with newly diagnosed kidney failure who were aged under 55 received KRT, compared with 18% of people newly diagnosed aged 75 and over.

Before age 75, most new cases of kidney failure are treated with KRT, however, this trend reverses after age 75, with an 11-fold increase in kidney failure without KRT compared with those aged 65–74 (145 and 13 per 100,000 population) (Figure 1). While the reasons for not undertaking KRT are not available from this data source, known factors include late referral, comorbidity, and overall quality of life considerations (Sparke 2013). For a person near the end of their life, comprehensive conservative care with supportive care may be a more suitable form of care.

Figure 1: Incidence of kidney failure with and without replacement therapy, by age, 2021



Source: Kidney and Diabetes Data Integration (KADDI) project - linked data from the Australia and New Zealand Dialysis and Transplant Registry and AIHW National Mortality Database and National Death Index

Treatment and management of chronic kidney disease

Hospitalisations

CKD was recorded as the principal or additional diagnosis for around 2 million hospitalisations – 17% of all hospitalisations in Australia in 2023–24.

Dialysis was the most common reason for hospitalisation, accounting for 14% of all hospitalisations, and 80% of CKD hospitalisations (1.7 million). Conservative estimates from linked data suggest an average of 91 hospital separations for dialysis per person admitted for the year.

There were 426,000 hospitalisations with a diagnosis of CKD (excluding dialysis as a principal diagnosis). Of these, 84% had CKD as an additional (rather than principal) diagnosis.

Between 2000–01 and 2023–24:

- the number of hospitalisations with CKD as the principal diagnosis (excluding dialysis) more than doubled, from 25,200 to 68,000
- the age-standardised hospitalisation rate for CKD as a principal diagnosis (excluding dialysis) rose by 72%.

For more information, see Hospitalisations for chronic kidney disease.

Kidney replacement therapy

In 2024, around 30,000 people received KRT with 53% being treated with dialysis while 47% were living with a functioning kidney transplant.

The number of people receiving KRT has more than doubled since 2000, from around 11,700 to 30,000 (AIHW analysis of ANZDATA 2024).

For more information on kidney replacement therapy, see Treatment of kidney failure.

Impact of chronic kidney disease

Burden of chronic kidney disease

Burden of disease refers to the quantified impact of living with and dying prematurely from a disease or injury.

The contribution of CKD to the total disease burden (fatal and non-fatal) in Australia has remained stable since 2003.

In 2024, CKD was:

- responsible for 1.1% of the total burden, compared with 0.8% in 2003
- Australia’s 14th leading cause of fatal burden
- the sixth leading cause of fatal burden for women aged 85–89 and eighth leading cause of burden for men aged 85–89 (AIHW 2024).

The burden of CKD in 2024 was 1.3 times as high for males as females, after adjusting for age (AIHW 2024).

For more information on the burden of CKD, see Burden of chronic kidney disease.

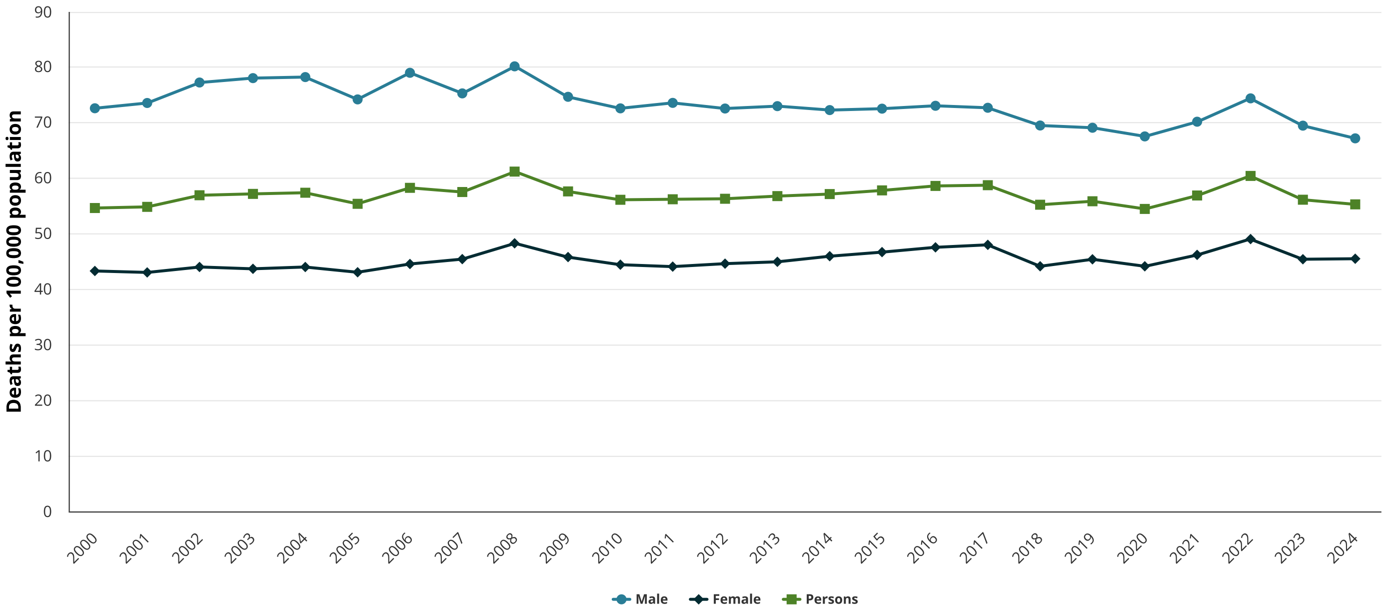
Deaths from chronic kidney disease

In 2024, CKD contributed to around 21,000 deaths (11% of all deaths in Australia), a rate of 78 per 100,000 population. CKD was recorded as the underlying cause of death in 24% and associated cause of death in 76% of CKD deaths.

The number of CKD-related deaths has doubled since 2000 (when there were 10,200 deaths). After accounting for changes in the age structure of the population over this time, the rate of CKD deaths remained relatively stable between 2000 and 2024 (Figure 2).

For more information on deaths from CKD, see Mortality.

Figure 2: Trends in chronic kidney disease death rates (underlying or associated cause), by sex, 2000 to 2024



Notes

1. Age-standardised to the 2001 Australian Standard Population.

2. Deaths are counted according to year of registration of death.

3. Deaths registered in 2021 and earlier are based on the final version of cause of death data; deaths registered in 2022 are based on the revised version; and deaths registered in 2023 and 2024 are based on the preliminary version. Revised and preliminary versions are subject to further revision by the Australian Bureau of Statistics (ABS).
Source: AIHW National Mortality Database

Priority population groups

The impact of CKD varies between population groups.

Aboriginal and Torres Strait Islander (First Nations) people

Chronic kidney disease (CKD) is a significant health issue affecting Aboriginal and Torres Strait Islander (First Nations) people.

- An estimated 101,500 First Nations adults (19%) had biomedical signs of CKD in 2022–24 (AIHW analysis of ABS 2025c).
- Dialysis, a treatment for CKD, accounted for 40% (275,000) of all hospitalisations (691,000) among First Nations people in 2023–24.

For more information, see First Nations People

Remoteness and socioeconomic area

Generally, the impact of CKD in terms of prevalence, treatment and impact is greater among people living in lower socioeconomic areas and people living in *Remote and very remote* areas. For example:

- Among people living in the lowest socioeconomic areas, there were around 5,700 deaths where CKD was the underlying or associated cause in 2024 (106 per 100,000 population). The CKD death rate among this group was 1.8 times as high as for people living in the highest socioeconomic areas, after adjusting for age.
- Among people living in *Remote and very remote areas*, there were 20,100 CKD hospitalisations in 2023–24 (4,000 per 100,000 population). People living in these areas were 3.2 times as likely to be hospitalised for CKD as people living in *Major cities*, after adjusting for age.

Where do I go for more information?

For more information, see Chronic kidney disease: Australian facts.

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Introduction

Chronic kidney disease (CKD) refers to abnormalities of kidney structure or function, that are present for 3 months or more. It may be caused by several conditions – such as diabetes, high blood pressure or congenital conditions. Identifying the underlying cause of CKD is integral to its treatment and management.

The kidneys essentially ‘clean’ the blood by filtering it through millions of tiny functional units called nephrons (Lote 2012). When the kidneys are healthy, they filter about half a cup of blood each minute and produce around 1.5 litres of urine a day. Urine contains waste products and toxins, which the kidneys remove from the blood. The kidneys also help to maintain a proper balance of salts and minerals in the body, regulate blood pressure, absorb glucose and activate vitamin D.

CKD is a common and costly disease; however, it is largely preventable as a number of its key risk factors are modifiable. The number of people with CKD in Australia is increasing.

Because the kidneys can continue to work even when they are damaged, most people do not realise they have CKD until the disease has progressed far enough for symptoms to develop.

Kidney failure describes the point at which a kidney transplant or dialysis is required for a person to survive. Clinically, it is defined by an estimated glomerular filtration rate (eGFR) of less than 15 mL/min/1.73m^2, or being on dialysis. Treatment and management of kidney failure place a significant burden on the person, their carers, families and friends and the health system.

Fortunately, simple tests performed by a general practitioner can identify most cases of CKD when the disease is in its early stages, enabling treatment to prevent or slow progression and reduce the likelihood of developing kidney failure.

In 2020, Kidney Disease: Improving Global Outcomes (KDIGO) released new guidelines for nomenclature (naming) related to kidney function and disease (Levey et al. 2020). This report uses updated terminology based on these guidelines.

What is kidney disease?

Kidney disease can be acute (lasting less than 3 months) or chronic (lasting 3 months or more).

Chronic kidney disease

Clinically, chronic kidney disease is defined as one of the following being present for 3 months or more:

- estimated or measured glomerular filtration rate (eGFR/GFR) of less than 60 mL/min/1.73m^2, with or without evidence of kidney damage.
- kidney damage with or without decreased GFR, indicated by any of the following:
  - albuminuria – a condition caused when the kidneys cannot filter large protein molecules out of the blood, so they pass into the urine
  - haematuria – the presence of blood in the urine, not caused by another condition
  - structural abnormalities, for example abnormally small kidneys
  - pathological abnormalities, for example interstitial nephritis (inflammation of part of the kidneys).

Chronic kidney disease is classified into 5 stages, depending on the level of kidney function.

Stages 1 and 2

eGFR ≥ 60, with albuminuria, haematuria, or a pathological or structural abnormality

There are usually no symptoms, as the kidneys are still able to function adequately when they are slightly damaged. This makes diagnosis difficult. The eGFR is normal (≥90 mL/min/m^2; stage 1) or slightly reduced (between 60 and 89 mL/min/m^2; stage 2). The risk of disease progression depends on albuminuria levels.

Stages 3 and 4

eGFR between 15 and 59, with or without albuminuria

The level of waste (urea and creatinine) in the blood rises and a person may start to feel unwell. Kidney function is reduced and blood pressure rises. This is usually when diagnosis occurs. Stage 3 is marked by a moderate reduction in eGFR (between 30 and 59 mL/min/m^2) and is divided into stage 3a and 3b. Stage 4 is marked by a severe reduction in eGFR (between 15 and 29 mL/min/m^2). In these stages, the risk of progression can depend on both GFR and albuminuria stages.

Stage 5 – kidney failure (also known as end-stage kidney disease)

eGFR < 15 or on dialysis

This is marked by substantial loss of kidney function. The kidneys are no longer able to adequately filter waste from the blood and the person requires kidney replacement therapy – either dialysis or a kidney transplant – to stay alive. The risk of progression is very high.

Acute kidney injury

Acute kidney injury (AKI) refers to a sudden decline in GFR due to a rapid increase in serum creatinine or oliguria (a decrease in urine output) or both (KDIGO AKI Work Group 2012). It has multiple causes, including illness, medications, and injuries to the kidney. Following AKI, kidney function often returns to normal within 3 months.

Source: KHA 2024, 2025a, 2025b.

Purpose and structure of this report

CKD is a growing concern in Australia. This online report provides policy-makers, health professionals, researchers and the broader community with a comprehensive summary of the latest available data on CKD in the Australian population, including breakdowns by priority population groups including remoteness area, socioeconomic area and Aboriginal and Torres Strait Islander (First Nation) status.

It focuses on:

- CKD prevalence (existing cases) and incidence (new cases) of kidney failure estimates
- risk factors for CKD
- comorbidities
- treatment and management
- morbidity and mortality estimates
- impact in terms of burden of disease, expenditure and deaths.

Need more information?

Please note: the information in this report does not contain medical advice. If you are concerned about your health, consult a qualified health care professional for guidance on your personal medical needs.

For further information on CKD education and support programs, see the Kidney Health Australia website or the Healthdirect website.

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Australian stories about living with chronic kidney disease

Sarah and Josh's story

Sarah was the primary carer for her brother Josh, who lives with Lupus and as a result, kidney disease. In 2020, Josh made the decision to go into palliative care, but Sarah advised him to look into organ donation first.

Ina's story

Ina is a First Nations woman and artist from Central Australia. After living with diabetes for 20 years, she was diagnosed with kidney failure and told she would need to have dialysis.

These case studies are based on interviews with persons living with chronic kidney disease. These personal accounts are not necessarily representative of the circumstances of others, but offer insights into the diversity of people's experiences with chronic kidney disease (CKD).

Content warning

Caution: Please note: First Nations people should be aware that this page may contain images of deceased persons

Sarah and Josh's story

Sarah was the primary carer for her brother Josh, who lives with Lupus and as a result, kidney disease. In addition to everyday responsibilities to help Josh manage his conditions, which included taking over 20 medications a day and dialysing three times a week, caring for Josh left Sarah in a constant worry about the life of someone so dear to her.

> Watching him deteriorate and having gone through so many ups and downs, rushes to hospitals for ICU admissions and close calls, it's crushing and incredibly sad.

Sarah was deeply affected by Josh's ongoing pain and suffering. When Josh's health hit a further low point in late 2020, he made the decision to go into palliative care. Stepping in as a family member and carer, Sarah advised him to look into organ donation first. After a while waiting for a suitable donor, Sarah learned she was an organ donor match. Happily, the transplant surgery was a complete success and both brother and sister are enjoying their much-deserved good health.

Sarah found support in using Kidney Health Australia resources such as their Kidney Helpline, which was really useful to answer questions or to provide information about what she and Josh could expect in going through the transplant process.

Having experienced a loved one live with a chronic and life-threatening condition, Sarah urges others to never take relationships or health for granted.

By sharing their story, Sarah and Josh hope to raise more awareness and support for kidney disease, and encourage others to get a Kidney Health Check.

This case study is based on an interview with a person who is living with chronic kidney disease. This personal account is not necessarily representative of the circumstances of other people with chronic kidney disease or the challenges they may face, but it is our hope that it will give readers a greater awareness and understanding of the diversity of people's experiences with CKD.

The information provided does not contain medical advice – consult a qualified healthcare professional for guidance relating to your personal medical needs.

Ina's story

Ina is a First Nations woman and artist from Central Australia. After living with diabetes for 20 years, she was diagnosed with kidney failure and told she would need to have dialysis. The diagnosis was a surprise to her and at first, she didn't know what dialysis was. She was nervous about the treatment and had to move to Adelaide to access it.

Leaving her country, family and community was difficult and at first Ina was homesick.

> When the sun went down, I was sitting outside and thinking about home. Up in the land at night-time, we always sat outside and watched the stars, beautiful stars. And I miss the stars.

Although she was worried initially, Ina has friends in Adelaide now and is happy, but says her home is still up North. She travels back sometimes and has used mobile dialysis services to receive treatment while she visits home. Ina has also developed ways to manage her treatment and take care of herself. She makes sure to cook dinner to refrigerate before she goes to dialysis, so she doesn't need to worry about preparing a meal when she gets home.

But she says the most difficult thing about living with kidney disease is how hard it is on First Nations people from remote regions to move far away from home to receive treatment.

> It's very important and pretty difficult to manage. Some of us, some of our families, lose us on this machine.

Ina enjoyed being a part of the Kidney Health Australia – Yarning Kidney Consultations. It was important to her to talk with doctors about her journey and contribute to the new guidelines for treatment and management of CKD in First Nations people.

To Ina, it is important to share her story so that her family and the children growing up in her community know to take care of their kidney health and to have kidney checks.

This case study is based on an interview with a person who is living with chronic kidney disease. This personal account is not necessarily representative of the circumstances of other people with chronic kidney disease or the challenges they may face, but it is our hope that it will give readers a greater awareness and understanding of the diversity of people's experiences with CKD.

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How many people are living with chronic kidney disease in Australia?

Page highlights

- 2.7 million Australians aged 18 and over had biomedical signs of CKD in 2022–24 – 14.2% of the adult population.
- The rate increases with age: 45% of people aged 75 and over had biomedical signs of CKD compared to less than 10% of those aged below 55 years.
- Only 7.4% of adults with biomedical signs of CKD self-reported having the condition. Due to the asymptomatic nature of CKD people often do not realise they have the disease. Yet, early diagnosis provides the best opportunity for interventions that halt or slow the progression of the disease.

Trends over time

The prevalence of CKD slightly increased between 2011–12 and 2022–24.

Kidney failure

In 2021 there were around 6,500 new cases of kidney failure in Australia – around 18 per day – of these, half (50%) were receiving kidney replacement therapy.
Chronic kidney disease (CKD) is a growing health problem in Australia. Due to our ageing population, its prevalence – the total number of cases – is likely to continue increasing.

Due to the asymptomatic nature of CKD, and because diagnosis requires the presence of measured biomedical markers that persist for at least 3 months, people often do not realise they have the disease. As a result, numbers based on self-report are often underestimates of the true number of people living with CKD in Australia. Accurate estimates of the prevalence of CKD require large-scale surveys of biomedical markers of kidney function in the population.

The Australian Bureau of Statistics (ABS) 2022–24 National Health Measures Survey (NHMS) is the most recent national survey to date to include biomedical testing for markers of CKD (ABS 2025b). The following section reports on the number of Australians who showed biomedical signs of CKD in the 2022–24 NHMS; these data should not be compared with numbers reflecting self-reported CKD.

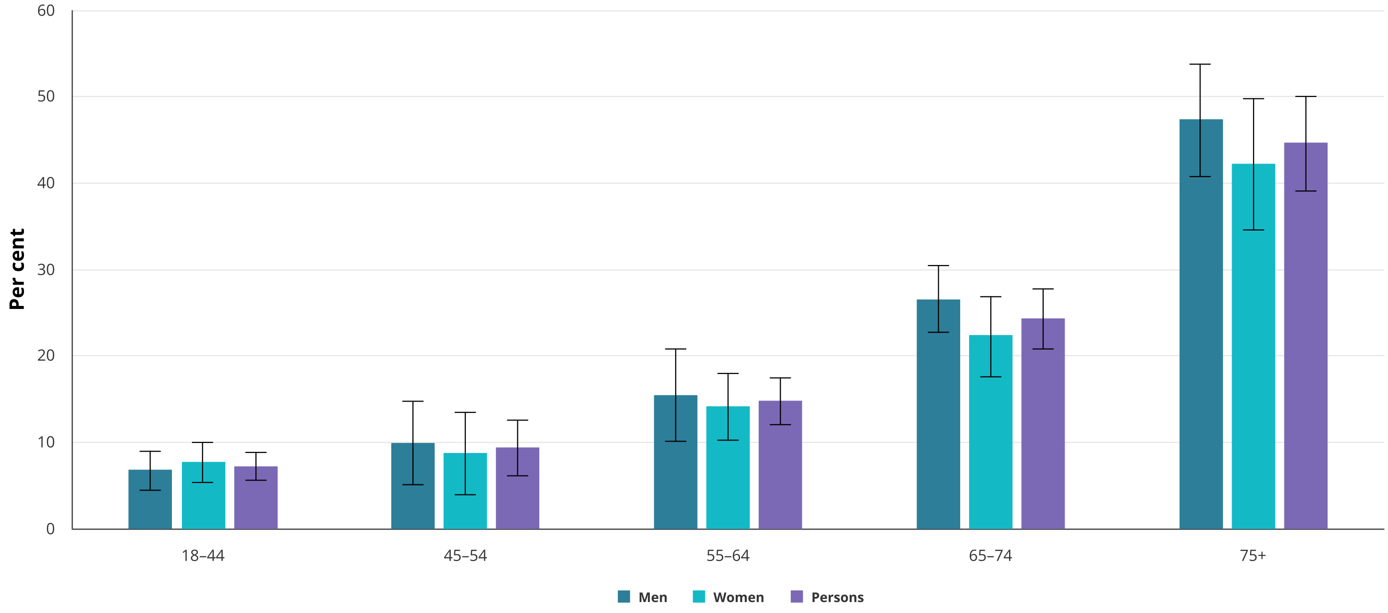
An estimated 2.7 million Australians aged 18 and over had biomedical signs of CKD in 2022–24, representing 14.2% of the adult population (AIHW analysis of ABS 2025a).
Only 7.4% of adults with biomedical markers of CKD self-reported having the condition in 2022–24, indicating that the majority of CKD in Australia is undiagnosed (ABS 2025b). Early diagnosis provides the best opportunity for interventions that halt or slow the progression of the disease (Kidney Health Australia, 2026).

Variation by age and sex

In 2022–24, based on measurement data, the prevalence of biomedical signs of CKD among adults aged 18 and over:

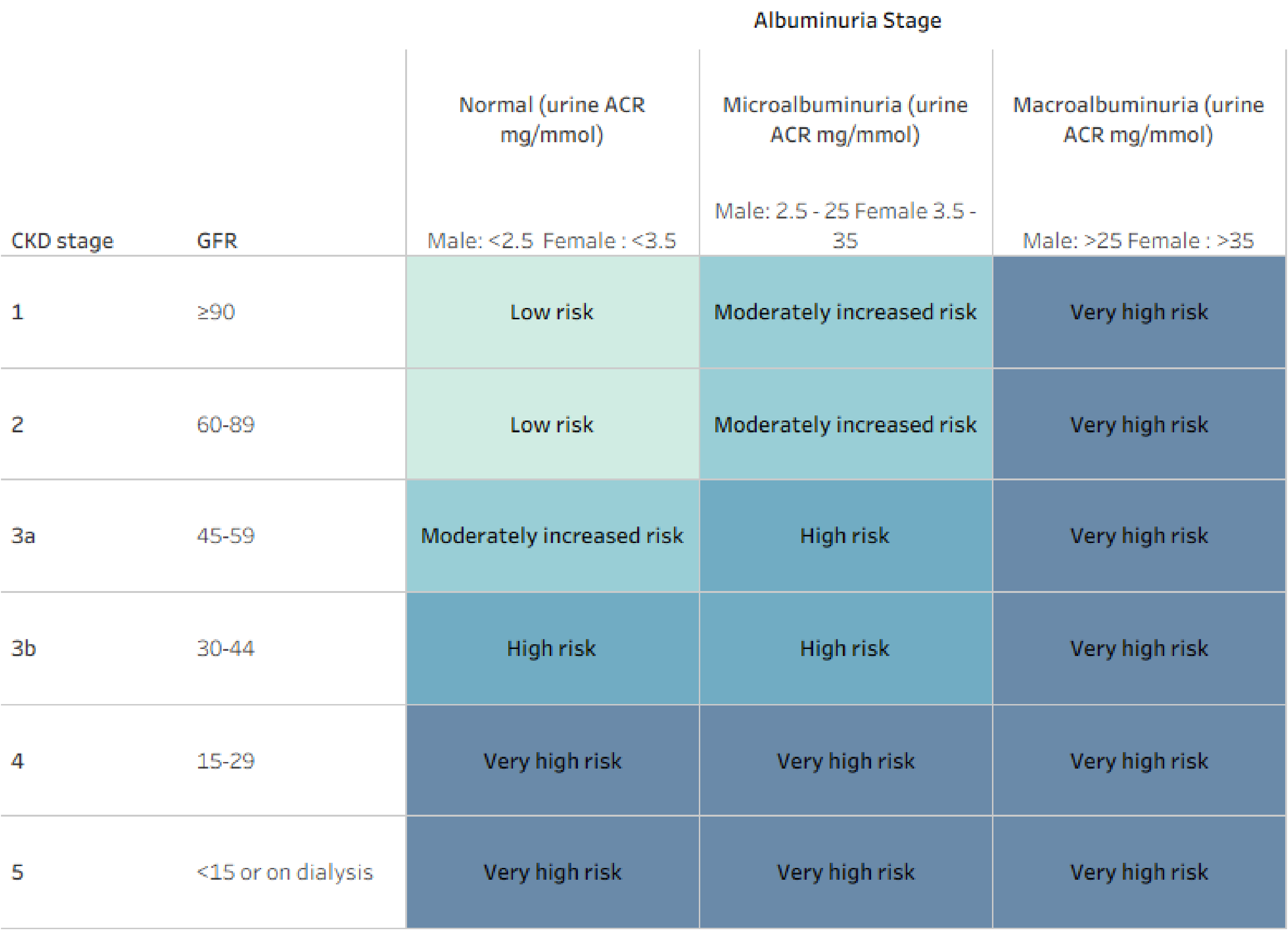
- was around 14% for both men and women (AIHW analysis of ABS 2025a)
- increased rapidly in older age groups, with rates among those aged 75 and over being almost twice as high (45%) as rates for people aged 65–74 (24%) (Figure 1).

Figure 1: Prevalence of chronic kidney disease among people aged 18 and over, by age and sex, 2022–24



Source: AIHW analysis of ABS 2025a.

Figure 2: Stages of chronic kidney disease and risk of progression, by GFR and albuminuria



		Albuminuria Stage		
		Normal (urine ACR mg/mmol)	Microalbuminuria (urine ACR mg/mmol)	Macroalbuminuria (urine ACR mg/mmol)
CKD stage	GFR	Male: <2.5 Female : <3.5	Male: 2.5 - 25 Female 3.5 - 35	Male: >25 Female : >35
1	≥90	Low risk	Moderately increased risk	Very high risk
2	60-89	Low risk	Moderately increased risk	Very high risk
3a	45-59	Moderately increased risk	High risk	Very high risk
3b	30-44	High risk	High risk	Very high risk
4	15-29	Very high risk	Very high risk	Very high risk
5	<15 or on dialysis	Very high risk	Very high risk	Very high risk

Note: For 'low risk' categories, CKD is not present unless haematuria, structural or pathological abnormalities are present.

Chart: AIHW. Source: KDIGO CKD Workgroup 2013, KHA 2020.
https://www.aihw.gov.au

Stages of chronic kidney disease

Stages 1 and 2

eGFR ≥ 60, with albuminuria, haematuria, or a pathological or structural abnormality

There are usually no symptoms, as the kidneys are still able to function adequately when they are slightly damaged. This makes diagnosis difficult. The estimated glomerular filtration rate (eGFR) is normal (≥90 mL/min/m2; stage 1) or slightly reduced (between 60 and 89 mL/min/m2; stage 2). The risk of disease progression depends on albuminuria levels (Figure 2).

Stages 3 and 4

eGFR between 15 and 59, with or without albuminuria

The level of waste (urea and creatinine) in the blood rises and a person may start to feel unwell. Kidney function is reduced and blood pressure rises. This is usually when diagnosis occurs. Stage 3 is marked by a moderate reduction in eGFR (between 30 and 59 mL/min/m2) and is divided into stage 3a and 3b. Stage 4 is marked by a severe reduction in eGFR (between 15 and 29 mL/min/m2). In these stages, the risk of progression can depend on both GFR and albuminuria.

Stage 5 – kidney failure (also known as end-stage kidney disease)

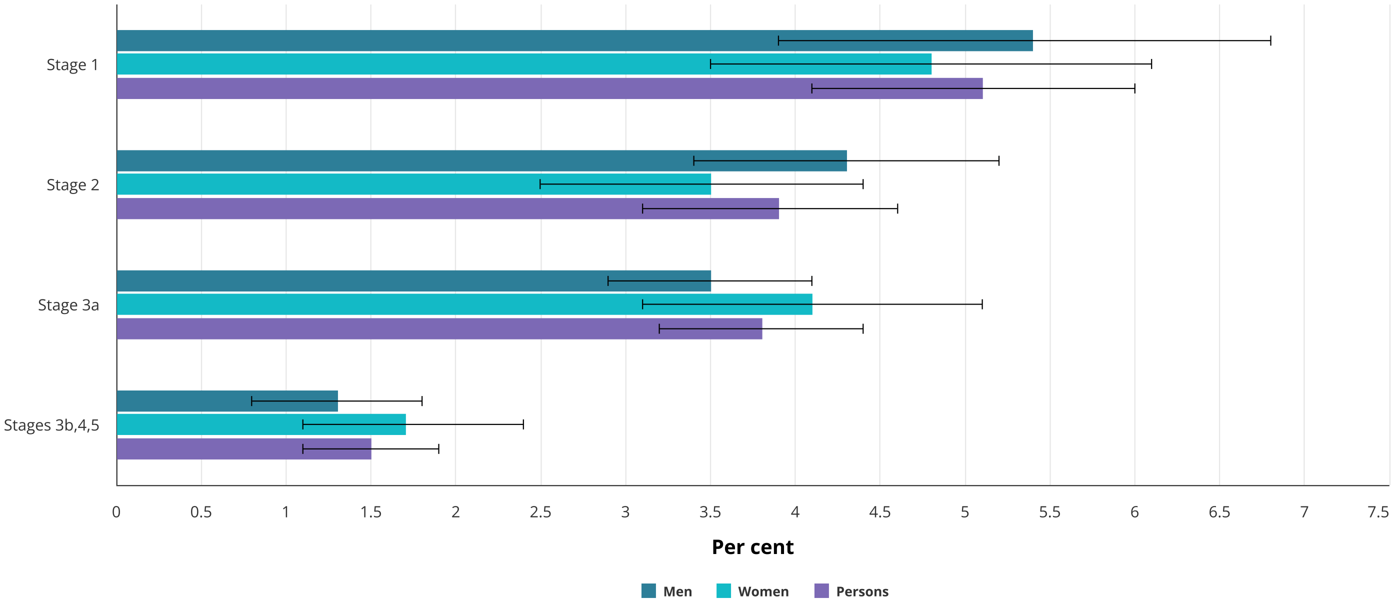
eGFR < 15 or on dialysis

This is marked by substantial loss of kidney function. The kidneys are no longer able to adequately filter waste from the blood and the person requires kidney replacement therapy – either dialysis or a kidney transplant – to stay alive. The risk of progression is very high.

In 2022–24, of the 14.2% of adults with biomedical signs of CKD, the majority (89%) were in stages 1 to 3a of the disease:

- 8.9% of Australian adults (1.7 million people) had biomedical signs indicating stage 1 or 2 CKD
- 3.8% (719,200 people) had biomedical signs indicating stage 3a CKD
- 1.5% (288,260 people) had biomedical signs indicating stage 3b and stages 4 to 5 CKD (Figure 3)(AIHW analysis of ABS 2025a).

Figure 3: Prevalence of biomedical markers of chronic kidney disease among people aged 18 and over, by stage and sex, 2022–24



Source: AIHW analysis of ABS 2025a.

CKD prevalence and advancement is closely related to age. In 2022–24:

- 9.1% of people aged 18–64 showed biomedical signs of CKD, compared with 33% of those aged 65 and over
- 68% of adults with CKD stages 1 and 2 were aged 18–64
- 80% of adults with CKD stages 3 to 5 were aged 65 and over.

Trends over time

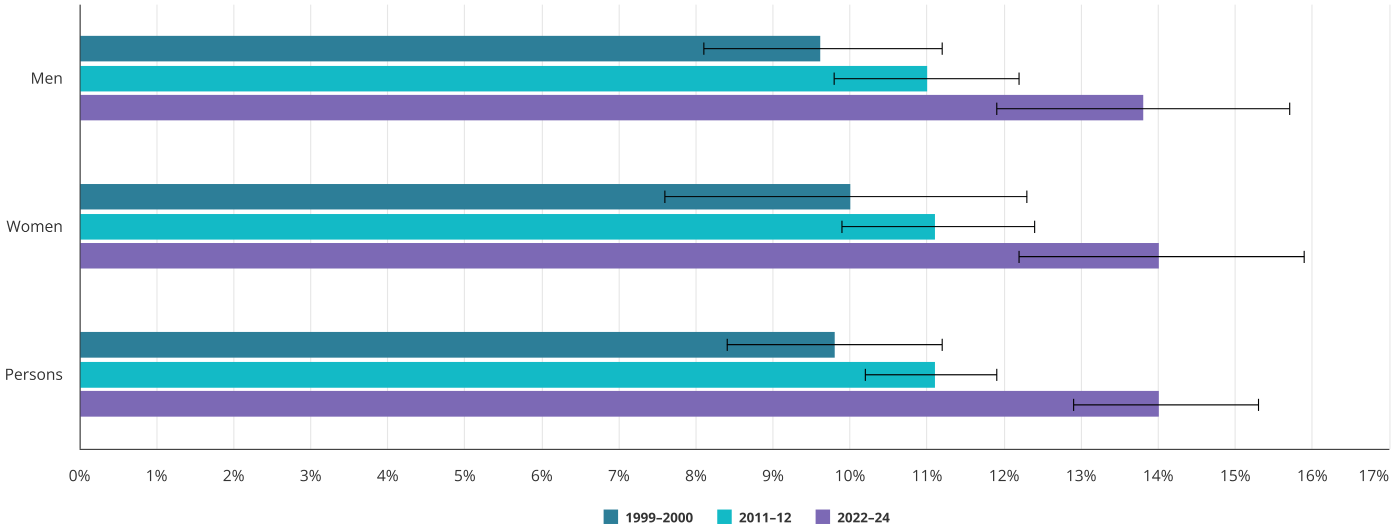
Three national surveys have been conducted in Australia that provide data on biomarkers of CKD – the 1999–2000 Australian Diabetes, Obesity and Lifestyle Study (AusDiab) and the National Health Measures Surveys (NHMS) of 2011–12 and 2022-24 (ABS 2013; ABS 2025a). Because the AusDiab study included participants aged 25 and over only, comparisons over time between it and the NHMS do not include adults aged 18–24.

For more information on methods for these trends, see *Chronic kidney disease prevalence among Australian adults over time*.

After adjusting for the age and sex changes in the population, the prevalence of CKD based on biomarkers has slightly increased over time. With similar trends seen for men and women (Figure 4).

Figure 4: Prevalence of biomedical markers of chronic kidney disease among people aged 25 and over, 1999–2000, 2011–12 and 2022–24

Age- and sex- standardised



Source: AIHW analysis of 1999–2000 AusDiab, AIHW analysis of ABS 2013 and AIHW analysis of ABS 2025a

Variation between population groups

After adjusting for differences in the age structures of the population, the prevalence of CKD among adults in 2022–24 was 1.3 times as high in *Outer regional and remote areas* as in *Major cities*. The difference by remoteness area was greatest for men (1.6 times as high). While the rates were more similar across remoteness area for women.

For information for Aboriginal and Torres Strait Islander (First Nations) people, see First Nations People.

Data disaggregated by priority population groups are available in the supplementary data tables.

Incidence of kidney failure

Kidney failure is the most severe form of chronic kidney disease (CKD). It occurs when the kidneys can no longer function adequately on their own.

People with kidney failure require kidney replacement therapy (KRT) to survive. KRT involves either dialysis or a kidney transplant. Not everyone with kidney failure chooses to receive KRT, opting instead for end-of-life care. (See Comprehensive conservative care and kidney supportive care).

Linked data from the Australia and New Zealand Dialysis and Transplant (ANZDATA) Registry and the National Death Index are used to estimate the number of new cases of kidney failure in Australia, capturing both people on KRT and those not receiving KRT.

Measuring the incidence of kidney failure

The estimates of kidney failure incidence presented on this page are measured using the Kidney and Diabetes Data Integration (KADDI), a linked data asset that includes the Australia and New Zealand Dialysis and Transplant (ANZDATA) Registry and the National Death Index data for the period 2000 to 2021.

Treated kidney incidence cases include people who started KRT, identified through the ANZDATA, in the incident year.

Untreated kidney failure incidence cases include people who had a death record, with kidney failure listed as a cause (see Classifications), and no record of KRT on the ANZDATA registry.

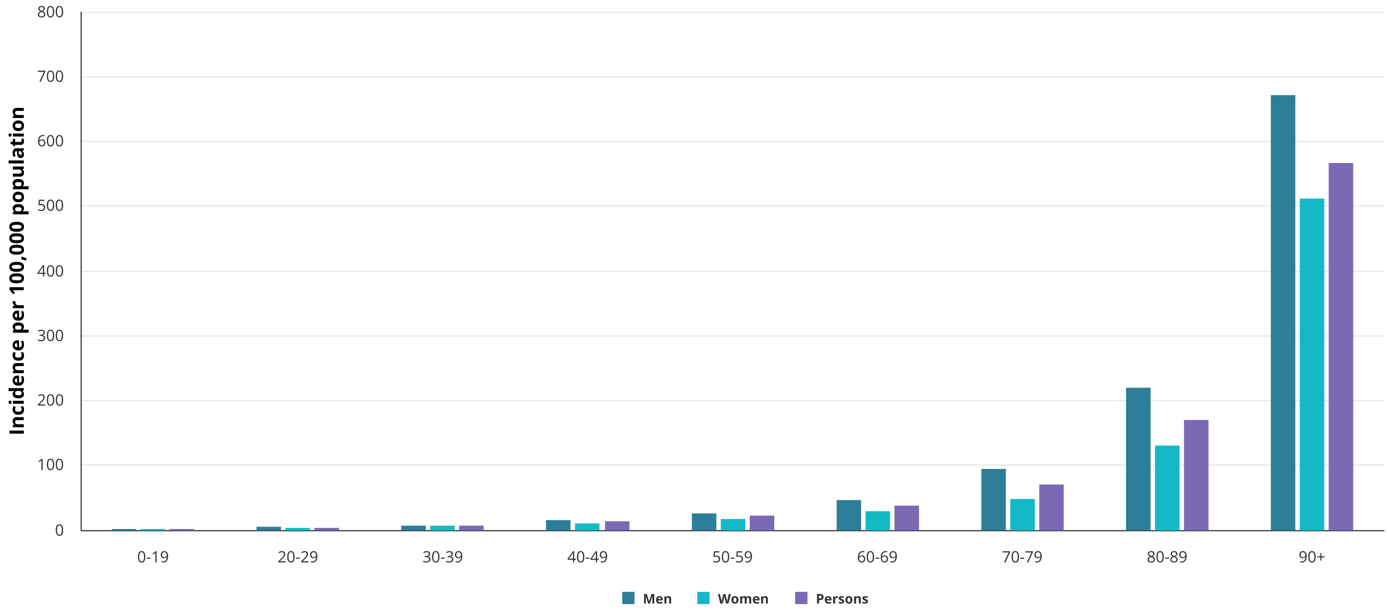
In 2021 there were around 6,500 new cases of kidney failure in Australia – around 18 per day – of these, half (50%) were receiving KRT. For more information see, Treatment for Kidney failure.

Variation by age and sex

The incidence of kidney failure increases steeply with age. In 2021, the whole of population incidence rate was 25 per 100,000. The rate for people aged 90 and older was 566 per 100,000, more than 20 times as high (Figure 5).

The incidence of kidney failure in 2021 was higher in males than females. The rate for males was 29 per 100,000 people and for females was 22 per 100,000 people. After adjusting for differences in the age structures of the populations, the incidence rate was 1.6 times higher in males than in females.

Figure 5: Incidence of kidney failure, by age and sex, 2021



Source: Kidney and Diabetes Data Integration (KADDI) project - linked data from the Australia and New Zealand Dialysis and Transplant Registry and AIHW National Mortality Database and National Death Index

Trends over time

In 2021, Australia had twice as many new cases of kidney failure than it did in 2000. This is mostly due to population increase and ageing. After adjusting for differences in the age structures of the populations, the incidence rate in 2021 was 1.1 times as high as in 2000.

Data available in the supplementary data tables.

Further information

For more information on the prevalence of CKD, see:

- *Chronic kidney disease prevalence among Australian adults over time*
- *Indicators of socioeconomic inequalities in cardiovascular disease, diabetes and chronic kidney disease*.

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Risk factors for chronic kidney disease

What is a risk factor?

Risk factors are attributes, characteristics or exposures that increase the likelihood of a person developing a disease or health disorder.

Behavioural risk factors are health-related behaviours that individuals have the most ability to modify. Behavioural risk factors for chronic kidney disease (CKD) include:

- smoking
- diet
- physical activity
- alcohol consumption.

Biomedical risk factors are bodily states that have an impact on a person's risk of disease. Biomedical risk factors for CKD include:

- diabetes
- high blood pressure (also known as hypertension)
- established cardiovascular disease, including heart attack, heart failure and stroke
- overweight and obesity.

Some biomedical risk factors can be influenced by health behaviours. Others, such as type 1 diabetes, occur independently of behaviours.

Fixed risk factors cannot be modified. Fixed risk factors for CKD include:

- ageing
- family history of kidney failure
- history of acute kidney injury.

Other risk factors such as use of certain medications, kidney stones, foetal and maternal factors, infections, and environmental factors are increasingly being recognised as threats to kidney health (Luyckx et al. 2017) (Tesfaw et al 2025).

For most behavioural and biomedical risk factors there is no known threshold at which risk begins. The relationship between risk and disease is continuous – there is an increasing effect as exposure to the risk factor increases. Having multiple risk factors further escalates risk.

Controlling or managing risk factors can help reduce the risk of CKD. The progression of CKD can also be slowed by controlling risk factors and by appropriate disease treatment and management.
For information about population trends for key risk factors, see the risk factor dashboard.

Risk factors among adults with chronic kidney disease

This section compares levels of key CKD risk factors among adults with and without biomedical signs of CKD. The populations with and without CKD were obtained from the 2022–24 National Health Measures Survey (NHMS) (AIHW analysis of ABS, 2025).

In 2022–24, many adults who had biomedical signs of CKD, also experienced other health risk factors or conditions, including:

- diabetes (18%)
- heart, stroke or vascular disease (17%)
- uncontrolled high blood pressure (38%)
- dyslipidaemia (76%)
- current smoking (8.2%)
- overweight or obesity (79%)
- at-risk waist circumference (83%).

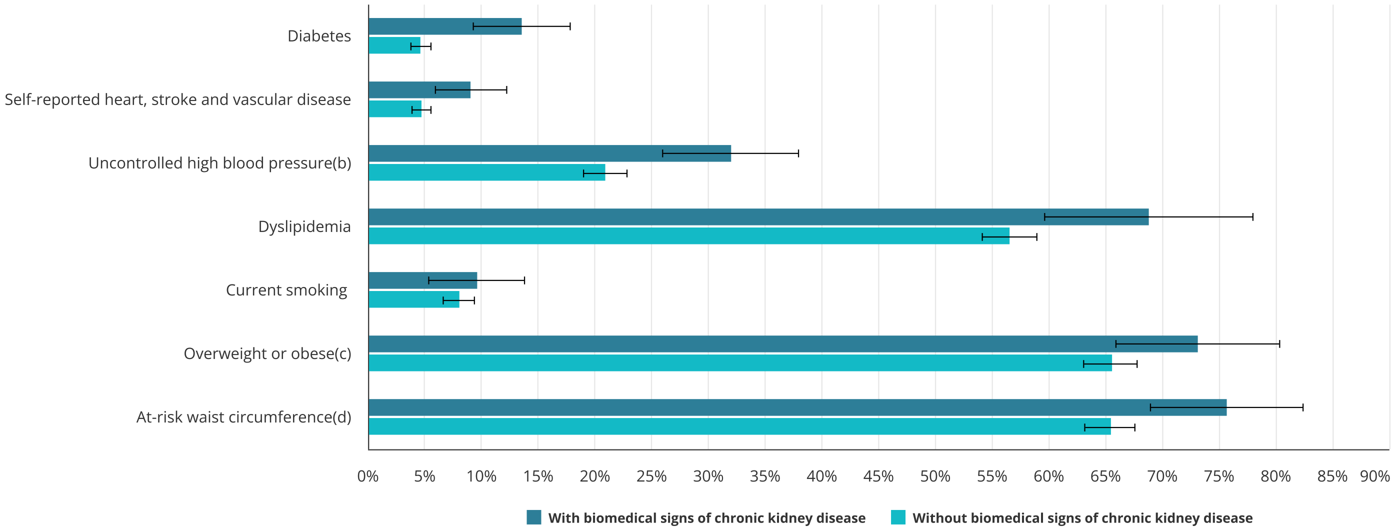
After adjusting for differences in population age structure, adults who had biomedical signs of CKD had higher rates of several risk factors compared with adults without CKD. Age-standardised rates were:

- 2.9 times as high for diabetes
- 1.9 times as high for heart, stroke or vascular disease
- 1.5 times as high for uncontrolled high blood pressure
- 1.2 times as high for dyslipidaemia
- 1.2 times as high for current smoking
- 1.1 times as high for overweight and obesity
- 1.2 times as high for at-risk waist circumference.

These higher risk factor levels among adults who may have developed CKD highlight the need for secondary prevention to limit the disease's further development and increased severity. Secondary prevention focuses on the early detection and best practice management of a disease or disorder to reduce deterioration and long-term effects. This includes identifying people at risk of ill-health through screening programs, general health examinations, as well as the identification of complications and co-morbidities. C*hronic Kidney Disease (CKD) Management in Primary Care guidelines* from Kidney Health Australia (2024) includes lifestyle changes that can have a positive effect on CKD outcomes and delay the progression of disease.

Figure 1: Risk factors among adults with and without biomedical signs of chronic kidney disease, 2022–24

Age-standardised rate (a)



Source: AIHW analysis of ABS 2025.

Further information

For more information on these and other CKD risk factors, see:

- Diabetes
- High blood pressure
- Heart, stroke and vascular disease
- Overweight and obesity
- Smoking
- Insufficient physical activity
- Poor diet
- Alcohol

Visit Risk factors for more information on this topic.

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Comorbidity of chronic kidney disease

Page highlights

Prevalence of chronic kidney disease, diabetes and heart, stroke and vascular disease

In 2022–24, an estimated 4.1 million Australian adults (21%) were living with diabetes, chronic kidney disease and/or heart, stroke and vascular disease.

Comorbidities of people receiving kidney replacement therapy

In 2024, 50% of people who started receiving kidney replacement therapy were living with diabetes.

What is multimorbidity and comorbidity?

Many people with chronic health conditions do not have a single, predominant condition. Rather, they experience multimorbidity – the presence of 2 or more chronic conditions in a person at the same time (AIHW 2025).

The health effect of multimorbidity can be greater than the combined effect of individual conditions. People with multimorbidity often have more severe illness and use more health services, including increased contact with primary health care services, with more complex hospitalisations and poorer outcomes.

The additional health conditions experienced by a person who has chronic kidney disease (CKD) is known as comorbidity. Diabetes and heart, stroke and vascular disease are common comorbidities among people with CKD (AIHW 2007, 2014). On this web page, much of the focus is on the comorbidity of CKD in combination with diabetes and/or heart, stroke and vascular disease.

An ageing population, along with unfavourable trends in some risk factors and a high prevalence of chronic disease in the community is expected to result in a rise in the number of people with CKD comorbidity, and higher rates of CKD among people with other chronic conditions.
Based on the Australian Bureau of Statistics (ABS) 2022 National Health Survey (NHS), an estimated 246,000 Australians self-reported chronic kidney disease (CKD) as a long-term condition. Most people with self-reported CKD (80%) also had at least 1 of 9 other selected chronic conditions (ABS 2023).

Prevalence of chronic kidney disease, diabetes, and heart, stroke and vascular disease

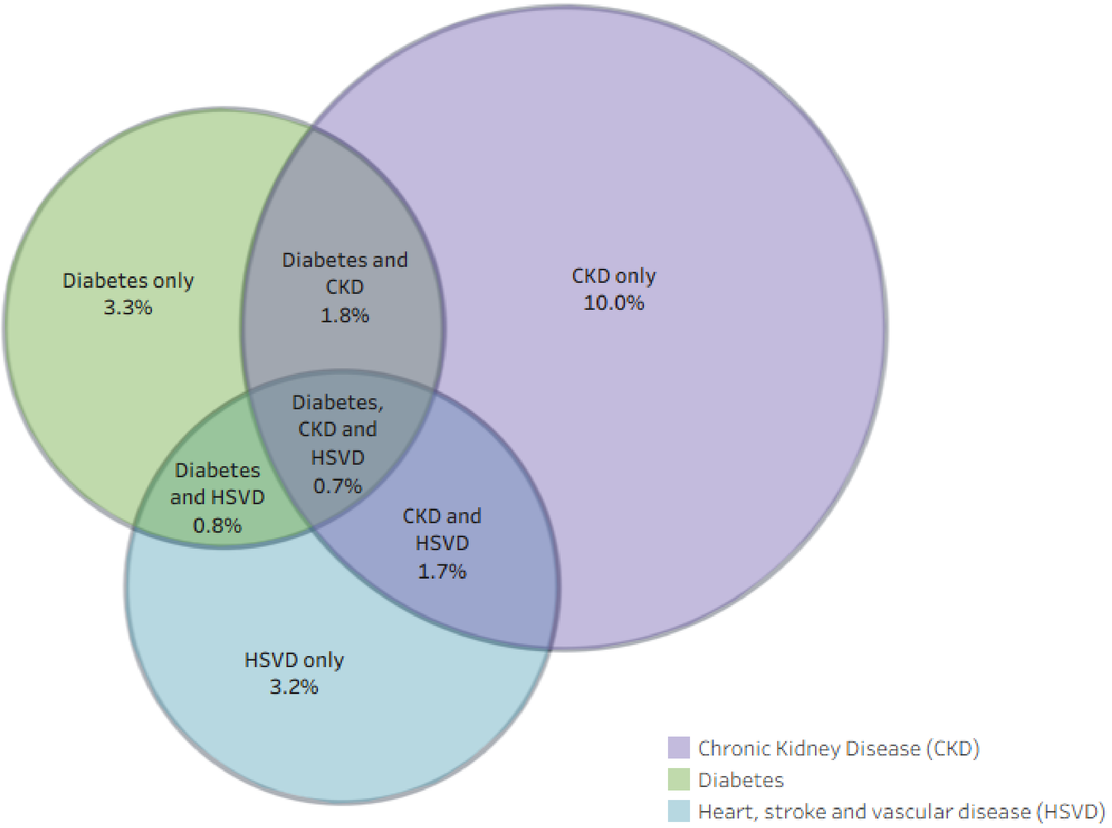
Based on measurement data from the ABS 2022–24 National Health Measures Survey, an estimated 4.1 million Australian adults aged 18 and over (21%) had biomedical signs of CKD, diabetes, or heart, stroke and vascular disease (AIHW analysis of ABS 2025). Of these, 3.1 million (16% of adults) had only one of CKD, diabetes, or heart, stroke and vascular disease. Another 957,000 (5.0% of adults) had at least 2 of CKD, diabetes, or heart, stroke and vascular disease.

Specifically:

- 333,000 adults (1.8%) had CKD and diabetes
- 324,000 adults (1.7%) had CKD as well as heart, stroke and vascular disease
- 161,000 adults (0.8%) had heart, stroke and vascular disease as well as diabetes
- 140,000 adults (0.7%) had all 3 conditions (Figure 1).

Among adults with biomedical signs of CKD in 2022–24, 29% also had diabetes and/or heart, stroke and vascular disease. This increased with age, from 20% among 18–64-year-olds with CKD to 39% of adults aged 65 and over.

Figure 1: Prevalence of chronic kidney disease, diabetes, and heart, stroke and vascular disease (HSVD) and their comorbidity, people aged 18 and over, 2022–24



Note: CKD prevalence is based on eGFR and ACR test results. Diabetes prevalence is based on HbA1c and self-reported data. Heart, stroke and vascular disease prevalence is based on self-reporting by people who participated in the measured component of the 2022–24 Australian Health Survey. Estimates are weighted results for persons where a urine and blood sample were collected.

Source: AIHW analysis of ABS 2025.

Download data

Comorbidities of people receiving kidney replacement therapy

The Australia and New Zealand Dialysis and Transplant (ANZDATA) Registry collects information on the comorbidities of people who receive kidney replacement therapy (KRT) for kidney failure (AIHW analysis of ANZDATA, 2024).

Of the 3,500 people who started KRT for kidney failure in 2024:

- more than half (1,700 or 50%) had type 1 or type 2 diabetes
- 1,200 (33%) had known or suspected coronary heart disease
- 649 (19%) had known or suspected peripheral artery disease
- 471 (14%) had known or suspected chronic lung disease
- 326 (9.4%) had known or suspected cerebrovascular disease (mostly stroke).

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Treatment and management of chronic kidney disease

How is chronic kidney disease treated?

There is no cure for chronic kidney disease, so management of the disease and its symptoms is the primary form of treatment. The earlier chronic kidney disease is detected, the better the outcomes for halting or slowing its progression.

Depending on the stage of chronic kidney disease a person is in, there are a variety of management options available. The best treatment option depends on the person being treated and the underlying condition that caused chronic kidney disease. Treatment options may include lifestyle modifications and medication.

Treatment and management of kidney failure may involve kidney replacement therapy (KRT) – dialysis or a kidney transplant – or comprehensive conservative care for those who choose not to undergo KRT. Supportive care can also be a part of the treatment and management of chronic kidney disease, which focuses on helping a person live the best life possible regardless of what stage of chronic kidney disease they are in or what treatments they are receiving.

General practice and primary health care

One of the main goals of primary health care for chronic kidney disease (CKD) is the preservation of kidney health. Collaboration between general practitioners (GPs), nurse practitioners, primary health care nurses and people with CKD is recognised as an important part of the ongoing treatment and management of CKD, and primary health care providers have a role in supporting individuals' self-management of this condition (Bear and Stockie 2014; Havas et al. 2017; KHA 2024).

A lack of national primary health care activity data is a significant data gap for Australia's monitoring of the diagnosis and early treatment of early and mid-stage CKD. A National Primary Health Care Data Collection is currently under development (AIHW 2022). For more information, see Data gaps and opportunities

Diagnosis and detection of chronic kidney disease in general practice

CKD is chronically underdiagnosed in the Australian population, with only 7.4% of adults who showed biomedical markers of CKD in 2022–24 also self-reporting having the disease (ABS 2025). The asymptomatic nature of CKD in stages 1–4 make GP and primary health care settings particularly important in detecting and reducing the burden of CKD.

Targeted screening of individuals at increased risk of developing CKD due to the presence of one or more risk factors and performing kidney health checks of those people is the clinical protocol recommended in Australia for detecting CKD (KHA 2024).

Chronic kidney disease management in general practice

Kidney Health Australia guidelines for the clinical management of CKD in primary health care involve regular monitoring of patients with CKD (KHA 2024). Although these guidelines are endorsed by the Royal Australian College of General Practitioners, the Australian Primary Health Care Nurses Association and the Australian and New Zealand Society of Nephrologists, complete monitoring of people with CKD in Australia is inadequate (Khanam et al. 2019, NPS MedicineWise 2020).

Clinical monitoring of chronic kidney disease

Monitoring of CKD depends on the level of kidney function, with worse function requiring more assessments.

Standard monitoring of CKD requires the following tests:

- Urinary albumin: creatine ratio (urine ACR) is a urine test to detect the presence of albumin (protein) in the urine, which would normally be filtered out by the kidneys. If kidney function is reduced, protein may pass from the blood into the urine, causing albuminuria. Albuminuria is indicative of CKD, even if other tests are normal (KHA 2025a).
- Estimated glomerular filtration rate (eGFR) is a blood test that provides an indication of how well the kidneys are filtering waste from the blood. It is used to diagnose the stage of CKD and to monitor progression of the disease (KHA 2025c).
- Electrolytes is a blood test that measures sodium and potassium levels in the blood, which should be properly balanced to maintain the normal function of metabolic processes.
- Glycated haemoglobin (HbA1c) is the main biomarker used to assess long-term glucose control in people living with diabetes. It forms part of monitoring CKD only in people with diabetes.
- Fasting lipids are used to determine cardiovascular disease risk and monitor disease progression. Dyslipidaemia, or an altered lipid profile in the blood, can accelerate the rate of kidney function decline.
- Blood pressure tests are needed to identify high blood pressure, which can both cause and exacerbate CKD. Controlling high blood pressure is an important component in the treatment and management of CKD

Additional assessments that may be required depending on kidney function include:

- Full blood count can detect anaemia (deficiency in the number or quality of red blood cells) and monitor iron levels. Anaemia is a common complication of CKD and can cause damage to other organs as well as reducing quality of life in severe cases.
- Calcium and phosphate need to be maintained at healthy levels to help protect against heart disease and stroke, and to prevent bones from weakening. In more advanced stages of CKD, the kidneys do not activate Vitamin D, which is necessary for the body to absorb calcium and phosphate. Calcium and phosphate levels may need to be controlled through diet and the use of phosphate binders and Vitamin D supplements (KHA 2025b).
- Parathyroid hormone (PTH) can detect hyperparathyroidism, which disrupts calcium levels and can lead to kidney failure.

According to a study of people with CKD in general practice, in 2018–19:

- 45% of those in Australian primary health care received complete standard monitoring (see box above).
- Among those with diabetes, 68% received complete standard monitoring, compared with 28% of those without diabetes.
- Those with stages 1–2 CKD were almost twice as likely to receive complete standard monitoring compared with those with stages 3–5 (81% compared with 41%), possibly due to a higher proportion of people with stages 1–2 CKD having diabetes (NPS MedicineWise 2020).

Factors associated with reduced monitoring of CKD were older age and living in a disadvantaged socioeconomic area. Co-existing diabetes or hypertension, and having a documented CKD diagnosis were positively associated with complete standard monitoring (Khanam et al. 2019).

Kidney function tests among First Nations people with Diabetes and/or CVD is one the national Key Performance Indicators (nKPI) collected from organisations funded by the Australian Government under its Indigenous Australians' Health Programme. For more information see, First Nations people.

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Medicines for chronic kidney disease

The general goal of treatment for chronic kidney disease (CKD) is to reduce both disease progression and cardiovascular risk. Typically, this involves the use of medicines that treat comorbidities and risk factors and can offer protection against further kidney damage in the early stages of the disease. Managing existing conditions like diabetes, high blood pressure and cardiovascular disease before kidney disease develops and in the early stages of CKD is critical in protecting the kidneys in the long-term.

For more information, see Diabetes medicines and Medicines for cardiovascular disease.

Managing medications in chronic kidney disease

In stages 3–5 CKD, medicine use must be carefully managed. This is because medicines that are excreted through the kidneys have the potential to build up in the body and be toxic to the kidneys or other organs (Hartmann et al. 2010). To avoid this, clinical assessment and management of medication are important components of treating and managing later stages of CKD.

Management should be tailored to each individual and may involve stopping or lowering the dosage of certain medications or, when available, using alternatives that are not eliminated from the body through the kidneys (Faull and Lee 2007, Hartman et al. 2010, KHA 2024). In Australia, medication reviews are subsidised under Medicare and may be beneficial for people with CKD.

Potentially inappropriate medication use in clinical management of chronic kidney disease

Inappropriate prescribing in CKD involves the prescription of medications that are filtered or excreted through the kidneys and may potentially harm those taking them. As such, the types and dosages of medicines prescribed to people with CKD should be carefully monitored.

A potentially inappropriate prescription can include a contraindicated medicine, or too high a dose for a persons' level of kidney function.

In Australia, between 1.5% and 2.6% of people with CKD were potentially inappropriately prescribed the combination of an ACE inhibitor, diuretic and non-steroidal anti-inflammatory drug (NSAID) (the 'triple whammy'), according to estimates from 2016 and 2019 (Bezahbe et al. 2020, NPS MedicineWise 2020). Kidney Health Australia advises against using this combination of medicines in people with CKD, due to the increased risk of acute kidney injury.

Castelino and colleagues (2020) found that 35% of all Australians with CKD were given at least one potentially inappropriate prescription. The rate of potentially inappropriate prescribing increased with the stage of CKD, with 69% of people with stages 4–5 CKD receiving at least one potentially inappropriate prescription.

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Hospitalisations for chronic kidney disease

Page highlights

Chronic kidney disease hospitalisations as a principal or additional diagnosis

In 2023–24, approximately 2 million hospitalisations (17%) involved chronic kidney disease (CKD), including 1.7 million hospitalisations for dialysis.

Variation by priority population groups

Hospitalisations rates for CKD (excluding dialysis) were 3.2 times as high for people living in *Remote and very remote areas* as for people living in *Major cities*. This disparity was higher among females than males.

Trends for chronic kidney disease as a principal diagnosis

Hospitalisations for CKD (excluding dialysis) as a principal diagnosis more than doubled between 2000–01 and 2023–24, from 25,200 to 68,000 hospitalisations.

Supplementary chronic condition codes

The supplementary code for CKD (stages 3 to 5) was assigned in 1.9% of hospital admissions.

Data presented in this section are based on single episodes of care, including multiple hospitalisations experienced by the same individual. Because people receiving dialysis are admitted for this purpose multiple times a week, hospitalisations involving dialysis as the principal diagnosis are not included in analyses of chronic kidney disease (CKD) hospitalisations, unless otherwise stated.

For more information, see Hospitalisations for dialysis.

In 2023–24, approximately 2 million hospitalisations (17% of all hospitalisations in Australia) recorded chronic kidney disease (CKD) (including dialysis) as a principal and/or additional diagnosis.

Dialysis accounted for 80% of CKD hospitalisations in 2023–24. After excluding hospitalisations where dialysis was recorded as the principal diagnosis, CKD hospitalisations accounted for 3.4% of all hospitalisations in Australia in 2023–24.

In 2023–24:

- there were around 68,000 hospitalisations with CKD as a principal diagnosis – the diagnosis largely responsible for hospitalisation.
- there were around 358,000 hospitalisations with CKD as an additional diagnosis – a coexisting condition with the principal diagnosis or a condition arising during hospitalisation that affects patient management.

Chronic kidney disease (CKD) is a broad term that includes multiple conditions that affect kidney function, any of which might be recorded as the principal diagnosis causing hospitalisation. The most commonly recorded principal diagnosis for CKD in 2023–24 was ‘chronic kidney disease’, followed by ‘kidney tubulo-interstitial diseases’ (Table 1).

Table 1: Major causes of hospitalisation for chronic kidney disease (as the principal diagnosis), 2023–24

Major cause of hospitalisation	**Number**
Chronic kidney disease	25,356
Kidney tubulo-interstitial diseases	17,988
Glomerular diseases	6,186
Other disorders of kidney and ureter	4,367
Complications related to dialysis	2,053
Complications related to transplant	2,049
Hypertensive kidney disease	2,691
Diabetic nephropathy	1,256
Congenital malformations	1,020
Unspecified kidney failure	269
Dialysis (excluding preparatory care)	1,742,859
• Haemodialysis	1,737,784
• Peritoneal dialysis	5,075
Preparatory care for dialysis	4,779
Total	1,810,873

Source: AIHW National Hospital Morbidity Database.

Linked hospital data available in the National Health Data Hub (NHDH) was used to measure the number of people who were represented by public hospital separations with a diagnosis of CKD. In 2023–24, 293,000 public hospital separations with a diagnosis of CKD (as a principal or additional diagnosis, excluding dialysis as a principal diagnosis), represented 160,000 people. This corresponds to an average of 1.8 hospital separations for CKD per person (separation to person ratio) for the year. After adjusting for age differences in population structure, the separation to person ratio for males was 1.2 times higher than for females.
For more information see, Measuring separation to person ratios using linked data from NHDH

Measuring separation to person ratios using linked data from the NHDH

The National Hospital Morbidity Database (NHMD) contains records of hospital admissions (separations) in Australia. However, it cannot be used to determine the number of people hospitalised. The National Health Data Hub (NHDH) is a linked data asset that includes a unique, de identified person level identifier. This enables multiple hospital separations by an individual to be measured.

The NHDH was used to estimate the average number of CKD hospital separations in public hospitals per person admitted for each financial year between 2012–13 and 2023–24.

These measures provide insights into the person level burden of hospital separations, in addition to reporting at the system level. However, results should be interpreted with the following limitations in mind.

NHDH does not currently include hospitalisation data from Western Australia or the Northern Territory, and coverage of private hospitals is limited. Analysis was restricted to only public hospitals, meaning that admissions to private hospital are not included in the ratios. Private hospital admissions account for an estimated 1 in 5 separations for CDK in Australia.

Chronic kidney disease hospitalisations as a principal or additional diagnosis

When CKD affects patient care during hospitalisation – but is not the principal diagnosis – it is recorded as an additional diagnosis. Except where dialysis is the principal diagnosis, CKD is more often coded as an additional diagnosis.

The leading principal diagnoses in 2023–24 when CKD was listed as an additional diagnosis were:

- heart failure: 18,300 hospitalisations (5.1%)
- type 2 diabetes: 12,800 hospitalisations (3.6%)
- acute kidney failure: 11,800 hospitalisations (3.3%)
- sepsis (blood poisoning): 9,600 hospitalisations (2.7%).

CKD is often comorbid with cardiovascular disease. In 2023–24, cardiovascular diseases (also known as circulatory diseases) were the most common type of principal diagnosis when CKD was an additional diagnosis, accounting for 16% (58,900) of these hospitalisations.

Injury, poisoning and certain other consequences of external causes were also common principal diagnoses when CKD was an additional diagnosis (10.2% or 36,700 of these hospitalisations). Of these, complications associated with cardiac and vascular prosthetic devices, implants and grafts (5,900 hospitalisations) were the most common reasons for hospitalisation.

CKD is associated with an increased risk of fractures, due to disturbances in mineral and bone metabolism as a result of the disease (Moe et al. 2006). Progression or development of kidney disease is also a risk associated with surgery, due to an increase in creatinine following surgery (Ishani et al. 2011).

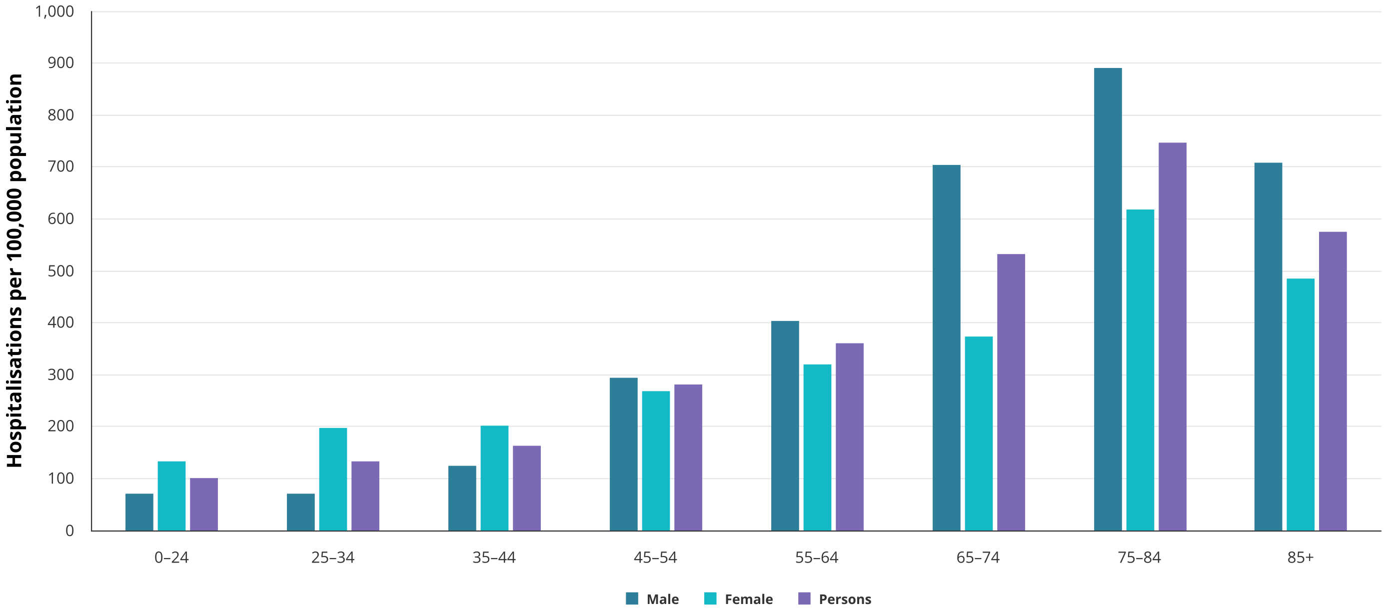
Variation by age and sex

In 2023–24, the number of CKD hospitalisations increased with age, with 71% occurring in those aged 65 and over. CKD hospitalisation rates (as a principal or additional diagnosis, excluding dialysis as a principal diagnosis):

- were between 1.3 and 2.2 times higher for females than males before the age of 45. From age 45, rates were higher for men than women
- were highest in those aged 85 and over for both males and females (18,800 and 11,700 per 100,000 population, respectively) – 1.8 times as high as males and females aged 75–84 (10,200 and 6,400 per 100,000, respectively) (Figure 1).

Figure 1: Chronic kidney disease hospitalisation rates, by diagnosis type, age and sex, 2023–24

Principal diagnosis



Note: Excludes dialysis as a principal diagnosis.
Source: AIHW National Hospital Morbidity Database

Variation by priority population groups

In 2023–24, CKD hospitalisation rates (as the principal or additional diagnosis, excluding dialysis as a principal diagnosis) increased with remoteness and socioeconomic disadvantage.

After adjusting for differences in the age structure of the population groups, CKD hospitalisation rates were:

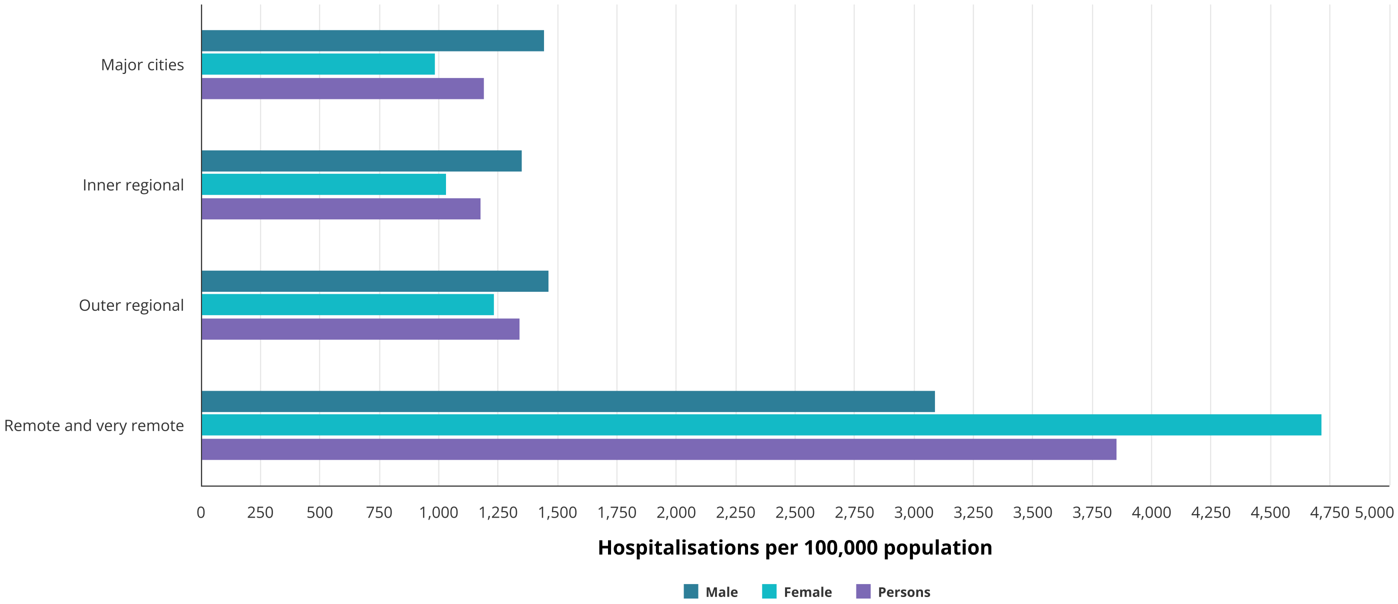
- 3.2 times as high for people living in *Remote and very remote* areas as for people living in *Major cities*. This disparity was higher among females than males (4.8 compared with 2.1 times as high, respectively).
- 2.3 times as high for people living in the lowest socioeconomic areas compared with those living in the highest socioeconomic areas. This disparity was higher among females than males (2.7 compared with 2.0 times as high, respectively) (Figure 2).

For information for Aboriginal and Torres Strait Islander (First Nations) people, see First Nations People.

Data disaggregated by priority population groups are available in the supplementary data tables.

Figure 2: Chronic kidney disease hospitalisation rates as a principal or additional diagnosis, by priority population group, 2023–24

Priority population group: Remoteness area



Notes

1. Age-standardised to the 2001 Australian Standard Population.
2. Excludes dialysis as a principal diagnosis.
3. Excludes persons whose remoteness area and/or socioeconomic area was missing.
4. Socioeconomic groups are classified according to population-based quintiles using the Index of Relative Socio-Economic Disadvantage based on 2021 ASGS SA2 of usual residence. Remoteness is classified according to the ASGS Remoteness Areas structure based on 2021 ASGS SA2 of usual residence.

Source: AIHW National Hospital Morbidity Database

Trends for chronic kidney disease hospitalisation as a principal diagnosis

The number of hospitalisations for CKD as a principal diagnosis (excluding dialysis as a principal diagnosis) more than doubled between 2000–01 and 2023–24, from 25,200 to 68,000 hospitalisations. Over this period, the age-standardised rate rose by 72% (Figure 3).

Figure 3: Trends in chronic kidney disease hospitalisation rates by diagnosis type and sex, 2000–01 to 2021-22

Principal diagnosis

Notes

1. Age-standardised to the 2001 Australian Standard Population.
2. Excludes dialysis as a principal diagnosis.

Source: AIHW National Hospital Morbidity Database

Supplementary chronic condition codes

CKD (stages 3 to 5) can be recorded in hospitalisation data as a supplementary code, as opposed to a principal or additional diagnosis. Supplementary codes represent a selection of clinically important chronic conditions that are part of the patient's current health status on admission which do not meet criteria for inclusion as additional diagnoses but may affect clinical care.

- In 2023–24, CKD (stages 3 to 5) was assigned in 1.9% of hospital admissions.
- When the supplementary code for CKD was introduced in 2015–16, the number of hospitalisations recording CKD as an additional diagnosis fell (AIHW 2023).

References

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Moe S, Drüeke T, Cunningham J, Goodman W, Martin K, Olgaard K, Ott S, Sprague S, Lameire N, Eknoyan G (2006) 'Definition, evaluation, and classification of renal osteodystrophy': a position statement from Kidney Disease: Improving Global Outcomes (KDIGO)', *Kidney International*, 69:1945–1953, doi:10.1038/sj.ki.5000414.

Hospitalisations for dialysis

Page highlights

In 2023–24, 1.7 million (14%) hospitalisations in Australia were for dialysis.

Trends over time

The number of hospitalisations for dialysis nearly tripled between 2000–01 and 2023–24, from 582,000 to 1.7 million.

Variation by priority population groups

Dialysis hospitalisation rates were 4.8 times as high in *Remote and very remote* areas as in *Major cities*. This disparity was greater among females than males.
Dialysis is the most common reason for hospitalisation in Australia, accounting for 14% of all hospitalisations in 2023–24 (1.7 million hospitalisations). Although the majority of people admitted to hospital for dialysis receive haemodialysis, a small number receive peritoneal dialysis. Data on this web page includes hospitalisations for both types of dialysis.

Hospitalisation data count the number of dialysis episodes rather than the number of people who receive dialysis. Most people undergoing dialysis attend 3 sessions per week (ANZDATA 2021).

Linked hospital data available in the National Health Data Hub (NHDH) was used measure the number of people who were represented by public hospital separations with a principal diagnosis of dialysis. In 2023–24, 1.2 million public hospital separations for dialysis, represented just 13,200 people. This corresponds to an average of 91 hospital separations for dialysis per person (separation to person ratio) for the year. The separation to person ratio was lowest for people 0–25 years (63 separations for dialysis per person) and highest for people aged 85 and older (105 separations per person).

For more information, see Measuring separation to person ratios using linked data from NHDH.
For more information about people receiving dialysis, see Dialysis.

What is 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, a function usually performed by the kidneys. It is most often provided to treat chronic kidney failure, but is sometimes needed in cases of acute kidney failure, where the kidneys have been temporarily damaged due to illness or injury.

There are 2 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. Peritoneal dialysis uses the peritoneal membrane inside the abdominal cavity to filter the blood inside the body.

The process involves filling the abdomen with a sterile dialysis solution, called dialysate. Over 4–8 hours, waste is drawn out of the blood through the peritoneal membrane and into the dialysate. The used solution is then drained out of the body and replaced with a new solution. This process is called an exchange and takes around 30–45 minutes.

Between exchanges, the person is free to continue their usual activities. Peritoneal dialysis can be performed either by the person 3 or 4 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.

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 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 4 to 5 hours 3 times per week (ANZDATA 2021). Once the blood has been filtered by the dialyser, it is returned to the body through the access point.

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.

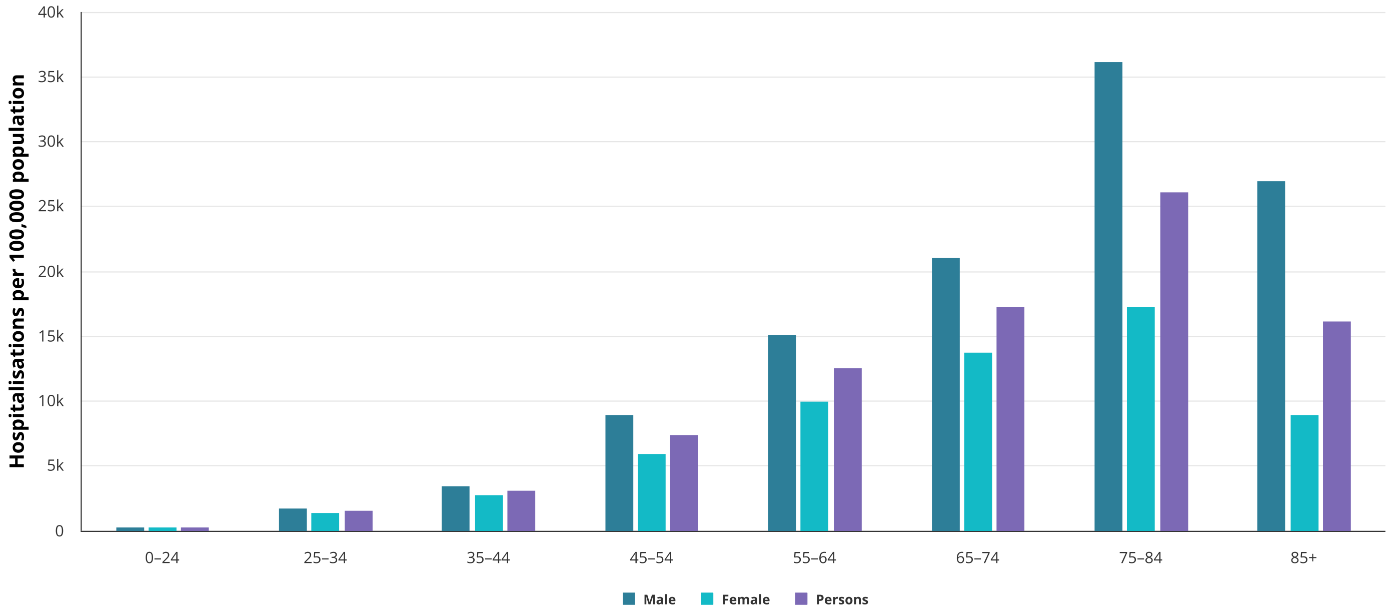
Sources: KHA 2016a, 2016b.

Variation by age and sex

In 2023–24, hospitalisation rates for dialysis as the principal diagnosis:

- were 1.6 times higher in males than in females, after adjusting for differences in the age structure of the population groups. Age-specific rates for males were higher than those for females across all age groups older than 24.
- increased with age up to ages 75–84, with 75% of hospitalisations occurring in people aged 55 and over. Dialysis hospitalisation rates for males and females were highest among those aged 75–84 (36,100 and 17,200 per 100,000 population, respectively) (Figure 1).

Figure 1: Dialysis hospitalisation rates, as a principal diagnosis, by age and sex, 2023–24



Source: AIHW National Hospital Morbidity Database

Trends over time

The number of hospitalisations for dialysis increased 3-fold between 2000–01 and 2023–24, from 582,000 to 1.7 million. After adjusting for changes in the age structure of the population over this time, this equated to an increase of 79% in the rate of dialysis hospitalisations. Note that this does not capture trends in dialysis performed outside of hospitals.

The rate of hospitalisations for dialysis among males was consistently higher than for females over the period, with both showing similar respective rates of increase.

Variation by priority population groups

In 2023–24, hospitalisation rates for dialysis (as the principal diagnosis) varied by remoteness and socioeconomic area (Figure 2).

After adjusting for differences in the age structure of the population groups:

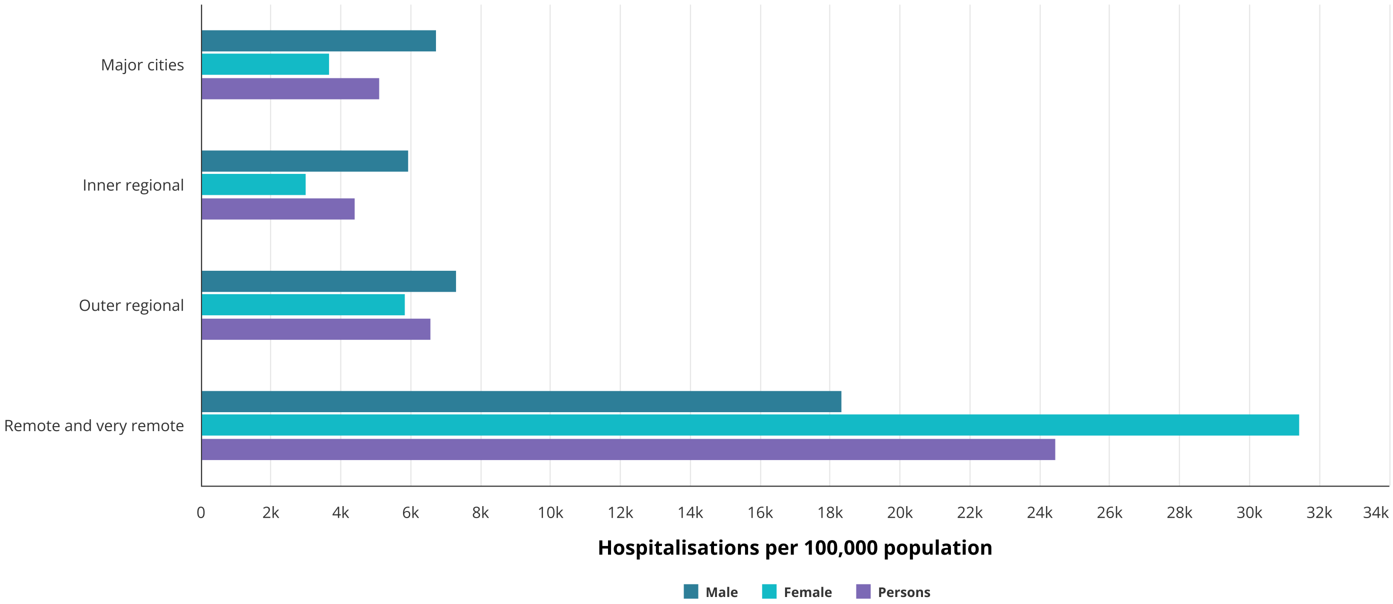
- dialysis hospitalisation rates were 4.8 times as high in *Remote and very remote* areas as in *Major cities*. This disparity was greater among females than males (8.6 times and 2.7 times as high, respectively)
- hospitalisations for dialysis were 2.9 times as high for people living in the lowest socioeconomic area as for those living in the highest socioeconomic area. This disparity was greater among females than males (3.7 times and 2.4 times as high, respectively).

For information for Aboriginal and Torres Strait Islander (First Nations) people, see First Nations People.

Data disaggregated by priority population groups are available in the supplementary data tables.

Figure 2: Dialysis hospitalisation rates, as a principal diagnosis, by population group and sex, 2023–24

Priority population group: Remoteness area



Note: Age-standardised to the 2001 Australian Standard Population.
Source: AIHW National Hospital Morbidity Database

References

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KHA (Kidney Health Australia) (2016a) *An introduction to haemodialysis*, KHA, Melbourne, accessed 22 February 2022.

KHA (2016b) *An introduction to peritoneal dialysis*, KHA, Melbourne, accessed 22 February 2022.

Treatment of kidney failure

Page highlights

Kidney failure

In 2024, 67% of new kidney failure cases were attributable to 3 causes: diabetes (36%), glomerular disease (a type of kidney inflammation) (19%) and hypertension (11%).

Incidence of kidney replacement therapy

During 2024, 3,500 people with kidney failure started kidney replacement therapy (KRT) in Australia, at an average of 9 people per day.

Prevalence of kidney replacement therapy

In 2024, 30,000 people living with kidney failure in Australia were receiving KRT (AIHW analysis of ANZDATA 2024).
This section presents statistics on the number of people with kidney failure receiving kidney replacement therapy (KRT), using data from the Australia and New Zealand Dialysis and Transplant (ANZDATA) Registry (reporting to year 2024). Statistics on the number of people with kidney failure (treated and untreated), use the Kidney and Diabetes Data Integration (KADDI) (reporting to year 2021) – a linked data asset that includes the Australia and New Zealand Dialysis and Transplant (ANZDATA) Registry and the National Death Index.

Kidney failure

Kidney failure is the most severe form of chronic kidney disease (CKD). It occurs when the kidneys can no longer function adequately on their own.

People with kidney failure require kidney replacement therapy (KRT) to survive. KRT involves either dialysis or a kidney transplant.

Not all people with kidney failure choose to undergo KRT. Instead, some opt to receive comprehensive conservative care, with a focus on quality of life and symptom control.

Whether a person chooses to receive KRT is a personal decision and may depend on factors such as age and expected quality of life with KRT compared with comprehensive conservative care. Person-centred care emphasises that decisions about the type of treatment be made collaboratively between the person with kidney failure, their family and their care team.

Comprehensive conservative care and kidney supportive care

Not all people with kidney failure undertake KRT – comprehensive conservative care and management of kidney failure is a treatment choice that focusses on patient care, quality of life and symptom control rather than on efforts to prolong life.

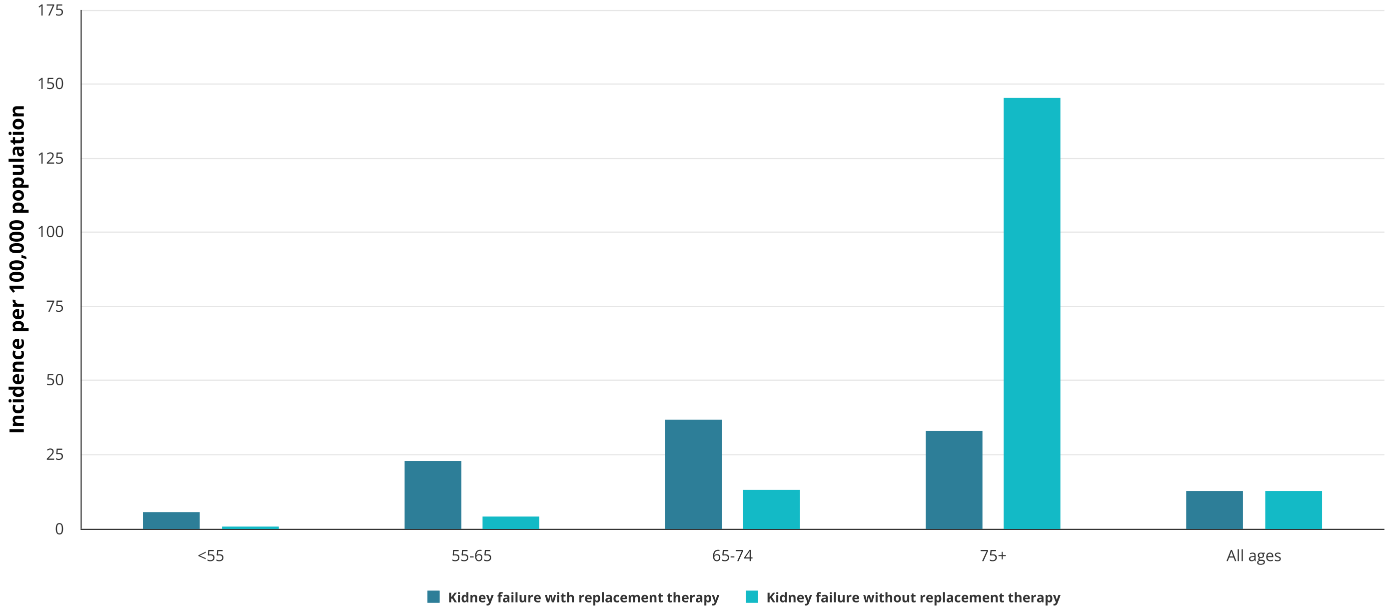
Kidney supportive care aims to improve the quality of life of people living with CKD, regardless of whether they are undergoing therapies intended to prolong life (Davison et al. 2015).

This care includes preventing and relieving pain and takes into account other physical, psychological, social or spiritual needs, helping people to live as actively as possible until death (WHO 2022). It emphasises shared decision-making between the person with CKD, their families and their health care team.

For a person near the end of their life, comprehensive conservative care with supportive care may be a more suitable form of care. Decisions on whether to start or withdraw from KRT are made by the person living with CKD and their family. These decisions are informed by the person’s health-care team (including their general practitioner and nephrologist); they consider people’s prognoses, as well as assessments of the person’s anticipated quality of life (with or without dialysis) and treatment burdens (AIHW 2016).
For each person who started KRT in 2021, there was one person with kidney failure who did not receive KRT.

The probability of not receiving KRT increases sharply from age 75. In 2021, the incidence of people not receiving KRT increased from 13 per 100,000 population in those aged 65–74, to 145 per 100,000 in those aged 75 and over (Figure 1).

Figure 1: Incidence of kidney failure with and without replacement therapy, by age, 2021



Source: Kidney and Diabetes Data Integration (KADDI) project - linked data from the Australia and New Zealand Dialysis and Transplant Registry and AIHW National Mortality Database and National Death Index

Incidence of kidney replacement therapy

An estimate of the incidence of KRT can be obtained from the ANZDATA Registry. This registry includes information on people who have had KRT in the form of dialysis or a kidney transplant.

For the total incidence of kidney failure (treated and untreated), see Incidence of kidney failure.

During 2024, 3,500 people with kidney failure started KRT in Australia, at an average of 9 people per day (AIHW analysis of ANZDATA 2024).

In 2024, 67% of newly treated kidney failure cases were attributable to 3 causes: diabetes (36%), glomerular disease (a type of kidney inflammation) (19%) and hypertension (11%).

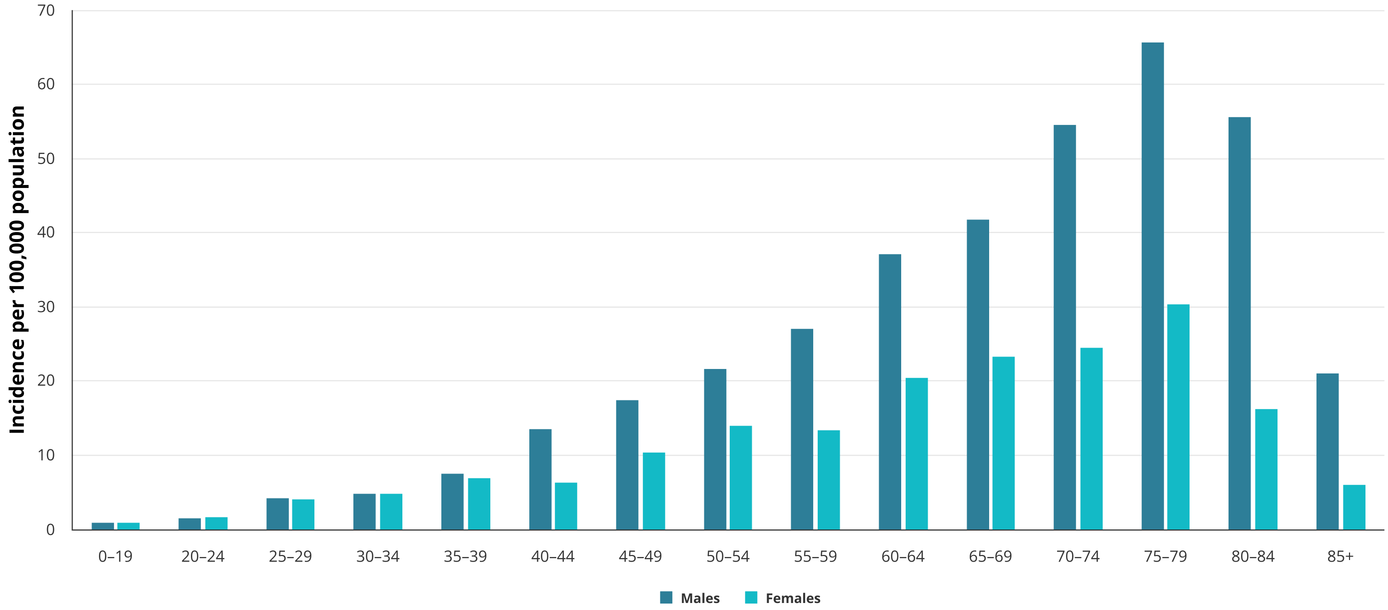
Variation by age and sex

Of the 3,500 people with kidney failure who started KRT in 2024, 53% were aged under 65 and 64% were males.

In 2024, the incidence rate of KRT:

- was 1.8 times as high in males as in females, after adjusting for age
- increased with age, to be highest in the 75–79 age group (Figure 2).

Figure 2: Incidence of kidney failure with replacement therapy, by age and sex, 2024



Source: AIHW analysis of the Australia and New Zealand Dialysis and Transplant Registry 2024

Variation by priority population groups

In 2024, the incidence rate of KRT was much higher in *Remote and very remote* areas and increased with socioeconomic disadvantage.

After adjusting for differences in the age structure of the populations, rates were:

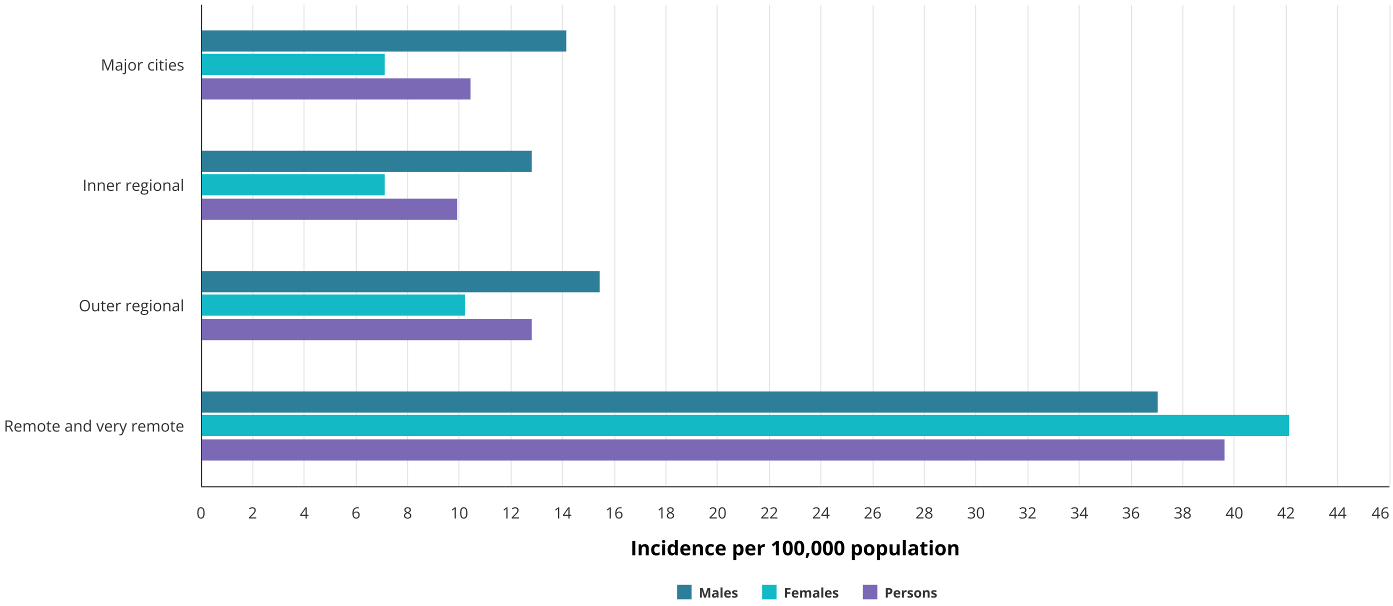
- 3.8 times as high in *Remote and very remote* areas as in *Major cities*. This disparity was greater among females than males (5.9 times and 2.6 times as high, respectively).
- 2.3 times as high in the lowest socioeconomic areas as in the highest socioeconomic areas. Rates were 2.9 times as high among females, and 2.0 times as high among males. (Figure 3).

For information for Aboriginal and Torres Strait Islander (First Nations) people, see First Nations People.

Data disaggregated by priority population groups are available in the supplementary data tables.

Figure 3: Incidence of kidney replacement therapy, by priority population group, 2024

Priority population group: Remoteness area



Note: Age-standardised to the 2001 Australian Standard Population.
Source: AIHW analysis of the Australia and New Zealand Dialysis and Transplant Registry 2024

Trends over time

Between 2000 and 2024 the number of people with kidney failure who started KRT rose from 1,800 to 3,500.

After adjusting for differences in the age structure of the population groups, the incidence rate of KRT has remained stable at 10 or 11 per 100,000 in the two decades from 2005 to 2024.

Prevalence of kidney replacement therapy

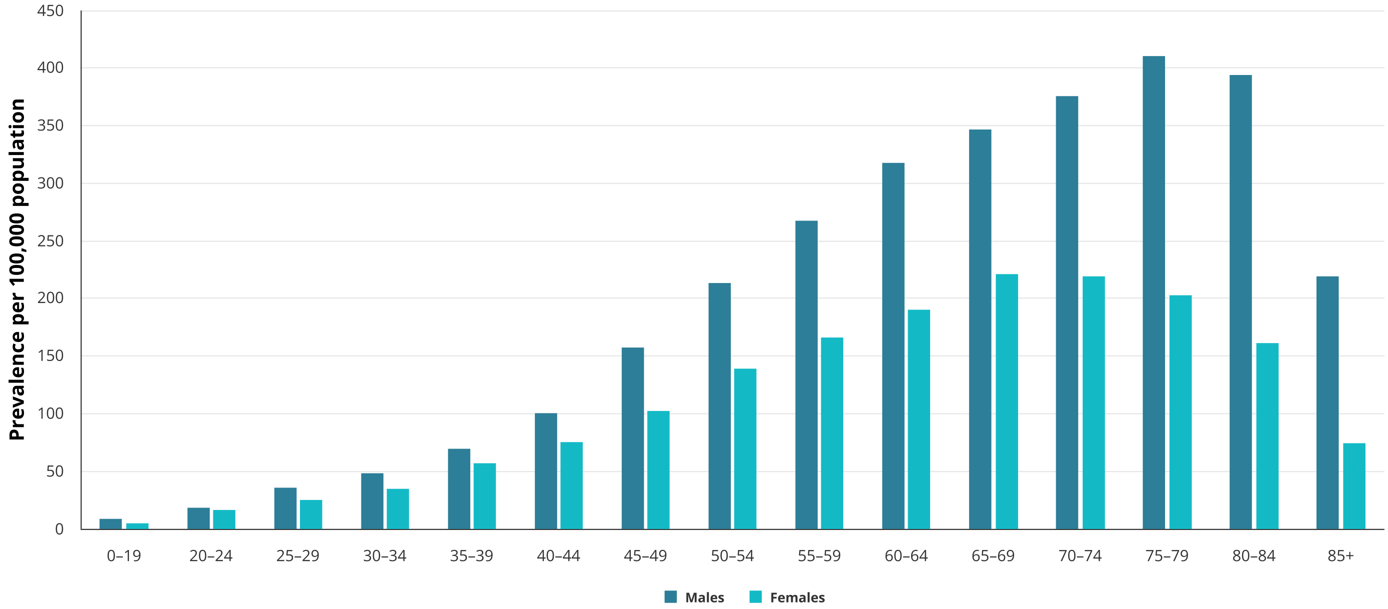
This section reports on the total number of people with kidney failure who received kidney replacement therapy (KRT) in Australia.

At the end of 2024, 30,000 people living with kidney failure had received KRT in Australia, of whom 61% (18,300) were males, and 70% (21,200) were aged under 70 (ANZDATA 2024).

In 2024, the prevalence rate of KRT:

- was 1.6 times as high in males as in females, after adjusting for age.
- increased with age, to be highest among men aged 75–79 (410 per 100,000 population) and women aged 65–69 (220 per 100,000 population) (Figure 4).

Figure 4: Prevalence of kidney replacement therapy, by age and sex, 2024



Source: AIHW analysis of the Australia and New Zealand Dialysis and Transplant Registry 2024

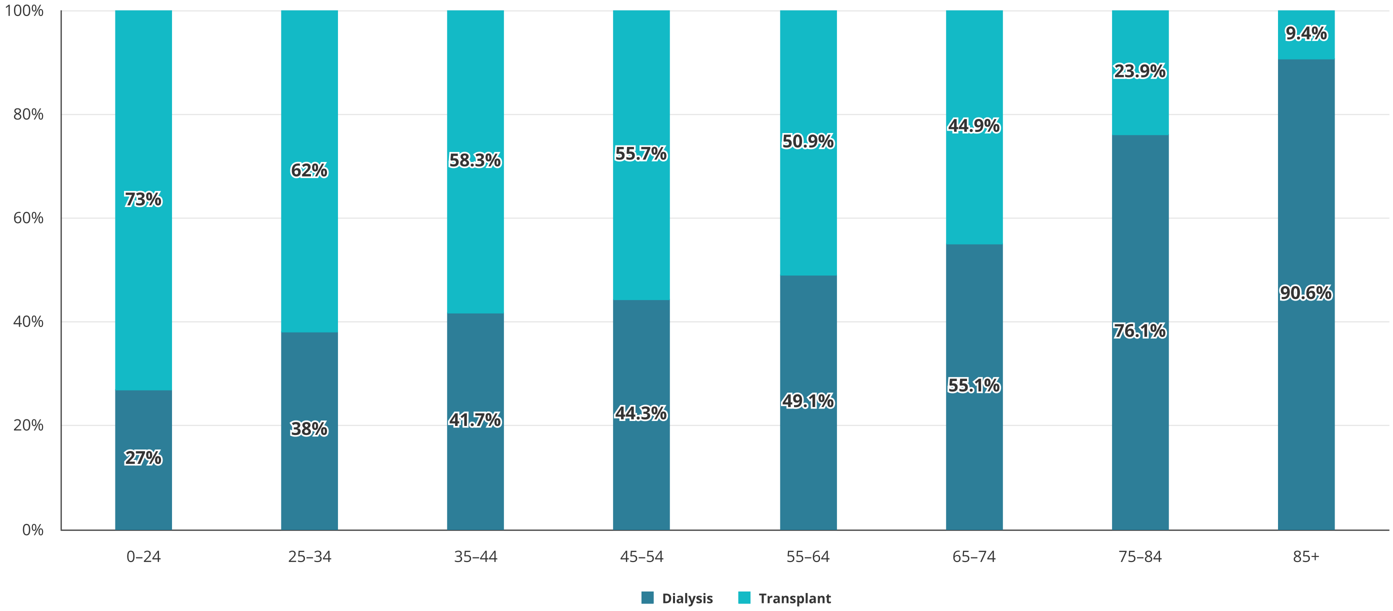
Type of kidney replacement therapy

The type of KRT received varies according to age. In 2024, people with kidney failure aged under 55 were more likely to have a functioning kidney transplant than undergo dialysis (Figure 5).

Between ages 55 and 64, approximately half of the people receiving KRT had a functioning kidney transplant (51%), and half received dialysis (49%).

After age 65, people with kidney failure were more likely to receive dialysis than have a functioning kidney transplant, with the proportion of people on dialysis rising sharply from age 75.

Figure 5: Proportion of kidney replacement therapy type, by age, 2024



Source: AIHW analysis of the Australia and New Zealand Dialysis and Transplant Registry 2024

Variation by priority population groups

In 2024, the prevalence rate of KRT was highest in *Remote and very remote* areas and increased with socioeconomic disadvantage.

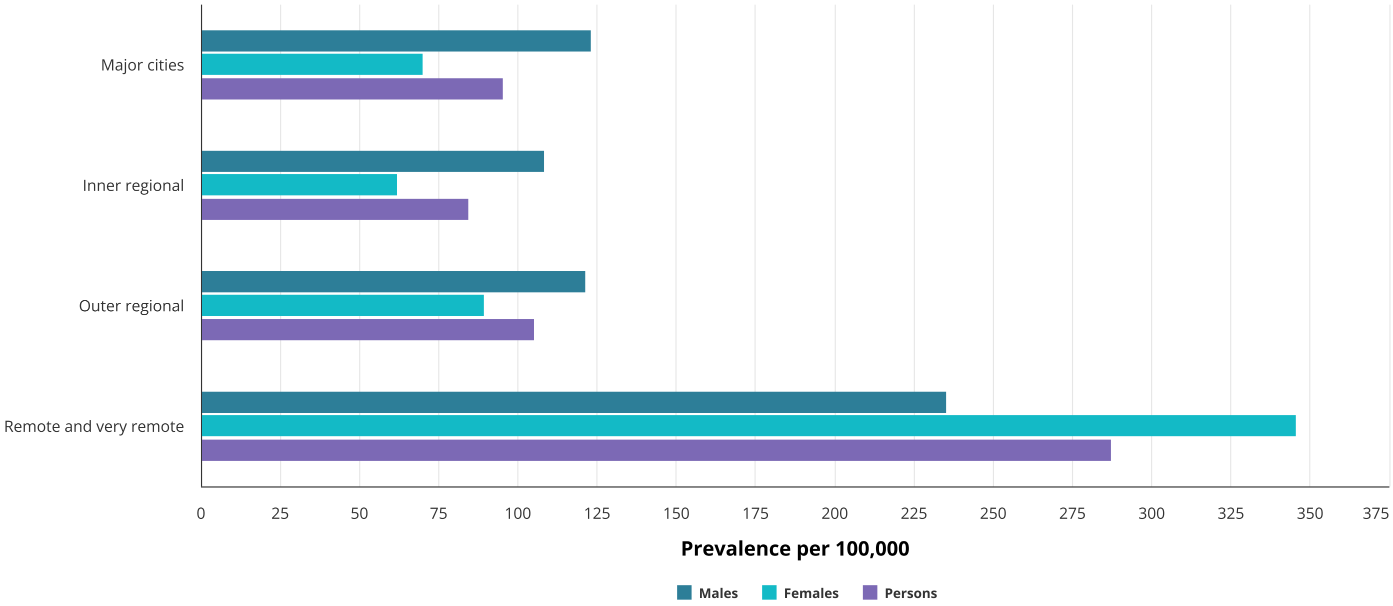
After adjusting for differences in the age structure of the populations, rates were:

- 3.0 times as high in *Remote and very remote* areas as in *Major cities*. Rates were 4.9 times as high for females and 1.9 as high for males.
- 1.8 times as high in the lowest socioeconomic areas as in the highest socioeconomic areas. Rates were 2.0 times as high for females and 1.7 times as high for males (Figure 6).

For information for Aboriginal and Torres Strait Islander (First Nations) people, see First Nations People.

Figure 6: Prevalence of kidney replacement therapy, by priority population group and sex, 2024

Priority population group: Remoteness area



Notes

1. Age-standardised to the 2001 Australian Standard Population.
2. The prevalent population includes people with kidney failure who were receiving KRT as at 31 December 2024.
3. Population-based Socio-Economic Index for Areas (SEIFA) quintile derived from the Index of Relative Socioeconomic Disadvantage for records with sufficient geographic information.

Source: AIHW analysis of the Australia and New Zealand Dialysis and Transplant Registry 2024

Trends over time

Between 2000 and 2024:

- the number of people with kidney failure receiving KRT more than doubled, from 11,700 to 30,000
- the age-standardised prevalence rate of KRT increased by 56%, increasing more among males (65%) than females (44%).

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AIHW (Australian Institute of Health and Welfare) (2016) *Incidence of end-stage kidney disease in Australia 1997–2013*, AIHW, Australian Government, accessed 8 March 2022.

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Dialysis

Page highlights

- Variation by age and sex

In 2024, 16,000 people with kidney failure received dialysis (9,700 males and 6,300 females) (AIHW analysis of ANZDATA 2024).

- Trends over time

The number of people with kidney failure who received dialysis more than doubled between 2003 and 2024.

- Dialysis type

In 2024, 83% of people with kidney failure who were receiving dialysis underwent haemodialysis, compared with 17% who used peritoneal dialysis (ANZDATA 2025).

- Haemodialysis treatment location

A satellite facility has been the most common location to receive haemodialysis since 2000.
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, a function usually performed by the kidneys. It is most often provided to treat chronic kidney failure, but is sometimes needed in cases of acute kidney failure, where the kidneys have been temporarily damaged due to illness or injury.

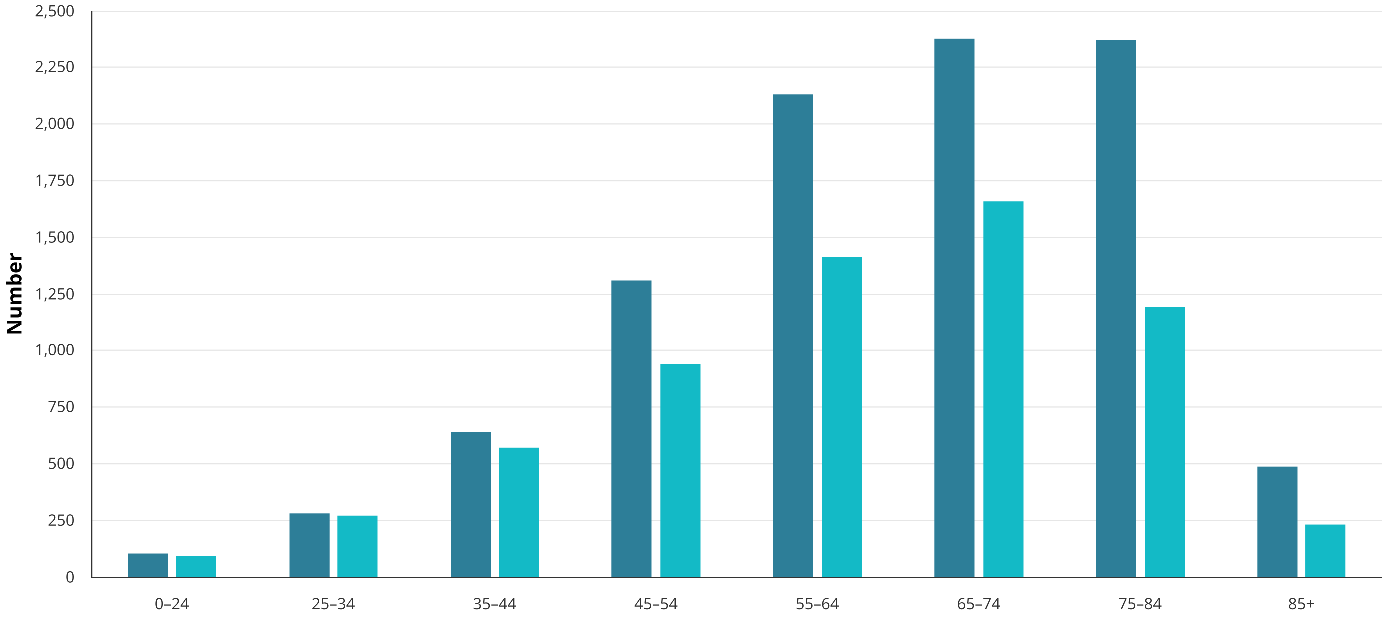
For more information, see What is dialysis?

Variation by age and sex

In 2024, 16,000 people with kidney failure received dialysis (9,700 males and 6,300 females).

The number of males who received dialysis was higher than the number of females in all age groups, both peaking in the 65–74 age group (2,400 men and 1,700 women). The number of people with kidney failure receiving dialysis reduced sharply in people aged 85 and over (Figure 1).

Figure 1: Prevalence of kidney failure with dialysis, by age and sex, 2024



Note: The prevalent population includes people with kidney failure who were receiving dialysis as at 31 December 2024.
Source: AIHW analysis of the Australia and New Zealand Dialysis and Transplant Registry 2024

Trends over time

The number of people with kidney failure who received dialysis more than doubled between 2003 and 2024, from 7,700 to 16,000 (AIHW analysis of ANZDATA 2024).

Dialysis type

Haemodialysis is the most common type of dialysis received by people with kidney failure.

In 2024, 83% of people with kidney failure who were receiving dialysis underwent haemodialysis, compared with 17% who used peritoneal dialysis (ANZDATA 2025).

Haemodialysis treatment location

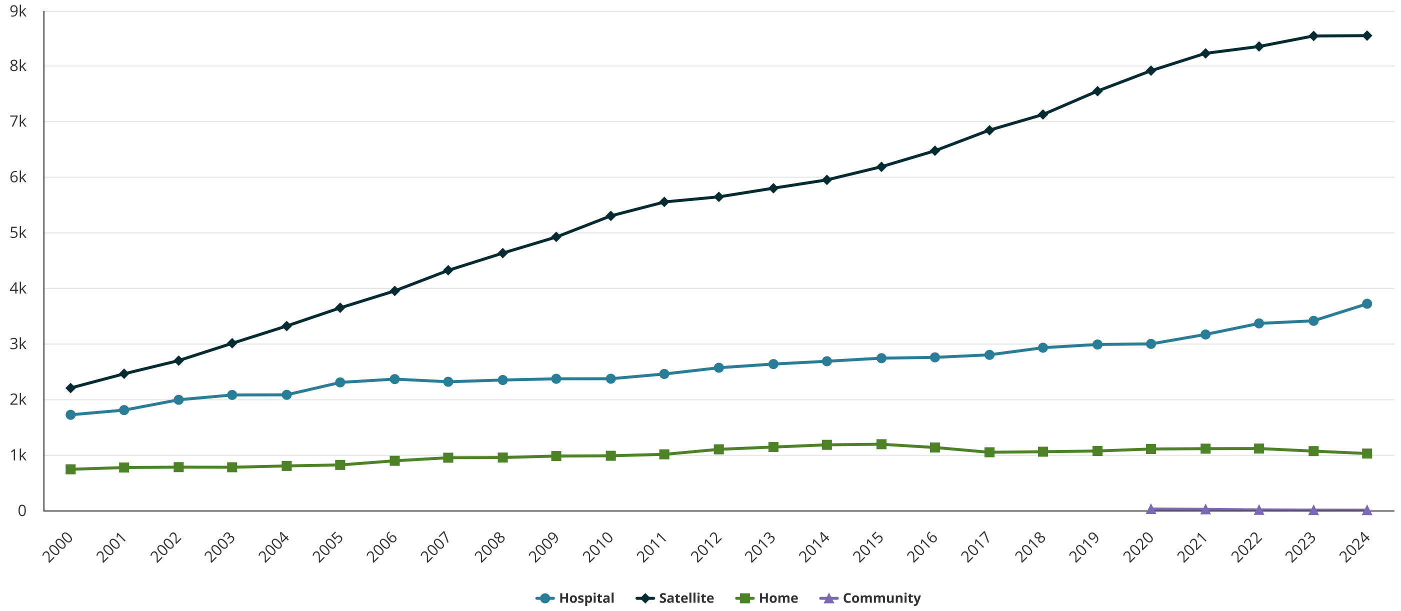
In 2024, 64% of people with kidney failure receiving haemodialysis were treated in satellite facilities, with 28% treated in hospital and 7.7% at home. A satellite facility has been the most common location to receive haemodialysis since 2000 (Figure 2).

This reflects changes in the kidney care landscape, with the expansion of satellite kidney care centres, to better meet the needs of the population with kidney failure.

The number of people with kidney failure receiving haemodialysis has risen across all dialysis locations. From 2000 to 2024, numbers increased:

- by 288% for satellite haemodialysis care, from 2,200 to 8,600
- by 116% for hospital haemodialysis, from 1,700 to 3,700
- by 38% for home haemodialysis, from 741 to 1,025.

Figure 2: Trends in prevalence of kidney failure with haemodialysis, by location, 2000 to 2024



Source: AIHW analysis of the Australia and New Zealand Dialysis and Transplant Registry

Kidney care units in Australia

Kidney transplants and dialysis are usually performed in specialised kidney units in hospitals, satellite facilities and transplant centres. Australia has more than 100 kidney care 'parent' units that are typically based in hospitals, and over 300 locations for dialysis treatment (ANZDATA 2022). It is common for parent units to be associated with one or more satellite units that provide access to dialysis and transplantation services, and to inpatient hospital care.

In 2019, an ANZDATA survey found that the size of kidney units varied considerably across Australia, with over half treating fewer than 250 patients, and the largest caring for well over 1,000 patients. Kidney transplantation was available in 40% of the units.

On average, each unit had 3 full-time consultant nephrology staff. Most units also had physician trainees, along with nurse practitioners, nurses, dietitians, social workers, pharmacists and transplant coordinators (McDonald et al. 2021).

References

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Kidney transplantation

Page highlights

- In 2024, 1,064 kidney transplant operations were performed in Australia.
- In 2024, 14,100 people with kidney failure were living with a functioning kidney transplant.
- The highest number of people with a functioning kidney transplant were in the 55–64 age group.

Kidney transplantation is the preferred type of kidney replacement therapy (KRT), as it lowers long-term mortality risk and costs, and increases quality of life (Liem et al. 2008). Following transplantation, care directed towards preventing chronic kidney disease (CKD) is required (KHA 2021).

Successful kidney transplants where recipients are still living with their transplant, regardless of how many years ago they received it, are referred to on this web page as 'functioning kidney transplants'.

A total of 1,064 kidney transplant operations were performed in Australia in 2024, with 9 in 10 of these being the first kidney transplant. Of all transplanted kidneys in 2024, 811 (76%) were from deceased donors and 253 (24%) were from living donors (ANZDATA 2025).

Transplanted kidneys can be donated by either deceased or living donors. The number of donated kidneys available for transplantation is insufficient to meet demand. At the end of 2024, 1,500 Australians were on the kidney transplant waiting list (ANZOD 2025).

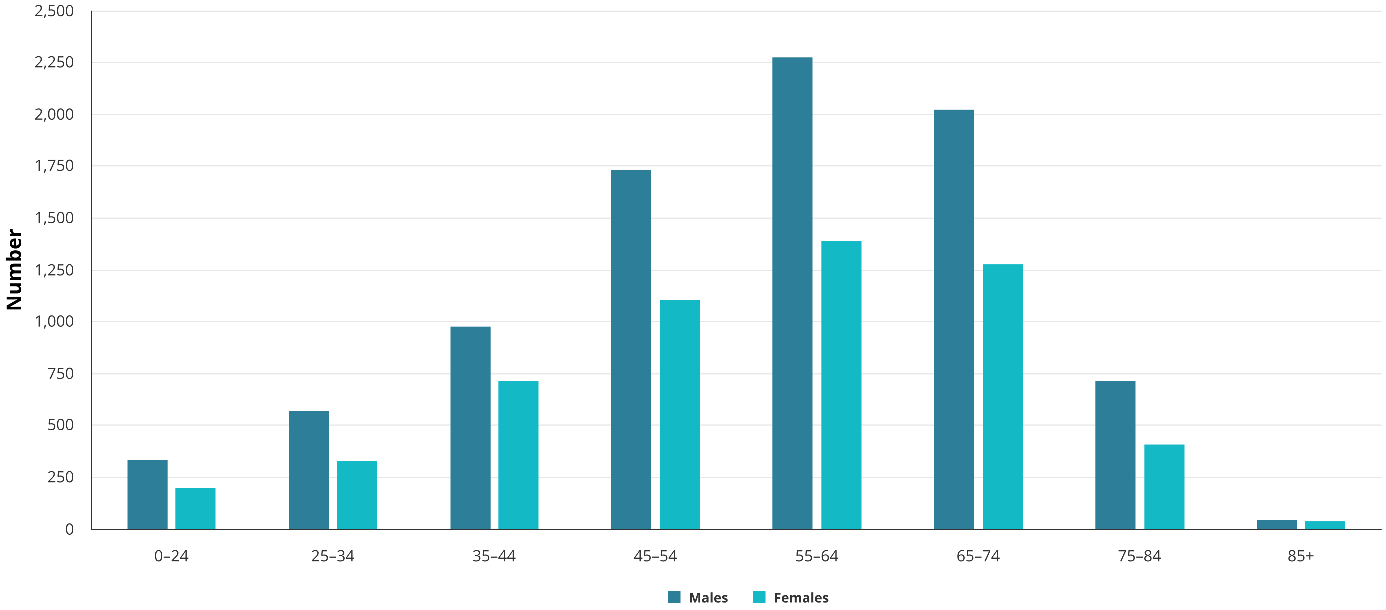
Variation by age and sex

In 2024, 14,000 people with kidney failure were living with a functioning kidney transplant (8,600 males and 5,400 females) (AIHW analysis of ANZDATA 2024).

The highest number of people with a functioning kidney transplant were in the 55–64 age group (2,300 men and 1,400 women) (Figure 1). This was followed by the 65–74 age group (2,000 men and 1,300 women) and the 45–54 age group (1,700 men and 1,100 women).

The number of males with a functioning kidney transplant exceeded the number of females in all age groups.

Figure 1: Prevalence of people living with a kidney transplant, by age and sex, 2024



Note: The prevalent population includes people with kidney failure who were living with a transplant as at 31 December 2024.
Source: AIHW analysis of the Australia and New Zealand Dialysis and Transplant Registry 2024

Trends over time

The number of people with a functioning kidney transplant in 2024 was 1.4 times as high as a decade ago, increasing from 9,700 people in 2013 to 14,000 in 2024 (AIHW analysis of ANZDATA 2024).

References

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Emergency department presentations

Emergency departments (EDs) are an essential component of Australia's health care system. Many of Australia's public hospitals have purpose-built EDs, staffed 24 hours a day, providing care for patients with chronic kidney disease (CKD) who require urgent medical, surgical or other attention.

ED presentations may have a symptom, rather than the underlying condition or cause, listed as the diagnosis (AIHW 2025). The classifications of diagnosis that can be recorded for an ED presentation differs from those used in admitted hospitalisations. For these reasons this section reports on presentations related to both chronic and acute kidney disease.

In 2024–25, there were around 52,300 ED presentations with a principal diagnosis related to kidney disease. Of these:

- 29,900 (57%) were due to glomerular diseases, kidney tubulo-interstitial diseases and chronic kidney failure
- 17, 700 (34%) were due to acute kidney failure
- 2,500 (4.8%) were due to other disorders of kidney and ureter
- 2,300 (4.4%) were due to unspecified kidney failure
- 296 (0.5%) were due to hypertensive kidney disease.

Reference

Australian Institute of Health and Welfare (AIHW) (2025) *Care provided in emergency departments*, AIHW, Australian Government, accessed 5 May 2026.

Impact of chronic kidney disease

Chronic kidney disease (CKD) is a serious disease that has a substantial impact on individuals, families and the Australian health system.

This section comments on the quality of life of people living with CKD, and presents 2 key measures of impact:

- estimates of the burden of disease of CKD
- estimates of expenditure on CKD.

Quality of life of people with chronic kidney disease

Quality of life has no agreed definition but is often described in terms of subjective well-being and life satisfaction. When applied to health, it refers to the effects of disease, injury or treatments as perceived and reported by the individuals themselves (Morton and Webster 2014).

CKD can affect a person's quality of life in many ways. Symptoms such as fatigue, fluid retention, bone pain, peripheral neuropathy or sleep disturbance as well as side effects from medication or kidney replacement therapy (KRT) can adversely affect daily living (Eranga Yapa et al. 2021). CKD diagnosis and progression may have an impact on mental health, most commonly through experiencing grief, anxiety or depression. Limitations on diet and travel for those on dialysis, satisfaction with care or unmet needs for information and support services, financial demands, and spiritual well-being can also affect quality of life.

Quality of life declines as a person's kidney damage and loss of function increases (Morton and Webster 2014). Each stage of CKD from diagnosis – through decline of kidney function, KRT with dialysis or transplantation, to end-of-life care – can have a negative impact (Bonner et al. 2018). For some people with CKD, quality of life becomes a more important consideration than length of life, and they may decide to end their dialysis treatment in favour of end-of-life care.

In 2011–12, adults with biomedical signs of CKD were more likely to rate their health as fair/poor, than adults without biomedical signs of CKD (23% and 12%) (AIHW analysis of ABS 2013). CKD has a greater impact on the quality of life of younger people than older people (Francis et al. 2019, Tong et al. 2013). The combination of CKD and diabetes also has an adverse impact – people with both diseases have substantially poorer quality of life than those with only one of these diseases (Wyld et al. 2021).

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Wyld MLR, Morton RL, Aouad L, Magliano D, Polkinghorne KR and Chadban S (2021) The impact of comorbid chronic kidney disease and diabetes on health-related quality-of-life: a 12-year community cohort study, *Nephrology Dialysis Transplantation,* 36:1048–1056, doi: 10.1093/ndt/gfaa031.

Burden of chronic kidney disease

Page highlights

In 2024, chronic kidney disease (CKD) accounted for 1.1% of the total burden of disease in Australia.

Variation by age and sex

In 2024, the burden from CKD was 1.3 times as high for males as females, after adjusting for age.

Contribution of risk factors

In 2024, 2.0% of the total disease burden in Australia was due to impaired kidney function (including CKD).

What is burden of disease?

Burden of disease is a measure of the years of healthy life lost from living with or dying from disease and injury.

The measure used is the 'disability adjusted life year' (DALY). This measure combines health loss from living with illness and injury (non-fatal burden, or years of life lost due to disability – YLD) and dying prematurely (fatal burden, or years of life lost – YLL) to estimate total health loss (total burden, or DALY).

Burden of disease estimates seek to capture both the quantity and health-related quality of life, and to reflect the magnitude, severity and impact of disease and injury within a population. Burden of disease does not quantify the social or financial consequences of disease and injury.

The Australian Burden of Disease Study provides estimates for over 200 diseases and injuries in Australia, including chronic kidney disease (CKD), which is included as part of the Kidney and Urinary Disease group. Note that the definitions of CKD in this study are different from those used to define CKD in other sections of this report.

Further information can be found in *Australian Burden of Disease Study 2024*.

Note: The Australian Burden of Disease Study 2024 does not include subnational estimates (state/ territory, Remoteness areas or, Socioeconomic groups). The most recent estimates for these population groups can be found in *Australian Burden of Disease Study: Impact and causes of illness and death in Australia 2018*
In 2024, Australians lost an estimated 65,100 years of healthy life (DALY) due to CKD, equivalent to 2.4 DALY per 1,000 population (AIHW 2024).

CKD accounted for 1.1% of the total burden of disease in Australia in 2024 (1.1% males, 1.1% females) (Figure 1).

Most of the burden from CKD (72%) came from years of life lost to premature death (YLL), with the remainder (28%) from years lived with illness (YLD).

Figure 1: Total burden of chronic kidney disease compared with disease groups, 2024

Notes
1. Total burden (DALYs) is presented. The size of each box is proportional to the magnitude of the Burden of Disease.
2. The ICD-10 codes used to define chronic kidney disease in the Australian Burden of Disease Study are different to the ICD-10 codes used to define chronic kidney disease in other sections of this report.

Chart: AIHW. Source: AIHW Australian Burden of Disease Database.
https://www.aihw.gov.au

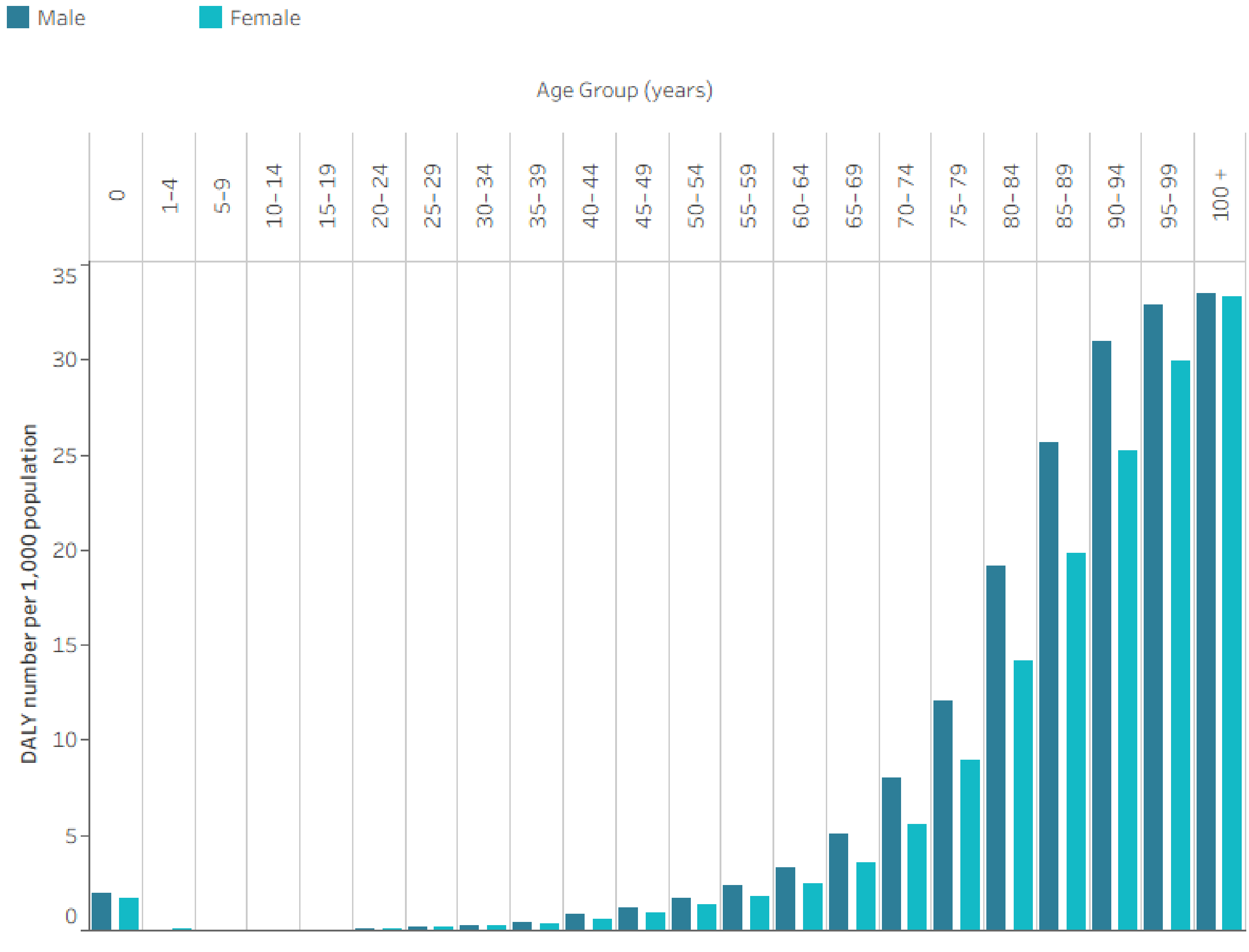
Download data

Variation by age and sex

In 2024, the burden from CKD was:

- low until age 50 and increased with age (Figure 2)
- 1.3 times as high for males as females, after adjusting for age (AIHW 2024).

Figure 2: Burden of disease for chronic kidney disease, by age and sex, 2024



Note: The ICD-10 codes used to define chronic kidney disease in the Australian Burden of Disease Study are different to the ICD-10 codes used to define chronic kidney disease in other sections of this report.

Chart: AIHW. Source: AIHW Australian Burden of Disease Database.
http://www.aihw.gov.au

Download data

Variation by priority population groups

In 2018, the latest data available by population group, the burden from CKD for people living in:

- the lowest socioeconomic areas was 2.2 times as high as for people living in the highest socioeconomic areas
- *Remote and very remote* areas was 3.1 times as high as for people living in *Major cities* (AIHW 2021).

For information for Aboriginal and Torres Strait Islander (First Nations) people, see First Nations People.

Trends over time

The rate of burden from CKD was similar in 2003 and 2024 – age-standardised rates of 1.7 and 1.8 DALY per 1,000 population, respectively (AIHW 2024).

Contribution of risk factors

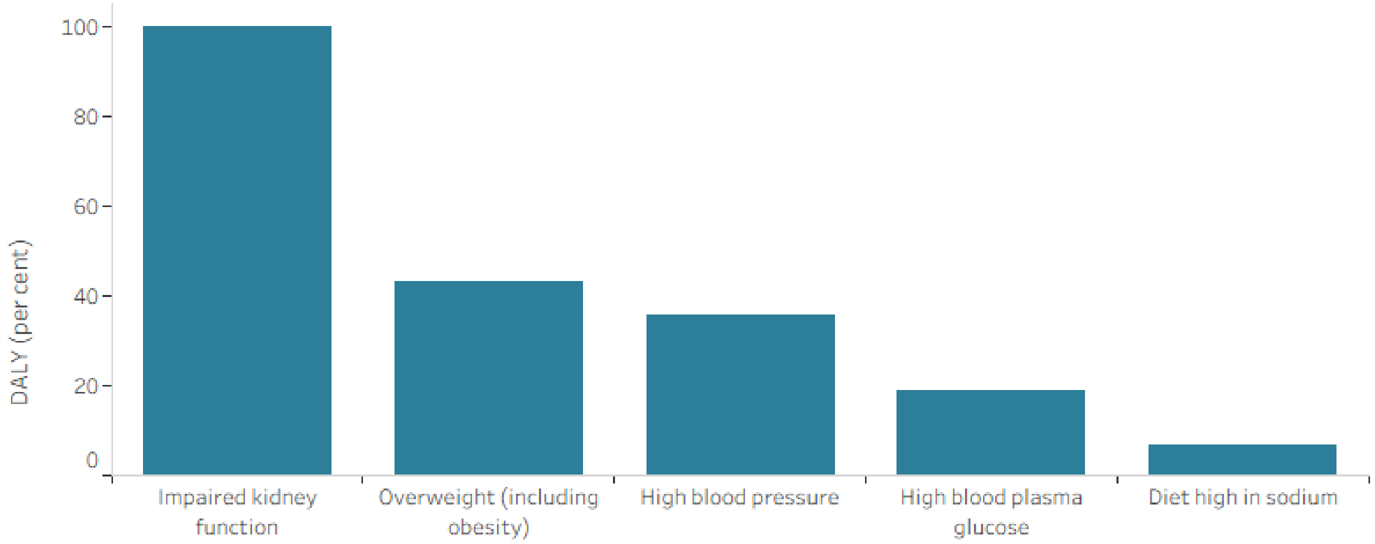
A portion of burden of disease is preventable, being due to modifiable health risk factors. The *Australian Burden of Disease Study 2024* (the study) estimated the disease burden that can be attributed to these modifiable risk factors in 2024.

The study provides estimates for burden due to impaired kidney function as a risk factor for other diseases, including coronary heart disease, dementia, stroke, gout and peripheral vascular disease. In 2024, 2.0% of the total disease burden in Australia was due to impaired kidney function (including CKD). Note that the study considers that impaired kidney function was responsible for the entire burden of CKD.

The leading risk factors contributing to the total CKD burden in 2024 include impaired kidney function (100% male and female), overweight/ obesity (45% male, 42% female), high blood pressure (36% male, 36% female), high blood plasma glucose (19% male and female), and a diet high in sodium (8% male, 5% female) (Figure 3).

Note that as each risk factor was analysed separately, percentages cannot be added together, and do not add up to the joint effect of all risk factors.

Figure 3: Proportion of chronic kidney disease DALY attributed to selected risk factors, 2024



Notes

1. Attributable burden is expressed as a % of total CKD burden (DALY).
2. All forms of diabetes and chronic kidney disease are considered entirely attributable to the risk factors high blood plasma glucose and impaired kidney function, respectively.
3. The ICD-10 codes used to define chronic kidney disease in the Australian Burden of Disease Study are different to the ICD-10 codes used to define chronic kidney disease in other sections of this report.
4. As each risk factor was analysed separately, percentages cannot be added together, and do not add up to the joint effect of all risk factors.

Chart: AIHW. Source: AIHW Australian Burden of Disease Database.
https://www.aihw.gov.au

References

AIHW (Australian Institute of Health and Welfare) (2024) *Australian Burden of Disease Study 2024*, AIHW, Australian Government.

AIHW (2021) *Australian Burden of Disease Study 2018: interactive data on disease burden*, AIHW, Australian Government, accessed 1 February 2022.

Expenditure on chronic kidney disease

How much is spent on chronic kidney disease?

In 2023–24, an estimated $3.0 billion (1.6%) of total health system spending on disease and injury in Australia was attributed to chronic kidney disease (CKD) (AIHW 2025a).

The average health system spending per case of CKD in 2023-24 was $3,162 (males $3,999, females $2,442) (AIHW 2025b).

What is expenditure on chronic kidney disease?

This web page provides data on health care expenditure on chronic kidney disease (CKD), with details by health care service, age group, and sex.

It includes expenditure by the Australian Government; state, territory, and local governments; and the non-government sector (including private health insurance and individual contributions).

These estimates report direct, allocated and recurrent expenditure only. They do not account for the total amount spent on kidney health.

Further information on how the estimates were derived is available from *Health system spending on disease and injury in Australia 2023-24*.

Note: the classifications used to define health services (such as hospitalisations) as related to CKD for estimating expenditure may differ from classifications used in other chapters of this report.

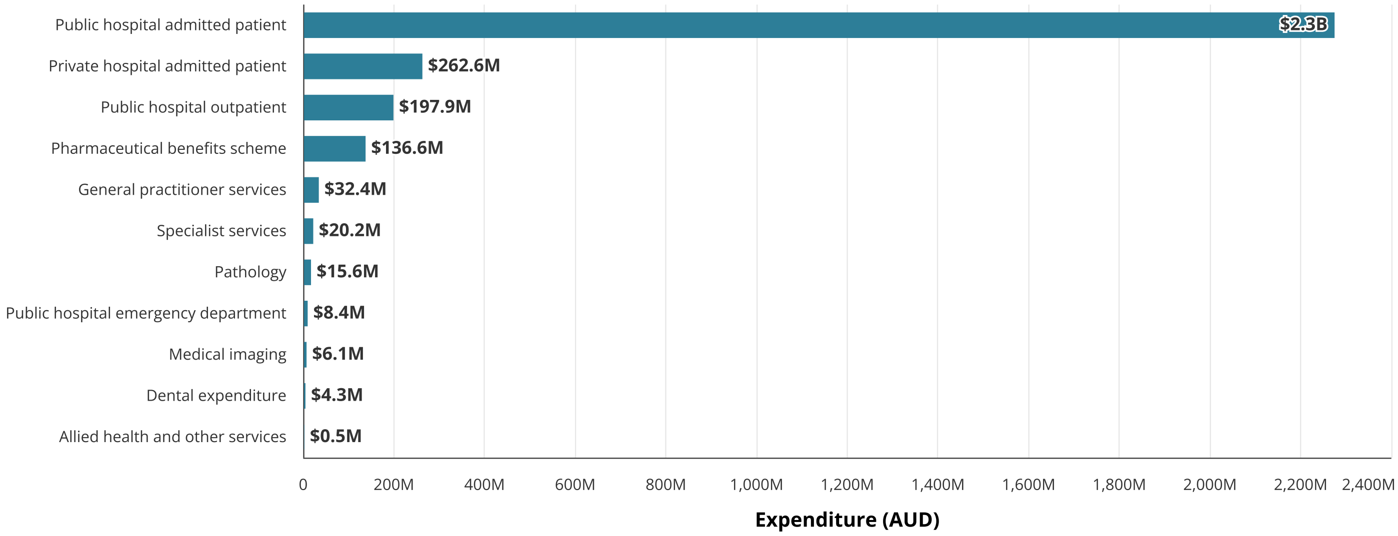
Where is the money spent?

In 2023–24, $2.7 billion (93%) of allocated CKD expenditure was spent on hospital services. This included expenditure on public hospital admitted patients ($2.3 billion), private hospital admitted patients ($262.6 million), public hospital outpatients ($197.9 million) and public hospital emergency departments ($8.5 million).

Prescription pharmaceuticals subsidised under the Pharmaceutical Benefits Scheme (PBS) accounted for 4.6% ($136.6 million). Another 2.5% ($75.1 million) related to non-hospital medical services (primary care and referred medical services), comprising general practitioner services ($32.5 million), specialist services ($20.3 million), medical imaging ($6.2 million), pathology ($15.6 million) and allied health and other services ($0.5 million).

A small amount of CKD expenditure (0.15% or $4.4 million) was for dental services (Figure 1).

Figure 1: Health system expenditure on chronic kidney disease, by area of expenditure, 2023–24



Source: AIHW Disease Expenditure Database

Who is the money spent on?

Expenditure on CKD in 2023–24 was low among young people but rose sharply from ages 40–45, to be the highest among men and women aged 75–79.

Expenditure on CKD was higher among males than females at all ages, except for 20–24-year-olds. From ages 70–74 to age 80–84, expenditure for men was at least 1.5 times as high as that for women.

Most of this difference related to expenditure on hospital services, where a total of $1.6 billion was spent on males, compared with $1.1 billion on females.

Expenditure on non-hospital medical services (primary care and referred medical services) was similar among males (across all age groups) and females ($39.0 million and $40.5 million, respectively).

Expenditure on prescription pharmaceuticals under the PBS was higher among males ($76.8 million) than females ($59.0 million).

References

AIHW (Australian Institute of Health and Welfare) (2025a) *Health system spending on disease and injury in Australia 2023–24*, AIHW, Australian Government, accessed 3 December 2025.

AIHW (2025b) *Health system spending per case of disease and for certain risk factors*, AIHW, Australian Government, accessed 9 March 2026.

Mortality

Page highlight

In 2024, chronic kidney disease contributed to around 21,300 deaths in Australia – 11% of all deaths.
Chronic kidney disease (CKD) may be listed as the underlying cause of death – or, more commonly, as an associated cause – on a death certificate where another condition is listed as the underlying cause.

In 2024, CKD contributed to around 21,300 deaths in Australia, 11% of all deaths (underlying or associated).

Of these, CKD was listed as an underlying cause of death in around 5,100 cases (24% of all CKD deaths). It was recorded as an associated cause in a further 16,200 deaths (around 76% of CKD deaths).

Linked data from the Australia and New Zealand Dialysis and Transplant (ANZDATA) Registry and National Death Index has shown that CKD, particularly kidney failure, is often an under-reported cause of death (AIHW 2016).

Diseases commonly listed as underlying causes of death where chronic kidney disease is an associated cause

In cases where CKD was an associated cause of death, the most common underlying causes were:

- Coronary heart disease (I20–I25) (14%)
- Dementia including Alzheimer's disease (F01, F03, G30) (7.6%)
- Diabetes (E10–E14) (7.0%)
- Heart failure and complications and ill-defined heart disease (I50–I51) (4.5%)
- Chronic obstructive pulmonary disease (COPD) (J40–J44) (4.2%).

In cases where CKD was the underlying cause of death, the most common associated causes included:

- Heart failure and complications and ill-defined heart disease (I50–I51) (27%)
- Other ill-defined causes (R00–R94, R96–R99, I46.9, I95.9, I99, J96.0, J96.9, P28.5) (26%)
- Diabetes (E10–E14) (24%)
- Hypertensive disease (I10–I15) (22%)
- Coronary heart disease (I20–I25) (14%).

Note: multiple associated causes can be listed for a death. Causes of death are grouped in this analysis using the recommendations of the World Health Organization (WHO) (Becker et al. 2006) with minor modifications to suit the Australian context. For more information, see *Deaths in Australia*.

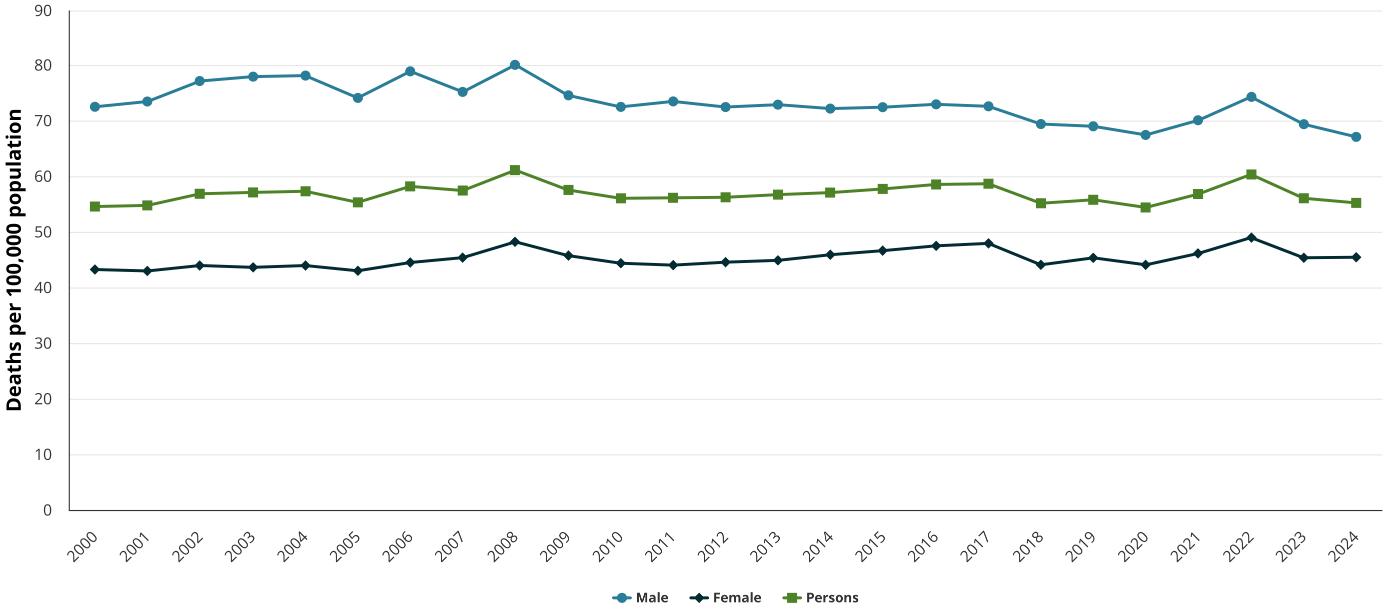
Trends over time

The number of deaths with CKD as an underlying or associated cause doubled between 2000 and 2024 (10,200 and 21,300 deaths). After accounting for changes in the age structure of the population over this time, the rate of CKD deaths remained relatively stable between 2000 and 2024. The CKD death rate for females was consistently lower than for males.

CKD mortality rates increased slightly year-on-year in both 2021 and 2022 (4.4% and 6.3%, respectively), after adjusting for age, before falling back to the prior rate in 2024 (Figure 1). These increases should be interpreted in the context of higher overall mortality in 2022, with two-thirds of excess deaths being associated with COVID-19 (ABS 2023).

For more information on the impact of COVID-19, see *COVID-19 and chronic kidney disease: Impacts in Australia, 2020–2022*

Figure 1: Trends in chronic kidney disease death rates (underlying or associated cause), by sex, 2000 to 2024



Notes

1. Age-standardised to the 2001 Australian Standard Population.
2. Deaths are counted according to year of registration of death.
3. Deaths registered in 2021 and earlier are based on the final version of cause of death data; deaths registered in 2022 are based on the revised version; and deaths registered in 2023 and 2024 are based on the preliminary version. Revised and preliminary versions are subject to further revision by the Australian Bureau of Statistics (ABS).

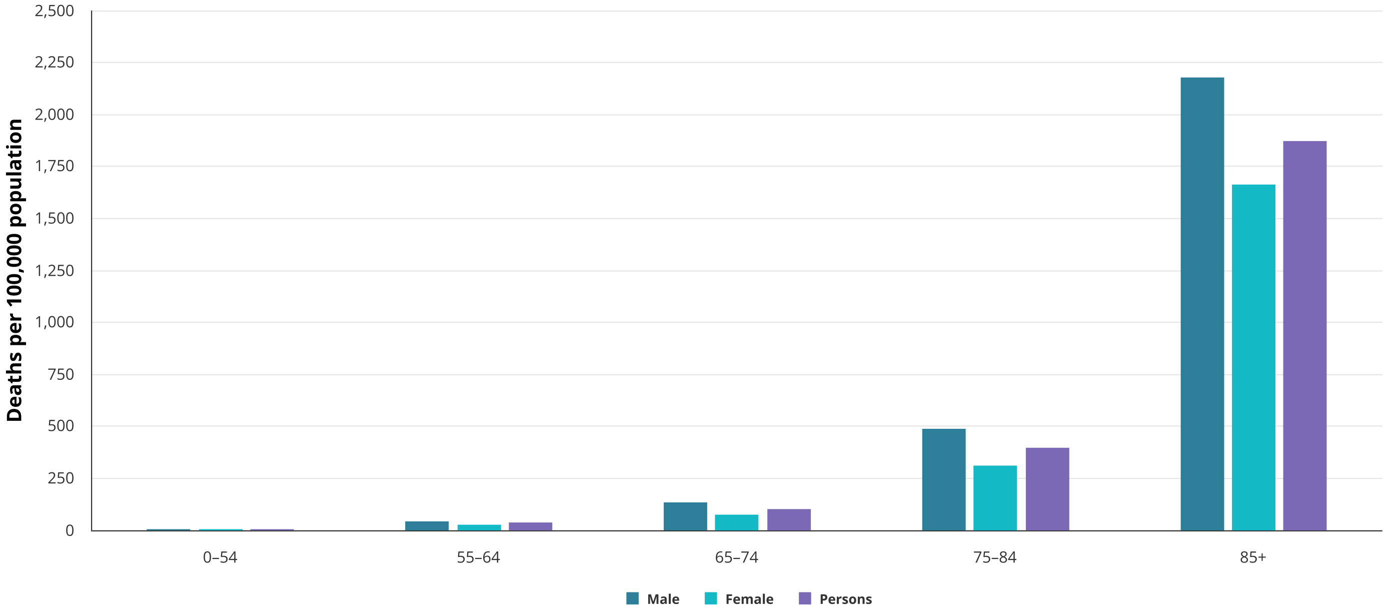
Source: AIHW National Mortality Database

Variation by age and sex

In 2024, death rates for CKD as an underlying or associated cause:

- were 1.5 times higher in males than in females, after adjusting for age
- were higher in males than females across all age groups
- increased with age, with substantially higher rates among those aged 85 and over. This age group accounted for 51% of all deaths due to CKD in 2024 and had an age specific death rate that was 4.7 times as high as for people aged 75–84 (1,900 and 393 deaths per 100,000 population) (Figure 2).

Figure 2: Chronic kidney disease death rates (underlying or associated cause), by age and sex, 2024



Notes

1. Deaths are counted according to year of registration of death.
2. Deaths registered in 2024 are based on preliminary data and are subject to further revision by the Australian Bureau of Statistics.

Source: AIHW National Mortality Database

Variation by priority population groups

In 2024, the age-standardised death rate for CKD (as an underlying or associated cause of death) was higher in *Remote and very remote* areas and in areas with increased socioeconomic disadvantage.

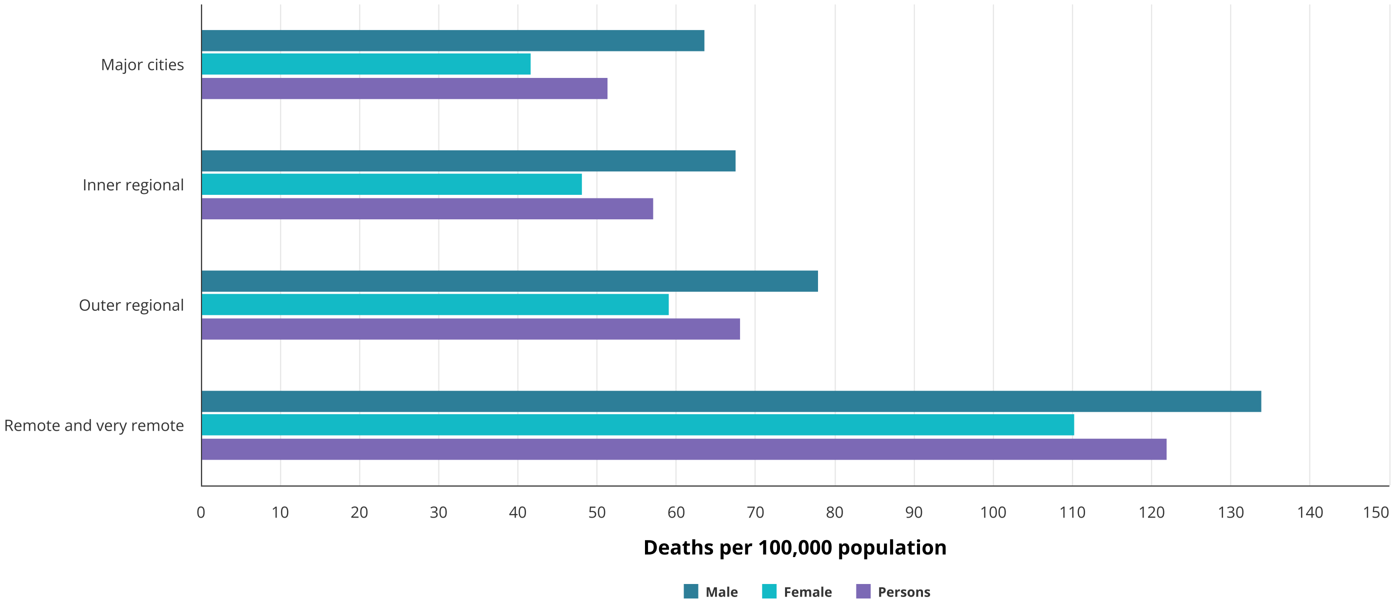
After adjusting for differences in the age structure of the population groups:

- the death rates in *Remote and very remote* areas were 2.4 times as high as in *Major cities*. This difference was greater for females than males (2.7 times as high for females and 2.1 times as high for males).
- death rates were 1.8 times as high in the lowest socioeconomic area than in the highest socioeconomic area (Figure 3).

For information for Aboriginal and Torres Strait Islander (First Nations) people, see First Nations People.

Figure 3: Chronic kidney disease death rates (underlying or associated cause), by population group, 2024

Priority population group: Remoteness area



Source: AIHW National Mortality Database

References

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Bugnicourt JM, Godefroy O, Chillon JM, Choukroun G and Massy ZA (2013) 'Cognitive disorders and dementia in CKD: the neglected kidney–brain axis', *Journal of the American Society of Nephrology*, 24(3):353–363, doi:10.1681/ASN.2012050536.

First Nations people

Chronic kidney disease (CKD) is a significant health issue affecting Aboriginal and Torres Strait Islander (First Nations) people. This chapter presents key statistics on the prevalence, treatment and impact of CKD. Key comparisons with non-Indigenous Australians are also presented.

Page highlights

- An estimated 19% of First Nations adults (101,500 people) had biomedical signs of CKD in 2022–24
- The highest CKD death rates occur at older ages, peaking at 3,700 per 100,000 among people aged 85 years and over.
- Hospitalisations for dialysis (principal diagnosis) accounted for 40% (or 275,000) of all hospitalisations among First Nations people in 2023–24 (691,000).
- Hospitalisation rates for dialysis were 1.4 times higher among First Nations females than in males.
- After adjusting for age difference in the populations, First Nations people experienced a higher burden of CKD prevalence, treatment and impact when compared with non-Indigenous Australians. The disparity is greater among females than males.

How many First Nations people are living with chronic kidney disease?

An estimated 19% of First Nations adults (101,500 people) had biomedical signs of CKD, according to the 2022–24 National Aboriginal and Torres Strait Islander Health Measures Survey (NATSIHMS) (AIHW analysis of ABS 2025). This is similar to the 18% reported in the 2012–13 NATSIHMS (ABS 2014).

The estimates for 2022–24 were higher for men (20%, 52,200 people) than women (17%, 49,300 people).

Comorbidity with diabetes and heart, stroke and vascular disease

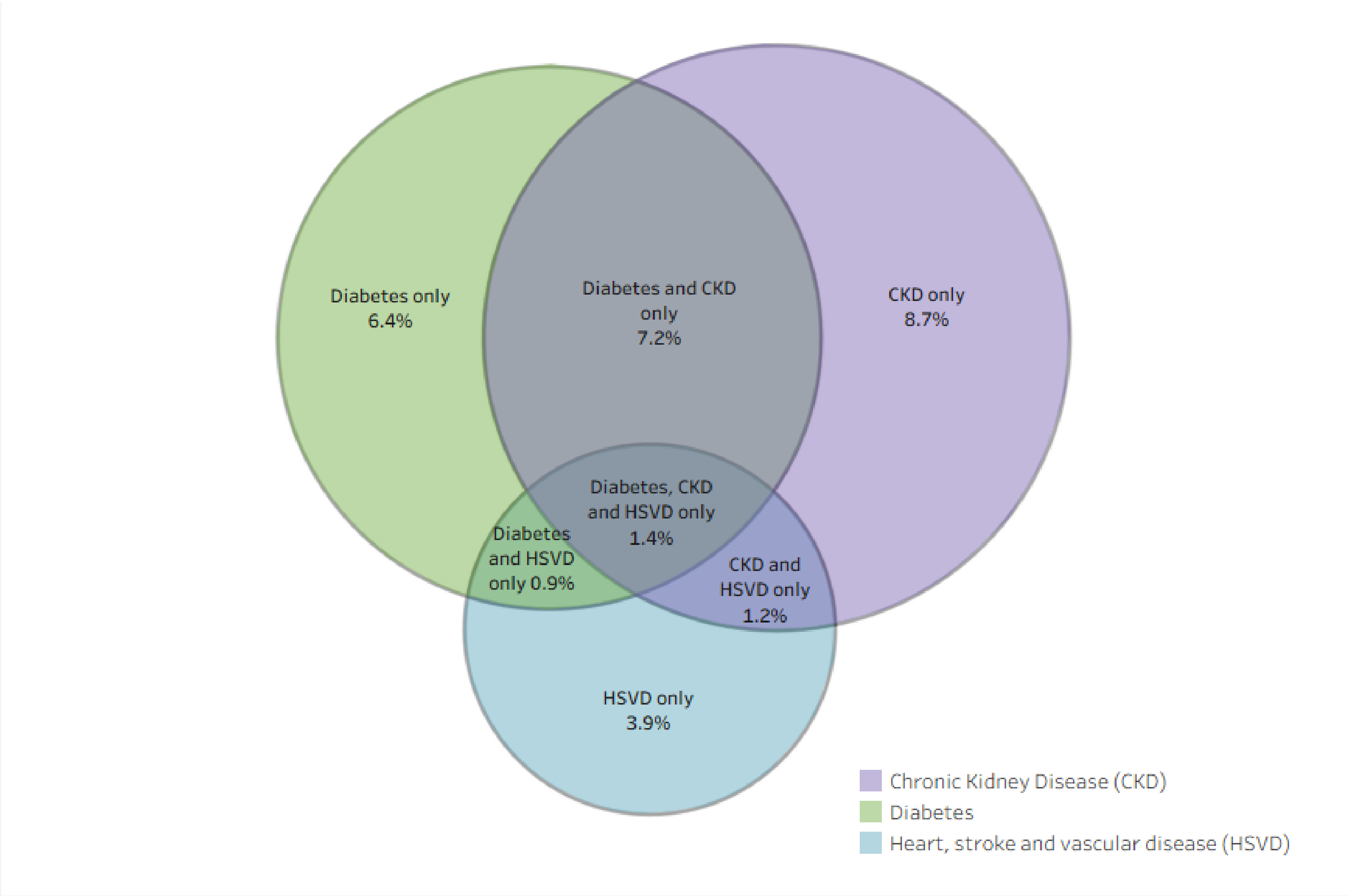
In 2022–24, an estimated 162,000 First Nations adults (30%) had heart, stroke and vascular disease (HSVD), diabetes or biomedical signs of CKD (AIHW analysis of ABS 2025).

Of these, most (104,000) had only one of HSVD, diabetes or CKD, while 58,000 (10% of adults) had at least 2 of these conditions.

Specifically:

- 39,300 (7.2%) had diabetes and CKD only
- 6,700 (1.2%) had HSVD and CKD only
- 4,900 (0.9%) had HSVD and diabetes only
- 7,600 (1.4%) had all 3 conditions (see figure 1).

Figure 1: Prevalence of chronic kidney disease, diabetes and heart, stroke and vascular disease (HSVD) and their comorbidity, First Nations persons aged 18 and over, 2022–24



Note: CKD prevalence is based on eGFR and ACR test results. Diabetes prevalence is based on HbA1c and self-reported data. Heart, stroke and vascular disease prevalence is based on self-reporting by people who participated in the measured component of the 2022–24 National Aboriginal and Torres Strait Islander Health Measures Survey. Estimates are weighted results for persons where a urine and blood sample were collected.

Source: AIHW analysis of ABS 2025.

Treatment and management

How is chronic kidney disease treated?

There is no cure for CKD, so management of the disease and its symptoms is the primary form of treatment. The earlier CKD is detected, the better the outcomes for halting or slowing its progression.

Depending on the stage of CKD a person is in, there are a variety of management options available.

Treatment and management of kidney failure may involve kidney replacement therapy (KRT) – dialysis or a kidney transplant – or comprehensive conservative care with a focus on quality of life instead of efforts to prolong life, for those who choose not to undergo KRT.

General practice and primary health care

Data on chronic disease management in First Nations-specific primary health care are provided by organisations funded under the Australian Government's Indigenous Australians' Health Programme. Kidney function tests among First Nations people with diabetes and/or cardiovascular disease (CVD) is one of the national Key Performance Indicators collected (AIHW 2026a). Type 2 diabetes and CVD can damage the kidneys, and the conditions are frequently comorbidities. Screening people for type 2 diabetes and CVD can help diagnose kidney disease earlier, allowing proactive treatment and monitoring.

Based on data from the national Key Performance Indicator collection, as of June 2025 (AIHW 2026a):

- 48% (or around 23,300) of First Nations regular clients aged 18 and over with type 2 diabetes had an eGFR and urine ACR test recorded within the previous 12 months.
- 44% (or around 8,700) of First Nations regular clients aged 18 and over with cardiovascular disease had an eGFR and urine ACR test recorded within the previous 12 months.

Of those who had both tests recorded:

- 41% (or around 9,500) of First Nations regular clients with type 2 diabetes had a risk category of 'normal' recorded within the previous 12 months.
- 41% (or around 3,500) of First Nations regular clients with cardiovascular disease had a risk category of 'normal' recorded within the previous 12 months.

Hospitalisations for chronic kidney disease

Chronic kidney disease, in particular treatment with dialysis, is a leading cause for hospitalisations for First Nations People. In 2023–24, there was 310,000 hospitalisations related to CKD for First Nations People (principal or additional diagnosis), of which 89% were for dialysis (principal diagnosis).

Dialysis accounted for 40% (or 275,000) of all hospitalisations among First Nations people in 2023–24 (691,000).

Hospitalisations with diagnosis of chronic kidney disease

After excluding hospitalisations where dialysis was recorded as the principal diagnosis, in 2023–24:

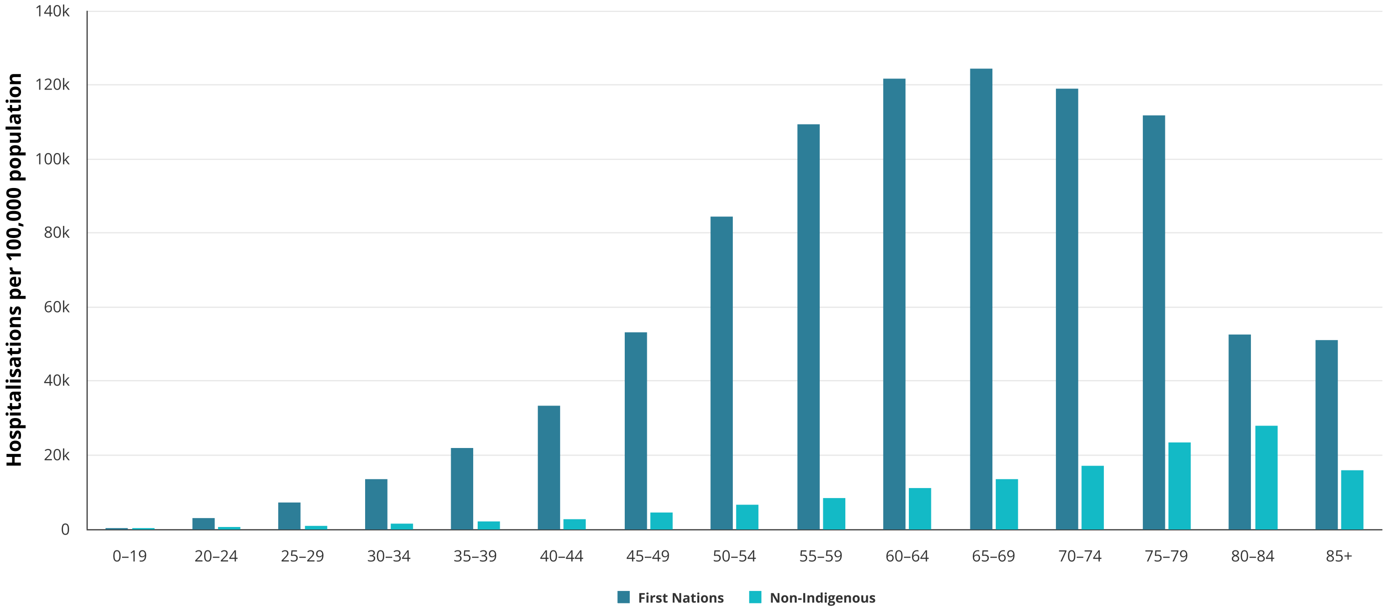
- there were 34,800 hospitalisations for CKD as a principal or additional diagnosis among First Nations people – 3,400 hospitalisations per 100,000 population.
- CKD hospitalisations rates were 1.5 times as high for females as for males.

Hospitalisations for dialysis

In 2023–24, there were 275,000 dialysis (principal diagnosis) hospitalisations among First Nations people (117,000 among males, 158,000 among females) – 26,700 per 100,000 population. Hospitalisation rates for dialysis were 1.4 times as high for females as for males.

Dialysis rates for First Nations people increased with age, rising from 20–24 years among males and peaking at 55–59 years (around 106,900 per 100,000), while among females, rates rose earlier from 15–19 years and peaked at 65–69 years (around 155,100 per 100,000). Dialysis rates for non-Indigenous Australians increased more gradually, peaking later in life and remaining substantially lower across adulthood (see Figure 2).

Figure 2: Dialysis hospitalisations (principal diagnosis), by age and Indigenous status, 2023–24



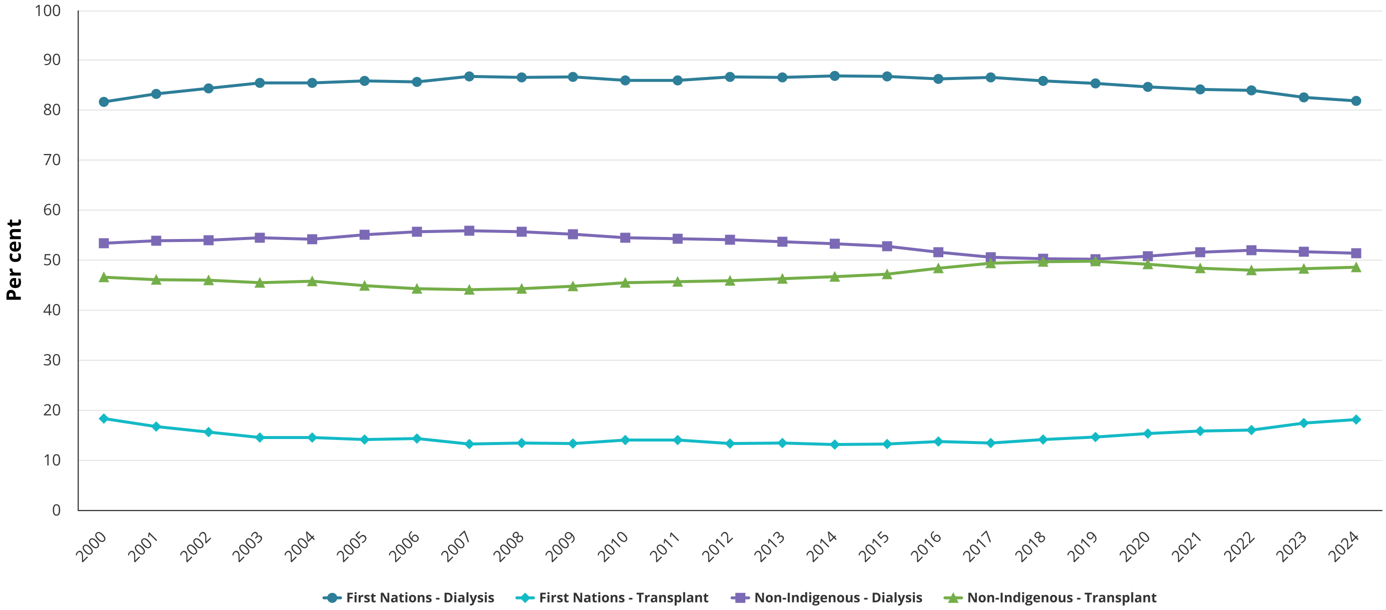
Source: AIHW National Hospital Morbidity Database

Treatment of kidney failure

Around 2,700 First Nations people living with kidney failure received Kidney replacement therapy (KRT) in 2024, a prevalence rate of 261 per 100,000 population. This includes 364 First Nations people living with kidney failure who started KRT in 2024, an incidence rate of 35 per 100,000 population. In 2024, 82% of First Nations people on KRT were on dialysis, and 18% had a functioning kidney transplant (see Figure 3).

Among First Nations people, KRT incidence was highest for women aged 75–79 years (161 per 100,000). For men, the highest incidence occurred at ages 65–69 years (150 per 100,000), although rates were lower than for women (AIHW analysis of ANZDATA 2024).

Figure 3: Trends in prevalence of kidney replacement therapy, by Indigenous status and type, 2000 to 2024



Notes

1. Excludes records with no stated information on Indigenous status.
2. The prevalent population includes people with kidney failure who were receiving KRT as at 31 December.

Source: AIHW analysis of the Australia and New Zealand Dialysis and Transplant Registry

Treatment on Country

Treating and managing kidney failure among First Nations people can be challenging, often due to difficulties associated with providing holistic health care that meets the medical, social and cultural needs of clients (Hughes et al. 2019).

First Nations people may also have to leave their home, families and Country to access in-centre haemodialysis, adding to the challenges of treatment (Anderson et al. 2012). Providing dialysis services in remote regions of Australia has enabled more people to access care close to home. Between 2009 and 2016, there was a 42% increase in dialysis treatments delivered in Central Australia (Gorham et al. 2016).

In 2020, 26% of First Nations people who received KRT (including kidney transplantation) did so close to home, with a large increase in the prevalence of peritoneal dialysis in the Northern Territory (ANZDATA 2021). In Central Australia, survival rates for haemodialysis are now higher than for the rest of Australia, going from the worst to the best in the country over the last 20 years (Gorham et al. 2016; UNE 2020).

Community-led services are making it easier for people to access care in their Country. Purple House is a First Nations-owned health service, providing remote dialysis, social support, aged care and National Disability Insurance Scheme services. It operates 18 dialysis units in Central Australia (Purple House 2022).
For more information on KRT in First Nations people, see:

- Profiles of Aboriginal and Torres Strait Islander people with kidney disease.
- Aboriginal and Torres Strait Islander Health Performance Framework: kidney disease.

Impact

Burden of chronic kidney disease

Burden of disease estimates for First Nations people for 2022 (AIHW 2026b) show:

- CKD contributed 2.1% (6,783 DALY) of the total disease burden among First Nations people in 2022, equivalent to 6.6 DALY per 1,000 population.
- 77% of the burden from CKD among First Nations people was fatal, and 23% was non-fatal
- After adjusting for changes in population age structure, CKD was the 8th leading cause of total burden among First Nations people in 2022, though the rate of burden has decreased slightly since 2011.

For further information, see *First Nations Burden of Disease Study 2022*.

Mortality

In 2024, CKD contributed to around 916 deaths (as an underlying or associated cause) among First Nations people. In jurisdictions with adequate Indigenous identification, this is a rate of 90 per 100,000 population.

The highest CKD death rates occur at older ages, peaking at 3,700 per 100,000 among people aged 85 years and over.

Comparisons with non-Indigenous population

Compared with non-Indigenous Australians, First Nations people generally experience higher rates of prevalence, treatment and mortality due to CKD after adjusting for age differences in the populations. These disparities tend to be greater for females than for males and age-specific analyses show higher rates among First Nations people at younger ages.

The determinants of health for First Nations people are multifaceted, including socio-economic and environmental factors, historical context with ongoing inter-generational impacts and prevalence of health risks (AIHW 2024). There is strong variation by geographical location among First nations people, with emerging research highlighting the impact of genetic and environmental risk factors for CKD (Arunachalam 2024; Tesfaw 2025).

Prevalence

First Nations adults were 1.7 times as likely as non-Indigenous adults to have biomedical signs of CKD, after accounting for differences in the age structure of the populations. The prevalence rate among First Nations males was 1.8 times as high as the rate among non-Indigenous males, while the rate among First Nations females was 1.6 times as high as the rate among non-Indigenous females. This is the reverse of the sex-based trend seen in treatment and impact comparison estimates below which reflected burden of later stages of the disease.

Hospitalisations

The rate of hospitalisations related to CKD (excluding dialysis) among First Nations people was 4.7 times as high as the rate among non-Indigenous Australians, after accounting for differences in the age structure of the populations. The hospitalisation rate among First Nations females was 6.4 times as high as the rate among non-Indigenous females, while the rate among First Nations males was 3.4 times as high as the rate among non-Indigenous males.

First Nations people were hospitalised for dialysis at a rate over 8.6 times as that for non-Indigenous Australians, after accounting for differences in the age structure of the populations. First Nations females were hospitalised for dialysis at a rate that was 14 times as high as that for non-Indigenous females. First Nations males were hospitalised at a rate 5.7 times as high as that for non-Indigenous males.

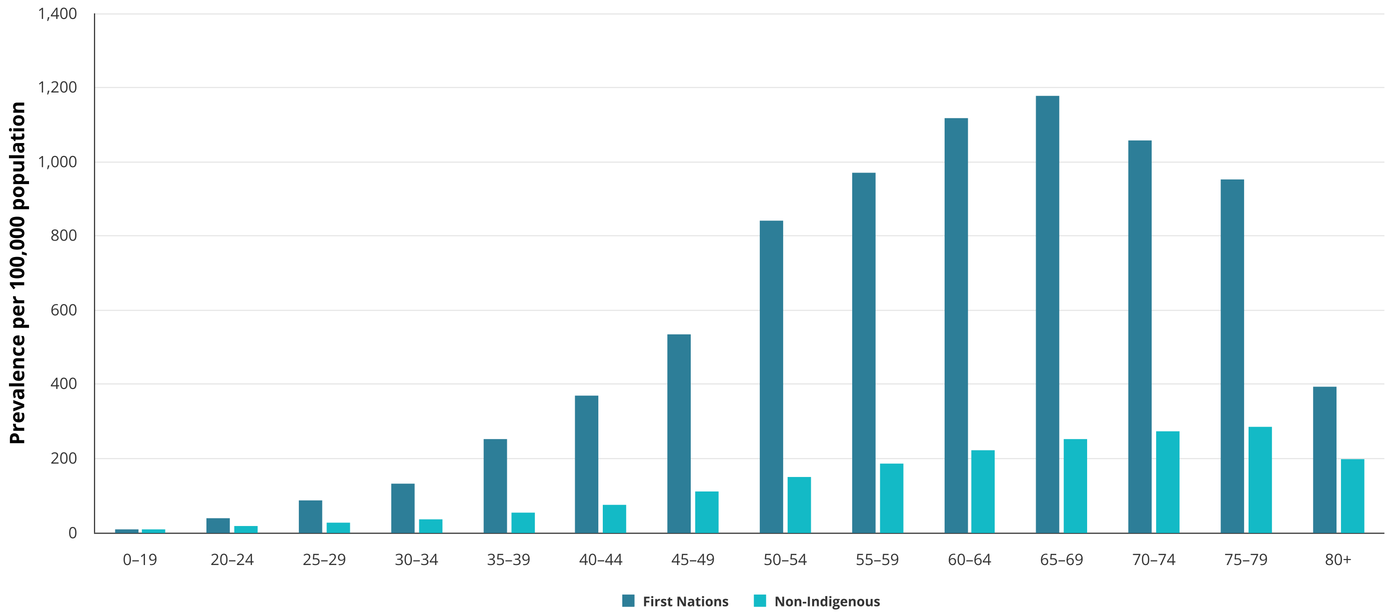
Treatment for Kidney failure

The rate of First Nations people living with kidney failure and receiving KRT (prevalence rate) in 2024 was 4.4 times as high as that for non-Indigenous Australians, after accounting for differences in the age structure of the populations. The disparity was greater among females than males (6.2 times compared to 3.2 times, respectively). For a comparison of type of KRT, see Figure 3.

The rate of First Nations people starting KRT (incidence rate) in 2024 was 5.0 times as high as that for non-Indigenous Australians, after accounting for differences in the age structure of the populations. The differences were greater among females than males (7.6 times compared to 3.7 times, respectively).

Non-Indigenous Australians experienced much lower KRT incidence rates across all ages, with rates increasing more gradually and peaking later in life, at 75–79 years, before decreasing at older ages (see Figure 4) (AIHW analysis of ANZDATA 2024).

Figure 4: Prevalence of kidney replacement therapy, by age and Indigenous status, 2024



Note: The prevalent population includes people with kidney failure who were receiving KRT as at 31 December 2024.
Source: AIHW analysis of the Australia and New Zealand Dialysis and Transplant Registry 2024

Impact

First Nations people accounted for 4.3% of all CKD deaths in Australia. After adjusting for age, First Nations people had a CKD death rate 3.7 times as high as the rate among non-Indigenous Australians. This difference was greater among females than males (4.3 times compared to 3.2 times, respectively).

References

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Tesfaw LM, Tiong MK, Osborne NJ, Williams GM, Darssan D. (2025) Climate effect on the incidence of kidney failure patients in Australia. *BMC Med*. 2025 Nov 26;23(1):681. doi: 10.1186/s12916-025-04532-x.

Explore the data

This dashboard presents chronic kidney disease data about incidence and prevalence, hospitalisations, kidney replacement therapy and deaths. For more information on sources, classifications and methods use, see Technical notes

Data gaps and opportunities

Comprehensive, accurate and timely data are necessary for effective population health monitoring of chronic kidney disease (CKD). Although national health information collections continue to develop and improve, there are still gaps and the information collected may not always be brought together efficiently for analysis (AIHW 2022a).

Increasing digitisation of health information means more detailed data are being collected, expanding the possibilities for analysing and reporting. There is greater demand for information that:

- is easily accessible, flexible and interactive
- is comparable at national, subnational and at smaller geographic levels
- maintains privacy and confidentiality.

The *National Strategic Action Plan for Kidney Disease* identifies several data priorities that can drive improvements in the effectiveness and efficiency of kidney disease prevention, treatment and support (Department of Health 2019). Key priorities include expanding the collecting of person-centred data, and increasing data linkage and integration.

Comprehensive person-centred data

Following individuals from a diagnosis of CKD through their interactions with the health system improves our ability to analyse not only the development and trajectory of disease but also the interplay of determinants and interventions and the role and performance of the health system in preventing, treating and managing CKD.

Current opportunities to improve consumer-led and person-centred CKD data includes:

- collecting comprehensive data at all points of primary health care activity, particularly at diagnosis and early treatment of early and mid-stage CKD. This can provide a fuller picture of CKD management, including associated comorbidities, early interventions and long-term outcomes as well as improving estimates of incidence, prevalence and early treatment. A National Primary Health Care Data Collection is currently under development (AIHW 2022b)
- conducting regular health surveys that measure markers of CKD and other markers of chronic disease and nutrition status. This will allow population health trends in the Australian population to be better determined.
- detailed information for priority population groups, including First Nations people, people from lower socio-economic areas, people with disability, and culturally and linguistically diverse populations. These groups may experience substantial disadvantages in relation to kidney health and in accessing health services
- data for smaller geographical areas to identify variations in health status and care by location. The Australian Institute of Health and Welfare (AIHW) has published several dynamic dashboards to show the distribution of the impact of CKD by geographic levels (AIHW 2021).

Data linkage and integration

Data on the Australian health system are largely organised around occasions of service. Data linkage, also known as data integration, brings together information from more than one source. Matching disparate pieces of information can fill gaps in knowledge on not only specific diseases and the effectiveness and quality of health services and population groups but also across the health and welfare sectors.

Linking these data, together with other data such as from surveys, allows for a richer understanding of how people and population groups interact with health services, and their health outcomes.

Two examples of recently linked data sets include the National Health Data Hub (NHDH), developed by the AIHW, and the Person Level Integrated Data Asset (PLIDA), developed by the Australian Bureau of Statistics (AIHW 2022a).

Current opportunities presented by health data linkage include linking primary care data with the existing Australia and New Zealand Dialysis and Transplant Registry (ANZDATA) and Australia and New Zealand Organ Donation Registry databases. This linkage will assist in building a comprehensive picture of clinical measures of CKD and long-term outcomes; it will also facilitate research and the monitoring and evaluation of policies and programs (Department of Health 2019).

References

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Technical notes

Data sources

This page outlines the data sources used for the *Chronic kidney disease: Australian facts* report.

Australia and New Zealand Dialysis and Transplant registry

The Australia and New Zealand Dialysis and Transplant (ANZDATA) Registry is a clinical quality registry that collects and produces a wide range of statistics on the outcomes of treatment of people with kidney failure. The registry collects information to monitor dialysis and transplant treatments from all kidney units in Australia and New Zealand. It operates under the South Australian Health and Medical Research Institute.

The ANZDATA Registry includes information on the status of treatment with kidney replacement therapy (KRT), including if a person has recovered their kidney function, people who had a transplant overseas, people who were lost to follow-up, and people who had a kidney transplant that failed and who died.

Data on the incidence and prevalence and treatment of kidney failure with KRT presented in this report excluded people who:

- recovered their kidney function
- were lost to follow-up
- died.

This is different from exclusion criteria used for these analyses in previous AIHW reports, which also excluded people who had a kidney transplant overseas and whose graft function failed. These people are now included because, regardless of where they received a transplant or whether their transplant is functioning, they are still receiving follow-up care or KRT in Australia.

Information about the data quality of the ANZDATA Registry can be found in the ANZDATA 48th Annual Report 2024

Diabetes, Obesity and Lifestyle Study

The Australian Diabetes, Obesity and Lifestyle Study (AusDiab) is a national survey that was conducted by the International Diabetes Institute (now Baker Heart and Diabetes Institute). It collected national measurements of chronic kidney disease (CKD) biomarkers: serum creatinine and albuminuria for an adult population aged 25 and over (11,700 people). Of the eligible households, 70% responded to the biomedical survey, and 37% of eligible respondents got tested (Dunstan et al. 2002). Standardised creatinine results from the survey participants were supplied by the research team to conduct this analysis on comparable estimated glomerular filtration rate (eGFR) measures.

For more information on AusDiab, see About AusDiab.

National Health Measures Survey

The National Health Measures Survey (NHMS) 2022–24 collected biomedical samples from respondents who participated in the National Health Survey 2022 or the National Nutrition and Physical Activity Survey 2023. Twenty eight percent of the survey participants volunteered to get the biomedical tests, which was approximately 7,500 people.

Urine samples were collected from respondents aged 5 and over, and blood samples from respondents aged 12 and over. The NHMS aimed to provide information on chronic disease and nutrient biomarker levels and health risk factors.

The National Health Measures Survey (NHMS) 2011–13, was the first Australian Bureau of Statistics (ABS) biomedical collection from participants in the National Health Measures Survey. It involved the collection of a range of blood and urine tests from over 11,000 participants across Australia, which were then tested for various chronic disease and nutrient biomarkers.

Urine samples were collected from respondents aged 5 and over, and blood samples from respondents aged 12 and over 36% of the survey participants volunteered to get the biomedical tests, covering 85% of the sampled households.

CKD biomarkers collected were used to derive the eGFR measure from the CKD-epi formula and the albumin:creatinine ratio (Johnson et al. 2012).

For more information, see:

- National Health Measures Survey: Information on biomarkers of chronic disease and nutrition including selected health risk factors
- National Health Measures Survey methodology
- Australian Health Survey: biomedical results for chronic diseases
- Australian Health Survey: biomedical results for chronic diseases methodology.

National Aboriginal and Torres Strait Islander Health Measures Survey

The 2022–24 National Aboriginal and Torres Strait Islander Health Measures Survey (NATSIHMS) collected biomedical samples from respondents who participated in either the 2022–23 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) or the 2023 National Aboriginal and Torres Strait Islander Nutrition and Physical Activity Survey. Around 2,500 participants provided biomedical samples, which was a response rate of 26%.

The NATSIHMS measured specific biomarkers for chronic disease and nutrition status, derived from tests on blood and urine samples from volunteering participants.

Further information can be found on the ABS website.

National Health Survey

The National Health Survey (NHS) is conducted by the Australian Bureau of Statistics to obtain national information on the health status of Australians, their use of health services and facilities, and health-related aspects of their lifestyle. The most recent NHS was conducted in 2022.

The NHS collects self-reported data on whether a respondent had one or more long-term health conditions; that is, conditions that lasted, or were expected to last, 6 months or more.

When interpreting data from the 2022 NHS, some limitations need to be considered:

- Data that are self-reported rely on respondents knowing and providing accurate information.
- The survey does not include information from people living in nursing homes or otherwise institutionalised.
- Residents of *Very remote* areas and discrete First Nations communities were excluded from the survey. This is unlikely to affect national estimates but will have an impact on prevalence estimates by remoteness.

Further information can be found in National Health Survey, 2022.

National Aboriginal and Torres Strait Islander Health Survey

The National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) is conducted by the Australian Bureau of Statistics to obtain national information on the health of First Nations people, their use of health services and health-related aspects of their lifestyle. The most recent NATSIHS was conducted in 2022–23.

The NATSIHS collects information from First Nations people of all ages in non-remote and remote areas of Australia, including discrete First Nations communities.

Between 2016 and 2021, based on Census data, the Aboriginal and Torres Strait Islander population increased by 25.2% or 163,557 people. Due to the large increase in the Aboriginal and Torres Strait Islander population, care should be taken when comparing estimates from the 2022–23 NATSIHS with previous surveys. For more information see the Methodology.

Further information about the survey can be found in National Aboriginal and Torres Strait Islander Health Survey.

AIHW National Hospital Morbidity Database

The AIHW National Hospital Morbidity Database (NHMD) is a compilation of episode level records from admitted patient morbidity data collection systems in Australian hospitals.

Reporting to the NHMD occurs at the end of a person's admitted episode of care (separation or hospitalisation) and is based on the clinical documentation for that hospitalisation.

The NHMD is based on the Admitted Patient Care National Minimum Data Set (APC NMDS). It records information on admitted patient care (hospitalisations) in essentially all hospitals in Australia, and includes demographic, administrative and length-of-stay data, as well as data on the diagnoses of patients, the procedures they underwent in hospital and external causes of injury and poisoning.

The hospital separations data do not include episodes of non-admitted patient care given in outpatient clinics or emergency departments. Patients in these settings may be admitted later, with the care provided to them as admitted patients being included in the NHMD.

The following care types were excluded when undertaking the analysis:

- 7.3 (newborn – unqualified days only)
- 9 (organ procurement – posthumous)
- 10 (hospital boarder).

For more information on the NHMD, see Admitted patient care NMDS 2023–24

AIHW National Non-admitted Patient Emergency Department Care Database

The AIHW National Non-admitted Patient Emergency Department Care Database (NNAPEDCD) is a compilation of episode-level records (including waiting times for care) for non-admitted patients who are registered for care in emergency departments in selected public hospitals. The database captures information only for physical presentations to emergency departments and does not include advice provided via telehealth or videoconferencing.

Patients being treated in emergency departments may be later admitted, including admission in the emergency department, another hospital ward or to hospital-in-the-home. For this reason, there is an overlap in the scope of the NNAPEDCD, the NMDS and the APC NMDS.

Principal diagnoses for episodes of care in the NNAPEDCD are coded according to the Emergency Department ICD-10-AM Principal Diagnosis Shortlist.

For more information on the NNAPEDCD, see Non-admitted patient emergency department care NMDS 2024–25

AIHW National Mortality Database

The AIHW National Mortality Database (NMD) comprises information about causes of death and other characteristics of the person, such as sex, age at death, area of usual residence and Indigenous status. The cause of death data are provided to the AIHW by the Registries of Births, Deaths and Marriages and the National Coronial Information System (managed by the Victorian Department of Justice); they include cause of death coded by the ABS. The data are maintained by the AIHW in the NMD.

In this report, deaths registered in 2021 and earlier are based on the final version of cause of death data; deaths registered in 2022 are based on the revised version; and deaths registered in 2023 and 2024 are based on the preliminary version. Revised and preliminary versions are subject to further revision by the ABS.

For data by Indigenous status, counts of death are reported for 8 jurisdictions combined – New South Wales, Australian Capital Territory, Victoria, Queensland, Western Australia, South Australia, Tasmania and the Northern Territory. Death rates are reported for 6 jurisdictions combined – New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. These jurisdictions are considered to have adequate levels of First Nations identification in mortality data.

This report adjusts for Victorian additional death registrations of deaths that were registered in Victoria in 2017 and 2018 but were not provided to the ABS for compilation until 2019. As a result, the number deaths reported for 2017 to 2019 may differ from previously reported numbers. For more detail, see the Technical note: Victorian additional registrations and time series adjustments in Causes of death, Australian methodology

The NMD includes information on people's area of usual residence prior to death. For 2024, this was their SA2 based on the 2021 ASGS. This location information from the National Mortality Database, along with IRSD values based on the ABS 2021 Census of Population and Housing, and estimated resident populations for 2024, have been used to approximate statistics for 2024 ASGS Remoteness Areas and 2024 IRSD SEIFA quintiles.

- ABS quality declaration summary for Deaths, Australia methodology
- ABS quality declaration summary for Causes of death, Australia methodology.

For more information, see National Mortality Database (NMD).

AIHW Australian Burden of Disease Study

The Australian Burden of Disease Study undertaken by the AIHW provides information on the burden of disease for the Australian population. Burden of disease analysis measures the impact of fatal (or years of life lost, YLL) and non-fatal burden (years lived with disability, YLD), with the sum of non-fatal and fatal burden equating the total burden (disability-adjusted life year, DALY).

The Australian Burden of Disease Study 2024 includes national estimates for 220 diseases and injuries in 2024 based on projections using historical trends in data. Projected estimates were done for the first time in ABDS 2022, and have been updated annually since. Burden estimates may be revised in the future as more data becomes available.

ABDS 2024 also includes updated estimates of attributable burden due to selected modifiable risk factors, which were last updated as part of ABDS 2018.

Estimates of burden of disease for First Nations people Estimates of the burden of disease for First Nations people come from the 2022 First Nations Burden of Disease Study. Estimates are available for 2003, 2011, 2018 and 2022.

For more information, see Burden of disease and First Nations Burden of Disease.

AIHW Disease Expenditure Database

The AIHW Disease Expenditure Database provides a broad picture of the use of health system resources classified by disease groups and conditions.

It contains estimates of expenditure by Australian Burden of Disease Study condition, age group and sex for public and private hospital admitted patients, public hospital emergency department, and public hospital outpatient services, primary health care, referred medical services and prescription pharmaceuticals.

It does not allocate all expenditure on health goods and services by disease – for example, neither administration expenditure nor capital expenditure can be meaningfully attributed to any particular condition due to their nature.

For more information, see Health system spending on disease and injury in Australia 2023–24.

National Health Data Hub

The National Health Data Hub (NHDH) is a national, longitudinal, person-focussed, de-identified data linkage system, developed by the Australian Institute of Health and Welfare (AIHW). It comprises enduring health and welfare data from state and territory, Commonwealth and non-government data sources. The NHDH brings together hospital data on admitted patient care services (APC), emergency department (ED) services and outpatient services for most states and territories. It also includes various data sets such as pharmaceuticals, health utilisation, aged care, deaths, disability, intensive care and Australian immunisation information.

Analysis in this report made use of unit record-level data on admitted patient episodes from the National Hospital Morbidity Database to identify hospital separation to person ratios for selected conditions.

The NHDH includes admitted patient care data from all public hospitals in New South Wales, Victoria, Queensland, South Australia, Tasmania and the Australian Capital Territory, covering the period from July 2010 to June 2024. As private hospital data are inconsistently captured across states and territories in the NHDH, these data were not included in the analysis presented in this report. The NHDH does not current include hospitalisation data from Western Australia or the Northern Territory. Therefore, results may not be generalisable to the Australian population.

References

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Classifications

International Statistical Classification of Diseases and Related Health Problems

Australia uses the International Statistical Classification of Diseases and Related Health Problems (ICD) to code causes of death (WHO 2019). In this report, deaths were coded using the Tenth Revision of the ICD (ICD-10) (Table 1).

For analysis that requires grouping causes of death, this report uses the recommendations of the World Health Organization (WHO) (Becker et al. 2006) with minor modifications to suit the Australian context are used. For more information, see *Deaths in Australia*

For hospital diagnoses, a classification modified for Australia, the ICD-10-AM classification (International Statistical Classification of Diseases and Related Health Problems, 12th Edition, Australian Modification) was used (Table 1).

For emergency department diagnoses, a classification modified for Australia, the ICD-10-AM (12th Edition) shortlist was used (Table 1).

Table 1: International Statistical Classification of Diseases and Related Health Problems (ICD) codes

Disease	**ICD-10 / ICD-10-AM**	**ICD-10-AM shortlist**
Chronic kidney disease	Classifications below	Classifications below
• Diabetic nephropathy	E10.2, E11.2, E13.2, E14.2	n/a
• Hypertensive kidney disease	I12, I13, I15.0, I15.1	I13.9
• Glomerular diseases	N00–N08	N04.9, N05.9
• Kidney tubulo-interstitial diseases	N11, N12, N14, N15, N16	N12
• Chronic kidney failure	N18	N18.9
• Unspecified kidney failure	N19	N19
• Other disorders of kidney and ureter	N25–N28, N391, N392, D59.3, B52.0, E85.3, N29	N28.9, D59.3
• Congenital malformations	Q60–Q63	n/a
• Complications related to dialysis	T82.4, T82.77, T85.63, T85.71, E85.3	n/a
• Complications related to kidney transplant	T86.1	n/a
• Preparatory care for dialysis	Z49.0 (a)	n/a
• Kidney transplant and dialysis status	Z94.0, Z99.2 (a)	n/a
• Supplementary code for CKD stage 3-5, which maps to ICD-10-AM N18.3, N18.4 and N18.5	U87.1 (a)	n/a
Dialysis	Classifications below	n/a
• Haemodialysis	Z49.1 (a)	n/a
• Peritoneal dialysis	Z49.2 (a)	n/a
Acute kidney failure	Included in emergency department reporting only	N17.9

(a) Only used in hospital classifications, not included in codes used for deaths classifications

n/a - not applicable

Sources: IHACPA 2022a; IHACPA 2022b; WHO 2019.

Note that classifications have been modified between editions of this report. Trend data always reflects listed classifications and may differ from data reported in previous editions of the report.

Identifying kidney failure deaths

The estimates of kidney failure incidence were measuring using the Kidney and Diabetes Data Integration (KADDI) project. KADDI is a linked data asset that includes the Australia and New Zealand Dialysis and Transplant (ANZDATA) Registry and the National Death Index data for the period 2000 to 2021.

To identify kidney failure using death records, the following criteria and classifications were used:

- Underlying or associated cause of death of *Chronic kidney disease, stage 5 [N18.5]*, *Hypertensive renal disease with renal failure [I12.0]*, *Hypertensive heart and renal disease with renal failure [I13.1]* and/or *Hypertensive heart and renal disease with both heart and renal failure [I13.2]*, and/or
- Underlying cause of death of *Chronic kidney disease, unspecified [N18.9]*, and/or
- Underlying or associated cause of death of *End-stage renal disease [N18.0]* and/or *Other chronic renal failure [N18.8]* (classifications used prior to 2013).

References

Becker R, Silvi J, Ma Fat D, L’Hours A and Laurenti R (2006) 'A method for deriving leading causes of death', *Bulletin of the World Health Organization*, 84:297–304.

IHACPA (Independent Health and Aged Care Pricing Authority) (2022a) ICD-10-AM/ACHI/ACS Twelfth Edition, Adelaide: IHACPA, accessed 4 May 2026.

IHACPA (2022b) Emergency Department ICD-10-AM Principal Diagnosis Short List, Adelaide: IHACPA, accessed 4 May 2026.

WHO (World Health Organization) (2019) International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10), WHO, Geneva.

Methods

This page outlines the methods used for the *Chronic kidney disease: Australian facts* report.

Age-standardised rates

Age-standardisation is a method of removing the influence of age when comparing populations with different age structures – either different populations at one time or the same population at different times.

Direct age-standardisation was used in this report. The Australian estimated resident population as at 30 June 2001 has been used as the standard population.

Significance testing

The observed value of a rate may vary because of the influence of chance and natural variation. To indicate if 2 rates are statistically different, 95% confidence intervals can be calculated, and statistically significant differences highlighted.

A 95% confidence interval describes a span of numbers around the estimate that has a 95% chance of including the true value. When comparing 2 groups, if the 2 confidence intervals do not overlap, the reader can be confident that the difference between the groups is real, and not due to chance.

Confidence intervals were calculated for survey data in this report.

Priority population groups

Some people in Australia experience inequitable health outcomes and a higher burden of disease due to social, economic and structural factors that influence access to resources, opportunities and health care. These people are referred to as 'priority populations' in this report. Priority populations include, but are not limited to, Aboriginal and Torres Strait Islander people; people from culturally and linguistically diverse (CALD) backgrounds; people living with disability or mental illness; people living in remote, rural and regional areas; and people experiencing socioeconomic disadvantage.

People may identify with, or be affected by, more than one of these circumstances, which can intersect and shape their experiences of health and health care. Improving health equity requires approaches that recognise people's strengths, preferences and lived experience, and that support shared decision making. Tailored, culturally safe and accessible health care is needed to improve prevention, early intervention and the management of chronic conditions for people within priority populations.

This report presents information for priority populations where data nationally consistent are available. In this report, analyses include disaggregation by Aboriginal and Torres Strait Islander status, remoteness area and socioeconomic area. Availability and quality of data vary across population groups and data sources, and not all priority populations are able to be reported on consistently.

Remoteness

Comparisons of regions in this report use the ABS Australian Statistical Geography Standard (ASGS) 2021 Remoteness Structure, which groups Australian regions into 5 remoteness areas.

The remoteness areas are *Major cities*, *Inner regional*, *Outer regional*, *Remote* and *Very remote*. These areas are defined using the Accessibility/Remoteness Index for Australia Plus (ARIA+), which is a measure of the remoteness of a location from the services that large towns or cities provide.

The IRSD values used in this report are based on the 2021 Census.

In some instances, data for remoteness areas have been combined because of small sample sizes.

It is possible that not every record in a data set will correspond directly to a remoteness area. Where data do not correspond, they have been excluded from analyses by remoteness area.

Further information on the ASGS is available on the ABS website.

Socioeconomic areas

Socioeconomic classifications in this report are based on the ABS Index of Relative Socio-economic Disadvantage (IRSD). Geographic areas are assigned a score based on social and economic characteristics of that area, such as income, educational attainment, public sector housing, unemployment and jobs in low-skill occupations. The IRSD relates to the average disadvantage of all people living in a geographical area. It cannot be presumed to apply to all individuals living in the area.

For the analyses in this report, the population is divided into 5 socioeconomic areas, with roughly equal populations (each around 20% of the total), based on the level of disadvantage of the statistical local area of their usual residence. The first group includes the 20% of areas with the highest levels of relative disadvantage (referred to as Group 1, lowest or most disadvantaged), while the last group includes the 20% of areas with the lowest levels of relative disadvantage (referred to as Group 5, highest or least disadvantaged).

The IRSD values used in this report are based on the 2021 Census.

It is possible that not every record in a dataset will correspond directly to one of these socioeconomic areas. Where data do not correspond, they have been excluded from analyses by socioeconomic area.

Further information is available on the ABS website.

First Nations people

In this report, comparisons are made between First Nations people and people who do not identify as Indigenous.

People with ‘not-stated’ Indigenous status are excluded from any analysis by Indigenous status, unless otherwise stated. In cases where people with ‘not-stated’ Indigenous status are included, the comparison is between First Nations people and ‘other Australians’.

Populations used

National populations

Population data are used throughout this report to calculate rates. The population data used are estimated resident populations (ERPs) derived from the ABS Census of Population and Housing.

Throughout this report, rates are age-standardised for the purpose of comparison across populations. In these cases, the standard population used to calculate the age-standardised rate is the Australian ERP as at 30 June 2001.

First Nations populations

The ABS 2016 Census based medium series Indigenous population projections were used to derive rates (ABS 2024). To calculate non-Indigenous estimates, the Indigenous projections were subtracted from the total Australian estimated resident population data.

References

ABS (2024) *Estimates and projections, Australian Aboriginal and Torres Strait Islander population*, ABS, Australian Government

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Australian Government
Australian Institute of
Health and Welfare

Risk factors and comorbidity

Australian Government
Australian Institute of
Health and Welfare

Chronic kidney disease: Australian facts

Web report | Last updated: **27 May 2026** | Topic: Chronic kidney disease | **Citation**

Latest edition

Risk factors for chronic kidney disease

What is a risk factor?

Risk factors are attributes, characteristics or exposures that increase the likelihood of a person developing a disease or health disorder.

Behavioural risk factors are health-related behaviours that individuals have the most ability to modify. Behavioural risk factors for chronic kidney disease (CKD) include:

- smoking
- diet
- physical activity
- alcohol consumption.

Biomedical risk factors are bodily states that have an impact on a person's risk of disease. Biomedical risk factors for CKD include:

- diabetes
- high blood pressure (also known as hypertension)
- established cardiovascular disease, including heart attack, heart failure and stroke
- overweight and obesity.

Some biomedical risk factors can be influenced by health behaviours. Others, such as type 1 diabetes, occur independently of behaviours.

Fixed risk factors cannot be modified. Fixed risk factors for CKD include:

- ageing
- family history of kidney failure
- history of acute kidney injury.

Other risk factors such as use of certain medications, kidney stones, foetal and maternal factors, infections, and environmental factors are increasingly being recognised as threats to kidney health (Luyckx et al. 2017) (Tesfaw et al 2025).

For most behavioural and biomedical risk factors there is no known threshold at which risk begins. The relationship between risk and disease is continuous – there is an increasing effect as exposure to the risk factor increases. Having multiple risk factors further escalates risk.

Controlling or managing risk factors can help reduce the risk of CKD. The progression of CKD can also be slowed by controlling risk factors and by appropriate disease treatment and management. For information about population trends for key risk factors, see the risk factor dashboard.

Risk factors among adults with chronic kidney disease

This section compares levels of key CKD risk factors among adults with and without biomedical signs of CKD. The populations with and without CKD were obtained from the 2022–24 National Health Measures Survey (NHMS) (AIHW analysis of ABS, 2025).

In 2022–24, many adults who had biomedical signs of CKD, also experienced other health risk factors or conditions, including:

- diabetes (18%)
- heart, stroke or vascular disease (17%)
- uncontrolled high blood pressure (38%)
- dyslipidaemia (76%)
- current smoking (8.2%)
- overweight or obesity (79%)
- at-risk waist circumference (83%).

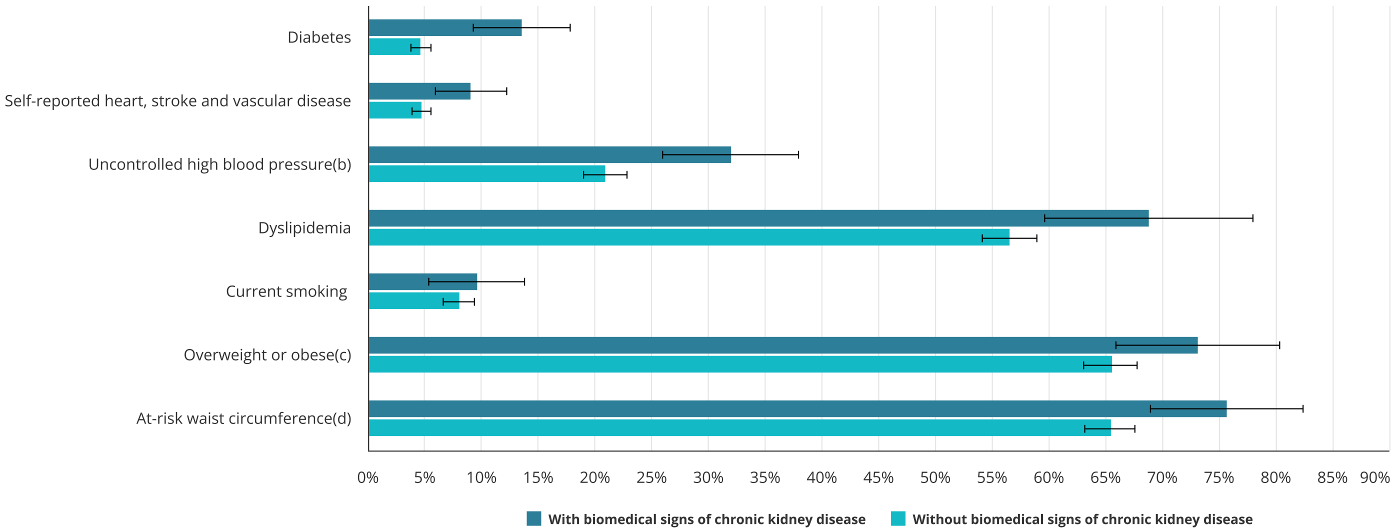
After adjusting for differences in population age structure, adults who had biomedical signs of CKD had higher rates of several risk factors compared with adults without CKD. Age-standardised rates were:

- 2.9 times as high for diabetes
- 1.9 times as high for heart, stroke or vascular disease
- 1.5 times as high for uncontrolled high blood pressure
- 1.2 times as high for dyslipidaemia
- 1.2 times as high for current smoking
- 1.1 times as high for overweight and obesity
- 1.2 times as high for at-risk waist circumference.

These higher risk factor levels among adults who may have developed CKD highlight the need for secondary prevention to limit the disease's further development and increased severity. Secondary prevention focuses on the early detection and best practice management of a disease or disorder to reduce deterioration and long-term effects. This includes identifying people at risk of ill-health through screening programs, general health examinations, as well as the identification of complications and co-morbidities. C*hronic Kidney Disease (CKD) Management in Primary Care guidelines* from Kidney Health Australia (2024) includes lifestyle changes that can have a positive effect on CKD outcomes and delay the progression of disease.

Figure 1: Risk factors among adults with and without biomedical signs of chronic kidney disease, 2022–24

Age-standardised rate (a)



Source: AIHW analysis of ABS 2025.

Further information

For more information on these and other CKD risk factors, see:

- Diabetes
- High blood pressure
- Heart, stroke and vascular disease
- Overweight and obesity
- Smoking
- Insufficient physical activity
- Poor diet
- Alcohol

Visit Risk factors for more information on this topic.

References

ABS (Australian Bureau of Statistics) (2025), National Health Measures Survey, 2022–24 (https://www.abs.gov.au/statistics/microdata-tablebuilder/available-microdata-tablebuilder/national-health-measures-survey) AIHW analysis of detailed microdata, accessed 1 December 2025.

Kidney Health Australia (2024) *Chronic Kidney Disease (CKD) Management in Primary Care (5th edition)*. Kidney Health Australia, Melbourne, 2024.

Luyckx VA, Tuttle KR, Garcia-Garcia G, Gharbi MB, Heerspink HJL, Johnson DW, Liu ZH, Massy ZA, Moe O, Nelson RG, Sola L, Wheeler DC and White SL (2017) 'Reducing major risk factors for chronic kidney disease (https://doi.org/10.1016/j.kisu.2017.07.003)', *Kidney International Supplements*, 7(2):71–87.

Tesfaw LM, Tiong MK, Osborne NJ, Williams GM, Darssan D. (2025) Climate effect on the incidence of kidney failure patients in Australia. *BMC Med.* 2025 Nov 26;23(1):681. doi: 10.1186/s12916-025-04532-x.

Last updated 11/06/2026 v82.0

Chronic kidney disease: Australian facts

Web report | Last updated: **27 May 2026** | Topic: Chronic kidney disease | **Citation**

Latest edition

Comorbidity of chronic kidney disease

Page highlights

Prevalence of chronic kidney disease, diabetes and heart, stroke and vascular disease

In 2022–24, an estimated 4.1 million Australian adults (21%) were living with diabetes, chronic kidney disease and/or heart, stroke and vascular disease.

Comorbidities of people receiving kidney replacement therapy

In 2024, 50% of people who started receiving kidney replacement therapy were living with diabetes.

What is multimorbidity and comorbidity?

Many people with chronic health conditions do not have a single, predominant condition. Rather, they experience multimorbidity – the presence of 2 or more chronic conditions in a person at the same time (AIHW 2025).

The health effect of multimorbidity can be greater than the combined effect of individual conditions. People with multimorbidity often have more severe illness and use more health services, including increased contact with primary health care services, with more complex hospitalisations and poorer outcomes.

The additional health conditions experienced by a person who has chronic kidney disease (CKD) is known as comorbidity. Diabetes and heart, stroke and vascular disease are common comorbidities among people with CKD (AIHW 2007, 2014). On this web page, much of the focus is on the comorbidity of CKD in combination with diabetes and/or heart, stroke and vascular disease.

An ageing population, along with unfavourable trends in some risk factors and a high prevalence of chronic disease in the community is expected to result in a rise in the number of people with CKD comorbidity, and higher rates of CKD among people with other chronic conditions.
Based on the Australian Bureau of Statistics (ABS) 2022 National Health Survey (NHS), an estimated 246,000 Australians self-reported chronic kidney disease (CKD) as a long-term condition. Most people with self-reported CKD (80%) also had at least 1 of 9 other selected chronic conditions (ABS 2023).

Prevalence of chronic kidney disease, diabetes, and heart, stroke and vascular disease

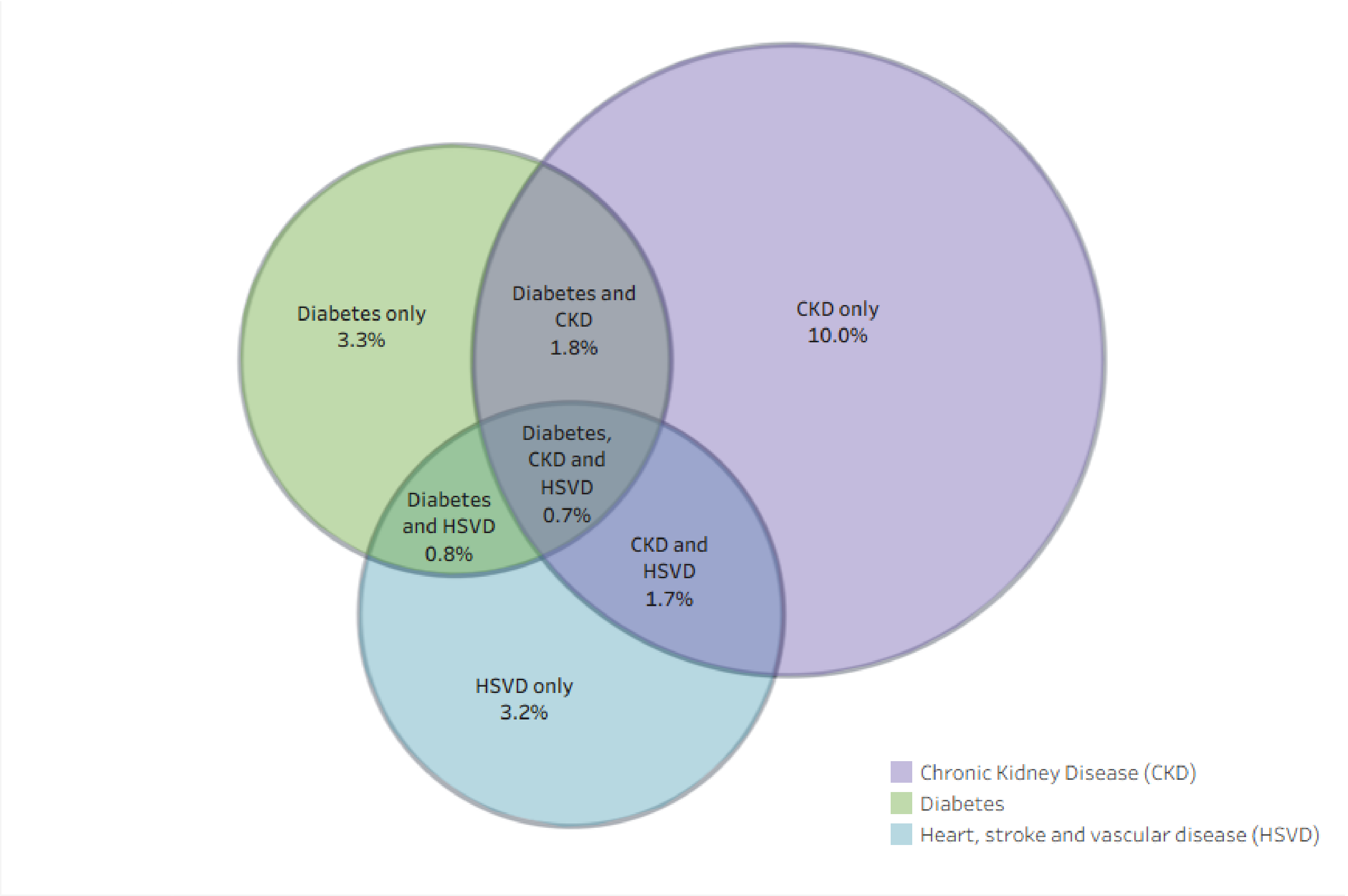
Based on measurement data from the ABS 2022–24 National Health Measures Survey, an estimated 4.1 million Australian adults aged 18 and over (21%) had biomedical signs of CKD, diabetes, or heart, stroke and vascular disease (AIHW analysis of ABS 2025). Of these, 3.1 million (16% of adults) had only one of CKD, diabetes, or heart, stroke and vascular disease. Another 957,000 (5.0% of adults) had at least 2 of CKD, diabetes, or heart, stroke and vascular disease.

Specifically:

- 333,000 adults (1.8%) had CKD and diabetes
- 324,000 adults (1.7%) had CKD as well as heart, stroke and vascular disease
- 161,000 adults (0.8%) had heart, stroke and vascular disease as well as diabetes
- 140,000 adults (0.7%) had all 3 conditions (Figure 1).

Among adults with biomedical signs of CKD in 2022–24, 29% also had diabetes and/or heart, stroke and vascular disease. This increased with age, from 20% among 18–64-year-olds with CKD to 39% of adults aged 65 and over.

Figure 1: Prevalence of chronic kidney disease, diabetes, and heart, stroke and vascular disease (HSVD) and their comorbidity, people aged 18 and over, 2022–24



Note: CKD prevalence is based on eGFR and ACR test results. Diabetes prevalence is based on HbA1c and self-reported data. Heart, stroke and vascular disease prevalence is based on self-reporting by people who participated in the measured component of the 2022–24 Australian Health Survey. Estimates are weighted results for persons where a urine and blood sample were collected.

Source: AIHW analysis of ABS 2025.

Download data

Comorbidities of people receiving kidney replacement therapy

The Australia and New Zealand Dialysis and Transplant (ANZDATA) Registry collects information on the comorbidities of people who receive kidney replacement therapy (KRT) for kidney failure (AIHW analysis of ANZDATA, 2024).

Of the 3,500 people who started KRT for kidney failure in 2024:

- more than half (1,700 or 50%) had type 1 or type 2 diabetes
- 1,200 (33%) had known or suspected coronary heart disease
- 649 (19%) had known or suspected peripheral artery disease
- 471 (14%) had known or suspected chronic lung disease
- 326 (9.4%) had known or suspected cerebrovascular disease (mostly stroke).

References

ABS (Australian Bureau of Statistics) (2025), *National Health Measures Survey, 2022–24* (https://www.abs.gov.au/statistics/microdata-tablebuilder/available-microdata-tablebuilder/national-health-measures-survey) AIHW analysis of detailed microdata, accessed 1 December 2025.

ABS (Australian Bureau of Statistics) (2023) *National Health Survey, 2022* (https://www.abs.gov.au/statistics/health/health-conditions-and-risks/national-health-survey/2022) ABS, Australian Government, accessed 3 March 2026.

AIHW (Australian Institute of Health and Welfare) (2025), *Multimorbidity in Australia*, AIHW, Australian Government, accessed 22 April 2026.

ANZDATA (Australia and New Zealand Dialysis and Transplant Registry) (2024), AIHW analysis of ANZDATA (https://anzorrg.org.au/registries/anzdata), accessed 25 February 2026.

Last updated 05/05/2026 v76.0

Notes

Latest data update

27 May 2026

- New 2022–24 National Health Measures Survey and National Aboriginal and Torres Strait Islander Health Measures Survey data
- New treated and untreated kidney incidence data from linkage between ANZDATA and NDI
- New 2023–24 Admitted patient care hospitalisations data
- New 2024–25 Emergency department data
- New 2024 ANZDATA data
- New 2023–24 Expenditure data
- New 2024 Mortality data
- New 2022 First Nations Burden of Disease Study data
- Data table: Chronic kidney disease: Australian facts added to Data.

12 Dec 2024

- New: 2022 ANZDATA data
- New: 2021–22 hospitalisations data and 2022 deaths data in webpage text
- New 2024 Australian Burden of Disease Study data
- Data table: Chronic kidney disease: Australian facts added to Data.

17 Jun 2024

Update to Chronic kidney disease Summary page including:

- New 2021–22 hospitalisations data
- New 2022 deaths data
- Data table: Chronic kidney disease: Australian facts added to Data.

14 Dec 2023

- New 2020–21 Expenditure data
- New 2023 Australian Burden of Disease Study data
- Data table: Chronic kidney disease Australian facts added to Data.

30 Jun 2023

- New 2021 mortality data
- New 2021 ANZDATA
- New 2019–20 Expenditure data
- New 2022 Australian Burden of Disease Study data
- Data table: Chronic kidney disease Australian facts added to Data.

9 Feb 2023

- New 2020–21 hospitalisations data and updates to information relating to COVID 19.
- Data table: Chronic kidney disease Australian facts added to Data.

Acknowledgements

The *Chronic kidney disease: Australian facts* report was produced by staff from the Cardiovascular, Diabetes and Kidney Unit at the Australian Institute of Health and Welfare (AIHW).

Valuable input was received from the AIHW's Chronic Kidney Disease Expert Advisory Group, whose members at the time of producing this report were: Steve Chadban (Chair), Ann Bonner, Jeremy Chapman, Wendy Hoy, Stephen McDonald, David Parker, Kevan Polkinghorne, and Melanie Wyld.

With special thanks to Ina, Sarah and Josh for sharing their personal stories of life with chronic kidney disease.

The Australian Government Department of Health, Disability and Ageing funded this report.

Amendments

11 June 2026 – References to Kidney Health Australia resources, including fact sheets and the *CKD Management in Primary Care handbook (5th edition)*, have been updated to reflect the currently available material.

Data

The data tables present the latest available data on chronic kidney disease in Australia as reported in the *Chronic kidney disease: Australian facts* report.

Data tables: Chronic kidney disease Australian facts

Data

XLSX 298kB

Related material

Resources

COVID-19 and chronic kidney disease: Impacts in Australia, 2020–2022

Resource

Geographical variation in disease: diabetes, cardiovascular and chronic kidney disease

Resource

Chronic kidney disease prevalence among Australian adults over time

Resource

Incidence of end-stage kidney disease in Australia 1997–2013

Resource

Acute kidney injury in Australia: a first national snapshot

Resource

Profiles of Aboriginal and Torres Strait Islander people with kidney disease

Resource

Related topics

- Chronic disease
- Chronic kidney disease

Report editions

For additional previous versions of this report see Archived content.

- Chronic kidney disease: Australian facts |
  Web report | 27 May 2026
  This release
- Cardiovascular disease, diabetes and chronic kidney disease—Australian facts: risk factors 2015 |
  Publication | 25 Mar 2015
- Cardiovascular disease, diabetes and chronic kidney disease: Australian facts: prevalence and incidence 2014 |
  Publication | 19 Nov 2014
- Cardiovascular disease, diabetes and chronic kidney disease: Australian facts: morbidity—hospital care 2014 |
  Publication | 22 Dec 2014
- Cardiovascular disease, diabetes and chronic kidney disease: Australian facts mortality 2014 |
  Publication | 24 Oct 2014
- An overview of chronic kidney disease in Australia, 2009 |
  Publication | 27 May 2009
- Chronic kidney disease in Australia 2005 |
  Publication | 23 Nov 2005

Archived content

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Chronic kidney disease: Australian facts

Resource | *12 Dec 2024*
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Resource | *14 Dec 2023*
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Chronic kidney disease: Australian facts

Resource | *30 Jun 2023*
PDF 7.1MB

Chronic kidney disease: Australian facts

Resource | *09 Feb 2023*
PDF 4.5MB

Chronic kidney disease: Australian facts

Resource | *23 Aug 2022*
PDF 4.3MB

Chronic kidney disease web report 2020

Resource | *15 Jul 2020*
PDF 679kB

Note: request access to archived data tables via email ckd@aihw.gov.au.