



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.

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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 (2022)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 high rates of kidney failure with incident kidney replacement therapy rates in 2022 being 3.5 times higher than the non-Indigenous population (table 10.1). Diabetic kidney disease occurs in 72% of First Nations people requiring kidney replacement therapy, compared with only 35% of the non-Indigenous population. Despite this high burden of disease, there remain significant inequities in treatment modality with only 25% of First Nations people undergoing a home-based therapy (home haemodialysis, peritoneal dialysis or transplantation) versus 68% of non-Indigenous people (table 10.3).

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). However, there were no living kidney donor transplants performed for First Nations Australians in 2022 and the overall prevalence of transplant recipients remains very low at only 16%, compared with 48% in the non-Indigenous population (table 10.4).

Treatment modality rates vary based on geographical location, with the sustained increase in prevalent transplantation rates per million population being driven predominantly by the Northern Territory and Western Australia (figure 10.27). Special mention must also be made of Victoria and Tasmania, where in 2022, a spike in First Nations transplantation rates has taken the overall prevalence of transplantation to 43% of all First Nations people requiring KRT, albeit the total numbers are small (table 10.8).

This chapter details the ongoing inequities in kidney health experienced by the First Nations people of Australia, and we acknowledge the role that historical and ongoing colonisation including discriminatory and biased health care systems has in this inequity.

SUGGESTED CITATION

S Bateman, B Soloman, C Davies, E Au, J Chen, K Hurst, G Irish, D Lee, H McCarthy, S McDonald, W Mulley, M Roberts, T Sun, P Clayton. 46th Report, Chapter 10: Kidney Failure in Aboriginal and Torres Strait Islander Australians. Australia and New Zealand Dialysis and Transplant Registry, Adelaide, Australia. 2023. Available at: <http://www.anzdata.org.au>

NEW PATIENTS

A total of 350 Aboriginal and 23 Torres Strait Islander people (n=373 total of First Nations Australians) commenced kidney replacement therapy (KRT) for kidney failure in Australia during 2022 (table 10.1). The majority (89%) were treated with haemodialysis as their initial KRT modality (figure 10.1). Haemodialysis (HD) incidence was approximately 4-fold higher for First Nations Australians (367 per million population) than for non-Indigenous Australians (84 pmp).

In 2022, only 11% of First Nations Australians accessed peritoneal dialysis (PD) as first treatment compared with over one-quarter of non-Indigenous Australians (figure 10.2). A pre-emptive kidney transplant was accessed by one First Nations Australian in 2022 (figure 10.3).

Table 10.1
New Patients (pmp) Australia 2018-2022

Year	Modality	First Nations	Non-Indigenous	Total
2018	HD	292 (351)	1897 (79)	2189 (88)
	PD	40 (48)	725 (30)	765 (31)
	Pre-emptive Transplant	2 (2)	101 (4)	103 (4)
2019	HD	343 (404)	2015 (82)	2358 (93)
	PD	54 (64)	691 (28)	745 (29)
	Pre-emptive Transplant	2 (2)	102 (4)	104 (4)
2020	HD	284 (328)	2000 (81)	2284 (89)
	PD	42 (49)	850 (34)	892 (35)
	Pre-emptive Transplant	0 (0)	82 (3)	82 (3)
2021	HD	314 (355)	1999 (81)	2313 (90)
	PD	40 (45)	857 (35)	897 (35)
	Pre-emptive Transplant	2 (2)	72 (3)	74 (3)
2022	HD	331 (367)	2108 (84)	2439 (94)
	PD	41 (45)	772 (31)	813 (31)
	Pre-emptive Transplant	1 (1)	82 (3)	83 (3)

Figure 10.1
Percentage of New Patients Commencing on Haemodialysis - Australia

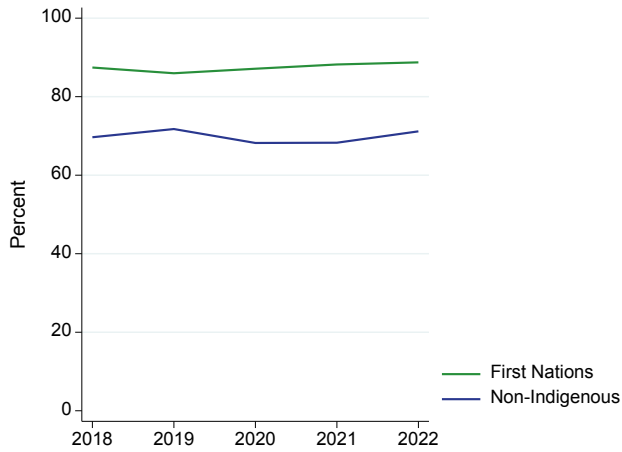


Figure 10.2
Percentage of New Patients Commencing on Peritoneal Dialysis - Australia

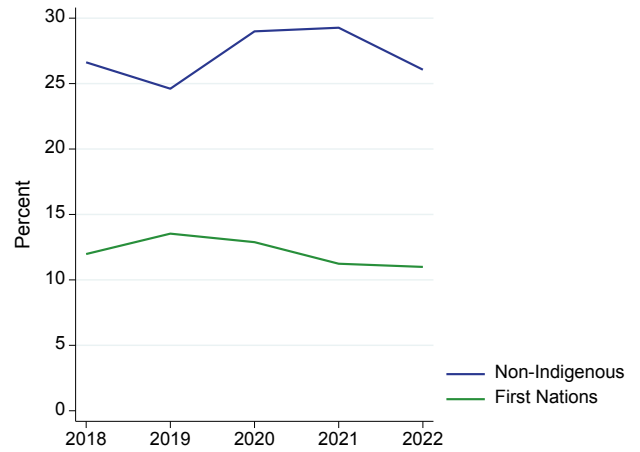
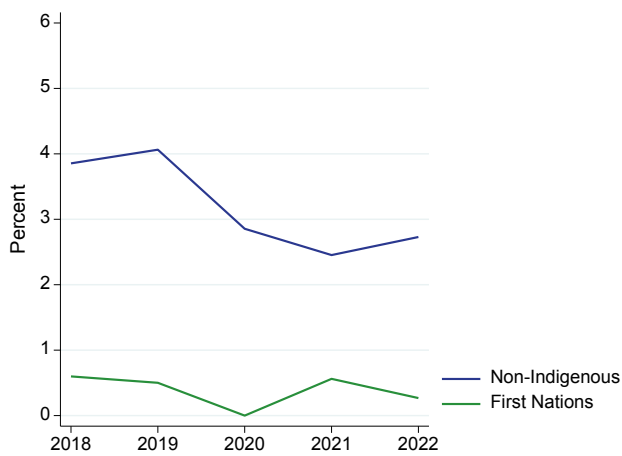


Figure 10.3
Percentage of New Patients Commencing with Pre-emptive Kidney Transplant - Australia



PRIMARY KIDNEY DISEASE

The primary kidney diseases of new Australian patients over 2018-2022 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.

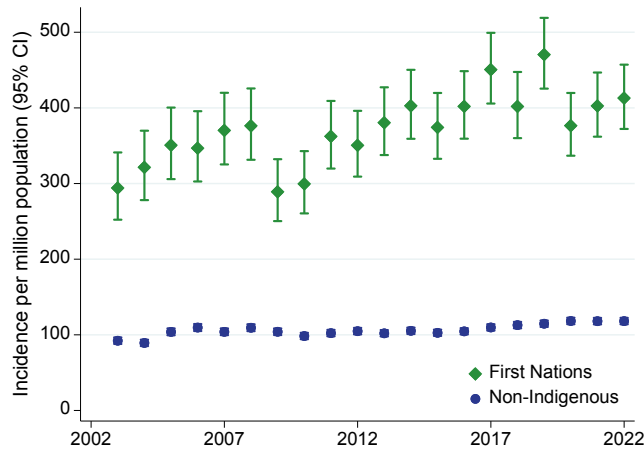
Table 10.2
Primary Kidney Disease of New Patients Australia 2018-2022

Primary Kidney Disease	First Nations	Non-Indigenous
Diabetic kidney disease	1289 (72%)	5071 (35%)
Glomerular disease	155 (9%)	2811 (20%)
Hypertension / Renal vascular disease	109 (6%)	1948 (14%)
Familial / hereditary kidney diseases	23 (1%)	1122 (8%)
Tubulointerstitial disease	52 (3%)	1222 (9%)
Other systemic diseases affecting the kidney	10 (<1%)	457 (3%)
Miscellaneous kidney disorders	130 (7%)	1647 (11%)
Not reported	20 (1%)	75 (<1%)
Total	1788	14353

INCIDENCE RATES

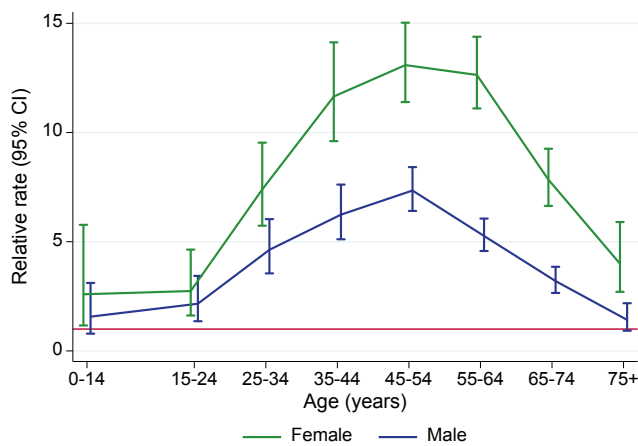
Overall, the incidence rates (per million of population) of kidney failure with replacement therapy for First Nations patients were markedly and persistently higher than those for non-Indigenous patients (figure 10.4). There are a number of factors which contribute to incident numbers of KRT (among both 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



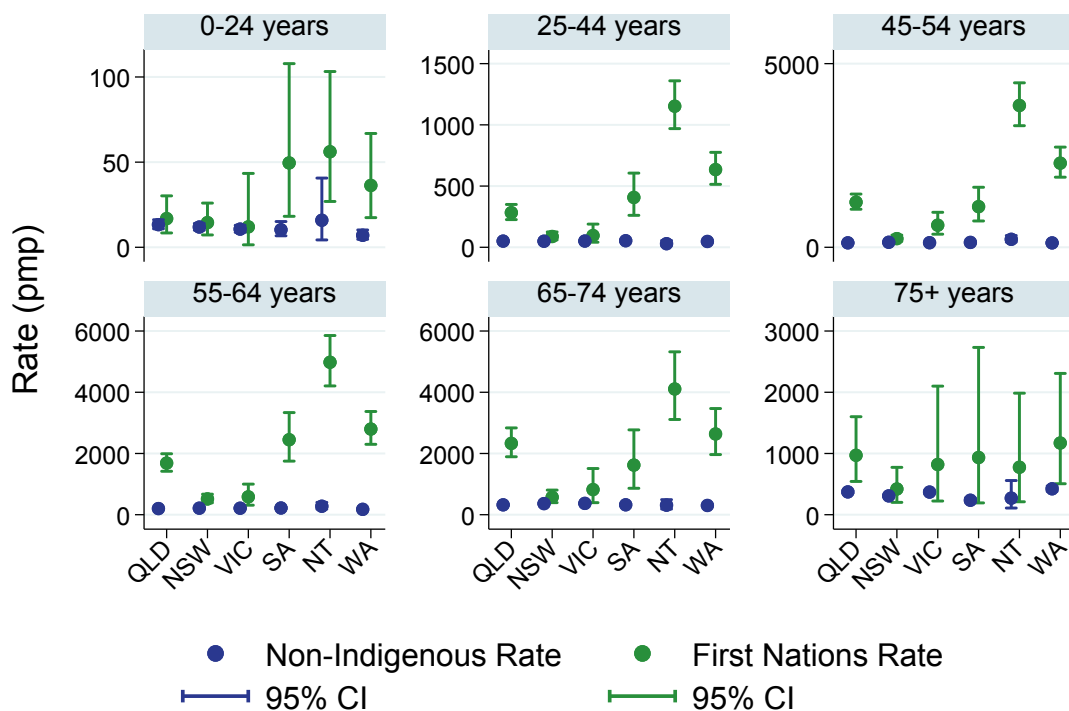
First Nations Australians experience higher rates of kidney failure at all age groups over 15 years of age. This disparity is greater among First Nations women and shows a particular pattern with age with the highest relative rates in the 35-64 year age group (figure 10.5).

Figure 10.5
Relative Incidence Rate of Treated Kidney Failure for First Nations Patients by Gender (Comparison to Non-Indigenous Australians) - 2018-2022



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.

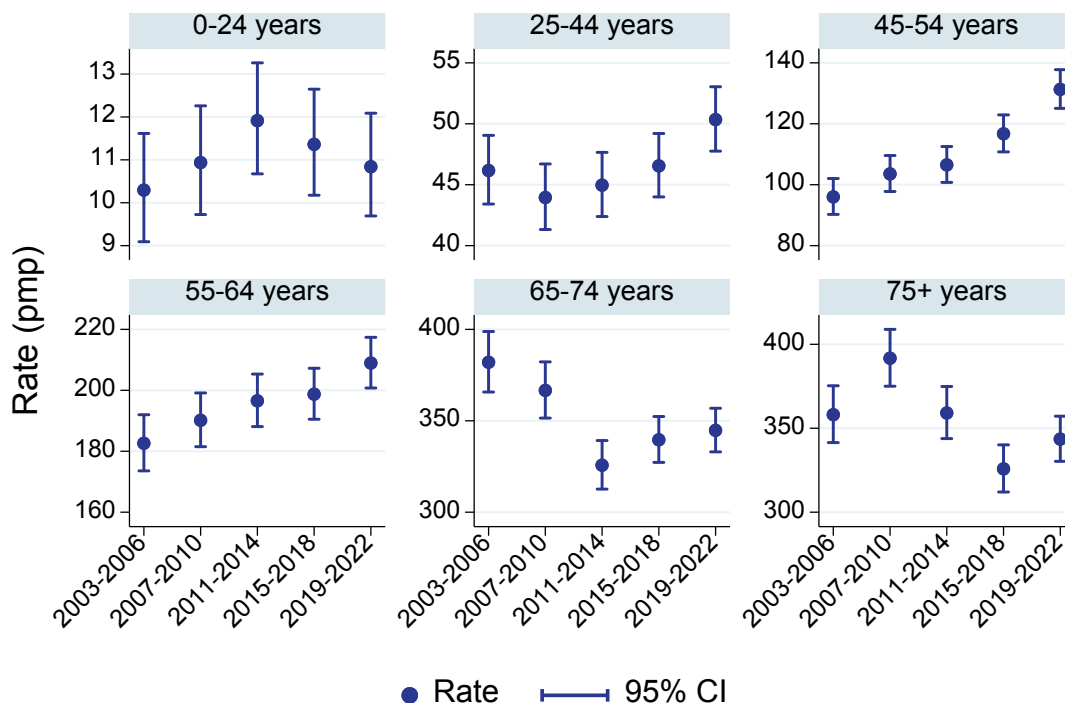
Figure 10.6
Age-specific Incidence Rates of Treated Kidney Failure - By Ethnicity, State and Age at KRT start 2018-2022



Note the Y axis scales vary between panels

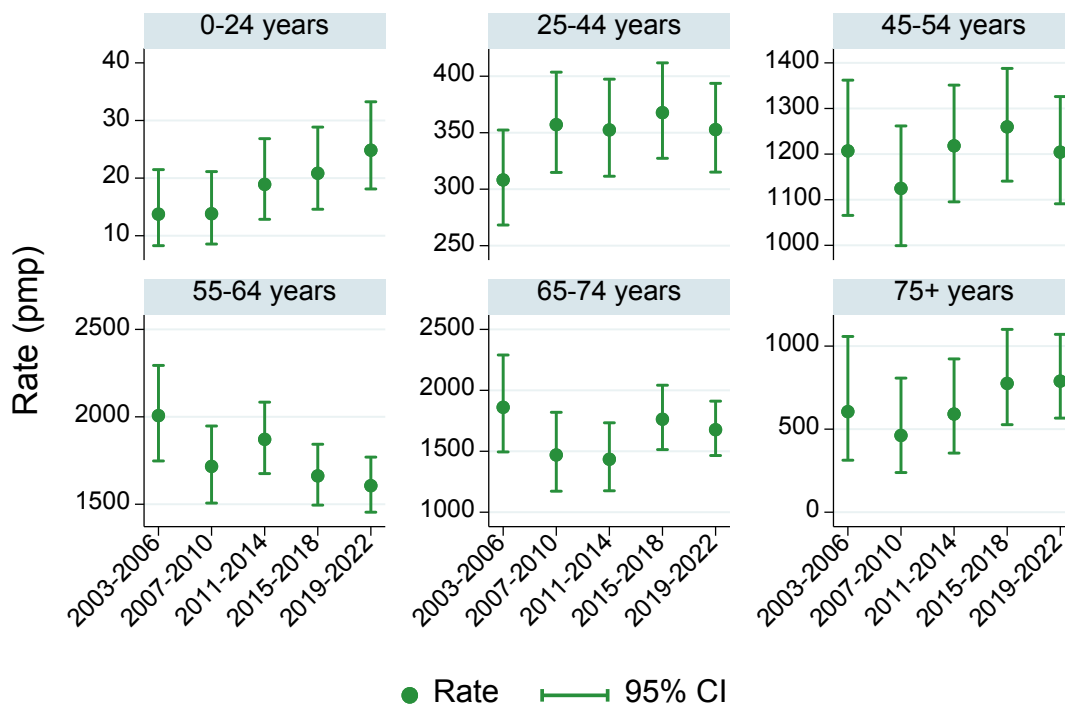
The trends in age-specific rates for the non-Indigenous and First Nations populations are shown separately in figure 10.7, and together in figure 10.8 (note that the Y axis scales vary).

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



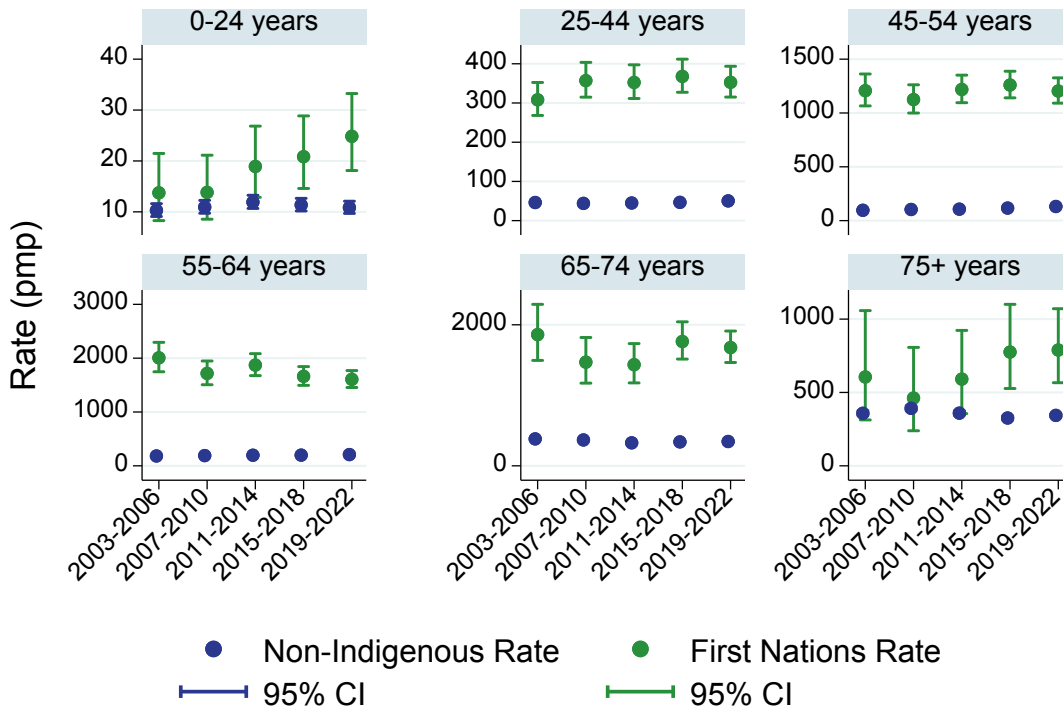
Note the Y axis scales vary between panels

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 2022 increased from 2588 persons in 2021 to 2625 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 (76%), with very few accessing home haemodialysis (4%), long-term peritoneal dialysis (5%), or kidney transplantation (16%). The proportion of First Nations Australians with a kidney transplant as long-term treatment for kidney failure was 16% during 2022 compared with half (48%) of non-Indigenous Australians. Only 4% of First Nations Australians accessed home-based haemodialysis compared with 10% of non-Indigenous Australians.

Table 10.3
Prevalent Patients by Ethnicity and Treatment Modality Australia 2018-2022

Year	Modality	First Nations	Non-Indigenous
2018	HD	1844 (80%)	8950 (40%)
	% HD at home*	5%	11%
	PD	152 (7%)	2212 (10%)
	Transplant	311 (13%)	10987 (50%)
2019	HD	1948 (79%)	9394 (41%)
	% HD at home*	5%	10%
	PD	160 (7%)	2179 (9%)
	Transplant	343 (14%)	11461 (50%)
2020	HD	1998 (79%)	9797 (41%)
	% HD at home*	6%	10%
	PD	150 (6%)	2348 (10%)
	Transplant	371 (15%)	11745 (49%)
2021	HD	2040 (79%)	10238 (42%)
	% HD at home*	5%	10%
	PD	150 (6%)	2476 (10%)
	Transplant	398 (15%)	11939 (48%)
2022	HD	2077 (79%)	10530 (42%)
	% HD at home*	4%	10%
	PD	127 (5%)	2477 (10%)
	Transplant	421 (16%)	12113 (48%)

*Includes Community House HD

Figure 10.9.1
Prevalent Patients by Modality - Australia - First Nations

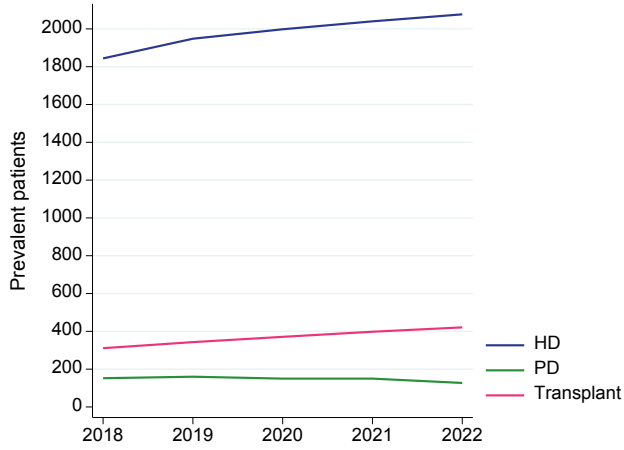


Figure 10.9.2
Prevalent Patients by Modality - Australia - Non-Indigenous

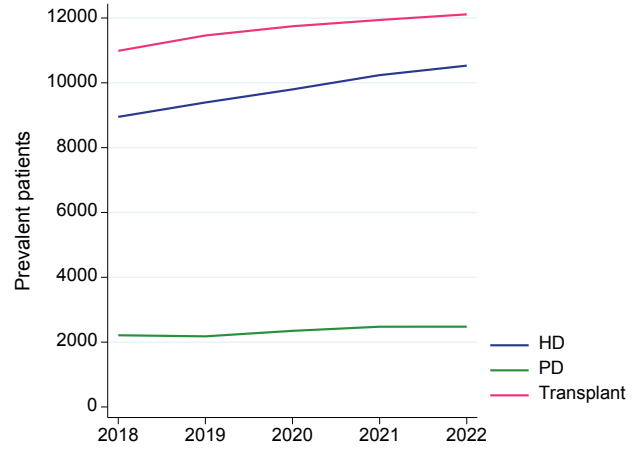
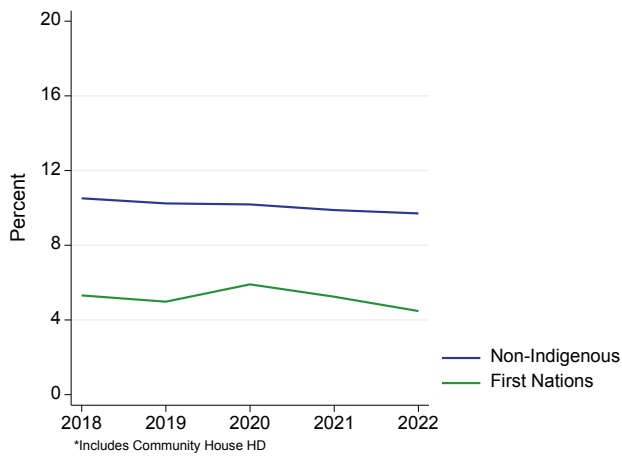


Figure 10.10
Prevalent Haemodialysis at Home* (% of all HD) by Ethnicity - Australia



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 2013-2022

Year	Donor Type	First Nations	Non-Indigenous
2013	Deceased Donor	30 (20)	579 (57)
	Living Donor	1 (1)	236 (23)
	Total	31 (21)	815 (80)
2014	Deceased Donor	35 (22)	585 (56)
	Living Donor	4 (2)	245 (23)
	Total	39 (24)	830 (79)
2015	Deceased Donor	33 (19)	644 (60)
	Living Donor	3 (2)	216 (20)
	Total	36 (21)	860 (80)
2016	Deceased Donor	32 (18)	761 (71)
	Living Donor	2 (1)	231 (22)
	Total	34 (19)	992 (93)
2017	Deceased Donor	33 (17)	765 (71)
	Living Donor	2 (1)	245 (23)
	Total	35 (18)	1010 (93)
2018	Deceased Donor	49 (25)	793 (71)
	Living Donor	3 (2)	216 (19)
	Total	52 (26)	1009 (90)
2019	Deceased Donor	54 (26)	764 (66)
	Living Donor	3 (1)	222 (19)
	Total	57 (27)	986 (85)
2020	Deceased Donor	48 (22)	627 (52)
	Living Donor	0 (0)	173 (14)
	Total	48 (22)	800 (66)
2021	Deceased Donor	49 (22)	582 (46)
	Living Donor	3 (1)	192 (15)
	Total	52 (24)	774 (61)
2022	Deceased Donor	55 (25)	629 (48)
	Living Donor	0 (0)	215 (17)
	Total	55 (25)	844 (65)

Figure 10.11
Donor Type by Ethnicity - Australia 2013-2022



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

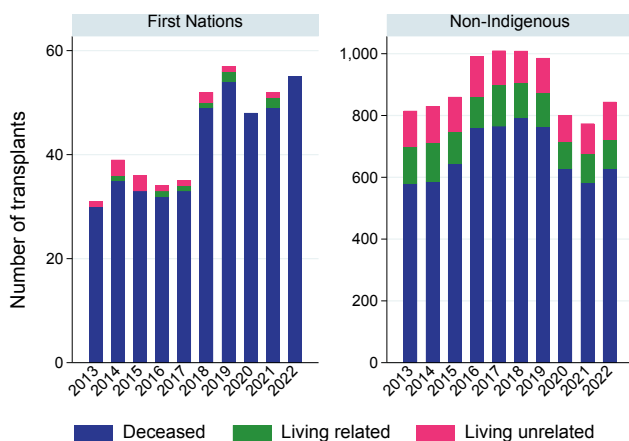


Figure 10.13 shows the cumulative incidence curve of primary transplant after starting KRT (utilising competing risk techniques to account for the effect of the competing risk of death). Figure 10.14 shows the cumulative incidence curves of primary transplant after starting KRT by era.

Figure 10.13
Time to Primary Transplant from KRT Start - Australian Incident KRT Patients 2013-2022

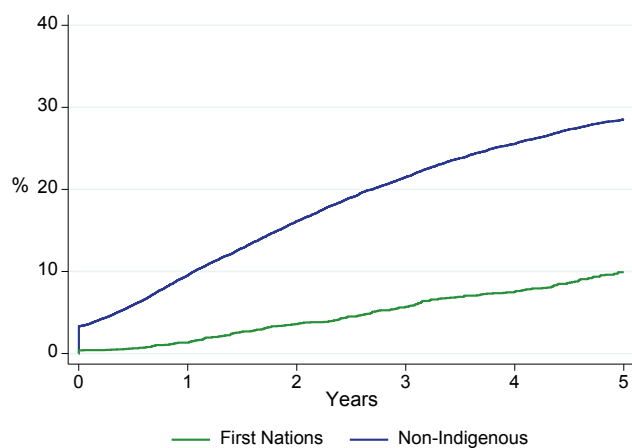
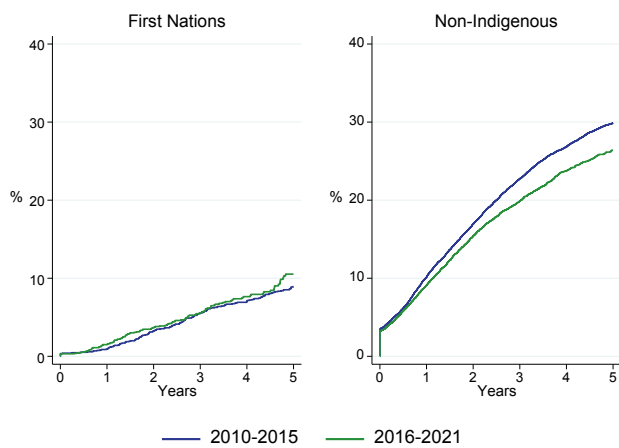


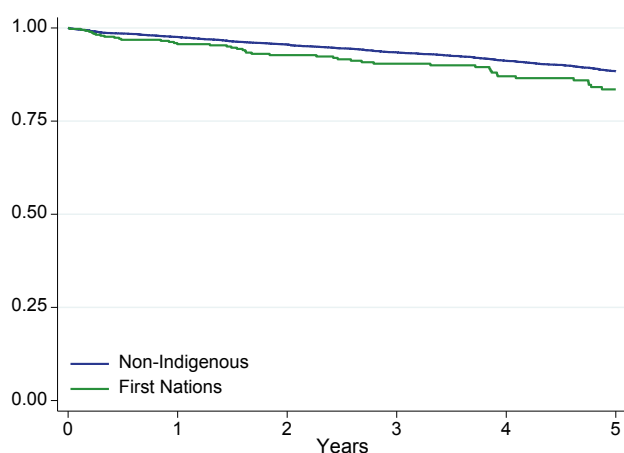
Figure 10.14
Time to Primary Transplant from KRT Start by Era - Australian Incident KRT Patients



TRANSPLANT SURVIVAL

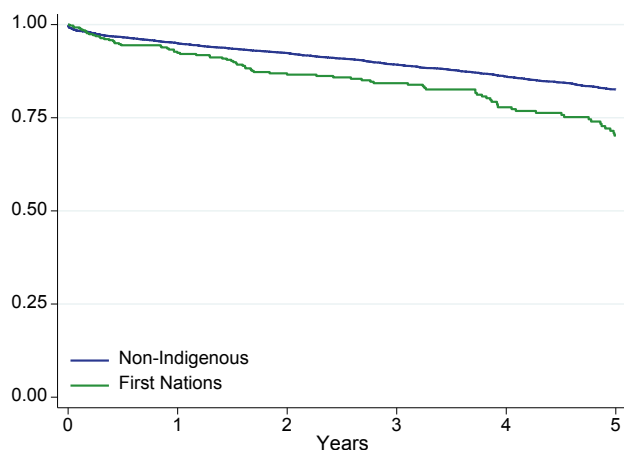
Unadjusted patient survival after kidney transplantation from a deceased donor (DD) for First Nations and non-Indigenous recipients is shown in figure 10.15. 84% of First Nations Australians and 88% of non-Indigenous persons were alive 5 years after kidney transplantation from a deceased donor.

Figure 10.15
Patient Survival, Recipients of Primary DD Transplants - Australia 2013-2022



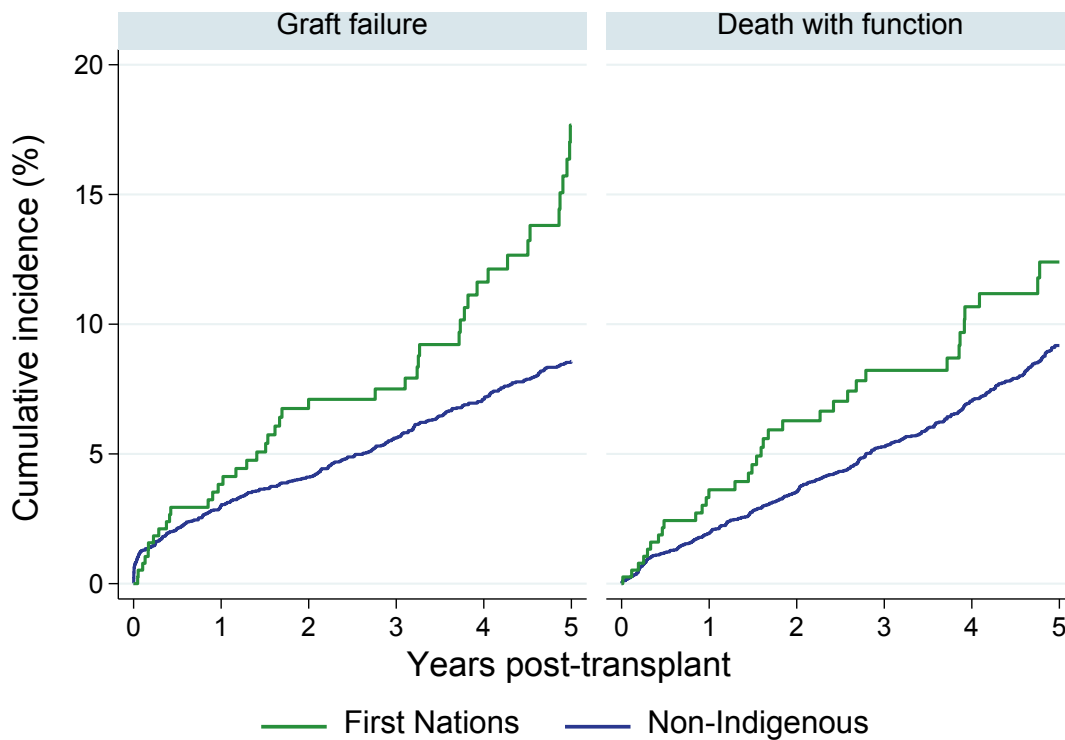
Kidney transplants may be lost, either through the transplant failing or the patient dying with a functioning kidney. Unadjusted transplant kidney function at 5 years post-transplant was recorded in 70% of First Nations recipients compared with 83% of non-Indigenous persons (figure 10.16).

Figure 10.16
Graft Survival, Recipients of Primary DD Transplants - Australia 2013-2022



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 2013-2022



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 2022 - Australia, by Ethnicity

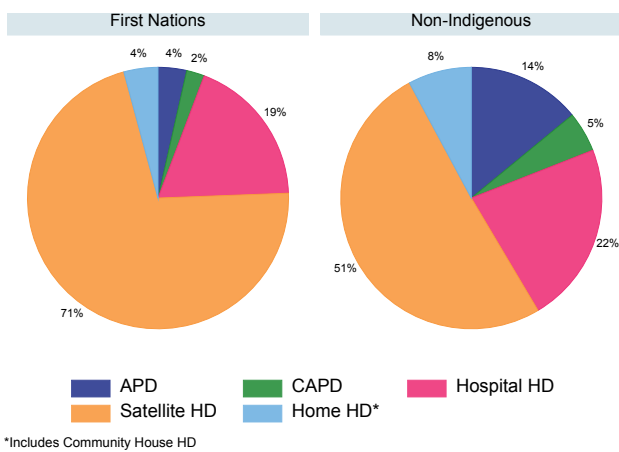


Figure 10.19 shows the cumulative incidence curve of patient mortality after starting dialysis (utilising competing risk techniques to account for the effect of the competing risk of transplantation). These are unadjusted figures and differences between populations including age distribution impact mortality 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 2013-2022

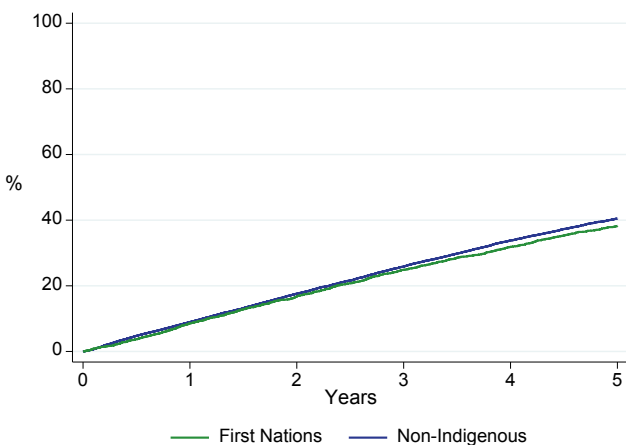
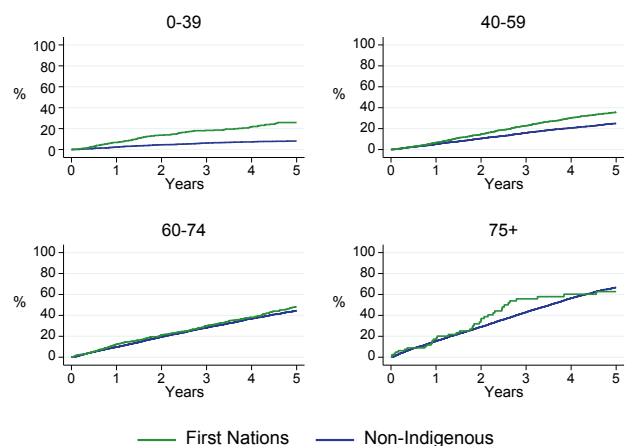


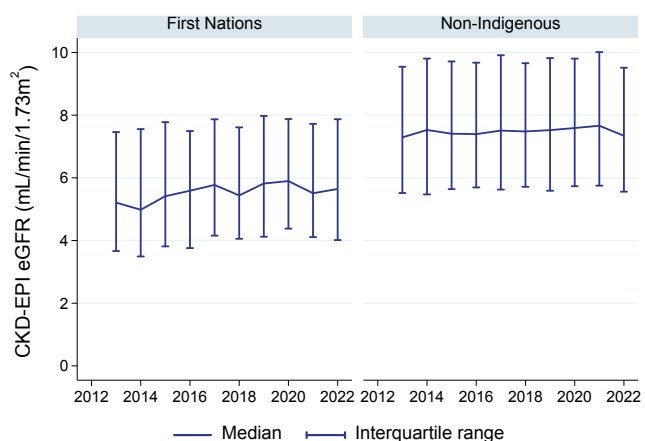
Figure 10.20
Incident Dialysis Patient Mortality by Age Group - Australia 2013-2022



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 1472 per million of population in 2022; the next highest was in WA (736 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

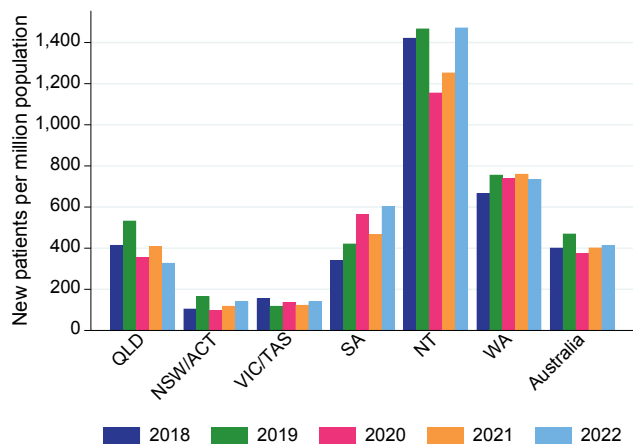


Figure 10.23
Incidence of New Transplants First Nations Australian Patients - By referring state

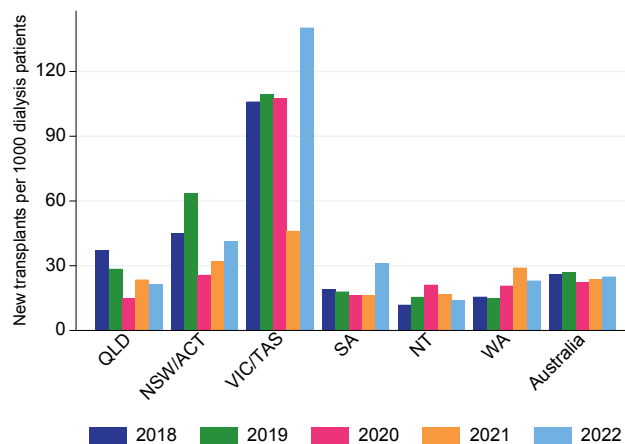
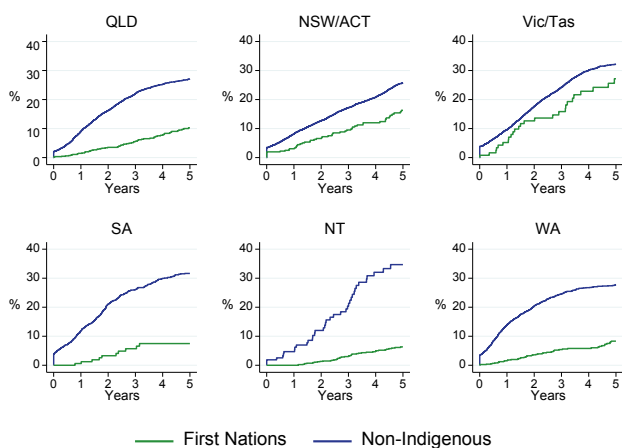


Figure 10.24 shows the cumulative incidence curve of primary transplant after starting KRT (utilising competing risk techniques to account for the effect of the competing risk of death), with varying patterns between different states and territories.

Figure 10.24
Time to Primary Transplant from KRT Start by State - Australian Incident KRT Patients 2013-2022



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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

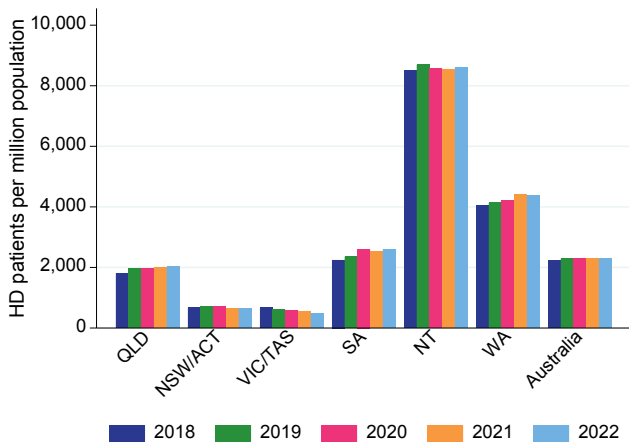
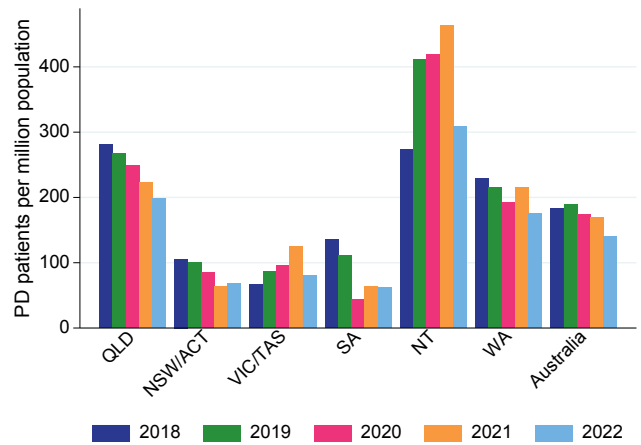


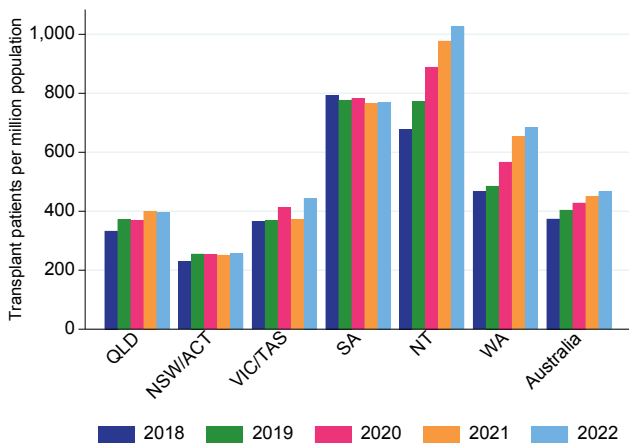
Figure 10.26
Prevalent First Nations Australian Peritoneal Dialysis Patients



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).

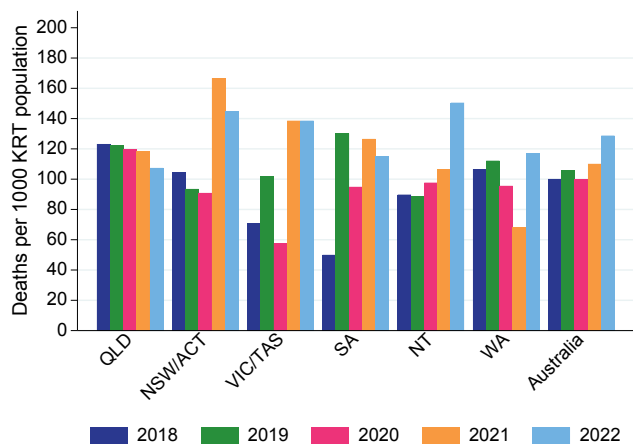
Figure 10.27
Prevalent First Nations Australian Transplant Patients



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 2018-2022 - By Postcode

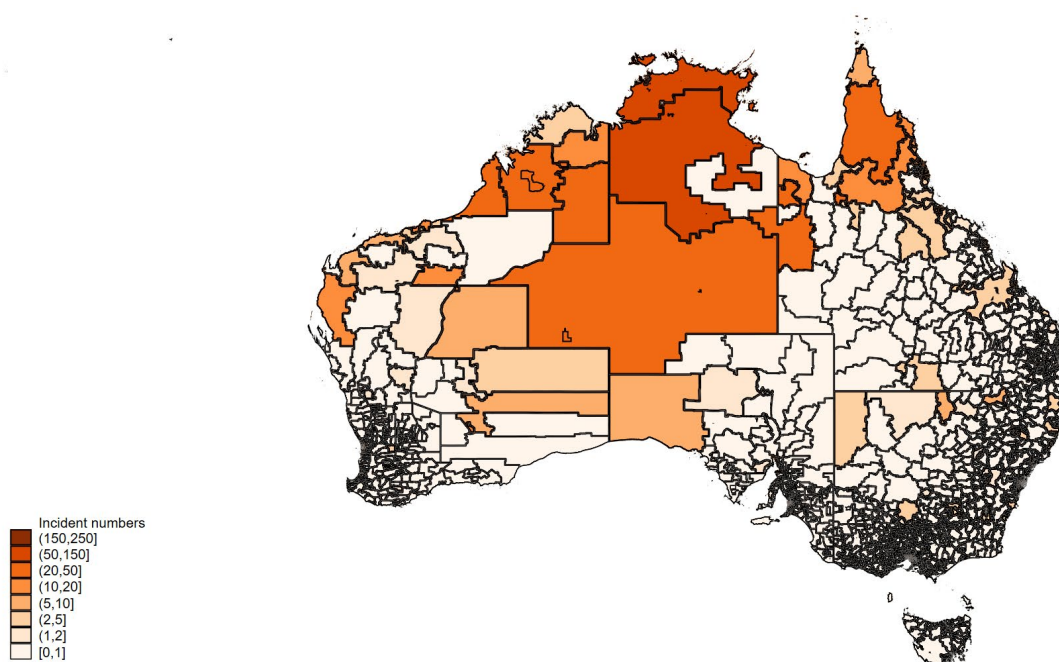


Figure 10.30
Percentage of Prevalent Kidney Replacement Therapy Patients Identifying as First Nations Australian - 2022 By State

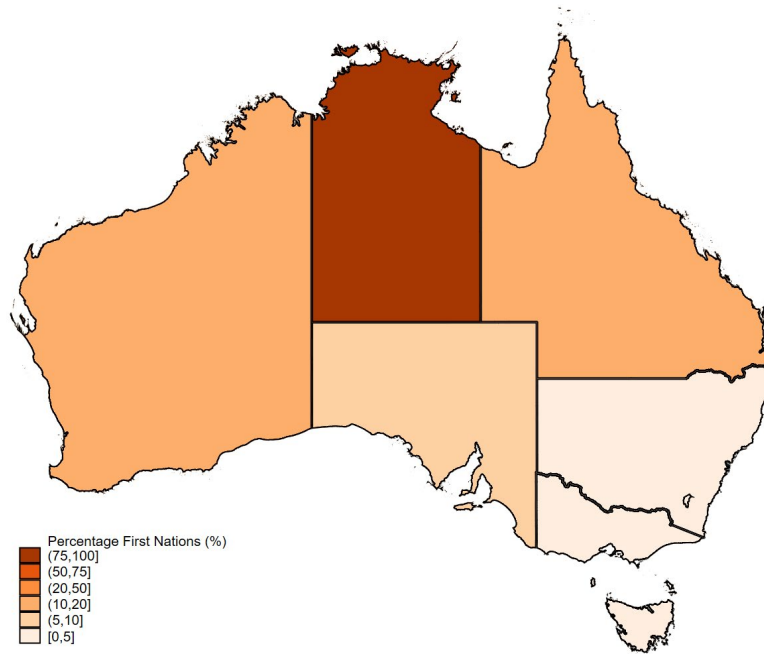
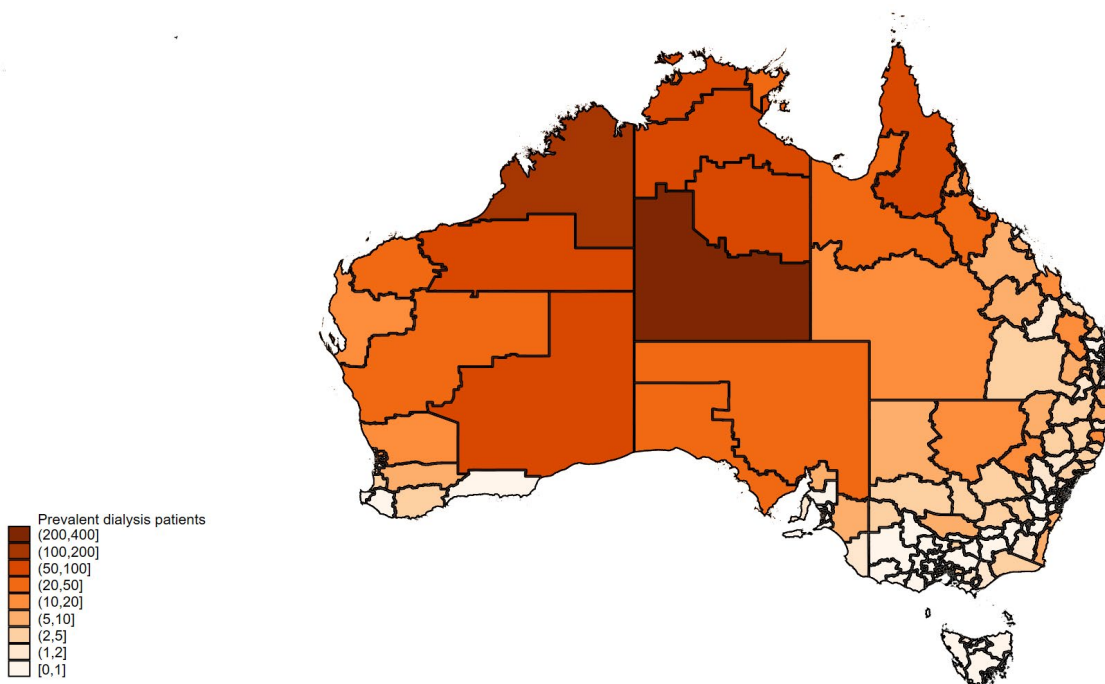


Figure 10.31
Prevalent First Nations Australian Dialysis Patients 2022 - By Statistical Area Level 3



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 2018-2022

Year	First Nations	Non-Indigenous
2018	18%	17%
2019	15%	19%
2020	21%	16%
2021	19%	16%
2022	21%	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 2018-2022

Year	Vascular access	First Nations	Non-Indigenous
2018	AVF	112 (38%)	769 (41%)
	AVG	3 (1%)	21 (1%)
	CVC	177 (61%)	1085 (57%)
	Not reported	0 (0%)	22 (1%)
2019	AVF	142 (41%)	810 (40%)
	AVG	2 (<1%)	23 (1%)
	CVC	198 (58%)	1173 (58%)
	Not reported	1 (<1%)	9 (<1%)
2020	AVF	106 (37%)	835 (42%)
	AVG	1 (<1%)	24 (1%)
	CVC	177 (62%)	1133 (57%)
	Not reported	0 (0%)	8 (<1%)
2021	AVF	128 (41%)	800 (40%)
	AVG	1 (<1%)	22 (1%)
	CVC	184 (59%)	1168 (58%)
	Not reported	1 (<1%)	9 (<1%)
2022	AVF	106 (32%)	814 (39%)
	AVG	3 (1%)	24 (1%)
	CVC	222 (67%)	1266 (60%)
	Not reported	0 (0%)	4 (<1%)

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

PREVALENT VASCULAR ACCESS

Table 10.7
Prevalent Vascular Access Australia 2018-2022

Year	Vascular access	First Nations	Non-Indigenous
2018	AVF	1443 (78%)	6809 (76%)
	AVG	51 (3%)	417 (5%)
	CVC	240 (13%)	1479 (17%)
	Not reported	110 (6%)	245 (3%)
2019	AVF	1556 (80%)	6960 (74%)
	AVG	53 (3%)	412 (4%)
	CVC	241 (12%)	1633 (17%)
	Not reported	98 (5%)	389 (4%)
2020	AVF	1589 (80%)	7336 (75%)
	AVG	57 (3%)	441 (5%)
	CVC	223 (11%)	1740 (18%)
	Not reported	129 (6%)	280 (3%)
2021	AVF	1605 (79%)	7597 (74%)
	AVG	49 (2%)	412 (4%)
	CVC	231 (11%)	1852 (18%)
	Not reported	155 (8%)	377 (4%)
2022	AVF	1650 (79%)	7744 (74%)
	AVG	44 (2%)	388 (4%)
	CVC	308 (15%)	2120 (20%)
	Not reported	75 (4%)	278 (3%)

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 2018-2022

Year	Event	QLD	NSW/ ACT	VIC/TAS	SA	NT	WA	Australia
2018	New patients	96 (416)	30 (106)	14 (155)	15 (340)	109 (1422)	70 (668)	334 (402)
	New transplants	18 (78)	10 (35)	7 (78)	2 (45)	8 (104)	7 (67)	52 (63)
	Pre-emptive transplants	1 (4)	0 (0)	1 (11)	0 (0)	0 (0)	0 (0)	2 (2)
	Prevalent dialysis	483 (2091)	222 (782)	66 (732)	105 (2382)	672 (8770)	448 (4275)	1996 (2402)
	Prevalent transplants	77 (333)	65 (229)	33 (366)	35 (794)	52 (679)	49 (468)	311 (374)
	Total prevalence	560 (2424)	287 (1011)	99 (1098)	140 (3177)	724 (9448)	497 (4742)	2307 (2777)
	Deaths	67 (290)	30 (106)	7 (78)	7 (159)	65 (848)	53 (506)	229 (276)
2019	New patients	126 (533)	48 (166)	11 (119)	19 (422)	114 (1468)	81 (757)	399 (471)
	New transplants	15 (64)	15 (52)	7 (76)	2 (44)	11 (142)	7 (65)	57 (67)
	Pre-emptive transplants	0 (0)	2 (7)	0 (0)	0 (0)	0 (0)	0 (0)	2 (2)
	Prevalent dialysis	525 (2223)	236 (815)	64 (694)	111 (2465)	707 (9103)	465 (4344)	2108 (2486)
	Prevalent transplants	88 (373)	74 (256)	34 (369)	35 (777)	60 (772)	52 (486)	343 (404)
	Total prevalence	613 (2595)	310 (1071)	98 (1062)	146 (3243)	767 (9875)	517 (4830)	2451 (2890)
	Deaths	72 (305)	29 (100)	10 (108)	19 (422)	67 (863)	57 (533)	254 (300)
2020	New patients	86 (356)	29 (98)	13 (138)	26 (565)	91 (1156)	81 (741)	326 (377)
	New transplants	8 (33)	6 (20)	7 (74)	2 (43)	15 (191)	10 (91)	48 (55)
	Pre-emptive transplants	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Prevalent dialysis	538 (2228)	233 (788)	65 (689)	122 (2652)	708 (8994)	482 (4409)	2148 (2481)
	Prevalent transplants	89 (369)	75 (254)	39 (413)	36 (782)	70 (889)	62 (567)	371 (429)
	Total prevalence	627 (2596)	308 (1042)	104 (1102)	158 (3434)	778 (9883)	544 (4976)	2519 (2910)
	Deaths	75 (311)	28 (95)	6 (64)	15 (326)	76 (965)	52 (476)	252 (291)
2021	New patients	101 (409)	36 (119)	12 (124)	22 (468)	100 (1254)	85 (761)	356 (403)
	New transplants	13 (53)	7 (23)	3 (31)	2 (43)	12 (150)	15 (134)	52 (59)
	Pre-emptive transplants	1 (4)	0 (0)	0 (0)	0 (0)	0 (0)	1 (9)	2 (2)
	Prevalent dialysis	551 (2231)	218 (723)	65 (673)	122 (2595)	719 (9014)	515 (4612)	2190 (2477)
	Prevalent transplants	99 (401)	76 (252)	36 (373)	36 (766)	78 (978)	73 (654)	398 (450)
	Total prevalence	650 (2631)	294 (975)	101 (1045)	158 (3360)	797 (9992)	588 (5266)	2588 (2927)
	Deaths	76 (308)	49 (162)	13 (135)	20 (425)	84 (1053)	40 (358)	282 (319)
2022	New patients	83 (328)	44 (143)	14 (141)	29 (603)	119 (1472)	84 (736)	373 (413)
	New transplants	12 (47)	9 (29)	8 (81)	4 (83)	10 (124)	12 (105)	55 (61)
	Pre-emptive transplants	0 (0)	1 (3)	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)
	Prevalent dialysis	561 (2220)	218 (708)	57 (576)	128 (2663)	721 (8922)	519 (4550)	2204 (2441)
	Prevalent transplants	100 (396)	79 (256)	44 (445)	37 (770)	83 (1027)	78 (684)	421 (466)
	Total prevalence	661 (2615)	297 (964)	101 (1020)	165 (3433)	804 (9949)	597 (5233)	2625 (2907)
	Deaths	71 (281)	43 (140)	14 (141)	19 (395)	121 (1497)	70 (614)	338 (374)

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CAUSE OF DEATH

The causes of death in 2022 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 2022

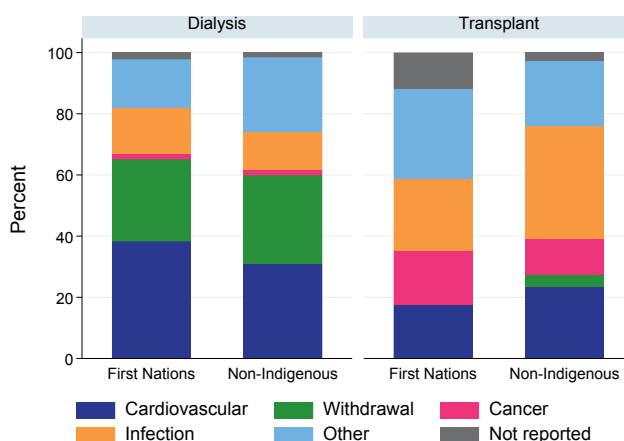


Table 10.9
Cause of Death by Modality and Ethnicity, Australia 2022

Modality	Cause of death	First Nations	Non-Indigenous
Dialysis	Cardiovascular	123 (38%)	622 (31%)
	Withdrawal	86 (27%)	580 (29%)
	Cancer	6 (2%)	38 (2%)
	Infection	48 (15%)	250 (12%)
	Other	51 (16%)	487 (24%)
	Not reported	7 (2%)	30 (1%)
	Total		321
Transplant	Cardiovascular	3 (18%)	97 (24%)
	Withdrawal	0 (0%)	16 (4%)
	Cancer	3 (18%)	49 (12%)
	Infection	4 (24%)	151 (37%)
	Other	5 (29%)	88 (21%)
	Not reported	2 (12%)	11 (3%)
	Total		17

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CHAPTER 10

Kidney Failure in Aboriginal and
Torres Strait Islander Australians