

CHAPTER 10

Kidney Failure in Aboriginal and Torres Strait Islander Australians

Reporting the incidence, prevalence and survival of Aboriginal and Torres Strait Islander Australians receiving kidney replacement therapy

CONTENTS

Summary and Highlights	3	Late Referral	27
Suggested Citation	3	Vascular Access	28
New Patients	4	Incident Vascular Access	28
Primary Kidney Disease	6	Prevalent Vascular Access	29
Incidence Rates	7	Patient Flow	30
Prevalent Patients	11	Cause of Death	31
Transplantation	13	References	32
Transplant Survival	16		
Dialysis	18		
Timing of Dialysis Initiation	20		
Incidence and Prevalence by State/ Territory	21		
State/Territory Incidence	21		
Dialysis by Resident State	23		
Transplantation by Referring State/ Territory	23		
Deaths by Resident State/Territory	24		
Geographical Distribution	25		

SUMMARY AND HIGHLIGHTS

In this chapter, the rates and practice patterns for kidney failure for people identifying as Aboriginal and Torres Strait Islander living in Australia are reported. We acknowledge the distinctiveness of many Nations of Aboriginal and Torres Strait Islander peoples, and respectfully refer to them as First Nations Australians within this report. Self-identified ethnicity is reported by renal units on behalf of patients.

Please note that collection of ethnicity data in ANZDATA has evolved to align with the Australian Bureau of Statistics Australian Standard Classification of Cultural and Ethnic Groups¹. Data collection now allows for a person to nominate more than one ethnicity group, however, consultation regarding reporting of ethnicity data is ongoing and reporting guidelines are not finalised at publication. As a result, ethnicity data throughout this report includes only the first ethnicity category entered for each patient. Future reporting will aim to report more accurately on patients with more than one ethnicity.

Denominator population statistics were sourced from the Australian Bureau of Statistics (2023)² and are stratified by ethnicity. For example, the incidence of kidney replacement therapy (KRT) for First Nations Australians includes the First Nations Australian population as the denominator. In Australia, First Nations and non-Indigenous populations have different age structures: First Nations populations tend to be younger.

First Nations Australians continue to experience disproportionately and persistently high rates of kidney failure with incident kidney replacement therapy rates in 2023 being 3 times higher than the non-Indigenous population (Table 10.1). This disparity is greater amongst First Nations women and shows a particular pattern with age with the highest relative rates in the 35-64 year age group (Figure 10.5). The primary reported cause of kidney failure in First Nations people requiring kidney replacement therapy is diabetic kidney disease with 71% compared with only 35% of the non-Indigenous Population (Table 10.2).

Despite a high burden of disease, significant inequities remain in treatment modalities with only 25% of First Nations people undergoing a home-based therapy (home haemodialysis, peritoneal dialysis or transplantation) versus 62% of non-Indigenous people (Table 10.3 & Figure 10.18). Whilst geographical data via postcode has been captured showing the incident of people commencing kidney replacement therapy, the data is yet to accurately show the distance travelled to receive kidney replacement therapy (Figure 10.29). With First Nation people predominantly receiving facility haemodialysis (75%) and chair capacity being a Nation-wide issue, it can be presumed that many may need to relocate significant distances and may be unable to return to their homes (Table 10.3).

Incident rates of deceased donor transplantation for First Nations Australians have increased again after the significant interruptions to service provision due to the COVID-19 pandemic (Table 10.4). In 2023 there were 2 living kidney donor transplants performed for First Nations Australians. While the overall rate of transplantation among First Nations Australians remains low at only 32 per 1000 dialysis patients, compared with 74 per 1000 dialysis patients in the non-Indigenous population (Table 10.4), prevalence continues to increase, with the NT, WA and Vic/Tas all seeing growth in prevalent transplant rates across multiple consecutive years (Figure 10.27).

This chapter details the ongoing inequities in kidney health experienced by the First Nations people of Australia. We acknowledge the role that historical and ongoing colonisation including discriminatory, bias and systemic racism within the health care systems contributes to this inequity.

SUGGESTED CITATION

S Bateman, B Solomon, C Davies, E Au, J Chen, P Clayton, K Hurst, F Kholmurodova, D Lee, H McCarthy, S McDonald, W Mulley, M Roberts, T Sun, G Irish. 47th Report, Chapter 10: Kidney Failure in Aboriginal and Torres Strait Islander Australians. Australia and New Zealand Dialysis and Transplant Registry, Adelaide, Australia. 2024. Available at: <http://www.anzdata.org.au>

NEW PATIENTS

A total of 337 Aboriginal and 24 Torres Strait Islander people (n=361 total of First Nations Australians) commenced kidney replacement therapy (KRT) for kidney failure in Australia during 2023 (Table 10.1). The majority (88%) were treated with haemodialysis as their initial KRT modality (Figure 10.1). Haemodialysis (HD) incidence was approximately 4-fold higher for First Nations Australians (311 per million population) than for non-Indigenous Australians (80 pmp).

In 2023, only 12% of First Nations Australians accessed peritoneal dialysis (PD) as first treatment compared with over one-quarter of non-Indigenous Australians (Figure 10.2). Pre-emptive kidney transplants were accessed by 0 First Nations Australians in 2023 (Figure 10.3).

Table 10.1
New Patients (pmp) Australia 2019-2023

Year	Modality	First Nations	Non-Indigenous	Total
2019	HD	344 (362)	2015 (83)	2359 (93)
	PD	54 (57)	690 (28)	744 (29)
	Pre-emptive Transplant	2 (2)	103 (4)	105 (4)
2020	HD	283 (293)	2001 (81)	2284 (89)
	PD	44 (45)	850 (34)	894 (35)
	Pre-emptive Transplant	0 (0)	81 (3)	81 (3)
2021	HD	313 (318)	2007 (81)	2320 (90)
	PD	40 (41)	857 (35)	897 (35)
	Pre-emptive Transplant	2 (2)	74 (3)	76 (3)
2022	HD	332 (331)	2130 (85)	2462 (95)
	PD	43 (43)	771 (31)	814 (31)
	Pre-emptive Transplant	1 (1)	83 (3)	84 (3)
2023	HD	318 (311)	2057 (80)	2375 (89)
	PD	43 (42)	818 (32)	861 (32)
	Pre-emptive Transplant	0 (0)	88 (3)	88 (3)

Figure 10.1
Percentage of New Patients Commencing on Haemodialysis - Australia

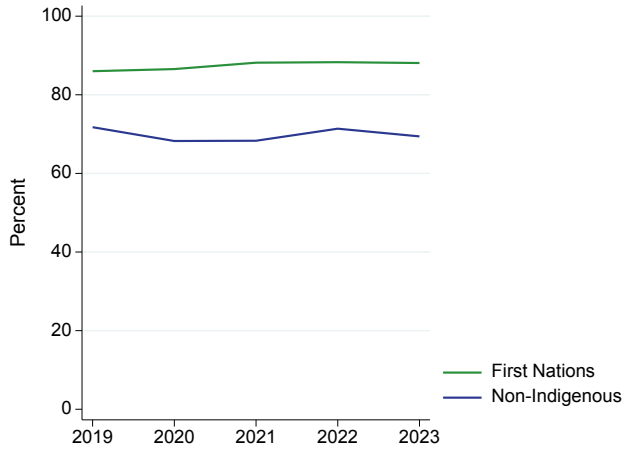


Figure 10.2
Percentage of New Patients Commencing on Peritoneal Dialysis - Australia

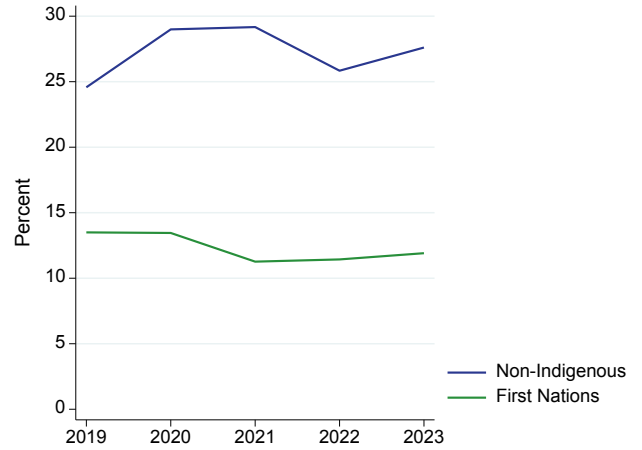
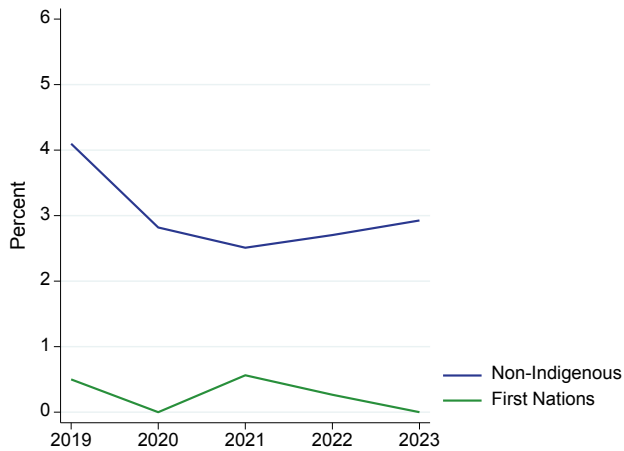


Figure 10.3
Percentage of New Patients Commencing with Pre-emptive Kidney Transplant - Australia



PRIMARY KIDNEY DISEASE

The primary kidney diseases of new Australian patients over 2019-2023 are shown in Table 10.2. From 2022, primary kidney disease was collected according to the updated European Renal Association/European Dialysis and Transplantation Association categories, with primary diseases reported prior to 2022 mapped to these categories. The proportion of First Nations patients with diabetic kidney disease was substantially higher than for non-Indigenous patients.

ANZDATA appreciates that the underlying aetiology of kidney disease for many First Nations Australians is a combination of complex factors many of which are reflective of the ongoing impacts of colonisation in Australia. The data collected by ANZDATA is limited to one nominated primary kidney disease aetiology which oversimplifies and underrepresents these impacts and should be interpreted as such.

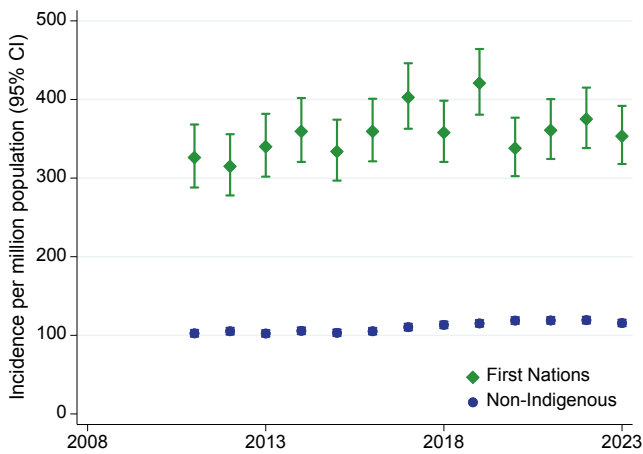
Table 10.2
Primary Kidney Disease of New Patients Australia 2019-2023

Primary Kidney Disease	First Nations	Non-Indigenous
Diabetic kidney disease	1293 (71%)	5104 (35%)
Glomerular disease	169 (9%)	2884 (20%)
Hypertension / Renal vascular disease	111 (6%)	1922 (13%)
Familial / hereditary kidney diseases	21 (1%)	1137 (8%)
Tubulointerstitial disease	57 (3%)	1232 (8%)
Other systemic diseases affecting the kidney	10 (1%)	443 (3%)
Miscellaneous kidney disorders	141 (8%)	1812 (12%)
Not reported	17 (1%)	91 (1%)
Total	1819	14625

INCIDENCE RATES

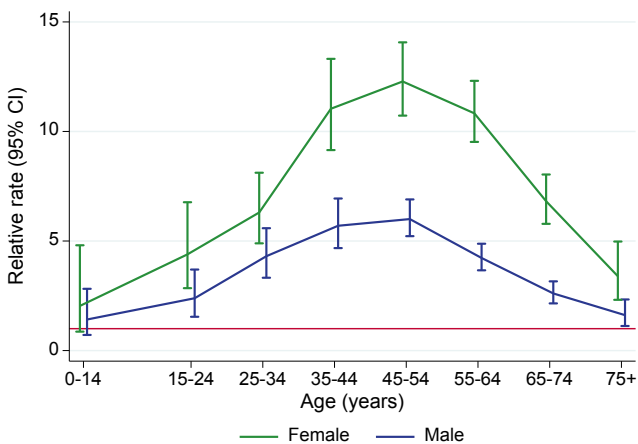
Overall, the incidence rates (per million of population) of kidney failure with replacement therapy for First Nations patients were markedly and persistently higher than those for non-Indigenous patients (Figure 10.4). There are a number of factors which contribute to incident numbers of KRT (among both First Nations and non-Indigenous people). These may include: underlying rates of diabetes or other medical conditions, rates of disease progression, referral patterns, access to treatment and patient treatment decisions. First Nations Australians also experience the ongoing health impacts of institutional racism and colonisation.

Figure 10.4
Unadjusted Incident KRT Rate - Australia



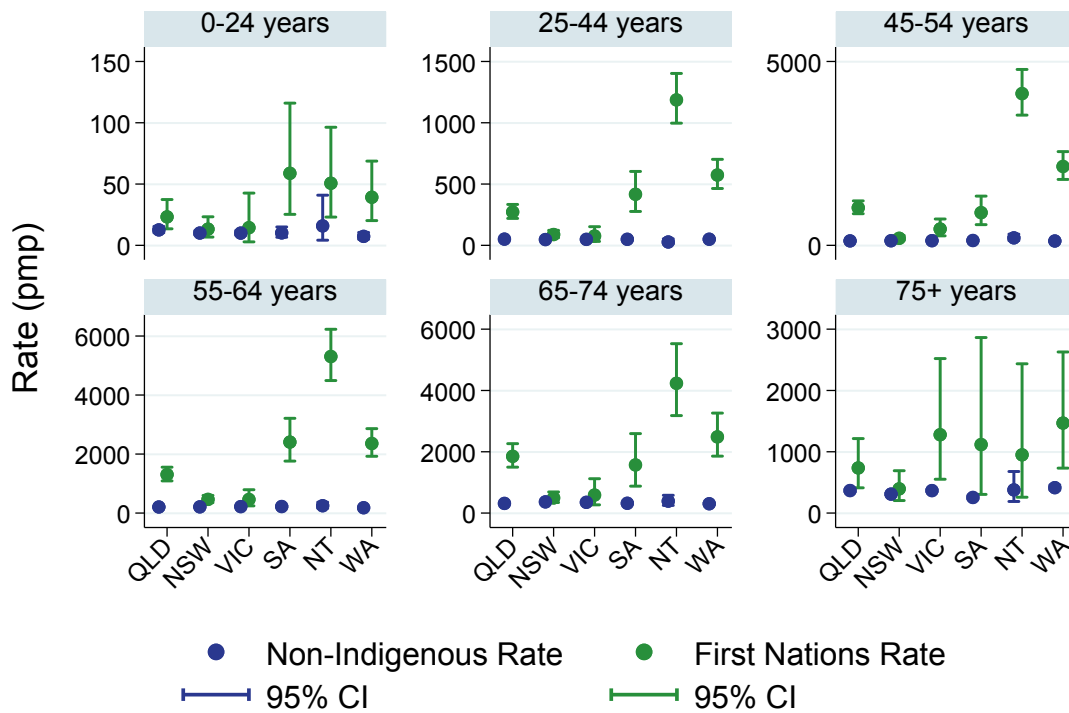
First Nations Australians experience higher rates of kidney failure at all age groups over 15 years of age. This disparity is greater among First Nations women and shows a particular pattern with age with the highest relative rates in the 35-64 year age group (Figure 10.5).

Figure 10.5
Relative Incidence Rate of Treated Kidney Failure for First Nations Patients by Gender (Comparison to Non-Indigenous Australians) - 2019-2023



There is also considerable variation in the incidence of kidney replacement therapy for First Nations Australians across Australian States and Territories (Figure 10.6; note that the Y axis scales vary). Data are shown for a five-year period given the small numbers in some locations.

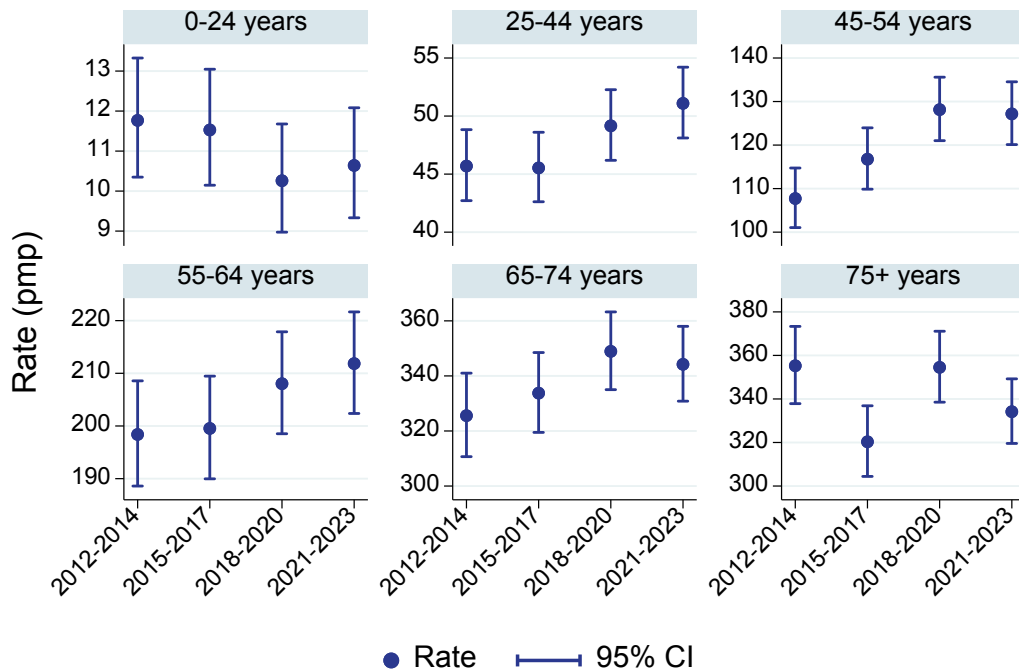
Figure 10.6
Age-specific Incidence Rates of Treated Kidney Failure - By Ethnicity, State and Age at KRT start 2019-2023



Note the Y axis scales vary between panels

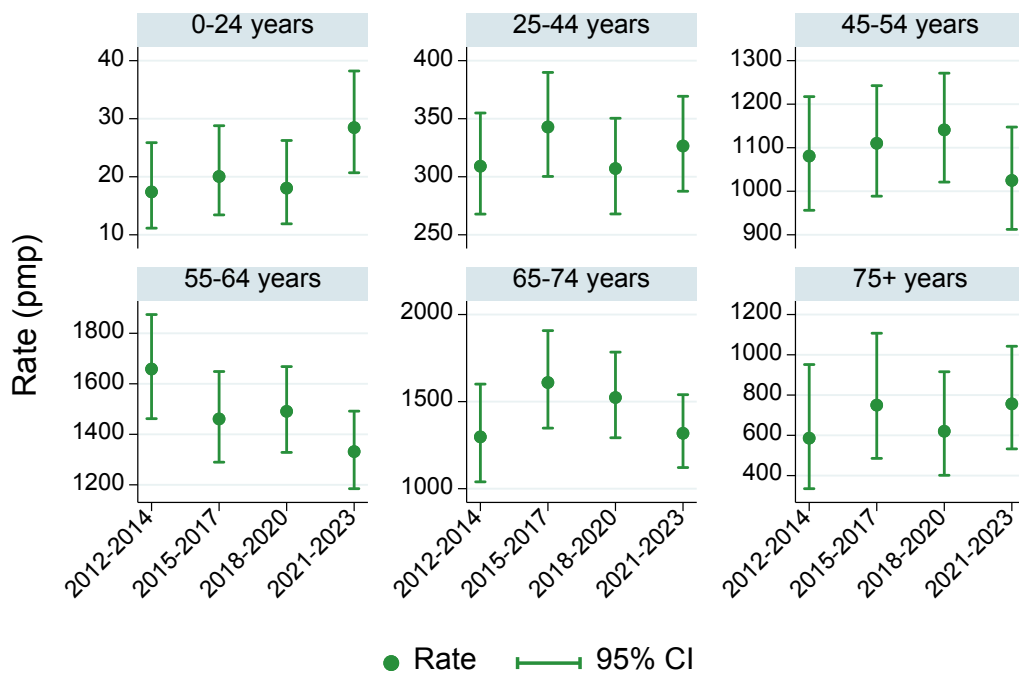
The trends in age-specific rates for the non-Indigenous and First Nations populations are shown separately in Figure 10.7, and together in Figure 10.8 (note that the Y axis scales vary).

Figure 10.7.1
Age-specific Incidence Rates of Treated Kidney Failure - Non-Indigenous, Australia



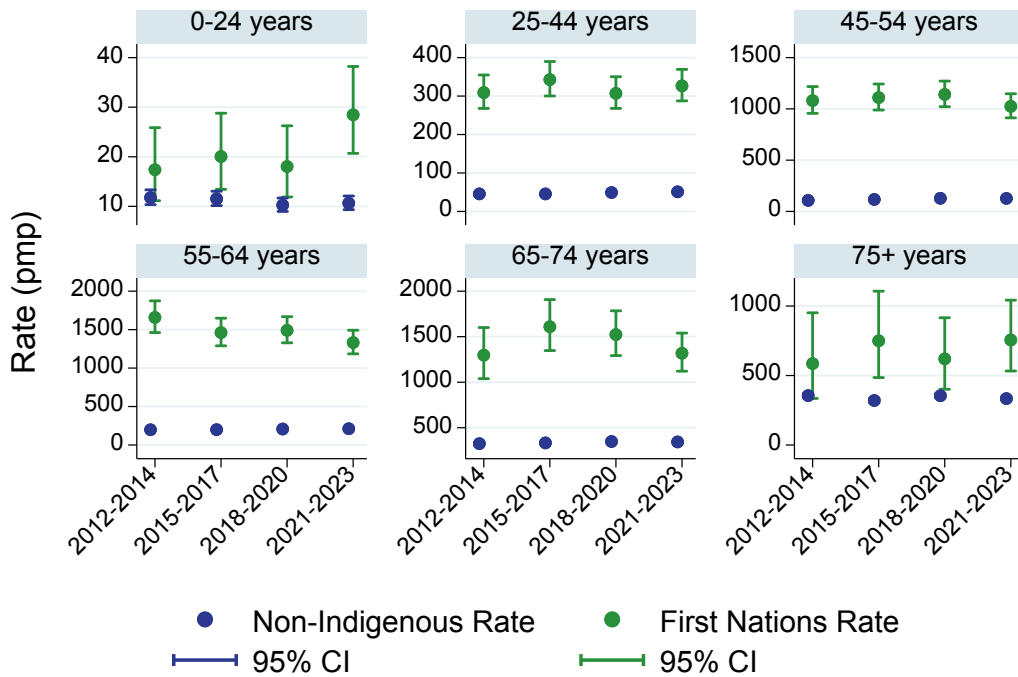
Note the Y axis scales vary between panels

Figure 10.7.2
Age-specific Incidence Rates of Treated Kidney Failure - First Nations, Australia



Note the Y axis scales vary between panels

Figure 10.8
 Age-specific Incidence Rates of Treated Kidney Failure - By Ethnicity, Australia



Note the Y axis scales vary between panels

PREVALENT PATIENTS

The number of First Nations Australians with treated kidney failure at the end of 2023 increased from 2611 persons in 2022 to 2644 persons (Table 10.3).

There were marked differences in treatment modalities for First Nations Australians (Figures 10.9 and 10.10). Most First Nations Australians were treated with facility-based haemodialysis (75%), with very few accessing home haemodialysis (3%), long-term peritoneal dialysis (5%), or kidney transplantation (17%). The proportion of First Nations Australians with a kidney transplant as long-term treatment for kidney failure was 17% during 2023 compared with half (48%) of non-Indigenous Australians. Only 4% of First Nations Australians receiving haemodialysis accessed home-based haemodialysis compared with 9% of non-Indigenous Australians.

Table 10.3
Prevalent Patients by Ethnicity and Treatment Modality Australia 2019-2023

Year	Modality	First Nations	Non-Indigenous
2019	HD	1955 (79%)	9390 (41%)
	% HD at home*	5%	10%
	PD^	161 (7%)	2176 (9%)
	Transplant	350 (14%)	11408 (50%)
2020	HD	2002 (79%)	9790 (41%)
	% HD at home*	6%	10%
	PD^	153 (6%)	2345 (10%)
	Transplant	379 (15%)	11661 (49%)
2021	HD	2035 (79%)	10220 (42%)
	% HD at home*	5%	10%
	PD^	153 (6%)	2475 (10%)
	Transplant	402 (16%)	11834 (48%)
2022	HD	2066 (79%)	10481 (42%)
	% HD at home*	4%	10%
	PD^	130 (5%)	2460 (10%)
	Transplant	415 (16%)	11898 (48%)
2023	HD	2061 (78%)	10611 (42%)
	% HD at home*	4%	9%
	PD^	124 (5%)	2507 (10%)
	Transplant	459 (17%)	12250 (48%)

*Includes Community House HD

^Includes Hybrid Dialysis

Figure 10.9.1
Prevalent Patients by Modality - Australia - First Nations

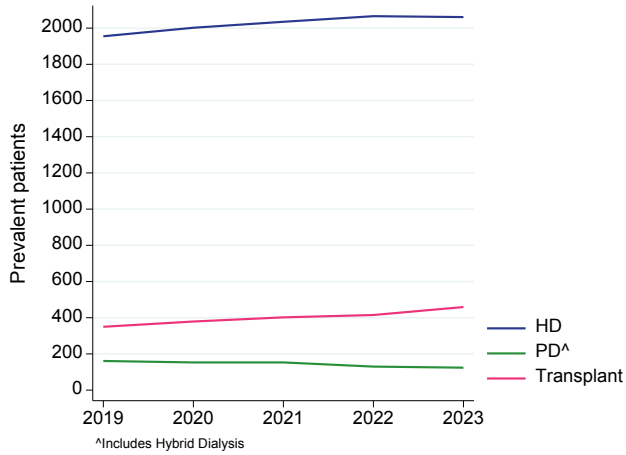


Figure 10.9.2
Prevalent Patients by Modality - Australia - Non-Indigenous

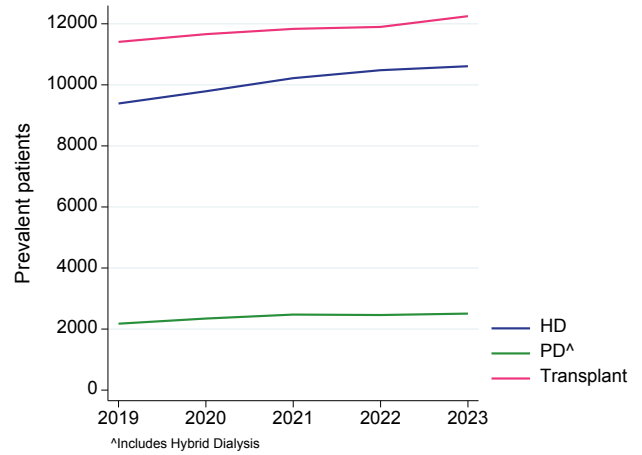
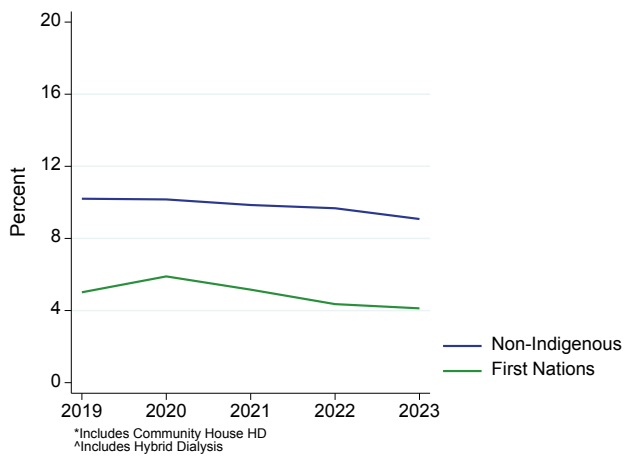


Figure 10.10
Prevalent Haemodialysis at Home* (% of all HD[^]) by Ethnicity - Australia



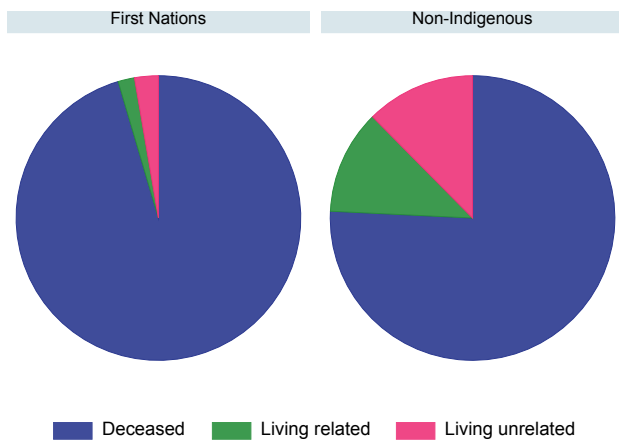
TRANSPLANTATION

In Australia, the proportion of First Nations patients with kidney failure who receive a kidney transplant is very low relative to the number receiving dialysis (Table 10.4). Information on donor type is shown in Figure 10.11 and trends are shown in Figure 10.12. There are substantially lower rates of transplantation from living donors for First Nations Australians.

Table 10.4
Number of Transplant Recipients (per 1000 dialysis patients) by Donor Type and Ethnicity Australia 2014-2023

Year	Donor Type	First Nations	Non-Indigenous
2014	Deceased Donor	35 (21)	585 (56)
	Living Donor	4 (2)	246 (23)
	Total	39 (24)	831 (79)
2015	Deceased Donor	33 (19)	643 (60)
	Living Donor	3 (2)	217 (20)
	Total	36 (21)	860 (81)
2016	Deceased Donor	32 (18)	761 (71)
	Living Donor	2 (1)	230 (21)
	Total	34 (19)	991 (93)
2017	Deceased Donor	34 (18)	767 (71)
	Living Donor	2 (1)	245 (23)
	Total	36 (19)	1012 (93)
2018	Deceased Donor	50 (25)	792 (71)
	Living Donor	3 (1)	216 (19)
	Total	53 (26)	1008 (90)
2019	Deceased Donor	55 (26)	766 (66)
	Living Donor	3 (1)	222 (19)
	Total	58 (27)	988 (85)
2020	Deceased Donor	49 (23)	624 (51)
	Living Donor	0 (0)	172 (14)
	Total	49 (23)	796 (66)
2021	Deceased Donor	49 (22)	584 (46)
	Living Donor	3 (1)	193 (15)
	Total	52 (24)	777 (61)
2022	Deceased Donor	55 (25)	632 (49)
	Living Donor	0 (0)	215 (17)
	Total	55 (25)	847 (65)
2023	Deceased Donor	68 (31)	729 (56)
	Living Donor	2 (1)	246 (19)
	Total	70 (32)	975 (74)

Figure 10.11
Donor Type by Ethnicity - Australia 2014-2023



Trends in the number of kidney transplants for First Nations and non-Indigenous patients are shown in Figure 10.12 (note differences in y-axes). There has been a sustained increase in transplantation rates for First Nations Australians since 2018. Overall transplant numbers decreased in both populations in 2020, likely in part due to the impacts of the global COVID-19 pandemic.

Figure 10.12
Donor Type by Ethnicity and Year - Australia

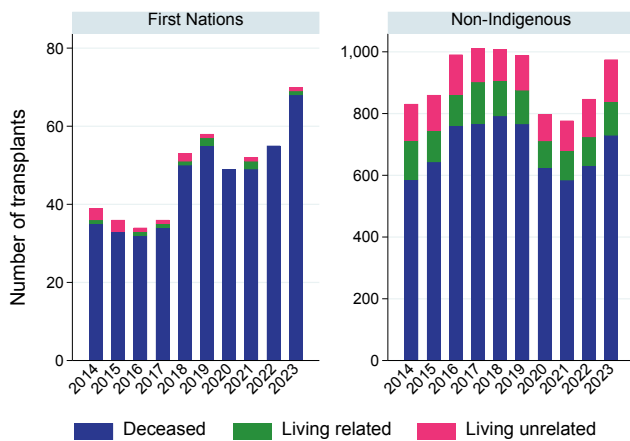


Figure 10.13 shows the cumulative incidence curve of primary transplant after starting KRT (utilising competing risk techniques to account for the effect of the competing risk of death). Figure 10.14 shows the cumulative incidence curves of primary transplant after starting KRT by era.

Figure 10.13
Time to Primary Transplant from KRT Start - Australian Incident KRT Patients 2014-2023

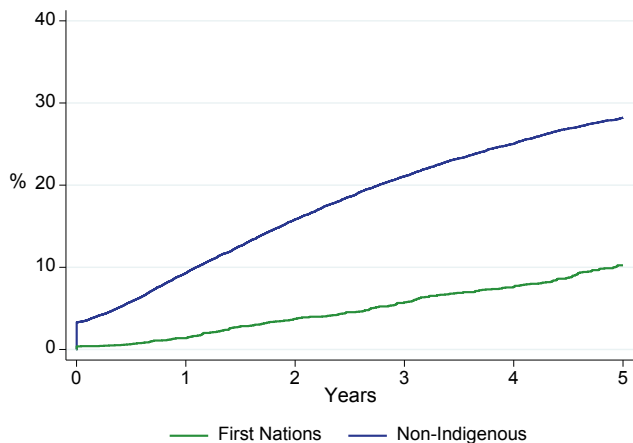
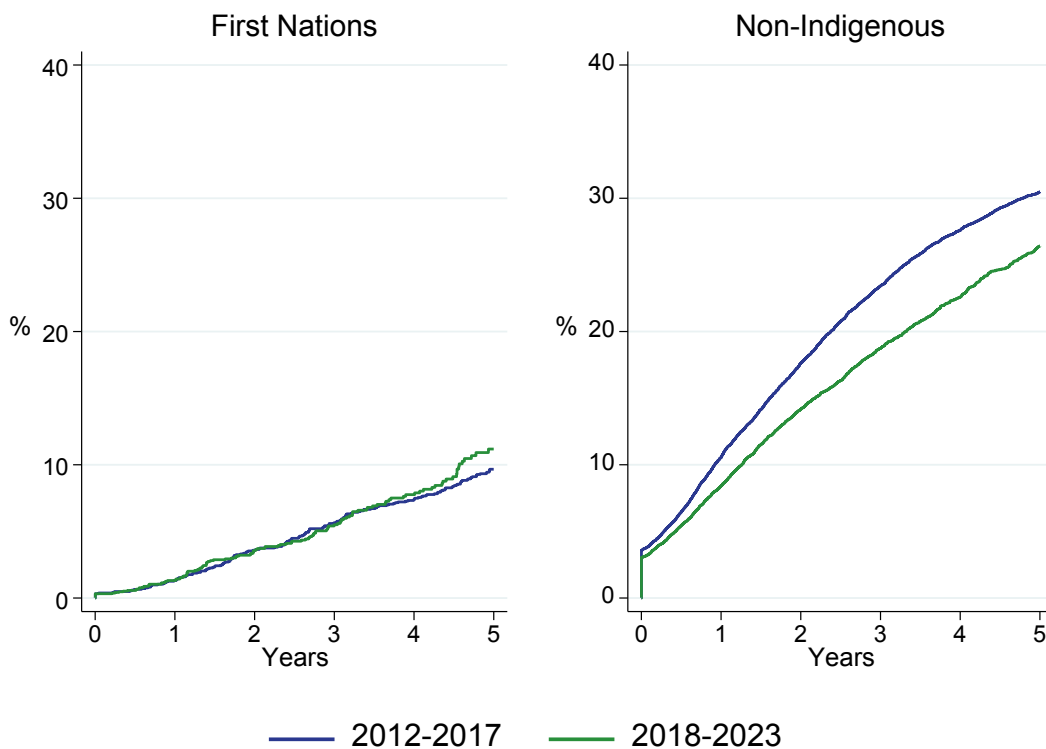


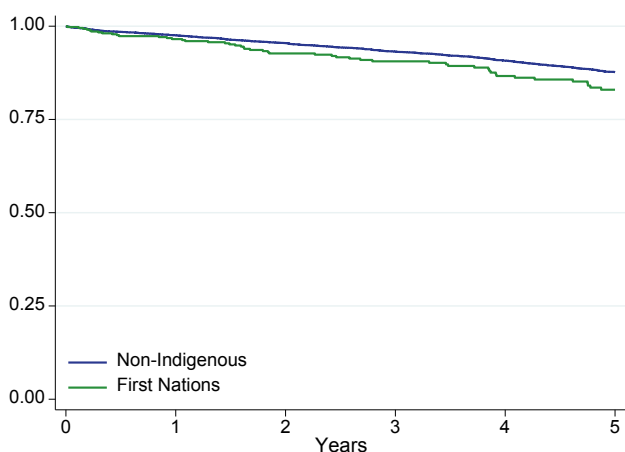
Figure 10.14
Time to Primary Transplant from KRT Start by Era - Australian Incident KRT Patients



TRANSPLANT SURVIVAL

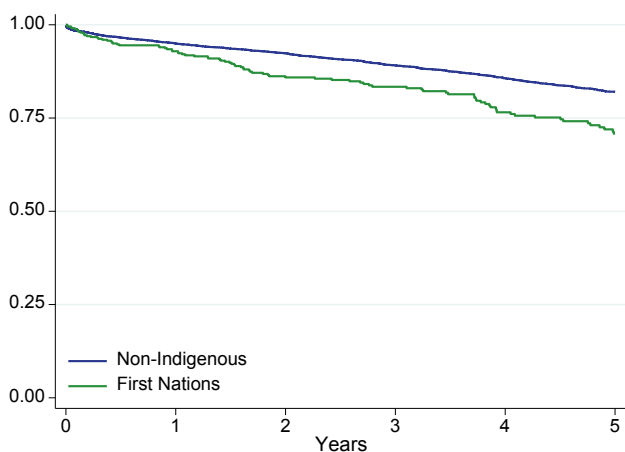
Unadjusted patient survival after kidney transplantation from a deceased donor (DD) for First Nations and non-Indigenous recipients is shown in Figure 10.15. 83% of First Nations Australians and 88% of non-Indigenous persons were alive 5 years after kidney transplantation from a deceased donor.

Figure 10.15
Patient Survival, Recipients of Primary DD Transplants - Australia 2014-2023



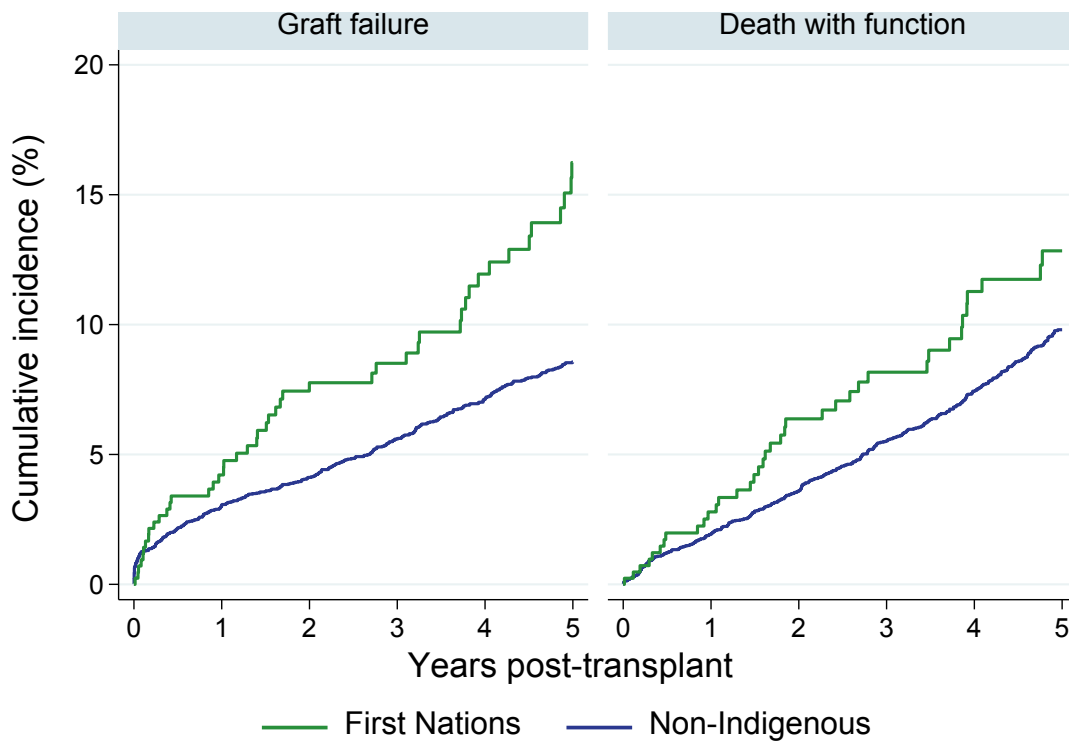
Kidney transplants may be lost, either through the transplant failing or the patient dying with a functioning kidney. Unadjusted transplant kidney function at 5 years post-transplant was recorded in 71% of First Nations recipients compared with 82% of non-Indigenous persons (Figure 10.16).

Figure 10.16
Graft Survival, Recipients of Primary DD Transplants - Australia 2014-2023



Cumulative incidence curves (utilising competing risk techniques to account for the effects of both components of graft failure, i.e. graft failure and death with a functioning graft) are shown for First Nations transplant outcomes in Figure 10.17.

Figure 10.17
Transplant Outcomes - Primary Deceased Donor Kidney-only Transplants Australia 2014-2023



DIALYSIS

The distribution of dialysis modality is shown graphically in Figure 10.18. For First Nations Australians, the predominant modality is satellite haemodialysis. Access to home-based dialysis care including home and community house haemodialysis and peritoneal dialysis is proportionally much lower. First Nations Australians utilise automated peritoneal dialysis (APD) at much lower rates than non-Indigenous Australians.

Figure 10.18
Dialysis Modality End 2023 - Australia, by Ethnicity

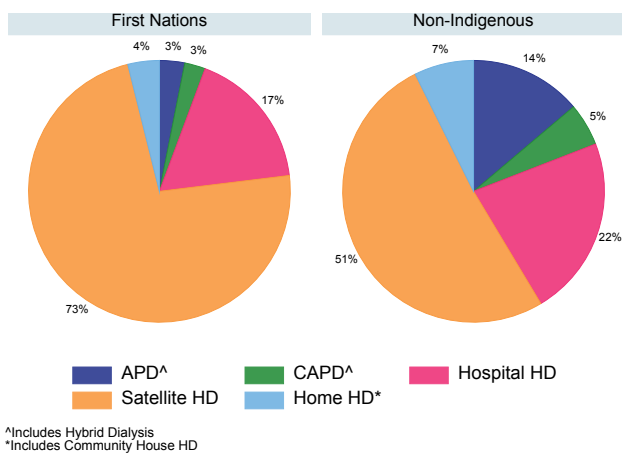


Figure 10.19 shows the cumulative incidence curve of patient mortality after starting dialysis (utilising competing risk techniques to account for the effect of the competing risk of transplantation). These are unadjusted figures and differences between populations including age distribution impact mortality estimates. Figure 10.20 shows the cumulative incidence curves of patient mortality after starting dialysis by age group.

Figure 10.19
Incident Dialysis Patient Mortality - Australia 2014-2023

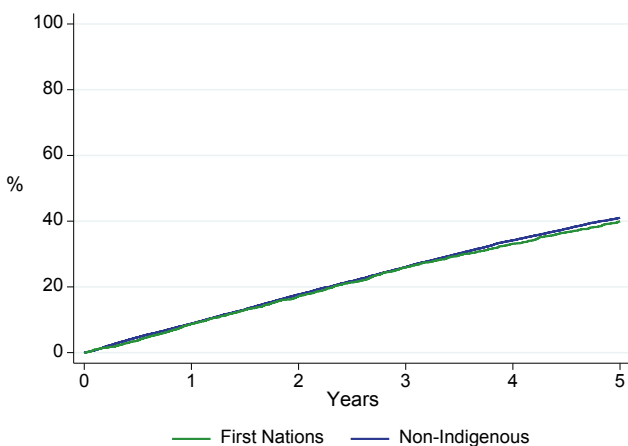
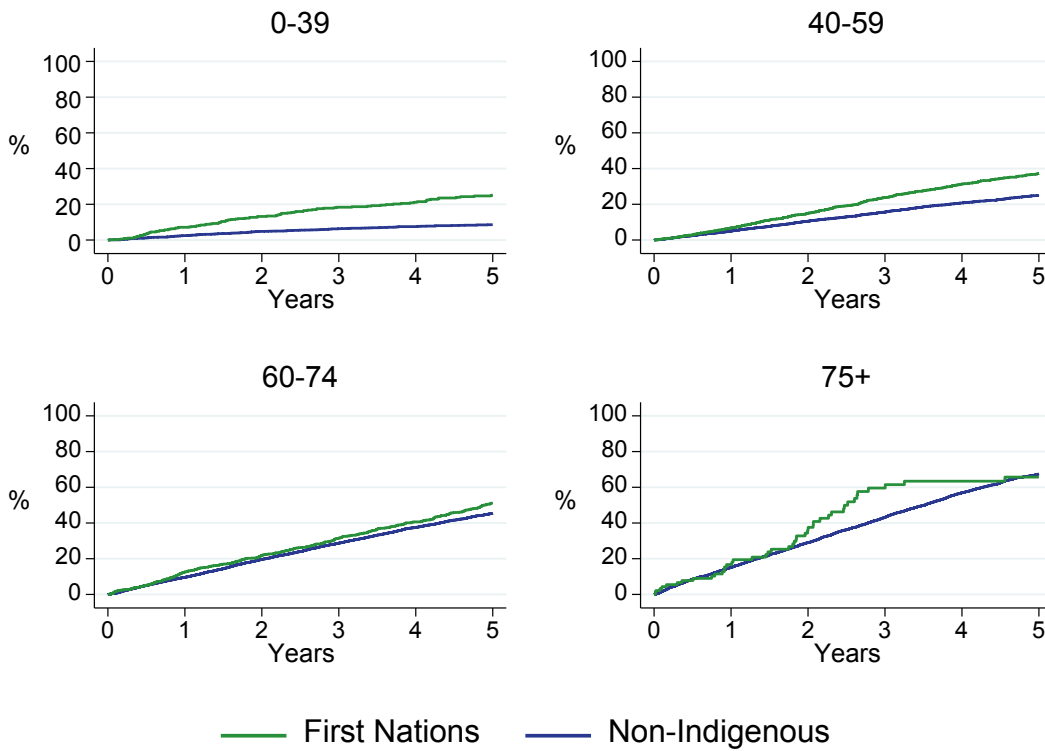


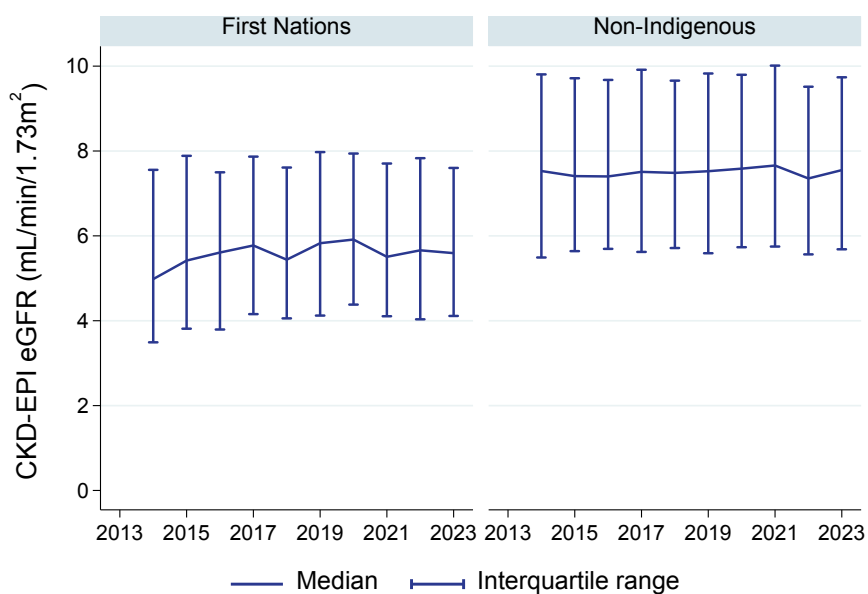
Figure 10.20
Incident Dialysis Patient Mortality by Age Group - Australia 2014-2023



TIMING OF DIALYSIS INITIATION

The level of kidney function at which dialysis is commenced based on estimated Glomerular Filtration Rate (eGFR) for First Nations and non-Indigenous patients is shown in Figure 10.21.

Figure 10.21
eGFR at Dialysis Initiation - Australia



INCIDENCE AND PREVALENCE BY STATE/TERRITORY

The next few pages show a variety of figures that summarise various key rates (incidence, prevalence, transplant rates) for First Nations Australians by state/territory. In large part they show information from previous pages, in a series of differing formats.

STATE/TERRITORY INCIDENCE

There is marked variation in the incidence of kidney replacement therapy between States and Territories in Australia. NT had the highest national incidence for First Nations Australians treated for kidney failure at 1390 per million of population in 2023; the next highest was in WA (562 pmp) (Figure 10.22).

Kidney transplantation is offered in major metropolitan centres in NSW, QLD, WA, VIC and SA. There is a marked State/Territory variation in the incidence of kidney transplantation relative to the size of the dialysis population in Australia and between years (Figure 10.23).

Figure 10.22
Incidence of New First Nations Australian Patients

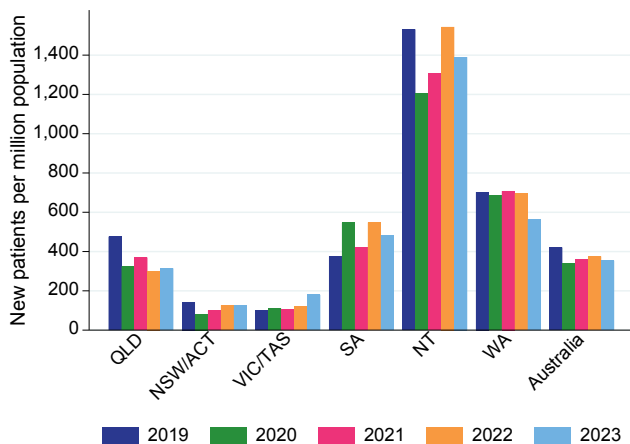


Figure 10.23
Incidence of New Transplants First Nations Australian Patients - By referring state

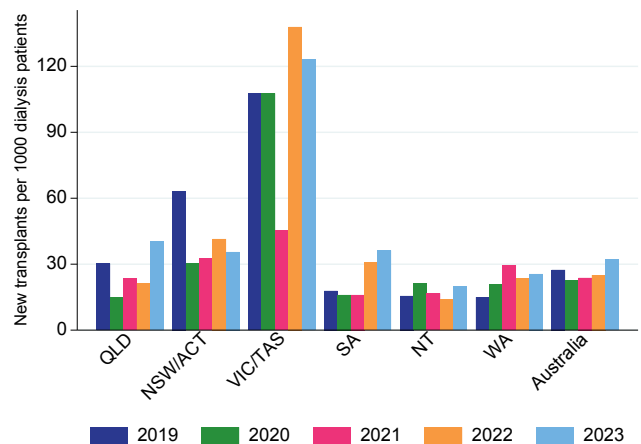
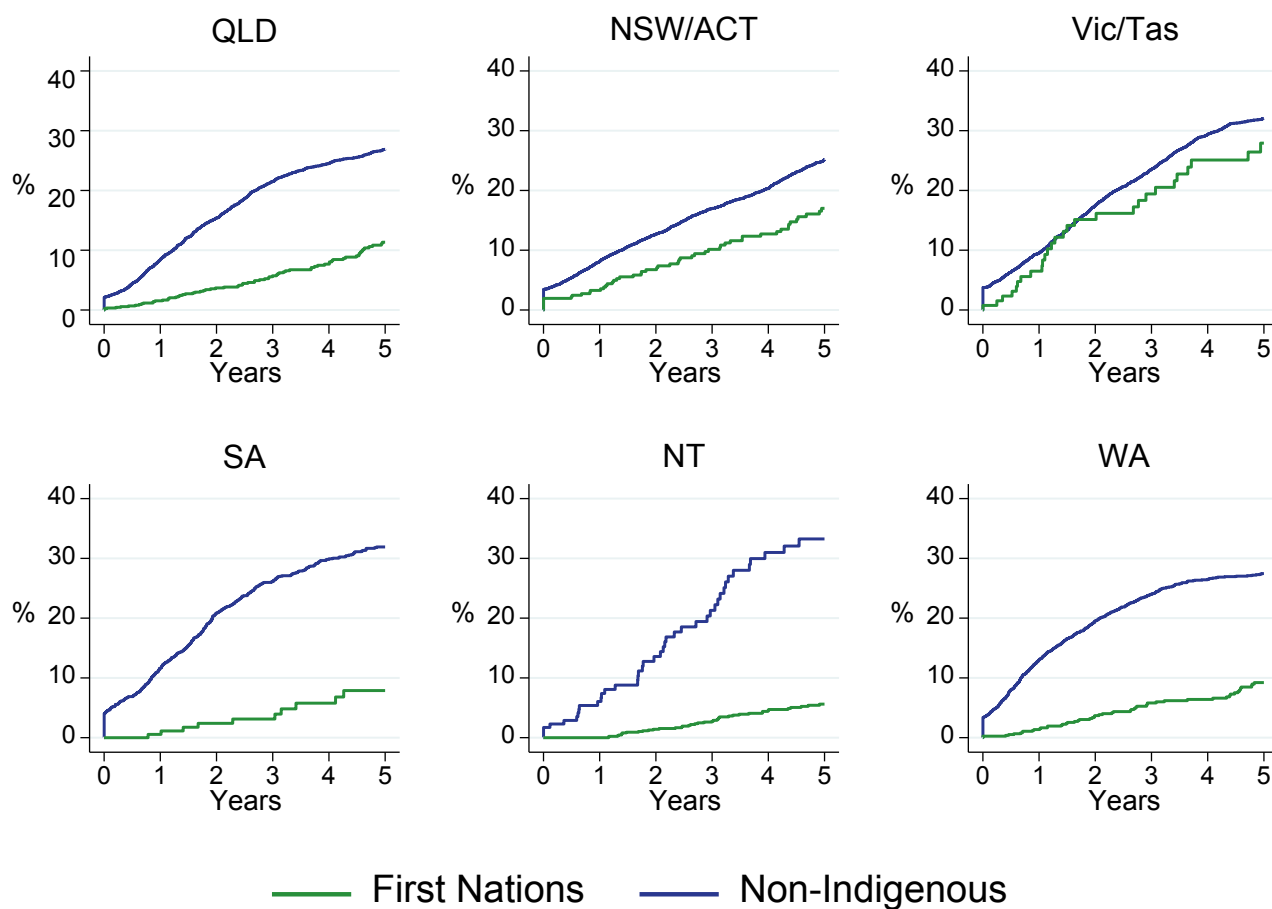


Figure 10.24 shows the cumulative incidence curve of primary transplant after starting KRT (utilising competing risk techniques to account for the effect of the competing risk of death), with varying patterns between different states and territories.

Figure 10.24
Time to Primary Transplant from KRT Start by State - Australian Incident KRT Patients 2014-2023



DIALYSIS BY RESIDENT STATE

Treatment patterns for First Nations Australians vary by state. The highest rates for haemodialysis are in the Northern Territory, Western Australia and South Australia. The highest rates for peritoneal dialysis have historically been in Queensland and Western Australia. However, the Northern Territory showed sustained increase in prevalent patients utilising peritoneal dialysis over 2018-2019, and since 2019, have recorded the highest national prevalence rates for PD.

Figure 10.25
Prevalent First Nations Australian Haemodialysis[^] Patients

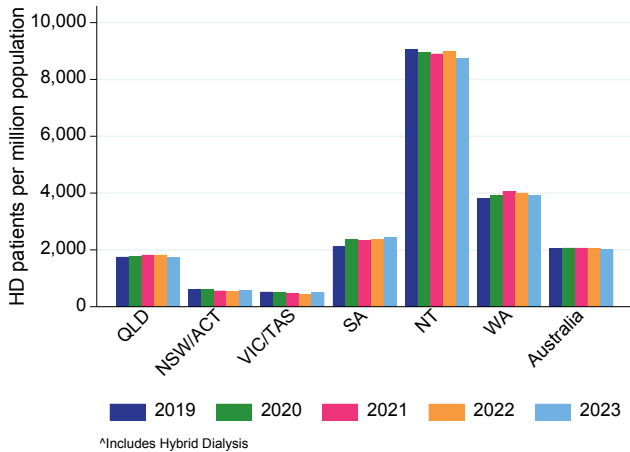
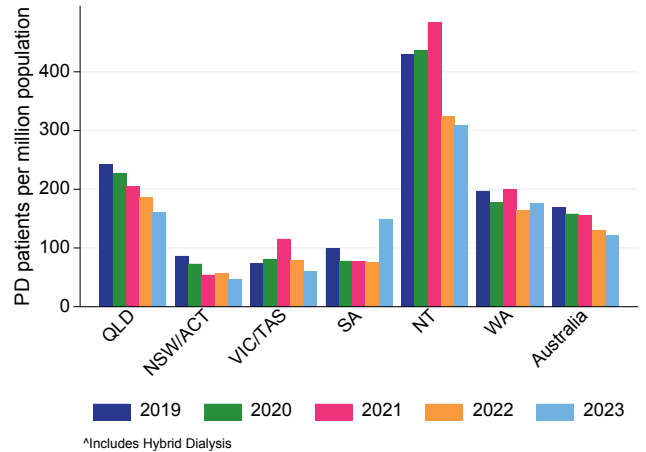


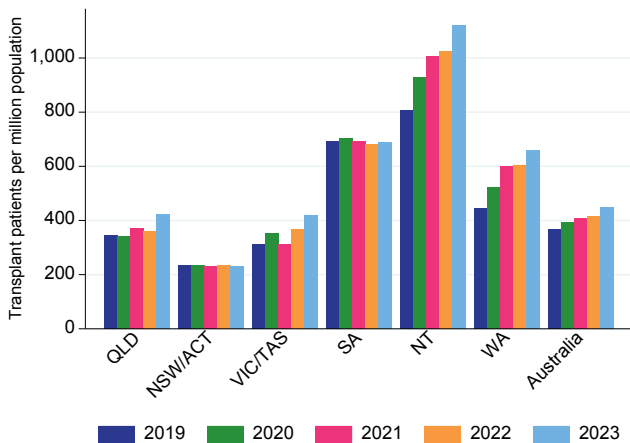
Figure 10.26
Prevalent First Nations Australian Peritoneal Dialysis[^] Patients



TRANSPLANTATION BY REFERRING STATE/TERRITORY

Rates of prevalent transplants vary substantially between states/territories with the highest prevalence rates in the Northern Territory, South Australia and Western Australia. These rates are per First Nations population, not per dialysis patient, and they reflect both background rates of kidney disease and transplant practices. Transplant rates per dialysis patient by ethnicity are presented in Chapter 7 of this Report. Transplantation prevalence rates appear to be increasing overall, and in most jurisdictions, apart from SA (Figure 10.27).

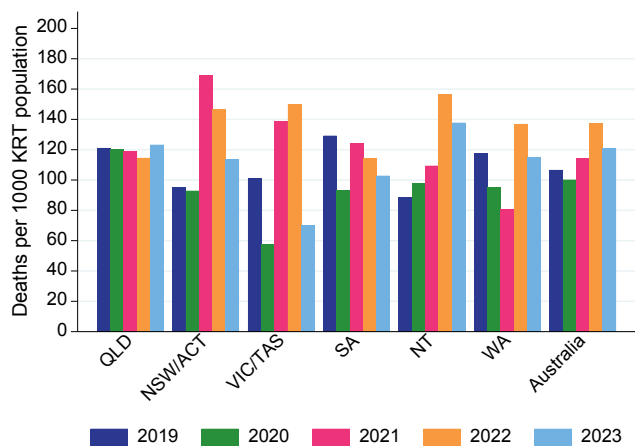
Figure 10.27
Prevalent First Nations Australian Transplant Patients



DEATHS BY RESIDENT STATE/TERRITORY

State based mortality rates for First Nations Australians on kidney replacement therapy are shown relative to the size of the KRT population in Figure 10.28. The differences in death rates between states are likely to reflect a combination of the differences in kidney failure prevalent, practice patterns and patient factors.

Figure 10.28
Deaths of First Nations Australian KRT patients



GEOGRAPHICAL DISTRIBUTION

Figure 10.29 shows the number of incident First Nations Australian kidney replacement therapy patients by postcode. The percentage of prevalent kidney replacement therapy patients identifying as First Nations Australian is summarised in Figure 10.30 (by state) and the number of prevalent First Nations Australian dialysis patients in Figure 10.31 by statistical area level 3 (SA3, obtained by mapping postcodes to SA3). Note that some postcodes are distributed over more than one SA3. Mapping data are based on the 2016 Australian Statistical Geography Standard courtesy of the Australian Bureau of Statistics (2016)³.

Figure 10.29
Incident First Nations Australian Kidney Replacement Therapy Patients 2019-2023 - By Postcode

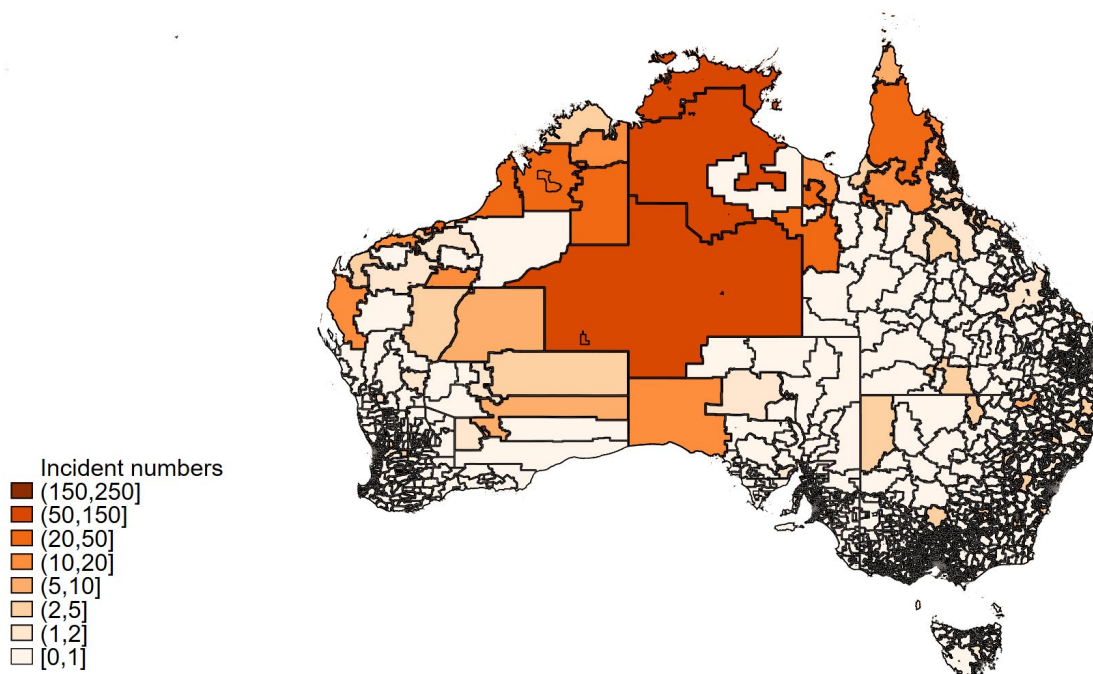


Figure 10.30
Percentage of Prevalent Kidney Replacement Therapy Patients Identifying as First Nations Australian - 2023 By State

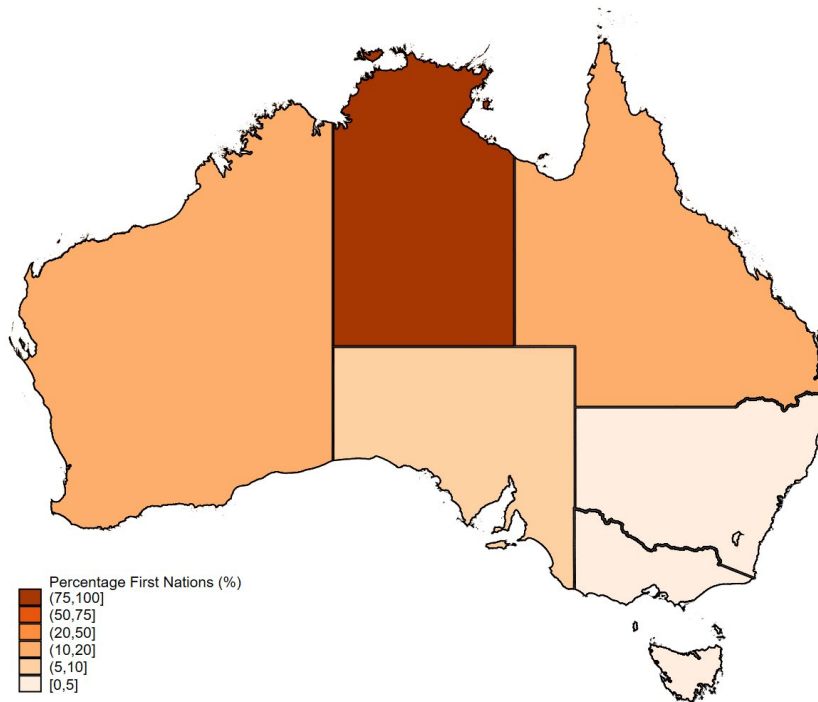
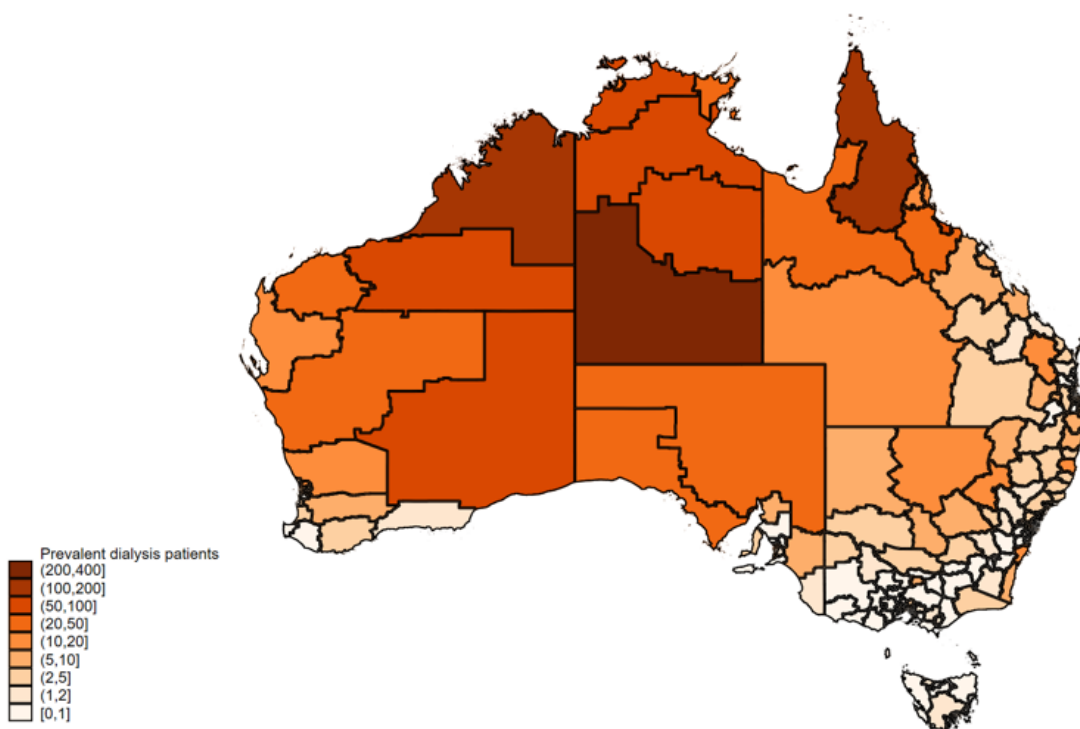


Figure 10.31
Prevalent First Nations Australian Dialysis Patients 2023 - By Statistical Area Level 3



LATE REFERRAL

The percentage of First Nations Australians who experienced late referral to a nephrologist prior to commencing KRT (<3 months between referral and review by a nephrologist and KRT start) is shown in Table 10.5.

Table 10.5
Percentage of Late Referral by Ethnicity Australia 2019-2023

Year	First Nations	Non-Indigenous
2019	15%	19%
2020	21%	16%
2021	19%	16%
2022	20%	15%
2023	17%	15%

VASCULAR ACCESS

INCIDENT VASCULAR ACCESS

Incident vascular access data are presented in Table 10.6, and prevalent data in Table 10.7.

Table 10.6
Incident Vascular Access Australia 2019-2023

Year	Vascular access	First Nations	Non-Indigenous
2019	AVF	142 (41%)	810 (40%)
	AVG	2 (1%)	23 (1%)
	CVC	199 (58%)	1171 (58%)
	Not reported	1 (<1%)	11 (1%)
2020	AVF	105 (37%)	836 (42%)
	AVG	1 (<1%)	24 (1%)
	CVC	177 (63%)	1133 (57%)
	Not reported	0 (0%)	8 (<1%)
2021	AVF	128 (41%)	803 (40%)
	AVG	1 (<1%)	23 (1%)
	CVC	183 (58%)	1170 (58%)
	Not reported	1 (<1%)	11 (1%)
2022	AVF	107 (32%)	824 (39%)
	AVG	3 (1%)	22 (1%)
	CVC	222 (67%)	1278 (60%)
	Not reported	0 (0%)	6 (<1%)
2023	AVF	100 (31%)	790 (38%)
	AVG	5 (2%)	25 (1%)
	CVC	212 (67%)	1235 (60%)
	Not reported	1 (<1%)	7 (<1%)

AVF: Arteriovenous Fistula, AVG: Arteriovenous Graft, CVC: Central Venous Catheter

PREVALENT VASCULAR ACCESS

Table 10.7
Prevalent Vascular Access[^] Australia 2019-2023

Year	Vascular access	First Nations	Non-Indigenous
2019	AVF	1562 (80%)	6959 (74%)
	AVG	53 (3%)	411 (4%)
	CVC	240 (12%)	1631 (17%)
	Not reported	100 (5%)	389 (4%)
2020	AVF	1594 (80%)	7335 (75%)
	AVG	56 (3%)	441 (5%)
	CVC	223 (11%)	1738 (18%)
	Not reported	129 (6%)	276 (3%)
2021	AVF	1610 (79%)	7592 (74%)
	AVG	48 (2%)	412 (4%)
	CVC	230 (11%)	1848 (18%)
	Not reported	147 (7%)	368 (4%)
2022	AVF	1661 (80%)	7732 (74%)
	AVG	43 (2%)	382 (4%)
	CVC	311 (15%)	2103 (20%)
	Not reported	51 (2%)	264 (3%)
2023	AVF	1665 (81%)	7838 (74%)
	AVG	33 (2%)	365 (3%)
	CVC	295 (14%)	2110 (20%)
	Not reported	69 (3%)	318 (3%)

[^]Includes Hybrid Dialysis

PATIENT FLOW

Table 10.8 shows the overall flow of First Nations Australian patients, by state. For new and pre-emptive transplants, numbers are shown by referring state. The differences in death rates between states are likely to reflect a combination of the differences in kidney failure prevalence, practice patterns and patient factors.

Table 10.8
Patient Flow (pmp) First Nations Australian Patients 2019-2023

Year	Event	QLD	NSW/ ACT	VIC/TAS	SA	NT	WA	Australia
2019	New patients	126 (476)	48 (143)	11 (101)	19 (376)	114 (1531)	82 (703)	400 (421)
	New transplants	16 (60)	15 (45)	7 (64)	2 (40)	11 (148)	7 (60)	58 (61)
	Pre-emptive transplants	0 (0)	2 (6)	0 (0)	0 (0)	0 (0)	0 (0)	2 (2)
	Prevalent dialysis	528 (1996)	237 (707)	65 (597)	112 (2219)	707 (9497)	467 (4004)	2116 (2226)
	Prevalent transplants	91 (344)	78 (233)	34 (312)	35 (693)	60 (806)	52 (446)	350 (368)
	Total prevalence	619 (2340)	315 (940)	99 (909)	147 (2912)	767 (10303)	519 (4450)	2466 (2595)
	Deaths	72 (272)	30 (90)	10 (92)	19 (376)	67 (900)	59 (506)	257 (270)
2020	New patients	87 (323)	28 (82)	12 (108)	28 (546)	91 (1206)	81 (684)	327 (338)
	New transplants	8 (30)	7 (20)	7 (63)	2 (39)	15 (199)	10 (84)	49 (51)
	Pre-emptive transplants	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Prevalent dialysis	541 (2012)	232 (678)	65 (587)	125 (2438)	708 (9380)	484 (4088)	2155 (2228)
	Prevalent transplants	92 (342)	80 (234)	39 (352)	36 (702)	70 (927)	62 (524)	379 (392)
	Total prevalence	633 (2354)	312 (912)	104 (940)	161 (3140)	778 (10308)	546 (4612)	2534 (2620)
	Deaths	76 (283)	28 (82)	6 (54)	15 (293)	76 (1007)	52 (439)	253 (262)
2021	New patients	101 (370)	35 (100)	12 (107)	22 (423)	100 (1307)	85 (708)	355 (361)
	New transplants	13 (48)	7 (20)	3 (27)	2 (38)	12 (157)	15 (125)	52 (53)
	Pre-emptive transplants	1 (4)	0 (0)	0 (0)	0 (0)	0 (0)	1 (8)	2 (2)
	Prevalent dialysis	554 (2028)	215 (616)	66 (586)	125 (2401)	718 (9387)	510 (4250)	2188 (2224)
	Prevalent transplants	101 (370)	81 (232)	35 (311)	36 (691)	77 (1007)	72 (600)	402 (409)
	Total prevalence	655 (2398)	296 (848)	101 (897)	161 (3092)	795 (10394)	582 (4850)	2590 (2633)
	Deaths	77 (282)	50 (143)	13 (116)	20 (384)	86 (1124)	46 (383)	292 (297)
2022	New patients	84 (300)	45 (127)	14 (122)	29 (548)	119 (1544)	85 (695)	376 (375)
	New transplants	12 (43)	9 (25)	8 (70)	4 (76)	10 (130)	12 (98)	55 (55)
	Pre-emptive transplants	0 (0)	1 (3)	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)
	Prevalent dialysis	562 (2010)	217 (610)	58 (506)	130 (2457)	719 (9327)	510 (4171)	2196 (2191)
	Prevalent transplants	101 (361)	83 (233)	42 (366)	36 (680)	79 (1025)	74 (605)	415 (414)
	Total prevalence	663 (2371)	300 (844)	100 (872)	166 (3137)	798 (10352)	584 (4777)	2611 (2605)
	Deaths	76 (272)	44 (124)	15 (131)	19 (359)	125 (1621)	79 (646)	358 (357)
2023	New patients	90 (314)	46 (127)	21 (180)	26 (483)	108 (1390)	70 (562)	361 (353)
	New transplants	22 (77)	8 (22)	8 (68)	5 (93)	14 (180)	13 (104)	70 (69)
	Pre-emptive transplants	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Prevalent dialysis	544 (1901)	225 (622)	65 (556)	138 (2565)	704 (9060)	509 (4086)	2185 (2139)
	Prevalent transplants	121 (423)	83 (229)	49 (419)	37 (688)	87 (1120)	82 (658)	459 (449)
	Total prevalence	665 (2323)	308 (851)	114 (976)	175 (3253)	791 (10180)	591 (4744)	2644 (2589)
	Deaths	82 (286)	35 (97)	8 (68)	18 (335)	109 (1403)	67 (538)	319 (312)

[BACK TO CONTENTS](#)

CAUSE OF DEATH

The causes of death in 2023 are shown in Figure 10.32 and Table 10.9, categorised by ethnicity and modality at time of death.

Figure 10.32
Cause of Death by Modality and Ethnicity, Australia - Deaths Occurring During 2023

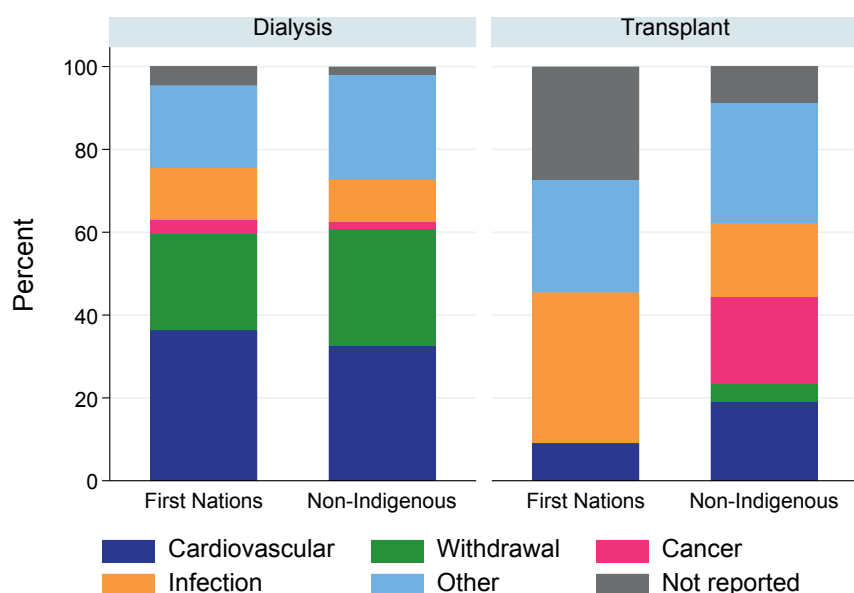
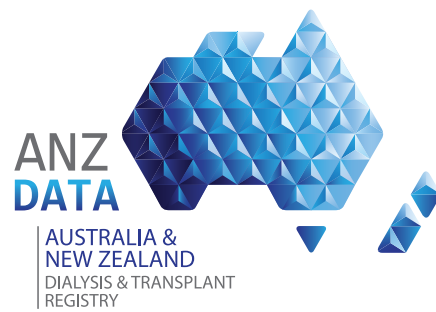


Table 10.9
Cause of Death by Modality and Ethnicity, Australia 2023

Modality	Cause of death	First Nations	Non-Indigenous
Dialysis	Cardiovascular	112 (36%)	632 (33%)
	Withdrawal	72 (23%)	544 (28%)
	Cancer	10 (3%)	36 (2%)
	Infection	39 (13%)	195 (10%)
	Other	61 (20%)	493 (25%)
	Not reported	14 (5%)	37 (2%)
	Total		308
Transplant	Cardiovascular	1 (9%)	76 (19%)
	Withdrawal	0 (0%)	18 (5%)
	Cancer	0 (0%)	83 (21%)
	Infection	4 (36%)	72 (18%)
	Other	3 (27%)	115 (29%)
	Not reported	3 (27%)	35 (9%)
	Total		11

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CHAPTER 10

Kidney Failure in Aboriginal and
Torres Strait Islander Australians