



CHAPTER 9

Kidney Failure in Aotearoa New Zealand

ANZDATA gratefully acknowledges the patients and their whānau/families and the clinicians who provided data, and the contributions of the Aotearoa New Zealand Working Group and the National Renal Transplant Service

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SUMMARY AND HIGHLIGHTS

This chapter presents information about the rates of people receiving kidney replacement therapy (KRT) for kidney failure in the form of dialysis or transplantation in Aotearoa New Zealand. Population statistics from estimates provided by Statistics New Zealand are used to calculate disease and treatment rates¹. Ethnicity population data are projections produced by Statistics New Zealand according to assumptions agreed to by the New Zealand Ministry of Health; these include data from the 2023 census and incorporate additional information gained from the post-enumeration survey.

The number of people with treated kidney failure in Aotearoa New Zealand continues to rise, in keeping with trends in reported over the last twenty years (Figure 9.1). In 2024, 760 patients commenced treatment, equating to 142 new patients per million population (pmp). When incident treatment modalities are compared it is evident that the number of patients commencing treatment with haemodialysis has disproportionately increased. In 2020, 79 pmp commenced kidney replacement therapy with haemodialysis (9 pmp with transplant, 53 pmp with peritoneal dialysis). By 2024 proportions of patients commencing treatment with haemodialysis had steadily increased to 96 pmp (6 pmp with pre-emptive transplant and 40 pmp with peritoneal dialysis), as shown in Table 9.1 and Figure 9.2. Diabetic kidney disease continues to cause nearly half of all cases of treated kidney failure in Aotearoa New Zealand (Figure 9.3). Despite an increased incidence of treated kidney failure, the mean age of new patients has remained stable at 56 years with the peak incidence in patients aged 55-64 years (Figures 9.6 and 9.7).

Overall, more patients in Aotearoa New Zealand are treated with dialysis than transplantation. At the end of 2024, 5747 patients were treated for kidney failure (1078 pmp), of whom 621 pmp were treated with dialysis and 456 pmp with kidney transplantation. Figure 9.11 demonstrates that an increasing proportion of patients receive dialysis treatment in healthcare facilities than at home, with home-based therapies in 2024 being utilised by 35% of patients. In 2024, 198 patients (37 pmp) received kidney transplants, an increase from 175 patients in 2023. This increase was associated with increases in the numbers of both living and deceased kidney donors (Figure 9.12).

The trends described above are not consistent across ethnicities, suggesting persisting advantage for patients who are of non-Māori and non-Pacific ethnicities. For example, the incidence of kidney failure in 2024 in Māori was 229 pmp, in Pacific Peoples was 411 pmp and in non-Māori non-Pacific ethnicities was 91 pmp. These differences may be influenced by differences in the proportion of patients who have kidney failure attributed to diabetic kidney disease, which was 65% in Māori patients, 67% in Pacific Peoples, and 29% in non-Māori non-Pacific ethnicities across 2020-2024. When prevalent treatment modalities are described according to ethnicities further disparities are evident. Figure 9.21.1 – 9.21.3 demonstrates that the majority of Māori or Pacific patients are treated with haemodialysis, whereas most non-Māori non-Pacific prevalent patients are treated with kidney transplantation.

This report highlights the continued growth of treated kidney failure in Aotearoa New Zealand, particularly in patients utilising haemodialysis and in Māori and Pacific Peoples. Inequities between ethnicities in disease incidence, treatment and outcomes are described in more detail in chapter 11.

SUGGESTED CITATION

K Richards, C Davies, S Bateman, J Chen, P Clayton, D Forcey, F Kholmurodova, D Lee, K Marshall, H McCarthy, S McDonald, W Mulley, K Polkinghorne, M Roberts, B Solomon, G Irish.
48th Report, Chapter 9: Kidney Failure in Aotearoa New Zealand. Australia and New Zealand Dialysis and Transplant Registry, Adelaide, Australia. 2025. Available at: <http://www.anzdata.org.au>

KIDNEY REPLACEMENT THERAPY IN AOTEAROA NEW ZEALAND

INCIDENCE OF KIDNEY REPLACEMENT THERAPY (KRT)

In 2024, 760 adults and children started kidney replacement therapy (KRT) in Aotearoa New Zealand, equivalent to 142 per million of population (pmp) (Figure 9.1 and Table 9.1). The proportion of the Aotearoa New Zealand population commencing KRT is similar to that of Australia (142 versus 128 pmp in 2024).

Figure 9.1
Incidence of Kidney Replacement Therapy - Aotearoa New Zealand 1995-2024

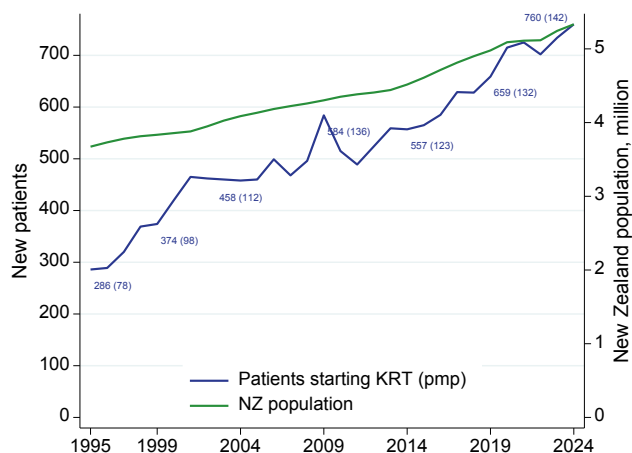
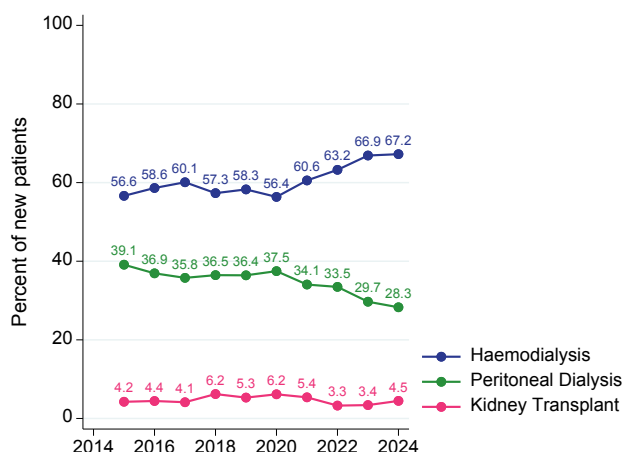


Table 9.1
Number (pmp) who Commenced Kidney Replacement Therapy in Aotearoa New Zealand, 2020-2024

	2020	2021	2022	2023	2024
Total	715 (140)	725 (142)	702 (137)	734 (140)	760 (142)
Pre-Emptive Transplant	44 (9)	39 (8)	23 (4)	25 (5)	34 (6)
Haemodialysis	403 (79)	439 (86)	444 (87)	491 (94)	511 (96)
Peritoneal Dialysis	268 (53)	247 (48)	235 (46)	218 (42)	215 (40)

Trends in the proportion of patients starting KRT by treatment modality are in Figure 9.2.

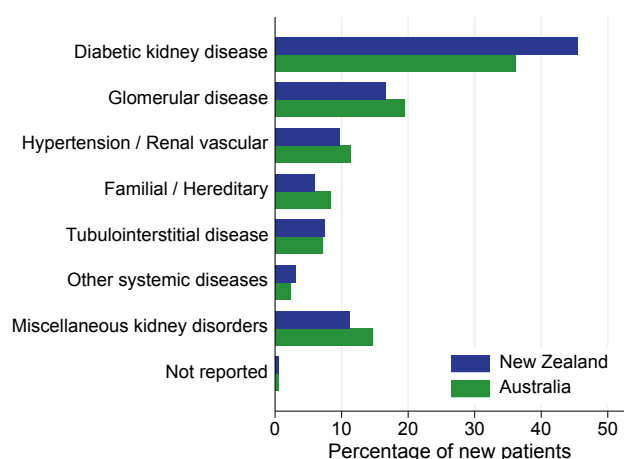
Figure 9.2
Trends in Modality at Start of Kidney Replacement Therapy - Aotearoa New Zealand 2015-2024



PRIMARY CAUSE OF KIDNEY DISEASE

Figure 9.3 shows the primary cause of kidney failure for all patients commencing KRT in 2024.

Figure 9.3
Primary Cause of Kidney Disease of New Patients Commencing Kidney Replacement Therapy, 2024

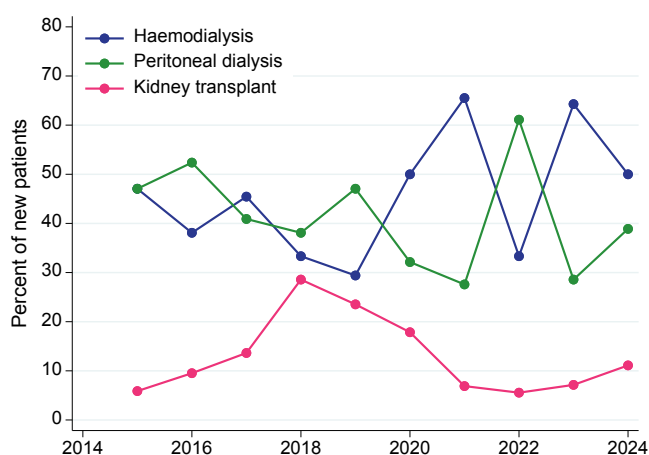


CHILDREN AND YOUNG ADULTS

In 2024, 18 patients in the 0-24 age group commenced kidney replacement therapy (11 pmp) in Aotearoa New Zealand. The incidence rate of KRT among young patients has ranged between 11 and 18 pmp from 2020-2024. The incidence rate of KRT is variable due to the low numbers of patients commencing KRT in this age group.

Of the 18 younger patients commencing KRT in Aotearoa New Zealand in 2024, 2 (11%) patients received a pre-emptive transplant, 7 (39%) patients commenced with peritoneal dialysis, and 9 (50%) patients commenced with haemodialysis (Figure 9.4).

Figure 9.4
Children and Young Adults (0-24 years) Commencing KRT - Aotearoa New Zealand 2015-2024



AGE

Kidney replacement therapy incidence rates vary widely by age group and modality (Figures 9.5 and 9.6).

In 2024, the highest incidence of kidney replacement therapy in Aotearoa New Zealand is among people in the 55-64 age group (335 pmp). Children, young adults, and adults 85 years and older have the lowest rates of kidney replacement therapy.

Figure 9.5
Incidence of Kidney Replacement Therapy by Age Group - Aotearoa New Zealand, 2015-2024

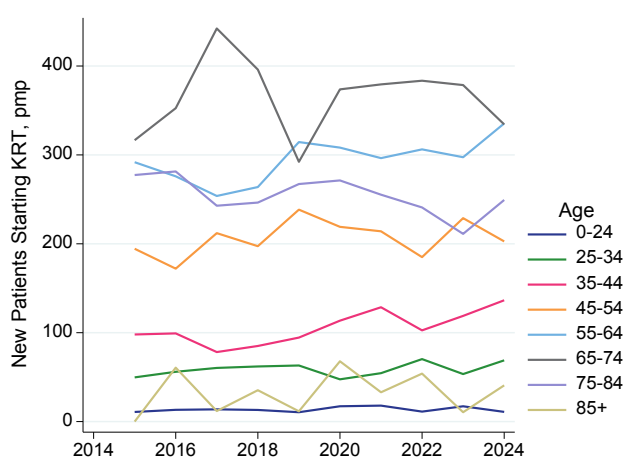


Figure 9.6
Incidence of KRT by Age Group and Modality - Per Million Population, Aotearoa New Zealand 2024

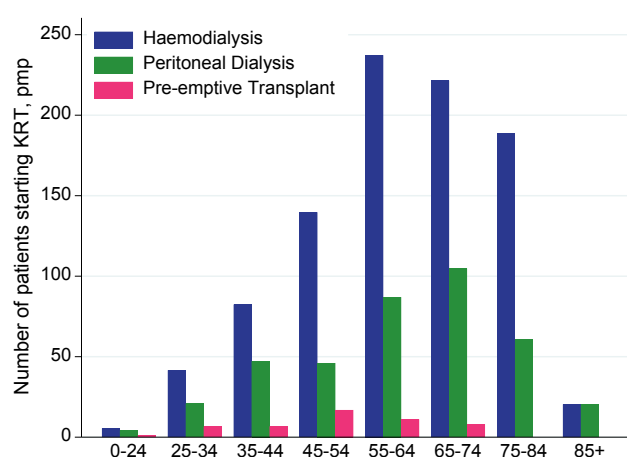
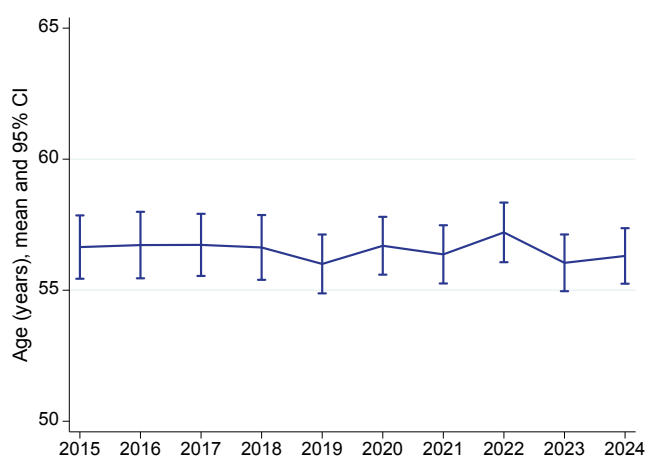


Figure 9.7 shows the mean age of incident kidney replacement therapy patients in Aotearoa New Zealand over the last 10 years.

Figure 9.7
Age of Incident Kidney Replacement Therapy Patients - Aotearoa New Zealand, 2015-2024



PREVALENCE OF KIDNEY REPLACEMENT THERAPY

There were 5747 people (1078 pmp) receiving KRT in Aotearoa New Zealand at the end of 2024 (Figures 9.8-9.9 and Table 9.2). Overall Aotearoa New Zealand has a higher prevalence (621 pmp) of patients on dialysis than patients with a kidney transplant (456 pmp).

Figure 9.8
Prevalence of Dialysis and Transplantation - Aotearoa New Zealand 1995-2024

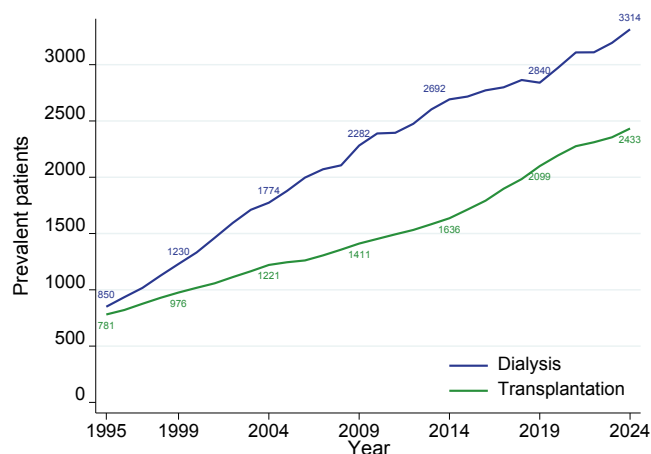
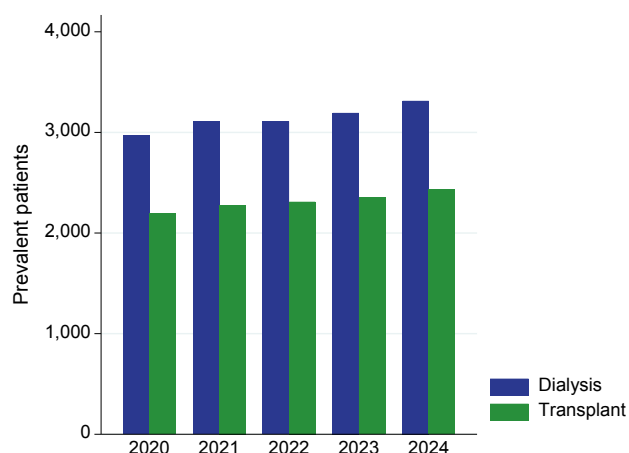


Table 9.2
Prevalence of Kidney Replacement Therapy (pmp) in Aotearoa New Zealand 2020-2024

	2020	2021	2022	2023	2024
Total	5164 (1014)	5385 (1054)	5421 (1059)	5549 (1058)	5747 (1078)
Transplant	2193 (431)	2276 (445)	2311 (452)	2355 (449)	2433 (456)
Dialysis	2971 (584)	3109 (608)	3110 (608)	3194 (609)	3314 (621)
% Dialysis	58%	58%	57%	58%	58%

Figure 9.9
Prevalence of Kidney Replacement Therapy - Aotearoa New Zealand 2020-2024



DIALYSIS

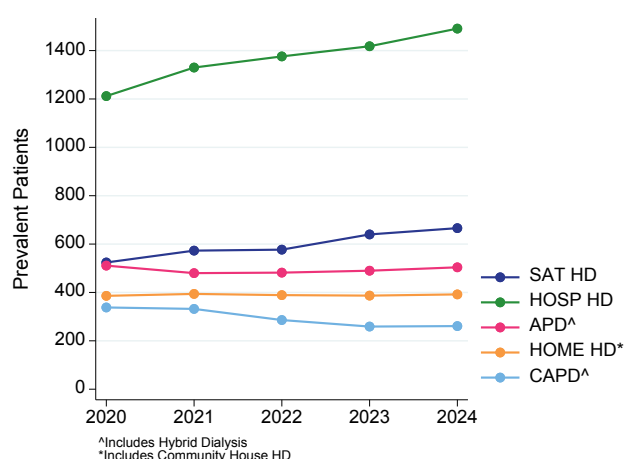
In 2024, 35% of the 3314 Aotearoa New Zealand dialysis patients had home-based dialysis (peritoneal dialysis, community house haemodialysis or home haemodialysis).

15% of the dialysis population were treated with automated peritoneal dialysis, 8% with continuous ambulatory peritoneal dialysis, and 12% with home haemodialysis.

Figure 9.10 shows trends in the method and location of dialysis in Aotearoa New Zealand over 2020-2024.

The Registry recognised that previous definitions for dialysis location did not accurately reflect the care delivery for all patients in Aotearoa New Zealand and in 2020 introduced new data definitions to capture patients receiving community-based therapy. Due to the small number of Community House Dialysis patients reported to the Registry in 2024 (45 patients across Aotearoa New Zealand) this data has been combined with Home Haemodialysis numbers for reporting purposes in this report.

Figure 9.10
Method and Location of Dialysis - Aotearoa New Zealand, 2020-2024

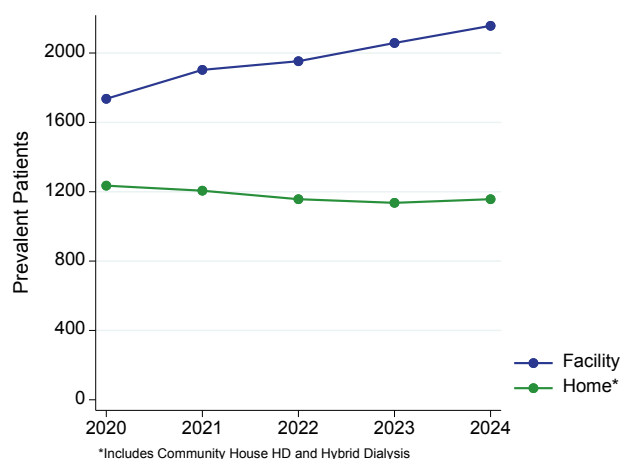


HD: Haemodialysis, SAT: Satellite, HOSP: Hospital, APD: Automated Peritoneal Dialysis, CAPD: Continuous Ambulatory Peritoneal Dialysis

65% of dialysis patients had haemodialysis in a satellite unit (20%) or a hospital unit (45%).

Figure 9.11 shows the home (including community house) and facility-based dialysis trends in Aotearoa New Zealand over 2020-2024.

Figure 9.11
Home and Facility Based Dialysis - Aotearoa New Zealand, 2020-2024

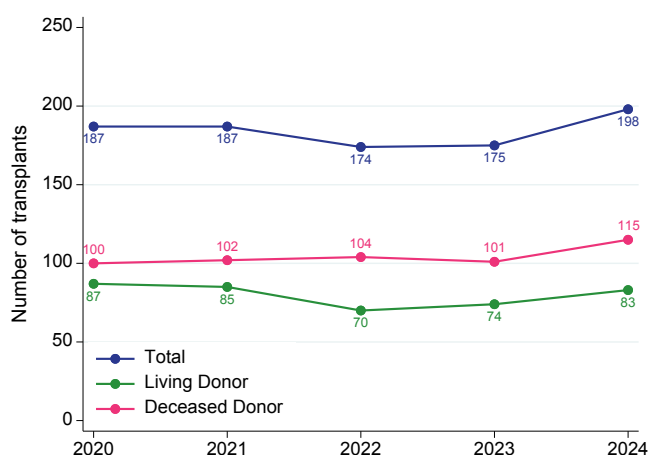


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TRANSPLANTATION

In 2024, 198 patients (37 pmp) received a kidney transplant (Figure 9.12).

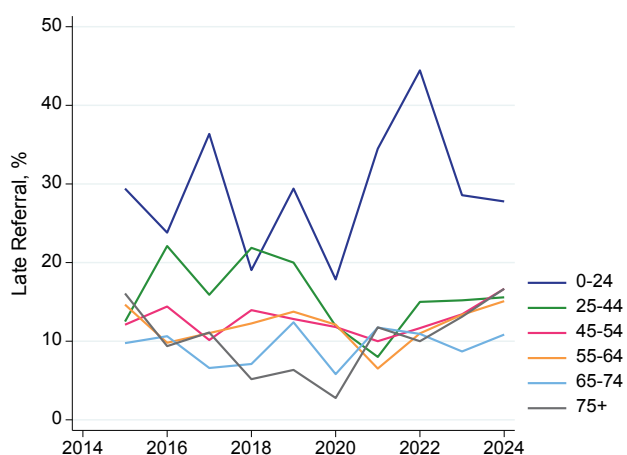
Figure 9.12
New Kidney Transplants in Aotearoa New Zealand 2020-2024



LATE REFERRAL TO NEPHROLOGY SERVICES

Figure 9.13 shows the rate of late referrals (defined as the first assessment by a specialist nephrologist within 3 months of commencing dialysis) in Aotearoa New Zealand over time by age group. Late referrals represented 15% of all patients who commenced kidney replacement therapy in 2024.

Figure 9.13
Late Referral Rates by Age Group - Aotearoa New Zealand 2015-2024



ETHNICITY AND KIDNEY REPLACEMENT THERAPY IN AOTEAROA NEW ZEALAND

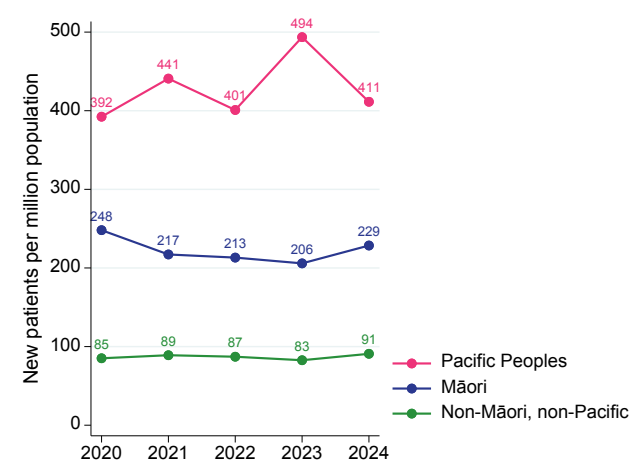
NEW PATIENTS

There are marked and persistent inequities in the incidence and prevalence of kidney failure and the kidney replacement therapies provided based on ethnicity in Aotearoa New Zealand.

The incidence of kidney replacement therapy is markedly higher among Pacific Peoples (411 pmp) and Māori (229 pmp) patients, compared with Non-Māori, non-Pacific patients (91 pmp) (Figure 9.14).

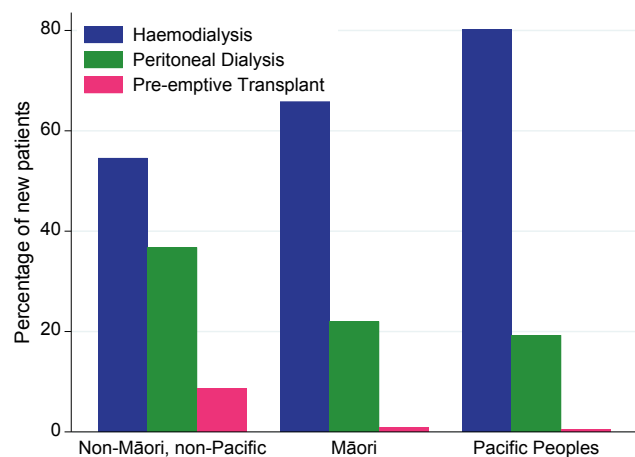
Please note that collection of ethnicity data in ANZDATA has evolved to align with the Australian Bureau of Statistics Australian Standard Classification of Cultural and Ethnic Groups² and data collection now allows a patient to nominate more than one ethnicity group. However, consultation regarding ethnicity data reporting is ongoing, and reporting guidelines are not finalised at publication. As a result, ethnicity data throughout this report includes only the first nominated ethnicity category entered for each patient. Future reporting will aim to report more accurately on patients with more than one ethnicity.

Figure 9.14
Incidence of KRT by Ethnicity - Aotearoa New Zealand 2020-2024



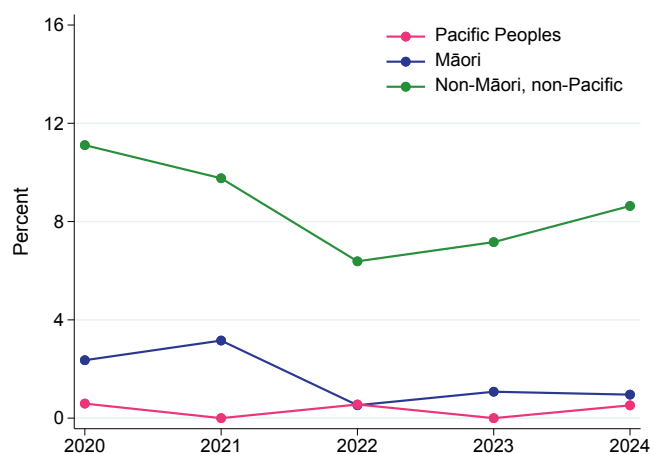
The initial therapy for patients starting KRT by ethnicity is in Figure 9.15. Overall, 9% of non-Māori and non-Pacific patients had a pre-emptive kidney transplant, while 1% of incident Māori patients received pre-emptive kidney transplants and 1% of Pacific Peoples patients.

Figure 9.15
Incidence of KRT by Ethnicity and Modality - Aotearoa New Zealand 2024



The percentage of pre-emptive kidney transplants has continued to be markedly lower among Māori and Pacific Peoples patients compared to non-Māori and non-Pacific patients (Figure 9.16).

Figure 9.16
Percentage of Patients Starting KRT with Pre-emptive Kidney Transplant - Aotearoa New Zealand



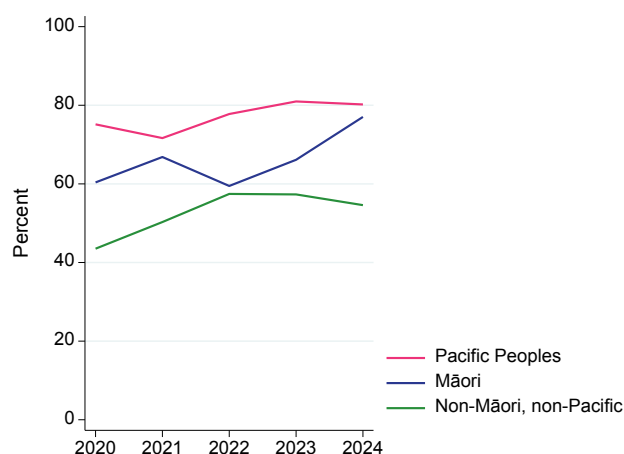
A total of 209 patients identifying as Māori, and 192 patients identifying as Pacific Peoples, commenced treatment for kidney failure in 2024, representing 28% and 25%, respectively, of all patients starting kidney replacement therapy. This inequity in the incidence of kidney failure treated with kidney replacement therapy in Māori and Pacific Peoples is persistent. The rate of haemodialysis commencement for non-Māori and non-Pacific patients was 4-fold lower than for Māori and 7-fold lower than for Pacific Peoples. Māori and Pacific Peoples were more likely to commence haemodialysis (HD) than peritoneal dialysis (PD) compared with non-Māori and non-Pacific patients (Figure 9.17). Only 2 Māori and 1 Pacific Peoples patients had a pre-emptive kidney transplant in 2024. In the last 5 years, 16 Māori and 3 Pacific Peoples patients have received a pre-emptive kidney transplant compared with 144 non-Māori and non-Pacific patients (a 9-fold difference for Māori and 48-fold difference for Pacific Peoples).

Table 9.3
New Patients (pmp) Aotearoa New Zealand 2020-2024

Year	Modality	Non-Māori, non-Pacific	Māori	Pacific Peoples	Total
2020	Haemodialysis	141 (37)	128 (150)	127 (295)	396 (78)
	Peritoneal Dialysis	147 (39)	79 (92)	41 (95)	267 (52)
	Pre-emptive Transplant	36 (9)	5 (6)	1 (2)	42 (8)
2021	Haemodialysis	170 (45)	127 (145)	139 (316)	436 (85)
	Peritoneal Dialysis	135 (36)	57 (65)	55 (125)	247 (48)
	Pre-emptive Transplant	33 (9)	6 (7)	0 (0)	39 (8)
2022	Haemodialysis	189 (50)	113 (127)	140 (312)	442 (86)
	Peritoneal Dialysis	119 (32)	76 (85)	39 (87)	234 (46)
	Pre-emptive Transplant	21 (6)	1 (1)	1 (2)	23 (4)
2023	Haemodialysis	184 (47)	123 (136)	183 (400)	490 (93)
	Peritoneal Dialysis	114 (29)	61 (68)	43 (94)	218 (42)
	Pre-emptive Transplant	23 (6)	2 (2)	0 (0)	25 (5)
2024	Haemodialysis	196 (50)	161 (176)	154 (330)	511 (96)
	Peritoneal Dialysis	132 (33)	46 (50)	37 (79)	215 (40)
	Pre-emptive Transplant	31 (8)	2 (2)	1 (2)	34 (6)

17 excluded due to unreported ethnicity.

Figure 9.17
Percentage of New Patients Commencing on Haemodialysis - Aotearoa New Zealand



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PRIMARY KIDNEY DISEASE

The primary kidney diseases of incident patients in Aotearoa New Zealand during 2020-2024 are in Table 9.4. Māori and Pacific Peoples have a substantially higher rate of diabetic kidney disease than non-Māori, non-Pacific patients.

Table 9.4
Primary Kidney Disease of New Patients in Aotearoa New Zealand 2020-2024

Primary Kidney Disease	Non-Māori, non-Pacific	Māori	Pacific Peoples
Diabetic kidney disease	482 (29%)	640 (65%)	642 (67%)
Glomerular disease	418 (25%)	119 (12%)	148 (15%)
Hypertension / Renal vascular disease	225 (13%)	70 (7%)	52 (5%)
Familial / hereditary kidney diseases	174 (10%)	23 (2%)	11 (1%)
Tubulointerstitial disease	159 (10%)	55 (6%)	32 (3%)
Other systemic diseases affecting the kidney	57 (3%)	12 (1%)	11 (1%)
Miscellaneous kidney disorders	155 (9%)	65 (7%)	61 (6%)
Not reported	1 (<1%)	3 (<1%)	4 (<1%)
Total	1671	987	961

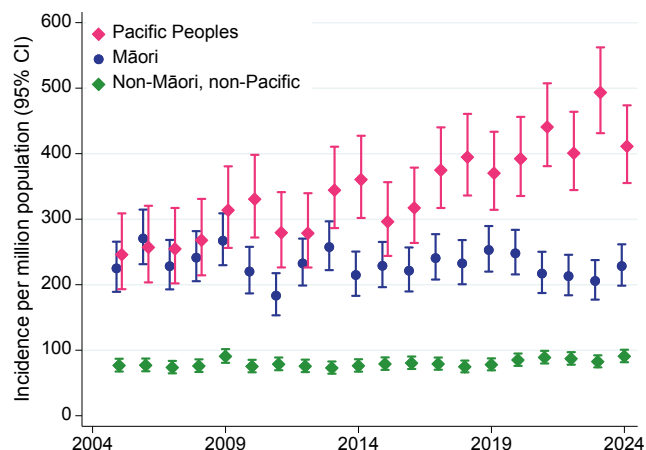
17 excluded due to unreported ethnicity.

INCIDENCE RATES

Overall, the incidence rates of kidney failure for Māori and Pacific Peoples patients are markedly and persistently higher than those for non-Māori and non-Pacific patients. This inequity is likely confounded and underestimated by the age distributions of each population with Māori and Pacific Peoples populations being considerably younger. Over the last ten years the incidence rates for Pacific Peoples and Māori patients have diverged due to an increase in the incidence in Pacific Peoples patients, but not in Māori patients.

The incidence rates for KRT by ethnicity are in Figure 9.18. The relative rate differs with age, see Figure 9.19.

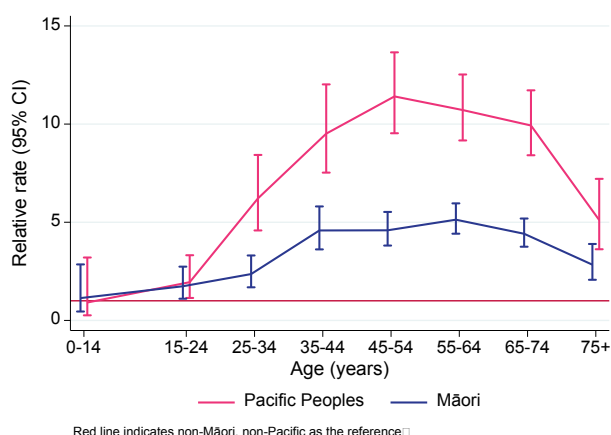
Figure 9.18
Unadjusted Incident KRT Rate - Aotearoa New Zealand



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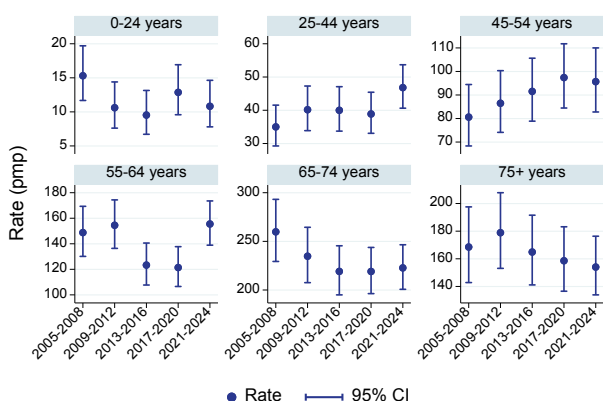
Among Māori and Pacific Peoples peoples, inequities in the incidence of kidney failure occur as early as ages 15 to 24 years and are evident across all age groups (Figure 9.19).

Figure 9.19
Relative Incidence Rate of Treated Kidney Failure for Māori and Pacific Peoples Patients, compared with non-Māori, non-Pacific patients - Aotearoa New Zealand 2020-2024



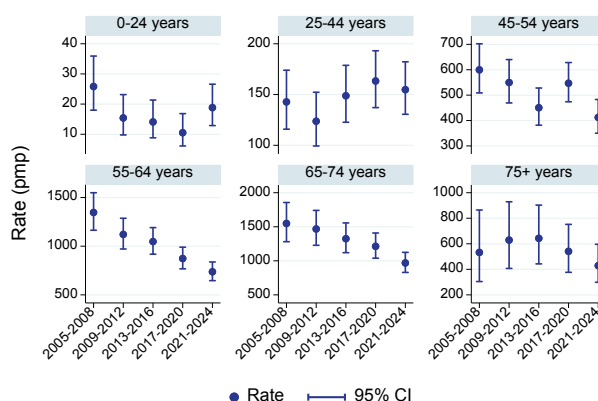
Age specific trends in kidney replacement therapy are shown in Figures 9.20.1-9.20.3, by patient ethnicity; note that the Y axis scales vary.

Figure 9.20.1
Age-specific Incidence Rates of Treated Kidney Failure - Non-Māori, non-Pacific, Aotearoa New Zealand



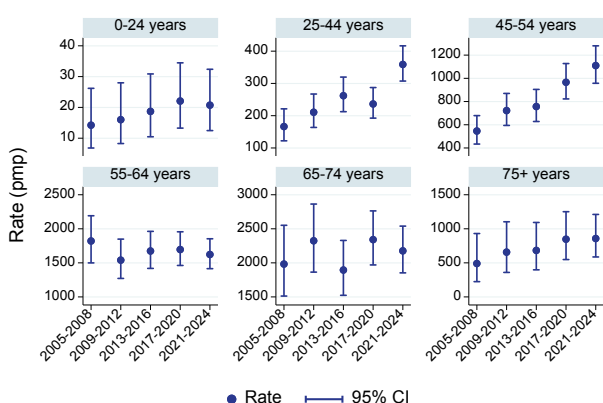
Note the Y axis scales vary between panels

Figure 9.20.2
Age-specific Incidence Rates of Treated Kidney Failure - Māori, Aotearoa New Zealand



Note the Y axis scales vary between panels

Figure 9.20.3
Age-specific Incidence Rates of Treated Kidney Failure - Pacific Peoples, Aotearoa New Zealand



Note the Y axis scales vary between panels

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PREVALENT PATIENTS

The number of prevalent patients with treated kidney failure by treatment modality and ethnicity is in Table 9.5 and Figure 9.21. The proportion of patients undergoing haemodialysis at home in each ethnic group is in Figure 9.22.

Table 9.5
Prevalent Patients by Ethnicity and Treatment Modality Aotearoa New Zealand 2020-2024

Year	Modality	Non-Māori, non-Pacific	Māori	Pacific Peoples
2020	HD	684 (24%)	707 (57%)	724 (65%)
	% HD at home*	24%	18%	13%
	PD^	425 (15%)	254 (21%)	164 (15%)
	Transplant	1696 (60%)	270 (22%)	221 (20%)
2021	HD	760 (26%)	750 (60%)	780 (66%)
	% HD at home*	22%	16%	13%
	PD^	416 (14%)	225 (18%)	166 (14%)
	Transplant	1741 (60%)	285 (23%)	243 (20%)
2022	HD	800 (27%)	717 (58%)	818 (67%)
	% HD at home*	21%	16%	13%
	PD^	391 (13%)	217 (18%)	154 (13%)
	Transplant	1762 (60%)	299 (24%)	244 (20%)
2023	HD	853 (28%)	714 (58%)	872 (68%)
	% HD at home*	20%	15%	12%
	PD^	381 (13%)	205 (17%)	158 (12%)
	Transplant	1784 (59%)	311 (25%)	252 (20%)
2024	HD	898 (29%)	730 (58%)	917 (68%)
	% HD at home*	19%	15%	13%
	PD^	405 (13%)	208 (16%)	147 (11%)
	Transplant	1821 (58%)	326 (26%)	277 (21%)

*Includes Community House HD

^Includes Hybrid Dialysis

94 excluded due to unreported ethnicity.

Figure 9.21.1
Prevalent Patients by Modality -
Aotearoa New Zealand - Māori

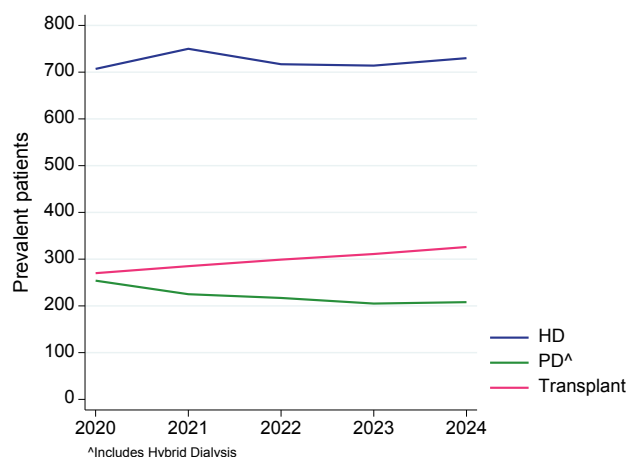


Figure 9.21.2
Prevalent Patients by Modality -
Aotearoa New Zealand - Pacific Peoples

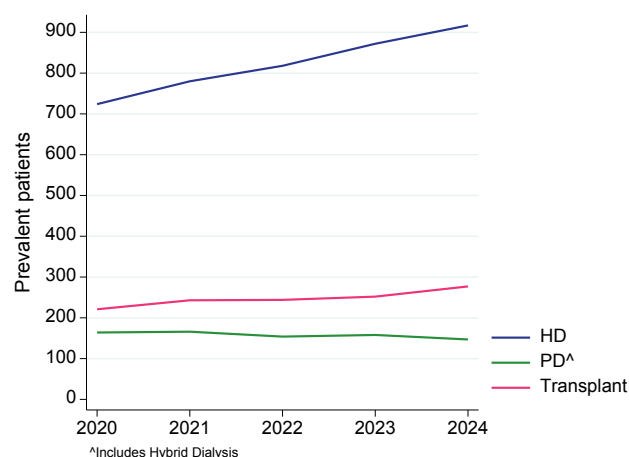


Figure 9.21.3
Prevalent Patients by Modality -
Aotearoa New Zealand - Non-Māori, non-Pacific

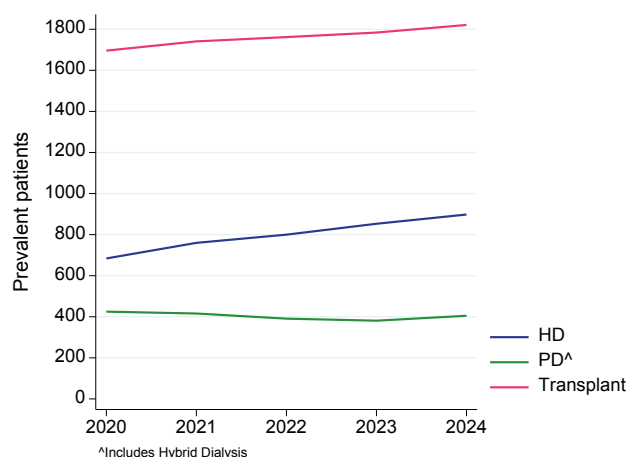
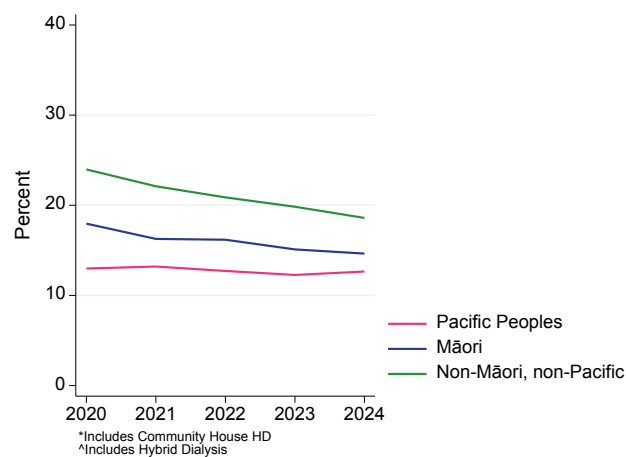


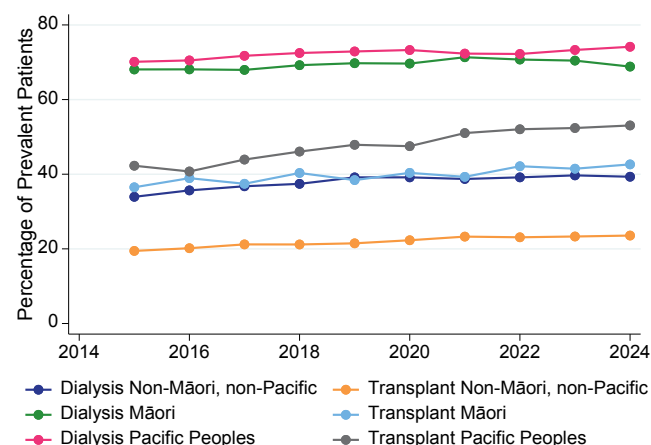
Figure 9.22
Prevalent Haemodialysis at Home* (% of all HD^)
by Ethnicity - Aotearoa New Zealand



DIABETES

The percentage of prevalent KRT patients with diabetes as a comorbidity is shown in Figure 9.23 by ethnicity and treatment modality.

Figure 9.23
Diabetes as a Comorbidity in Prevalent Patients -
Aotearoa New Zealand, 2015-2024



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INCIDENCE AND PREVALENCE PER POPULATION

Figures 9.24 to 9.29 show trends in the incidence and prevalence of kidney failure treatment overall and by modality. Of note is the increasing prevalence of transplantation amongst Māori and Pacific Peoples patients (Figure 9.28). Figure 9.29 shows mortality by ethnicity.

Figure 9.24
Incidence of New Patients - Aotearoa New Zealand

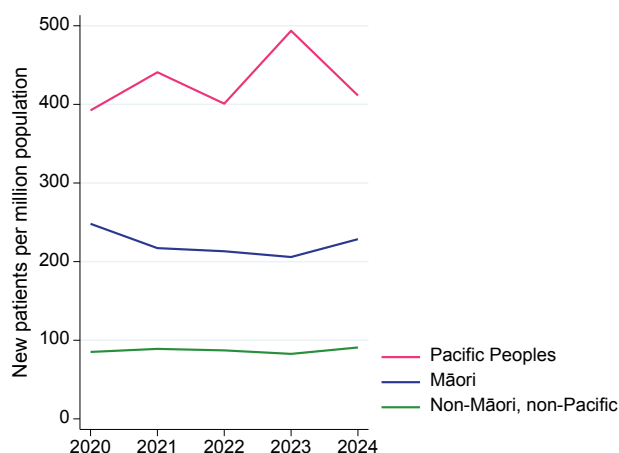


Figure 9.25
Incidence of New Transplants - Aotearoa New Zealand

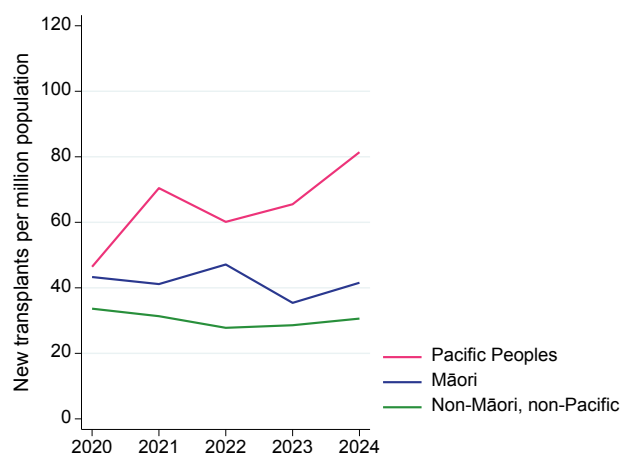


Figure 9.26
Prevalent Haemodialysis[^] Patients - Aotearoa New Zealand

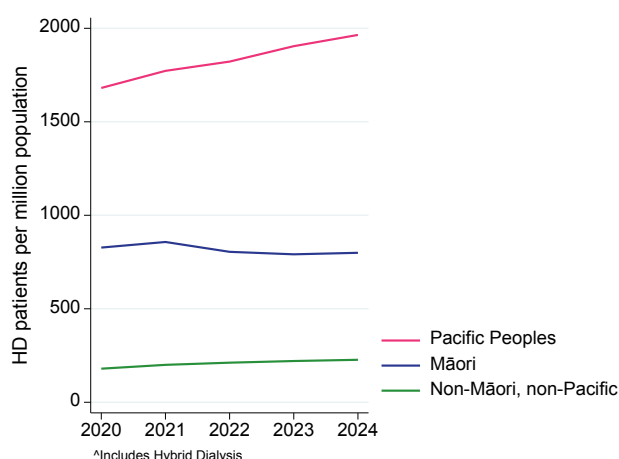


Figure 9.27
Prevalent Peritoneal Dialysis[^] Patients - Aotearoa New Zealand

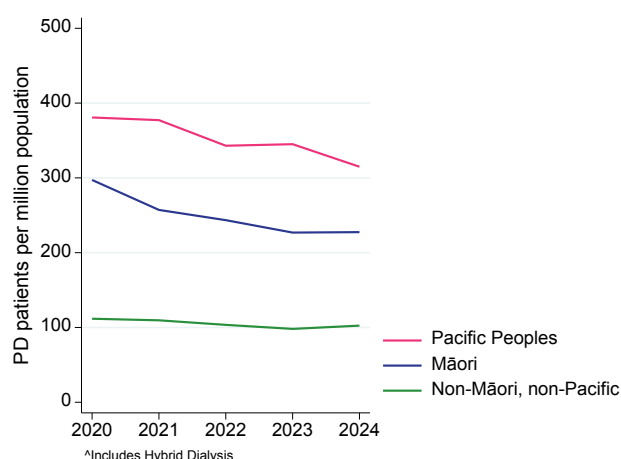


Figure 9.28
Prevalent Transplant Patients - Aotearoa New Zealand

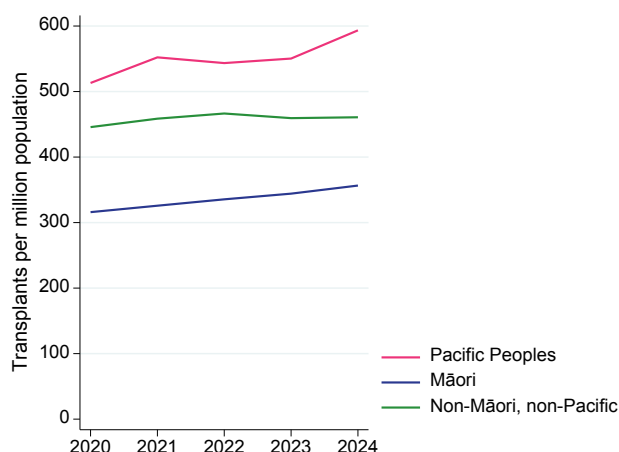
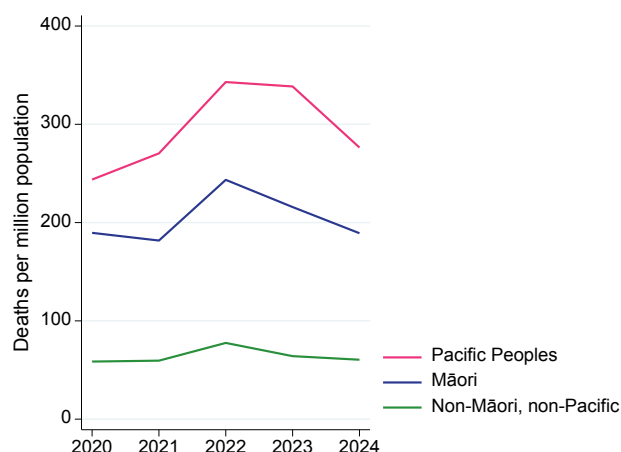


Figure 9.29
Deaths of KRT Patients - Aotearoa New Zealand



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TRANSPLANTATION

In Aotearoa New Zealand, the proportion of Māori and Pacific Peoples patients who receive a kidney transplant is very low. However, the transplant rate per million population is high due to the prevalence of kidney failure in these populations (Table 9.6). Information on the donor source is in Figure 9.30 and trends are in Figure 9.31 (note that the Y axis scales vary).

Table 9.6
Number of Transplant Recipients (pmp) by Donor Type and Ethnicity Aotearoa New Zealand 2015-2024

Year	Donor Type	Non-Māori, non-Pacific	Māori	Pacific Peoples
2015	Deceased Donor	44 (13)	13 (17)	16 (42)
	Living Donor	54 (16)	15 (20)	5 (13)
	Total	98 (28)	28 (36)	21 (56)
2016	Deceased Donor	58 (16)	13 (17)	19 (49)
	Living Donor	56 (16)	13 (17)	13 (34)
	Total	114 (32)	26 (33)	32 (83)
2017	Deceased Donor	69 (19)	17 (21)	32 (81)
	Living Donor	52 (14)	6 (7)	11 (28)
	Total	121 (33)	23 (29)	43 (108)
2018	Deceased Donor	63 (17)	17 (21)	18 (44)
	Living Donor	61 (17)	14 (17)	9 (22)
	Total	124 (34)	31 (38)	27 (66)
2019	Deceased Donor	83 (22)	24 (29)	23 (55)
	Living Donor	73 (20)	11 (13)	7 (17)
	Total	156 (42)	35 (42)	30 (72)
2020	Deceased Donor	60 (16)	23 (27)	17 (39)
	Living Donor	68 (18)	14 (16)	3 (7)
	Total	128 (34)	37 (43)	20 (46)
2021	Deceased Donor	55 (14)	22 (25)	24 (55)
	Living Donor	64 (17)	14 (16)	7 (16)
	Total	119 (31)	36 (41)	31 (70)
2022	Deceased Donor	52 (14)	29 (33)	23 (51)
	Living Donor	53 (14)	13 (15)	4 (9)
	Total	105 (28)	42 (47)	27 (60)
2023	Deceased Donor	58 (15)	19 (21)	22 (48)
	Living Donor	53 (14)	13 (14)	8 (17)
	Total	111 (29)	32 (35)	30 (66)
2024	Deceased Donor	60 (15)	25 (27)	29 (62)
	Living Donor	61 (15)	13 (14)	9 (19)
	Total	121 (31)	38 (42)	38 (81)

6 excluded due to unreported ethnicity.

Figure 9.30
Donor Type by Ethnicity - Aotearoa New Zealand 2015-2024

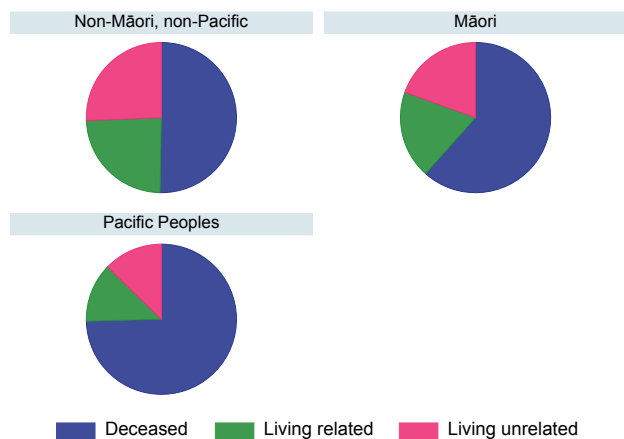


Figure 9.31
Donor Type by Ethnicity and Year - Aotearoa New Zealand

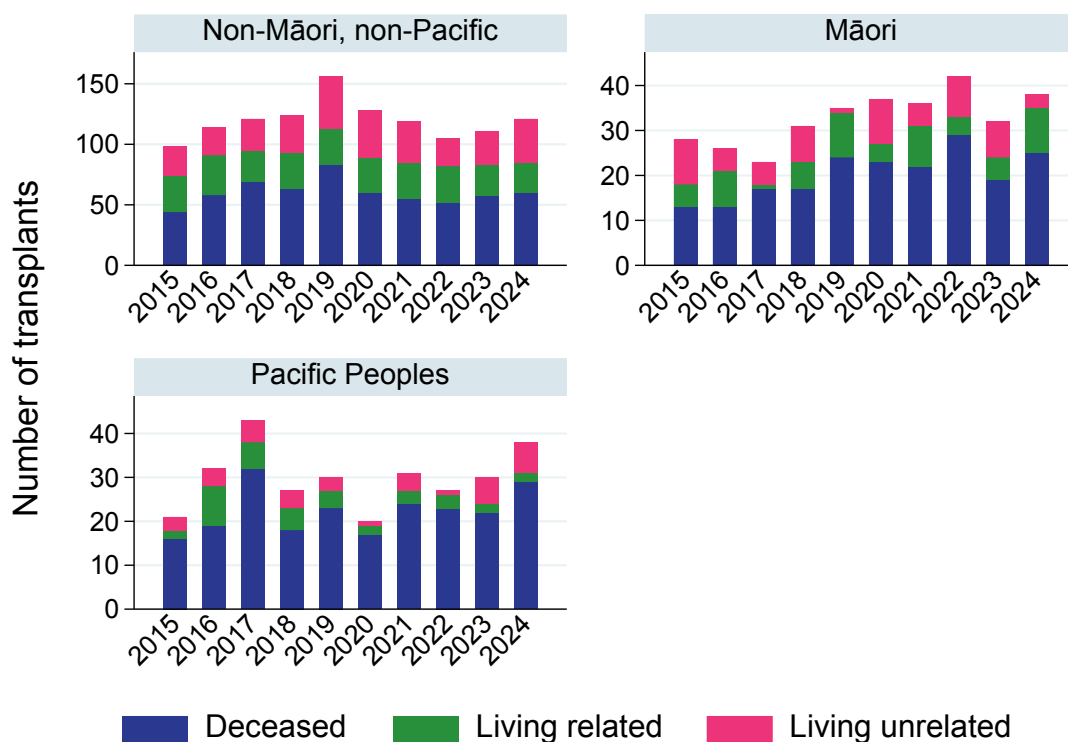


Figure 9.32 shows the cumulative incidence curve of primary transplant after starting KRT (utilising competing risk techniques to account for the effect of the competing risk of death). Figure 9.33 shows the cumulative incidence curves of primary transplant after starting KRT by era.

Figure 9.32
Time to Primary Transplant from KRT Start - Aotearoa New Zealand
Incident KRT Patients 2015-2024

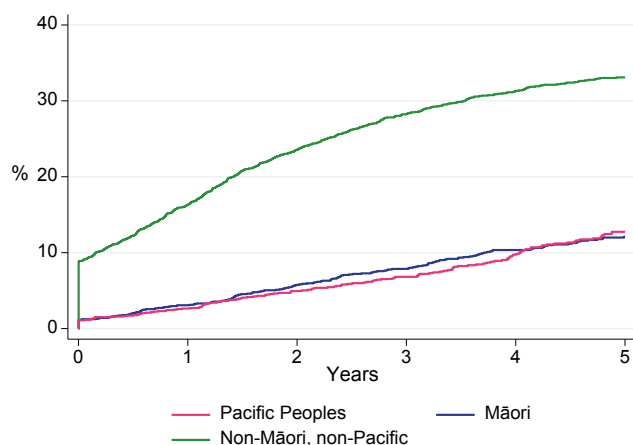
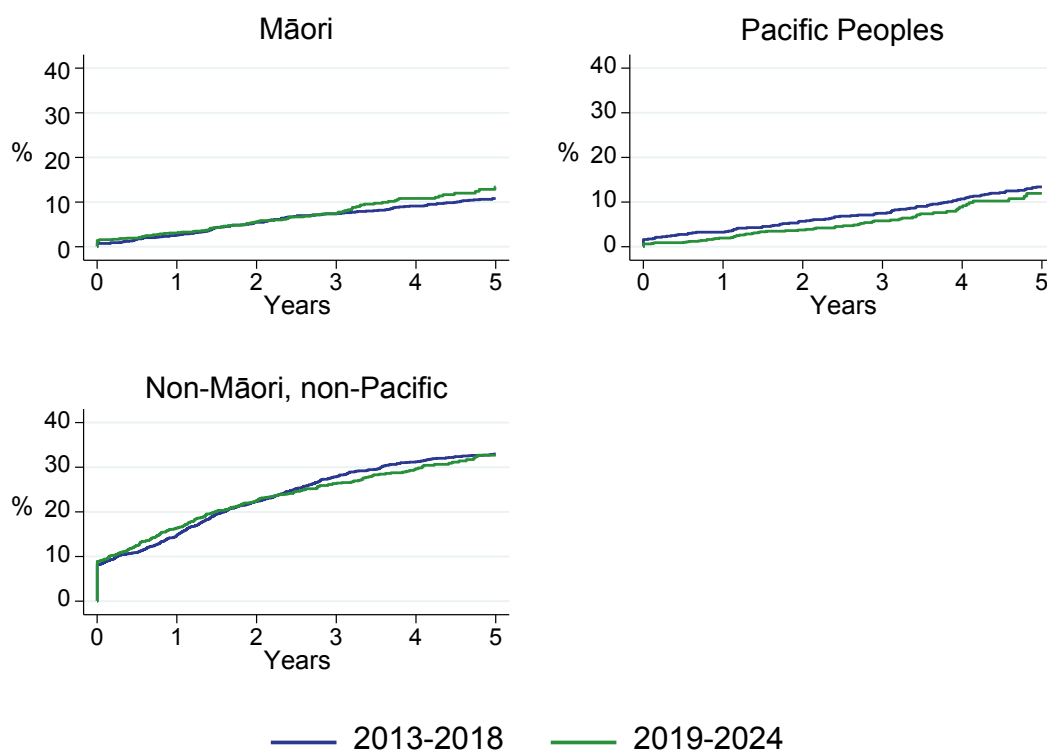


Figure 9.33
Time to Primary Transplant from KRT Start by Era - Aotearoa New Zealand Incident KRT Patients

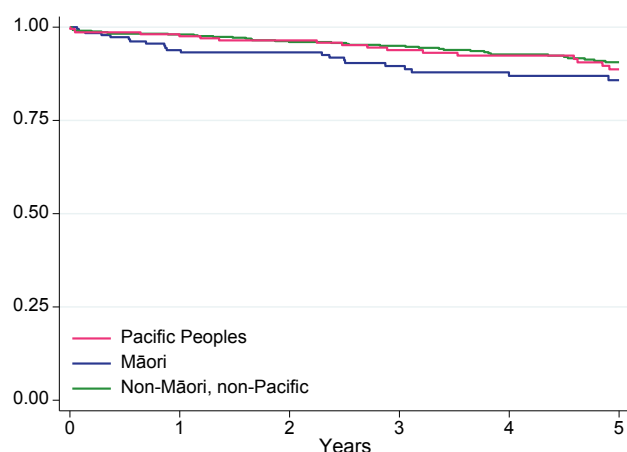


TRANSPLANT SURVIVAL

Graft and patient survival for kidney transplant recipients in Aotearoa New Zealand, calculated by the Kaplan-Meier method, are shown in Figures 9.34-9.35.

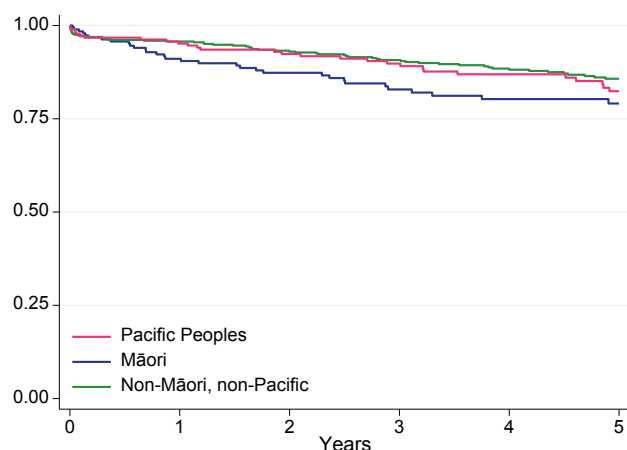
There is a small difference in patient survival after kidney transplantation from a deceased donor between Māori and non-Māori, non-Pacific recipients, which is apparent from 6 months after transplantation. At 5 years post-transplant, 86% of Māori recipients, 89% of Pacific Peoples recipients, and 91% of non-Māori, non-Pacific recipients were alive 5 years after kidney transplantation from a deceased donor (Figure 9.34).

Figure 9.34
Patient Survival, Recipients of Primary Deceased Donor Grafts - Aotearoa New Zealand 2015-2024



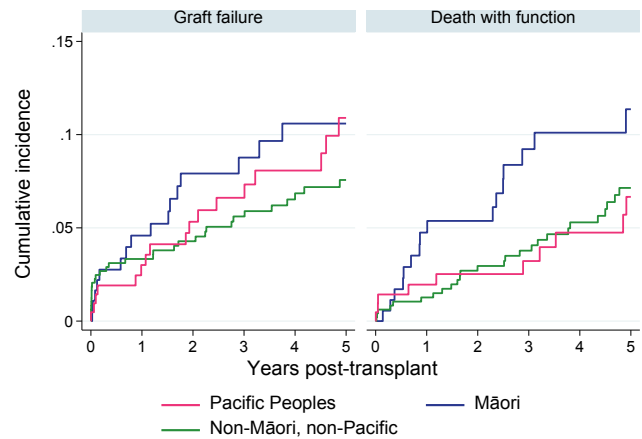
Over the first 5 years after a kidney transplant from a deceased donor, some kidney transplants are lost, either through the transplant failing or the patient dying with a functioning kidney. Over time, there are increasing proportions of Māori and Pacific Peoples recipients who experienced graft loss compared with non-Māori, non-Pacific persons. The proportion of functioning kidney transplants at 5 years post-transplant was 79% for Māori and 82% for Pacific Peoples recipients, compared with 86% for non-Māori, non-Pacific persons (Figure 9.35).

Figure 9.35
Graft Survival, Recipients of Primary Deceased Donor Grafts - Aotearoa New Zealand 2015-2024



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 transplant outcomes by ethnicity in Figure 9.36.

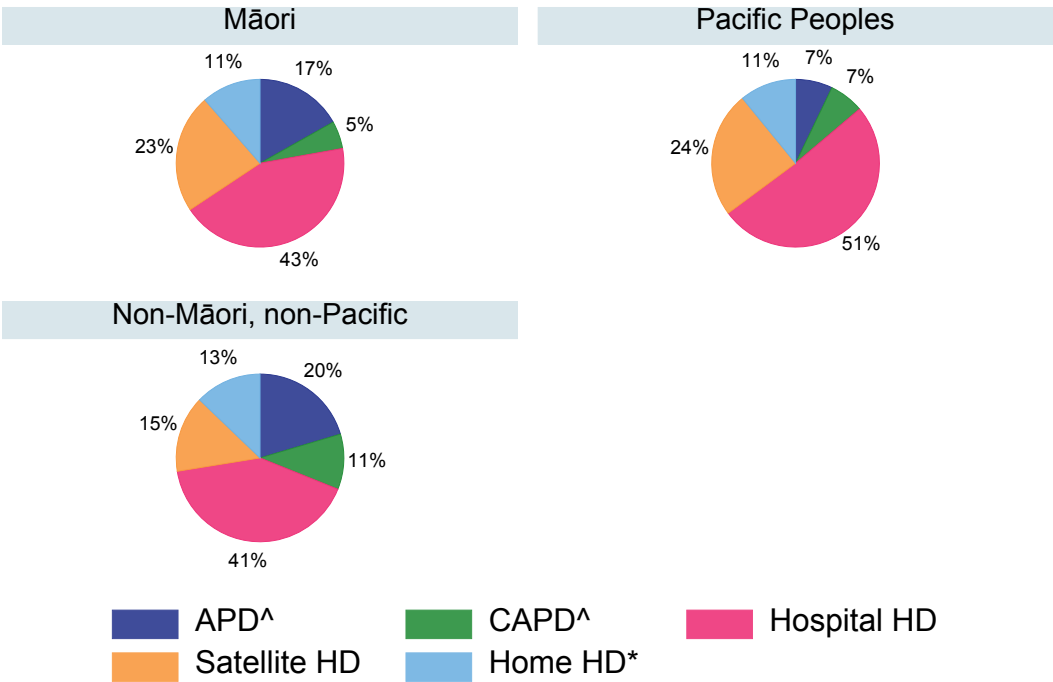
Figure 9.36
Transplant Outcomes, Aotearoa New Zealand - Primary Deceased Donor Kidney-only Transplants 2015-2024



DIALYSIS

The distribution of dialysis modality is shown graphically in Figure 9.37. Māori and Pacific Peoples patients have higher use of facility dialysis as the principal modality of care and lower use of the home-based modalities.

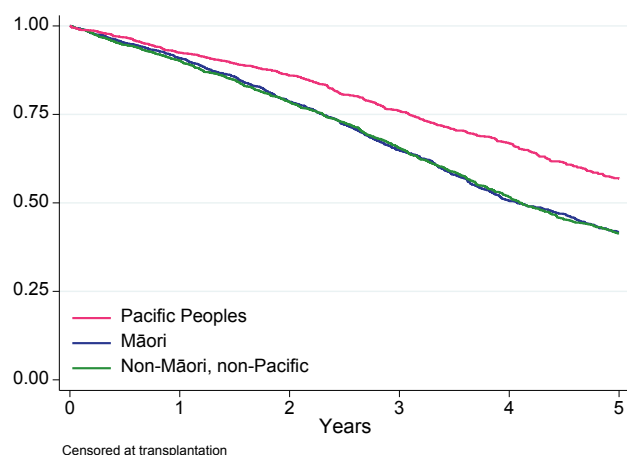
Figure 9.37
Dialysis Modality End 2024 - Aotearoa New Zealand, by Ethnicity



^Includes Hybrid Dialysis
*Includes Community House HD

Half of the people who started dialysis over 2015-2024 were alive 5 years later (Figure 9.38). Non-Māori non-Pacific and Māori patients experienced similar survival over 5 years after starting dialysis, with Pacific Peoples patients having better survival. Observed differences in survival between populations may reflect different age distributions and access to competing treatments (transplantation), which may have impacted mortality estimates.

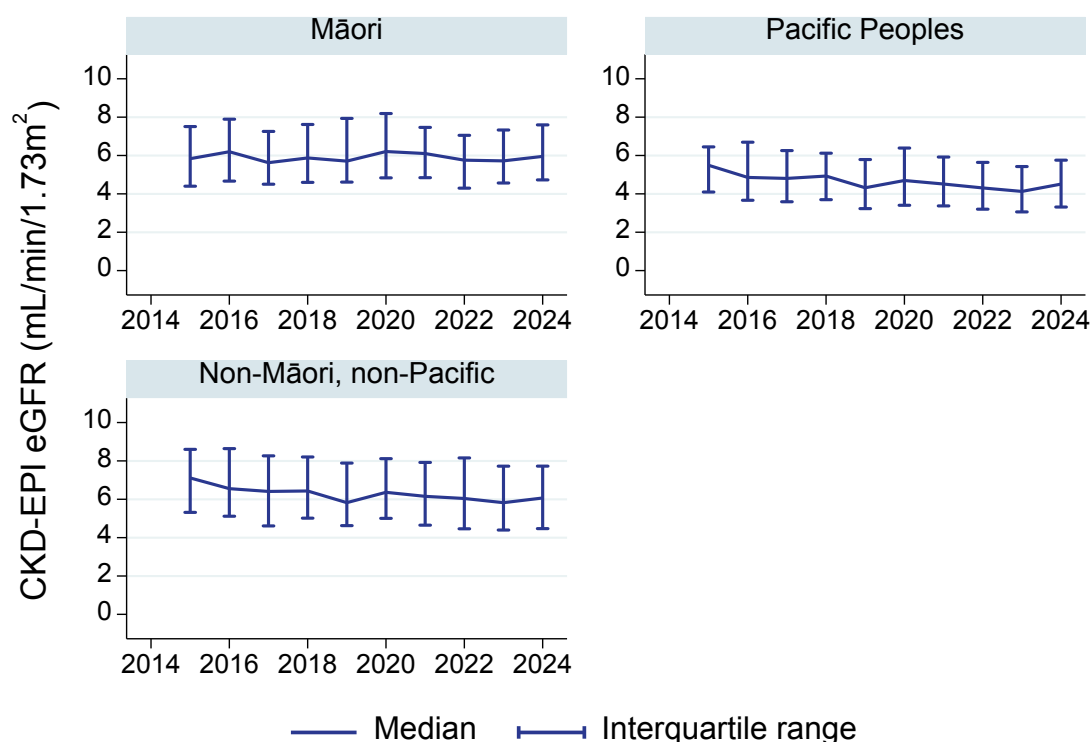
Figure 9.38
Patient Survival, Incident Dialysis Patients - Aotearoa New Zealand 2015-2024



TIMING OF DIALYSIS INITIATION

The level of kidney function at which dialysis is commenced (based on estimated Glomerular Filtration Rate (eGFR)) is shown in Figure 9.39 by patient ethnicity.

Figure 9.39
eGFR at Dialysis Initiation - Aotearoa New Zealand



VASCULAR ACCESS

Incident Vascular Access

Incident vascular access data by patient ethnicity are documented in Table 9.7, and prevalent data in Table 9.8.

Table 9.7
Incident Vascular Access Aotearoa New Zealand 2020-2024

Year	Vascular access	Non-Māori, non-Pacific	Māori	Pacific Peoples
2020	AVF	32 (23%)	22 (17%)	32 (25%)
	AVG	0 (0%)	0 (0%)	0 (0%)
	CVC	107 (76%)	106 (83%)	95 (75%)
	Not reported	2 (1%)	0 (0%)	0 (0%)
2021	AVF	42 (25%)	22 (17%)	31 (22%)
	AVG	1 (1%)	0 (0%)	0 (0%)
	CVC	126 (74%)	105 (83%)	104 (75%)
	Not reported	1 (1%)	0 (0%)	4 (3%)
2022	AVF	42 (22%)	17 (15%)	26 (19%)
	AVG	1 (1%)	0 (0%)	0 (0%)
	CVC	145 (77%)	95 (84%)	114 (81%)
	Not reported	1 (1%)	1 (1%)	0 (0%)
2023	AVF	24 (13%)	14 (11%)	30 (16%)
	AVG	2 (1%)	1 (1%)	0 (0%)
	CVC	158 (86%)	108 (88%)	153 (84%)
	Not reported	0 (0%)	0 (0%)	0 (0%)
2024	AVF	42 (21%)	24 (15%)	19 (12%)
	AVG	0 (0%)	0 (0%)	1 (1%)
	CVC	154 (79%)	137 (85%)	134 (87%)
	Not reported	0 (0%)	0 (0%)	0 (0%)

AVF: Arteriovenous Fistula, AVG: Arteriovenous Graft, CVC: Central Venous Catheter
13 excluded due to unreported ethnicity.

Prevalent Vascular Access

Vascular access for prevalent haemodialysis patients are shown in Table 9.8 by patient ethnicity.

Table 9.8
Prevalent Vascular Access[^] Aotearoa New Zealand 2020-2024

Year	Vascular access	Non-Māori, non-Pacific	Māori	Pacific Peoples
2020	AVF	379 (55%)	412 (58%)	436 (60%)
	AVG	11 (2%)	17 (2%)	13 (2%)
	CVC	267 (39%)	251 (36%)	262 (36%)
	Not reported	27 (4%)	27 (4%)	13 (2%)
2021	AVF	392 (52%)	450 (60%)	439 (56%)
	AVG	11 (1%)	11 (1%)	10 (1%)
	CVC	320 (42%)	267 (36%)	309 (40%)
	Not reported	37 (5%)	22 (3%)	22 (3%)
2022	AVF	383 (48%)	397 (55%)	433 (53%)
	AVG	17 (2%)	8 (1%)	9 (1%)
	CVC	357 (45%)	285 (40%)	353 (43%)
	Not reported	43 (5%)	27 (4%)	23 (3%)
2023	AVF	378 (44%)	373 (52%)	447 (51%)
	AVG	18 (2%)	8 (1%)	15 (2%)
	CVC	424 (49%)	319 (45%)	395 (45%)
	Not reported	37 (4%)	15 (2%)	15 (2%)
2024	AVF	399 (44%)	400 (55%)	444 (48%)
	AVG	15 (2%)	8 (1%)	11 (1%)
	CVC	438 (49%)	301 (41%)	443 (48%)
	Not reported	46 (5%)	22 (3%)	19 (2%)

[^]Includes Hybrid Dialysis

31 excluded due to unreported ethnicity.

PATIENT FLOW

Table 9.9 shows the overall patient flow in Aotearoa New Zealand by ethnicity. Notably, mortality for Māori and Pacific Peoples patients is 3 to 5-fold higher per million of the population than that of non-Māori, non-Pacific patients.

Table 9.9
Patient Flow (pmp) Aotearoa New Zealand 2020-2024

Year	Event	Non-Māori, non-Pacific	Māori	Pacific Peoples
2020	New patients	324 (85)	212 (248)	169 (392)
	New transplants	127 (33)	37 (43)	20 (46)
	Pre-emptive transplants	36 (9)	5 (6)	1 (2)
	Prevalent dialysis	1109 (291)	961 (1125)	888 (2062)
	Prevalent transplants	1696 (446)	270 (316)	221 (513)
	Total prevalence	2805 (737)	1231 (1441)	1109 (2575)
	Deaths	219 (58)	161 (188)	105 (244)
2021	New patients	338 (89)	190 (217)	194 (441)
	New transplants	119 (31)	36 (41)	31 (70)
	Pre-emptive transplants	33 (9)	6 (7)	0 (0)
	Prevalent dialysis	1176 (310)	975 (1114)	946 (2150)
	Prevalent transplants	1741 (459)	285 (326)	243 (552)
	Total prevalence	2917 (768)	1260 (1440)	1189 (2702)
	Deaths	218 (57)	157 (179)	119 (270)
2022	New patients	329 (87)	190 (213)	180 (401)
	New transplants	105 (28)	42 (47)	27 (60)
	Pre-emptive transplants	21 (6)	1 (1)	1 (2)
	Prevalent dialysis	1191 (315)	934 (1048)	972 (2165)
	Prevalent transplants	1762 (467)	299 (336)	244 (543)
	Total prevalence	2953 (782)	1233 (1384)	1216 (2708)
	Deaths	289 (77)	215 (241)	154 (343)
2023	New patients	321 (83)	186 (206)	226 (494)
	New transplants	111 (29)	32 (35)	30 (66)
	Pre-emptive transplants	23 (6)	2 (2)	0 (0)
	Prevalent dialysis	1234 (318)	919 (1017)	1030 (2249)
	Prevalent transplants	1784 (459)	311 (344)	252 (550)
	Total prevalence	3018 (777)	1230 (1361)	1282 (2800)
	Deaths	246 (63)	195 (216)	155 (339)
2024	New patients	359 (91)	209 (229)	192 (411)
	New transplants	121 (31)	38 (42)	38 (81)
	Pre-emptive transplants	31 (8)	2 (2)	1 (2)
	Prevalent dialysis	1303 (330)	938 (1026)	1064 (2279)
	Prevalent transplants	1821 (461)	326 (357)	277 (593)
	Total prevalence	3124 (790)	1264 (1382)	1341 (2873)
	Deaths	238 (60)	173 (189)	129 (276)

Patients with unreported ethnicity are excluded.

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CAUSE OF DEATH

The causes of death in 2024 are in Figure 9.40 and Table 9.10, categorised by ethnicity and modality at the time of death.

Differences between ethnicities are likely to reflect, at least in part, the different age distributions of these populations.

Figure 9.40
Cause of Death by Modality and Ethnicity - Deaths Occurring During 2024, Aotearoa New Zealand

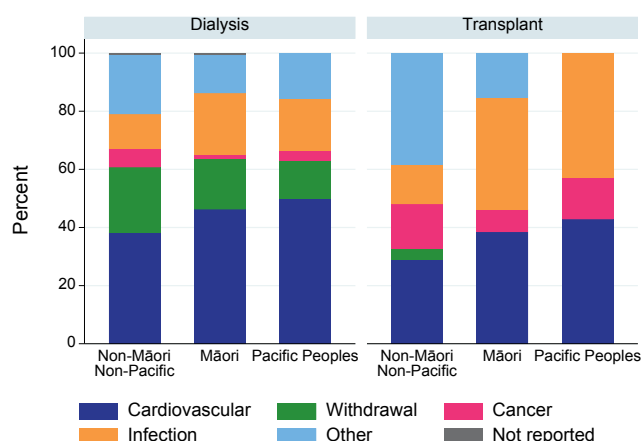


Table 9.10
Cause of Death by Modality and Ethnicity, Aotearoa New Zealand 2024

Modality	Cause of death	Non-Māori, non-Pacific	Māori	Pacific Peoples
Dialysis	Cardiovascular	71 (38%)	74 (46%)	61 (50%)
	Withdrawal	42 (23%)	28 (18%)	16 (13%)
	Cancer	12 (6%)	2 (1%)	4 (3%)
	Infection	22 (12%)	34 (21%)	22 (18%)
	Other	38 (20%)	21 (13%)	19 (16%)
	Not reported	1 (1%)	1 (1%)	0 (0%)
	Total	186	160	122
Transplant	Cardiovascular	15 (29%)	5 (38%)	3 (43%)
	Withdrawal	2 (4%)	0 (0%)	0 (0%)
	Cancer	8 (15%)	1 (8%)	1 (14%)
	Infection	7 (13%)	5 (38%)	3 (43%)
	Other	20 (38%)	2 (15%)	0 (0%)
	Not reported	0 (0%)	0 (0%)	0 (0%)
	Total	52	13	7

2 excluded due to unreported ethnicity.

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LATE REFERRAL TO NEPHROLOGY SERVICES

Late referral rates (defined as the first assessment by a specialist nephrologist within 3 months of commencing dialysis) by ethnicity in Aotearoa New Zealand are in Figure 9.41 and Table 9.11.

Figure 9.41
Late Referral Rates by Ethnicity - Aotearoa New Zealand 2020-2024

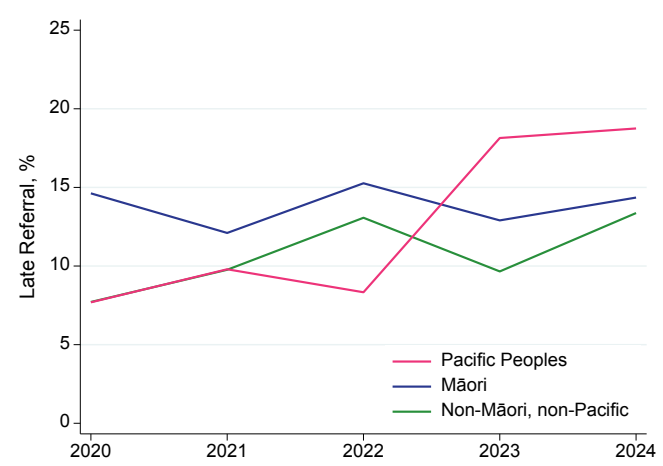
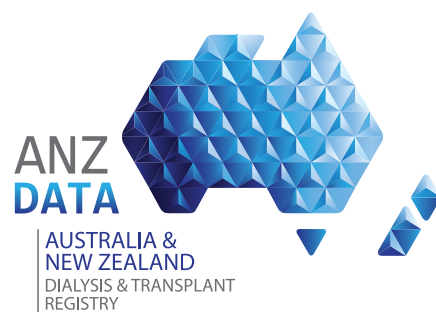


Table 9.11
Percentage of Late Referral by Ethnicity Aotearoa New Zealand 2020-2024

Year	Non-Māori, non-Pacific	Māori	Pacific Peoples
2020	8%	15%	8%
2021	10%	12%	10%
2022	13%	15%	8%
2023	10%	13%	18%
2024	13%	14%	19%

REFERENCES

1. This work is based on/includes Stats NZ's data which are licensed by Stats NZ for re-use under the Creative Commons Attribution 4.0 International licence. Stats NZ, 2024, Estimated Resident Population by Age and Sex (1991+) (Annual-Jun), NZ Infoshare, viewed 12 Dec 2024, <http://infoshare.stats.govt.nz/>
2. Australian Bureau of Statistics, 2019, Australian Standard Classification of Cultural and Ethnic Groups (ASCCEG), December 2019, viewed 23 Oct 2020, <https://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/1249.0Main+Features12019?OpenDocument>



CHAPTER 9

Kidney Failure in Aotearoa
New Zealand