Meeting Briefing

Health New Zealand
Te Whatu Ora

National Clinical Renal Network

Due to MO:	19 August 2025	**Reference**	**HNZ00093588**
To:	Hon Matt Doocey, Acting Minister of Health		
From:	Richard Sullivan, Chief Clinical Officer		
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Contact for phone discussion (if required)

Name	Position	Telephone	1st contact
Mary Cleary-Lyons	Director National Clinical Networks		x
Drew Henderson	Co-Lead National Renal Network		
Leanne Te Karu	Co-Lead National Renal Network		

Attachments

Appendix 1:	Biographies of attendees
Appendix 2:	Chapter 9 – Kidney Failure in Aotearoa New Zealand

About the meeting

Purpose	Meeting with the National Clinical Renal Network
Date	Thursday 21 August
Time	15:30-15:50
Venue	Your office, Executive Wing
Expected attendees	Mary Cleary-Lyons, Director National Clinical Networks Dr Drew Henderson, Nephrologist Co-Lead National Renal Network, Health NZ Dr Leanne Te Karu, Pharmacist Prescriber Co-Lead National Renal Network, Health NZ [Note, biographies are attached as Appendix 1]
Health New Zealand | Te Whatu Ora representatives	Mary Cleary-Lyons, Director National Clinical Networks
Media	No media are expected

Background

1. The number of people living with kidney failure in NZ continues to increase. In 2023, there were 3,200 patients receiving treatment with dialysis and 2,374 patients living with a kidney transplant. This was a 13% increase compared with 2019, with a similar increase in both patients on dialysis and those who have undergone a kidney transplant.
2. The key driver of chronic kidney disease (CKD) is diabetes, with diabetic kidney disease being the cause of kidney failure in 50% of patients starting dialysis. There are significant inequities in the incidence of kidney failure, with Māori and Pacific peoples having three

and five times higher rates of kidney failure, respectively, than the non-Māori non-Pacific population in NZ.

3. Kidney failure significantly impacts life expectancy, a patient's ability to participate in daily activities (including employment), the participation of their wider family, and imposes substantial costs on the health system due to dialysis treatment. A formal costing study has not been conducted in New Zealand for over 10 years, but previous studies, when adjusted for CPI, suggest that the annual cost of haemodialysis care for an individual patient is approximately $100,000.

4. The Renal Network was the first national network established. It commenced initial planning work in February 2024 its workplan received endorsement in July 2024.

5. The Renal Network has a strategic group and four working groups. These focus on dialysis care, conservative care of kidney failure, chronic kidney disease prevention, and an informatics and quality group. All the workstreams are underpinned and validated by a patient and whānau voice group (Te Roopū Kahika) that has patient representation from across motu.

6. The National Renal Network is closely linked with the National Renal Transplant Service, which oversees the delivery of renal transplant services for New Zealand.

Discussion

Kidney Failure and Prevention

7. There are two cohorts of patients who develop kidney failure:

    - Cohort 1 consists of patients with primary kidney disease. They require specific interventions whenever possible to slow the decline in kidney function. Diseases in this cohort include genetic kidney disorders, congenital abnormalities affecting the kidneys, and autoimmune and inflammatory kidney diseases.

    - Cohort 2, accounting for 60-65% of patients, is primarily driven by hypertension and diabetes, which are core components of cardio-kidney-metabolic disease (CKM). This encompasses CKD, diabetes, gout, hypertension, heart disease, stroke, obesity and hyperlipidaemia (abnormally high levels of lipids (fats such as cholesterol or triglycerides) in the blood). There are common risk factors and preventative / early intervention strategies, that apply across CKM.

8. The key to reducing the rates of morbidity and mortality from CKM is early identification (screening) and interventions to reduce progression of CKM to organ-specific outcomes such as CKD, heart failure, myocardial infarction, or stroke.

9. In alignment with international best practice guidelines, and feedback from patients and whānau with lived experience, the National Cardiac, Renal, Diabetes, and Stroke Networks have collaborated to develop best practice guidelines for treating CKM.

10. These guidelines differ from current cardiovascular risk factor guidance as they incorporate additional risk factors (gout, proteinuria, CKD stage) and focus not only on cardiovascular (CV) risk but also on wider risks associated with CKM.

11. Implementing these guidelines will require resources, however, primary care services currently lack the capacity to fully implement the guidelines. Economic analyses conducted in NZ, Australia, and the European Union (EU) all demonstrate a return on investment of approximately $10 for every $1 invested.

12. An initial CKM implementation meeting was held involving primary care, secondary care, Iwi partners, community partners, population health, strategy and funding, and Pharmac. It was collectively determined that a disruption of the current preventative care model is needed, favouring ground-up approaches delivered by local communities. A key enabler for this is to utilise diagnostic information available through datasets held at labs, primary care, and secondary care to identify those at greatest risk.

Prevention Enablers for CKM

13. Investment in CKM prevention and early treatment in the community.

    - The benefits from these strategies will not be evident immediately, and there is a need to invest now to reduce overall long-term health care costs.

14. Continuation of the CKD dashboard development on the National Data Platform.

    - This would enable those at highest risk to be identified and have care targeted to them. The dashboard would also provide epidemiological data to enable future facility and service planning.

15. Pharmac funding of sodium-glucose co-transporter-2 (SGLT-2) inhibitors and on-steroidal mineralocorticoid receptor antagonist (ns-MRA) medications.

    - SGLT-2 inhibitors and ns-MRA medications are internationally recognised standard of care for CKD, offering proven benefits in reducing kidney failure, cardiovascular events and hospitalisations. However, access remains limited in New Zealand.

    - SGLT-2 inhibitors are funded only for patients with diabetes, not for CKD alone, while ns-MRAs are currently unavailable for any CKD patients

    - Economic analysis in Australia and the EU has shown the cost benefit of these therapies for patients with CKD extends beyond prevention of kidney failure but also reduces admissions to hospital for heart failure, myocardial infarction and stroke, and their associated costs.

Dialysis for Kidney Failure

16. Dialysis can be delivered by two modalities:

    - Facility Haemodialysis (FHD), which can occur in a healthcare facility, or Home Haemodialysis (HHD), which is done independently at home;

    - Peritoneal dialysis (PD), which is performed independently at home.

17. Not all patients are suitable for home-based haemodialysis due to comorbidity or social factors. PD becomes less effective for an individual patient over time, and some patients are not ideal for PD.

18. Due to the presence of comorbidity and social factors, home-based haemodialysis is not suitable for all patients. Additionally, the effectiveness of PD tends to decline over time.

Despite these limitations, New Zealand remains at the forefront of home-based dialysis with 35% of patients dialysing at home, compared with 25% in Australia and <10% in many European countries.

19. As effectiveness of PD declines over time, high usage of PD in New Zealand may contribute to higher mortality rates. Current analysis by the Australia New Zealand Dialysis and Transplant Registry (ANZDATA) indicates that adjusted mortality rates for dialysis in New Zealand are higher than in Australia, with the rate of mortality being 10% higher in New Zealand.

20. The model of care for dialysis varies significantly across New Zealand. Metropolitan areas tend to favour FHD, with lower uptake of PD and HHD. Notably, regions with higher FHD rates report lower standardised mortality rates.

21. In contrast, Te Manawa Taki and Te Waipounamu have prioritised home-based treatments, driven by patient rurality and historical clinician preferences for HHD. Prioritising HHD in these areas has contributed to underinvestment in facility dialysis infrastructure, resulting in substandard units across many regions such as Bay of Plenty, Tairāwhiti, Lakes, Mid-Central, Canterbury and Dunedin. These facilities fall significantly below Australasian Health Facility Standards.

22. Significant geographical barriers continue to limit access to adequate dialysis care, particularly for patients in rural areas. Many must travel over an hour several times a week to reach facility-based HD, relocate to urban centres, or – in some cases – forgo treatment altogether despite the risks. Addressing these inequities requires targeted infrastructure investment to expand dialysis services in underserved rural regions.

Key Messages and Requests – Dialysis

28. In summary:

- Urgent and significant investment is needed in dialysis capacity;
- Emphasis on becoming less reliant on peritoneal dialysis due to the potential link with poorer outcomes;
- A need to develop smaller units in rural areas to ensure equitable access to dialysis;
- Link dialysis chair capacity increases with proportionate increases in renal staffing across medical, nursing and allied health.

29. **Key Message 1: CKD is a growing, inequitably-distributed burden**

- **Fact**: Kidney failure has increased 13% since 2019, with over 5,500 New Zealanders affected;
- **Inequity**: Māori and Pacific peoples experience 3–5 times the rate of kidney failure compared to other populations;
- **Impact**: CKD significantly shortens lives, reduces quality of life, and incurs significant costs for the system and society. Dialysis costs alone $100K+ per patient annually, excluding infrastructure costs, loss of contribution to society from patients, and primary care or hospitalisation costs;

- **Request:** *Commit to reducing CKD burden in primary care, secondary care and dialysis centres, by endorsing a national screening strategy focused on early identification and whānau-centred care.*

30. **Key Message 2: We have a prevention strategy for CKM however, it needs resourcing**

- **Fact:** Kidney failure is part of CKM. This encompasses CKD, diabetes, gout, hypertension, heart disease, stroke, obesity and hyperlipidaemia**.** CKM disease is the most significant cause of morbidity and mortality in NZ. It delays surgeries, burdens primary care and hospitals, and is associated with many cancers;
- **Solution**: National clinical networks have developed collaborative CKM guidance based on lived experience, international best practice and local context;
- **Evidence**: Prevention and early intervention can conservatively return $10 for every $1 invested;
- **Barrier**: Primary care lacks the resource to implement the guideline at scale;
- **Request:** *Fund the rollout on a needs basis of community-based CKM prevention and treatment infrastructure, including:*
    i. Workforce support;
    ii. Digital screening tools (CKD Dashboard); and
    iii. Expanded medication access (e.g. SGLT-2 inhibitors, ns-MRA which are standard of care medication across most OECD nations).

31. **Key Message 3: Dialysis provision has reached a capacity crisis with inequitable access for rural patients**

- **Capacity:** Haemodialysis units in most districts are operating at full capacity. For units that are not yet at capacity, most are projected to reach capacity within 2-3 year;
- **Access gap**: Many rural patients are more than an hour away from dialysis units. Some are declining treatment because of the travel burden;
- **Mortality concern**: New Zealand dialysis outcomes are worse than Australia's, linked to high reliance on PD, which has been overutilised due to capacity constraints for facility dialysis;
- **Future need**: Predictive modelling shows urgent need for infrastructure investment and regional equity;
- **Request:** *Champion urgent investment in dialysis services and infrastructure, prioritising access equity and future-proofing based on national demand modelling.*

Appendix 1: Biographies of attendees

Mary Cleary-Lyons – Mary has been Director of the National Clinical Networks programme since 2022, after initially joining Health New Zealand | Te Whatu Ora's national office on secondment from her role as General Manager, Design and Implementation at Capital, Coast and Hutt Valley. Prior to that she was General Manager Primary Care and Population Health at Southern District Health Board in Dunedin, which was her first role after settling in New Zealand from London with her Kiwi family.

With over 28 years in health and social care management in Ireland, the UK and Aotearoa, Mary has proven ability to run complex programmes with large interprofessional teams across public health, primary care, acute services and community and mental health services.

Mary is passionate about the National Clinical Networks and their purpose to deliver innovative models of care that provide accessible, high-quality services which ultimately contribute to more consistent health outcomes for all New Zealanders.

Dr Drew Henderson – Is the current Medical Director for Cancer, Chronic Conditions and Radiology at Waikato Hospital. He has been the Co-Chair of the National Renal Clinical network since 2024. He is also the Treasurer and Chair of the NZ Group of the Australia New Zealand Society of Nephrology.

He studied medicine at Glasgow University and completed advanced training in Nephrology and General Medicine at Ninewells Hospital Dundee, Scotland.

He became a consultant at Hawke's Bay Hospital in 2007 and was the first full time nephrologist based in Hawke's Bay. He worked there 2007-2011 and developed an independent renal service for Hawke's Bay, including the business case to develop the current Hawke's Bay Renal unit which opened in 2016.

Between 2011 and 2017 he was Head of Department of Renal Medicine at NHS Tayside, Dundee, Scotland. As well as practising as a nephrologist, he was Clinical Lead for Electronic Patient Records and Informatics lead for the Dundee University and NHS Tayside Academic Health Science Partnership. He has worked as a Consultant Nephrologist at Waikato since 2017 and was previously Head of Department between 2019-2022.

He has a diverse range of nephrological interests, from utilising big data to develop Key Performance Indicator Frameworks and utilisation of this to understand variation in outcomes, preventative models of care to reduce the prevalence of kidney through to genetic causes of kidney failure.

Dr Leanne Te Karu - is a general practice pharmacist prescriber, a health researcher, and national clinical leader known for her pragmatic and societal approach to system improvement.

She currently holds national leadership roles, including as Co-Lead of the National Clinical Renal Network and Co-Lead of the Cardiovascular Kidney Metabolic (CKM) Guideline Group. Leanne has used medicines use as a barometer to demonstrate health systems awareness and is actively involved in the implementation of initiatives that reduce medicines-related harm and improve access to safer, more effective care, particularly for those who have the greatest need.

With governance experience across multiple domains and international collaborations, Leanne brings a solutions-driven perspective. Her leadership promotes practices that aim to improve care, reduce avoidable hospitalisations, and deliver greater value for investment.

Leanne is currently Director of the Easy Allo Trial (investigating equitable implementation of allopurinol in NZ) and contributes to several research projects focused on diabetes, antimicrobial stewardship, and medicines optimisation.

Appendix 2: Chapter 9 – Kidney Failure in Aotearoa New Zealand

Attached as a separate document.

ANZ DATA
AUSTRALIA & NEW ZEALAND DIALYSIS & TRANSPLANT REGISTRY

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

CONTENTS

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 rates[1]. 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 2018 census and incorporate additional information gained from the post-enumeration survey.

This report highlights persistent ethnic disparities in kidney health, treatment access, and outcomes, calling for greater attention to these inequities in care. Also, the growing KRT population and the increasing number of facility-based haemodialysis are putting significant strain on already limited renal service resources, including both facility capacity and staffing.

In 2023, 725 people began KRT, amounting to 138 per million population (pmp). There is an increasing per population trend with the highest incidence of KRT among the 65-74 age group (374 pmp). By the end of 2023, 5,572 people were receiving KRT, with a higher prevalence of dialysis (611 pmp) over transplants (453 pmp).

Diabetic kidney disease remained the leading cause (49.5%) of end stage kidney disease in New Zealand, significantly higher than Australia, especially among Māori (66%) and Pacific People (68%), while glomerular disease was more common among non-Māori non-Pacific populations.

65% of received KRT in the form of haemodialysis in hospitals or satellite unit with a number now exceeding 2000 patients in 2023 exerting ongoing pressure on dialysis facility capacity and staff resources. There is a decrease in home-based dialysis therapy over the last 5 years.

Significant disparities exist in KRT incidence based on ethnicity. Pacific Peoples had the highest rate (478 pmp), followed by Māori (205 pmp), and non-Māori non-Pacific groups (82 pmp). In addition, Māori and Pacific Peoples had much lower rates of pre-emptive transplants compared to other ethnic groups. Māori and Pacific Peoples also have a 3-5 times higher mortality rate compared to non-Māori non-Pacific patients.

Māori and Pacific People are less likely to receive kidney transplant and patient survival post-transplant was also lower for Māori (85%) compared to non-Māori non-Pacific (91%) after five years.

SUGGESTED CITATION

T Sun, C Davies, E Au, S Bateman, J Chen, P Clayton, K Hurst, F Kholmurodova, D Lee, H McCarthy, S McDonald, W Mulley, M Roberts, B Solomon, G Irish. 47th Report, Chapter 9: Kidney Failure in Aotearoa New Zealand. Australia and New Zealand Dialysis and Transplant Registry, Adelaide, Australia. 2024. Available at: http://www.anzdata.org.au

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KIDNEY REPLACEMENT THERAPY IN AOTEAROA NEW ZEALAND

INCIDENCE OF KIDNEY REPLACEMENT THERAPY (KRT)

In 2023, 725 adults and children started kidney replacement therapy (KRT) in Aotearoa New Zealand, equivalent to 138 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 (138 versus 129 pmp in 2023).

Figure 9.1
Incidence of Kidney Replacement Therapy - Aotearoa New Zealand 1994-2023

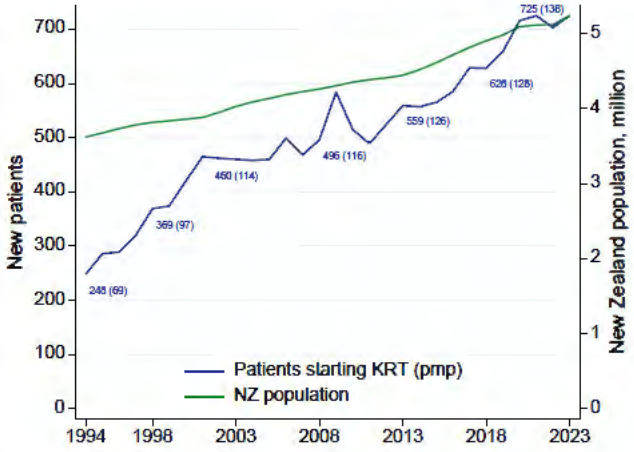
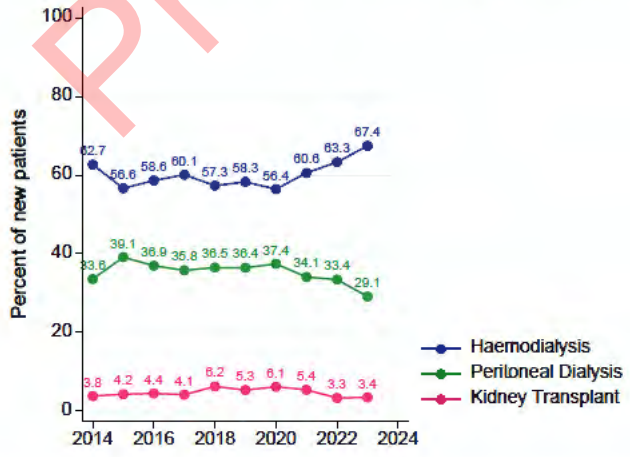


Table 9.1
Number (pmp) who Commenced Kidney Replacement Therapy in Aotearoa New Zealand, 2019-2023

	2019	2020	2021	2022	2023
Total	659 (132)	716 (141)	725 (142)	703 (137)	725 (138)
Pre-Emptive Transplant	35 (7)	44 (9)	39 (8)	23 (4)	25 (5)
Haemodialysis	384 (77)	404 (79)	439 (86)	445 (87)	489 (93)
Peritoneal Dialysis	240 (48)	268 (53)	247 (48)	235 (46)	211 (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 2014-2023



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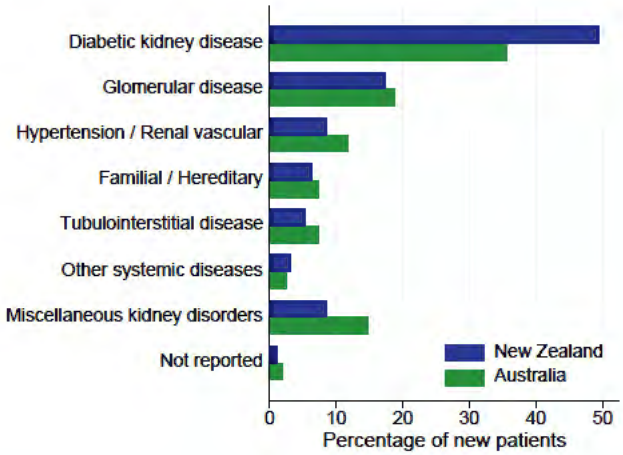
PRIMARY CAUSE OF KIDNEY DISEASE

Figure 9.3 shows the primary cause of kidney failure for all patients commencing KRT in 2023.

Figure 9.3
Primary Cause of Kidney Disease of New Patients Commencing Kidney Replacement Therapy, 2023

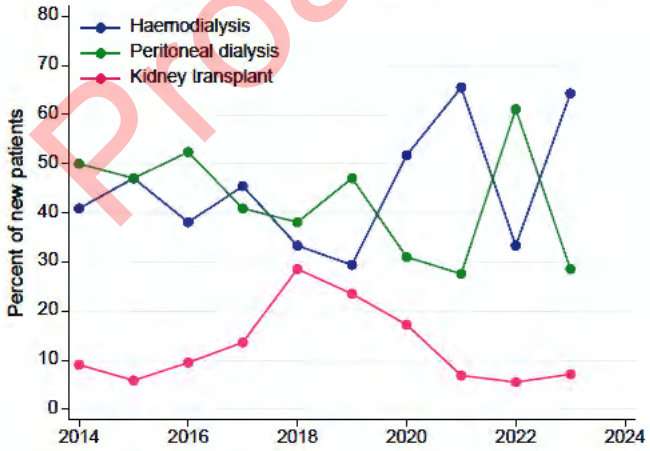


CHILDREN AND YOUNG ADULTS

In 2023, 28 patients in the 0-24 age group commenced kidney replacement therapy (17 pmp) in Aotearoa New Zealand. The incidence rate of KRT among young patients has ranged between 11 and 18 pmp from 2019-2023. The incidence rate of KRT is variable due to the low numbers of patients commencing KRT in this age group.

Of the 28 younger patients commencing KRT in Aotearoa New Zealand in 2023, 2 (7%) patients received a pre-emptive transplant, 8 (29%) patients commenced with peritoneal dialysis, and 18 (64%) patients commenced with haemodialysis (Figure 9.4).

Figure 9.4
Children and Young Adults (0-24 years) Commencing KRT - Aotearoa New Zealand 2014-2023



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AGE

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

In 2023, the highest incidence of kidney replacement therapy in Aotearoa New Zealand is among people in the 65-74 age group (374 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, 2014-2023

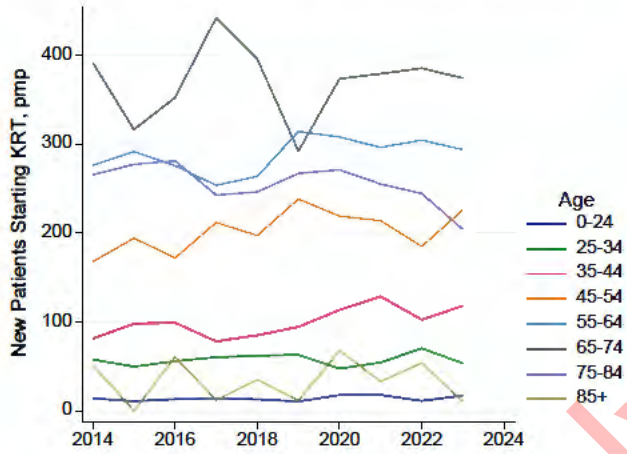


Figure 9.6
Incidence of KRT by Age Group and Modality - Per Million Population, Aotearoa New Zealand 2023

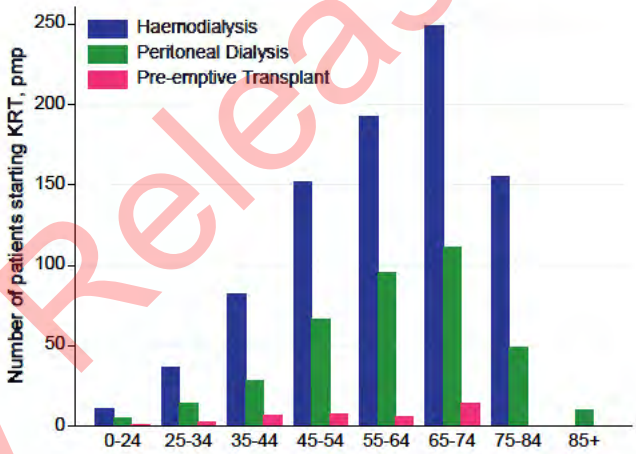


Figure 9.7 shows the mean age of incident kidney replacement therapy patients in Aotearoa New Zealand over the last 10 years.

Figure 9.7
Age of Incident Kidney Replacement Therapy Patients - Aotearoa New Zealand, 2014-2023

PREVALENCE OF KIDNEY REPLACEMENT THERAPY

There were 5572 people (1064 pmp) receiving KRT in Aotearoa New Zealand at the end of 2023 (Figures 9.8-9.9 and Table 9.2). Overall Aotearoa New Zealand has a higher prevalence (611 pmp) of patients on dialysis than patients with a kidney transplant (453 pmp).

Figure 9.8
Prevalence of Dialysis and Transplantation - Aotearoa New Zealand 1994-2023

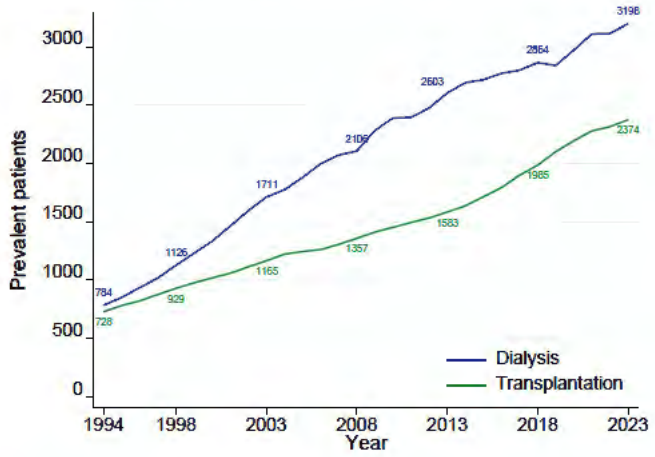
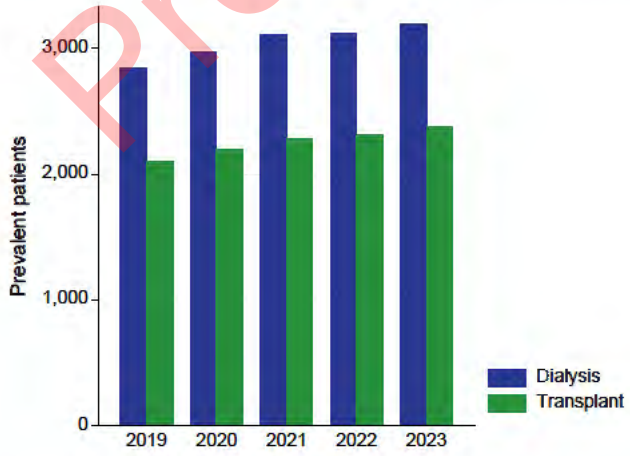


Table 9.2
Prevalence of Kidney Replacement Therapy (pmp) in Aotearoa New Zealand 2019-2023

	2019	2020	2021	2022	2023
Total	4940 (992)	5165 (1015)	5389 (1054)	5429 (1061)	5572 (1064)
Transplant	2100 (422)	2194 (431)	2279 (446)	2315 (452)	2374 (453)
Dialysis	2840 (570)	2971 (584)	3110 (608)	3114 (609)	3198 (611)
% Dialysis	57%	58%	58%	57%	57%

Figure 9.9
Prevalence of Kidney Replacement Therapy - Aotearoa New Zealand 2019-2023



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DIALYSIS

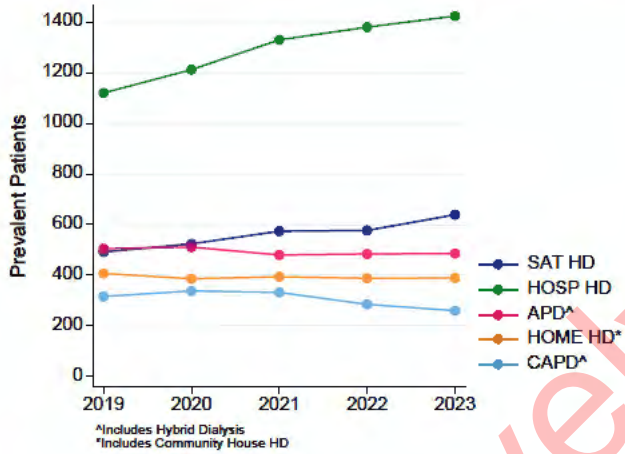
In 2023, 35% of the 3198 Aotearoa New Zealand dialysis patients had home-based dialysis (peritoneal dialysis, community house haemodialysis or home haemodialysis).

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 2019-2023.

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 2023 (39 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, 2019-2023

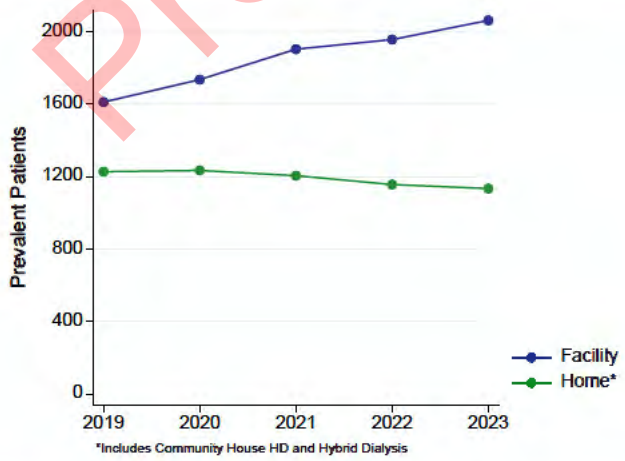


HD: Haemodialysis, SAT: Satellite, HOSP: Hospital, APD: Automated Peritoneal Dialysis, CAPD: Continuous Ambulatory Peritoneal Dialysis

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 2019-2023.

Figure 9.11
Home and Facility Based Dialysis - Aotearoa New Zealand, 2019-2023



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TRANSPLANTATION

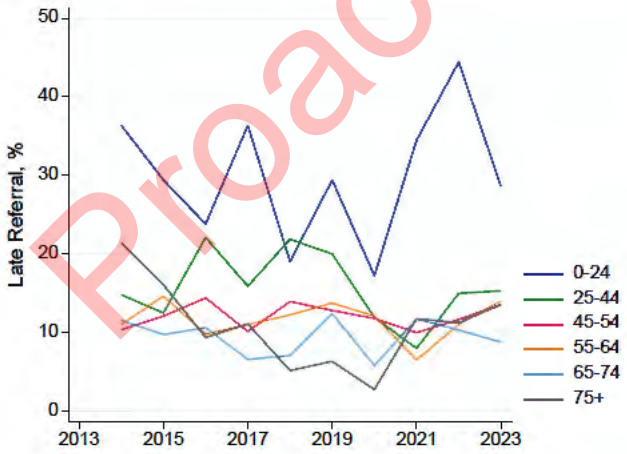
In 2023, 175 patients (33 pmp) received a kidney transplant (Figure 9.12).

Figure 9.12
New Kidney Transplants in Aotearoa New Zealand 2019-2023

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 13% of all patients who commenced kidney replacement therapy in 2023.

Figure 9.13
Late Referral Rates by Age Group - Aotearoa New Zealand 2014 - 2023



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ETHNICITY AND KIDNEY REPLACEMENT THERAPY IN AOTEAROA NEW ZEALAND

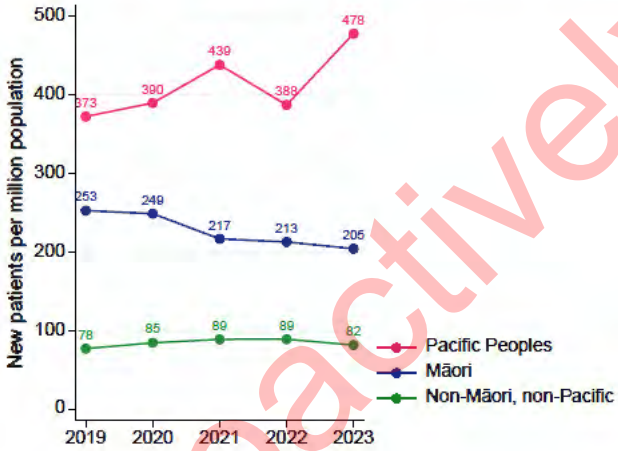
NEW PATIENTS

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 (478 pmp) and Māori (205 pmp) patients, compared with Non-Māori, non-Pacific patients (82 pmp) (Figure 9.14).

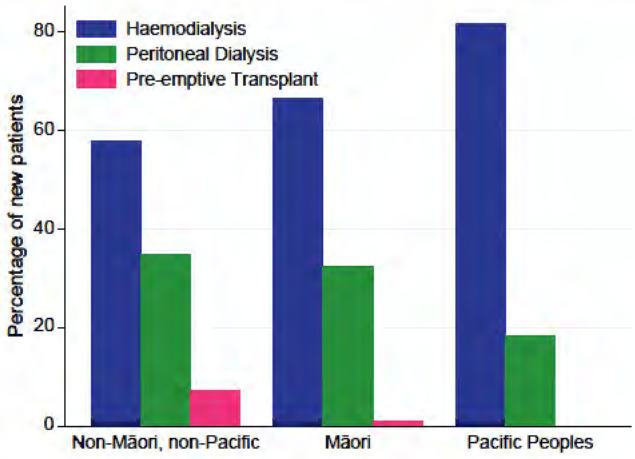
Please note that collection of ethnicity data in ANZDATA has evolved to align with the Australian Bureau of Statistics Australian Standard Classification of Cultural and Ethnic Groups[2] and data collection now allows a patient to nominate more than one ethnicity group. However, consultation regarding 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 2019-2023



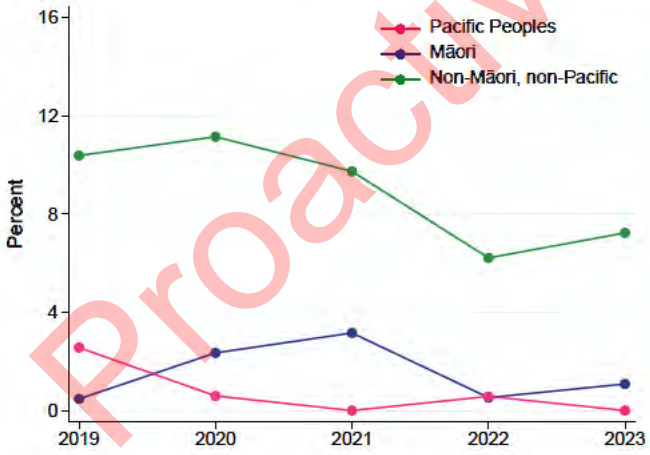
The initial therapy for patients starting KRT by ethnicity is in Figure 9.15. Overall, 7% of non-Māori and non-Pacific patients had a pre-emptive kidney transplant, while 1% of incident Māori patients received pre-emptive kidney transplants and 0% of Pacific Peoples patients.

Figure 9.15
Incidence of KRT by Ethnicity and Modality - Aotearoa New Zealand 2023



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



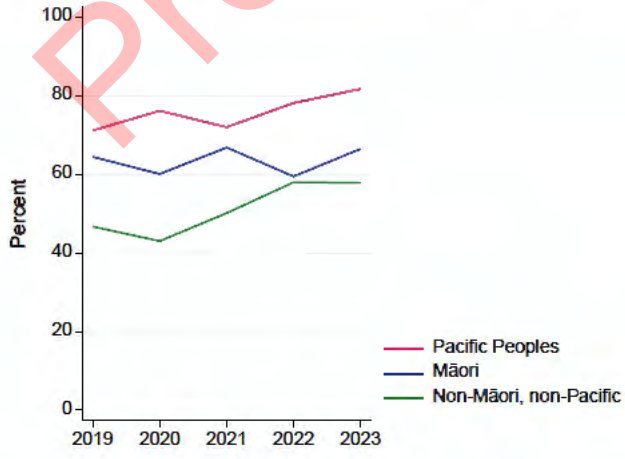
A total of 185 patients identifying as Māori, and 219 patients identifying as Pacific Peoples, commenced treatment for kidney failure in 2023, representing 26% and 30%, respectively, of all patients starting kidney replacement therapy. This inequity in the incidence of kidney failure treated with kidney replacement therapy in Māori and Pacific Peoples is persistent. The rate of haemodialysis commencement for non-Māori and non-Pacific patients was 3-fold lower than for Māori and 8-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 0 Pasifka patients had a pre-emptive kidney transplant in 2023. In the last 5 years, 15 Māori and 6 Pacific Peoples patients have received a pre-emptive kidney transplant compared with 143 non-Māori and non-Pacific patients (a 10-fold difference for Māori and 24-fold difference for Pacific Peoples).

Table 9.3
New Patients (pmp) Aotearoa New Zealand 2019-2023

Year	Modality	Non-Māori, non-Pacific	Māori	Pacific Peoples	Total
2019	Haemodialysis	135 (36)	136 (163)	111 (265)	**382 (77)**
	Peritoneal Dialysis	124 (33)	74 (89)	41 (98)	**239 (48)**
	Pre-emptive Transplant	30 (8)	1 (1)	4 (10)	**35 (7)**
2020	Haemodialysis	139 (37)	128 (150)	128 (297)	**395 (78)**
	Peritoneal Dialysis	148 (39)	80 (94)	39 (91)	**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	136 (36)	57 (65)	54 (123)	**247 (48)**
	Pre-emptive Transplant	33 (9)	6 (7)	0 (0)	**39 (8)**
2022	Haemodialysis	196 (52)	113 (127)	136 (303)	**445 (87)**
	Peritoneal Dialysis	121 (32)	76 (85)	37 (82)	**234 (46)**
	Pre-emptive Transplant	21 (6)	1 (1)	1 (2)	**23 (4)**
2023	Haemodialysis	184 (47)	123 (136)	179 (391)	**486 (93)**
	Peritoneal Dialysis	111 (29)	60 (66)	40 (87)	**211 (40)**
	Pre-emptive Transplant	23 (6)	2 (2)	0 (0)	**25 (5)**

22 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 2019-2023 are in Table 9.4. Māori and Pacific Peoples 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 2019-2023

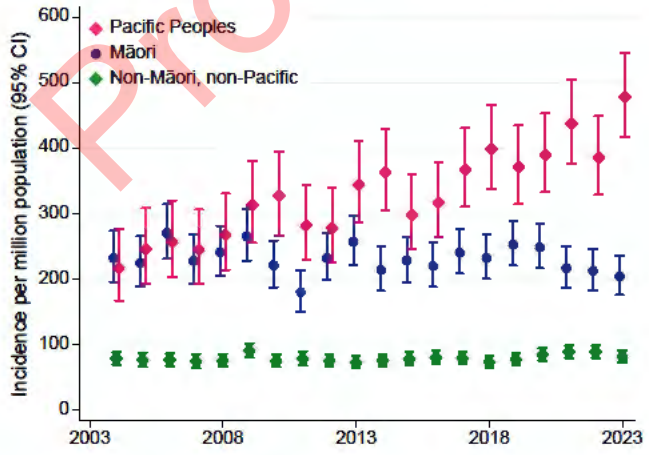
Primary Kidney Disease	Non-Māori, non-Pacific	Māori	Pacific Peoples
Diabetic kidney disease	464 (29%)	652 (66%)	619 (68%)
Glomerular disease	415 (26%)	125 (13%)	137 (15%)
Hypertension / Renal vascular disease	222 (14%)	60 (6%)	48 (5%)
Familial / hereditary kidney diseases	164 (10%)	20 (2%)	13 (1%)
Tubulointerstitial disease	156 (10%)	58 (6%)	28 (3%)
Other systemic diseases affecting the kidney	46 (3%)	12 (1%)	7 (1%)
Miscellaneous kidney disorders	133 (8%)	56 (6%)	55 (6%)
Not reported	7 (<1%)	6 (1%)	3 (<1%)
Total	**1607**	**989**	**910**

22 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.

Figure 9.18
Unadjusted Incident KRT Rate - Aotearoa New Zealand



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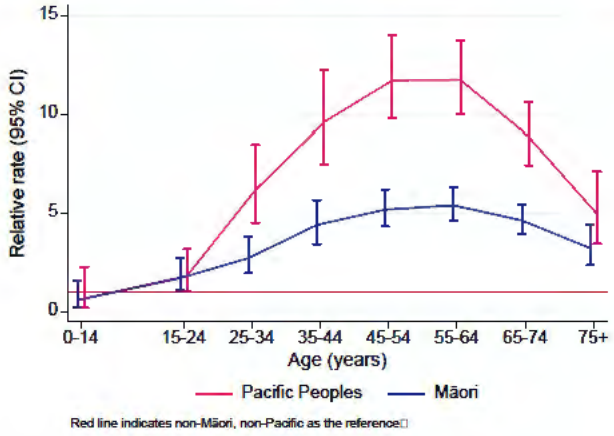
The incidence rates for KRT by ethnicity are in Figure 9.18. The relative rate differs with age, see Figure 9.19.

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 2019-2023



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).

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

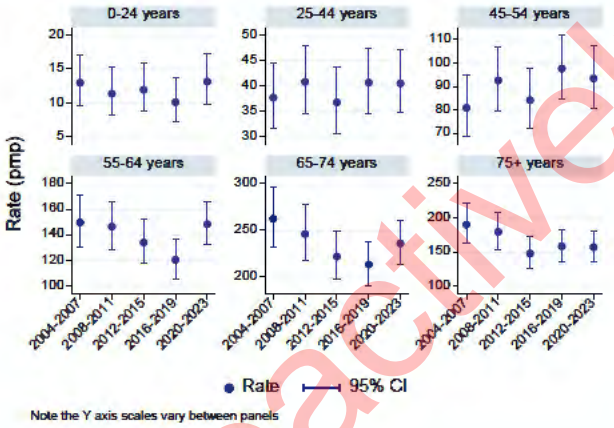


Figure 9.20.2

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

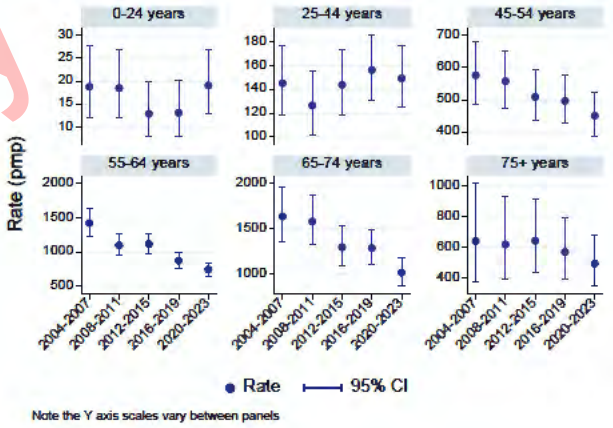
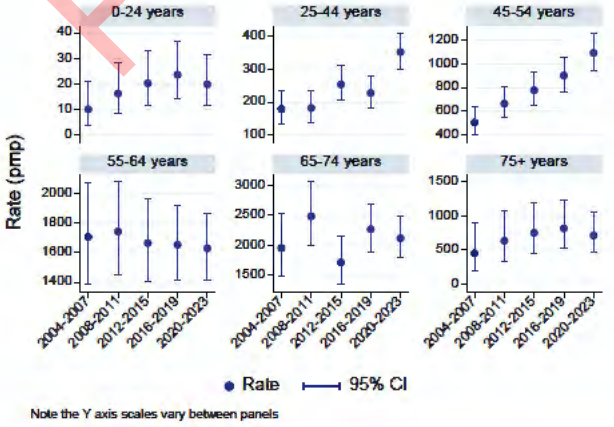


Figure 9.20.3

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



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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 2019-2023

Year	Modality	Non-Māori, non-Pacific	Māori	Pacific Peoples
2019	HD	679 (25%)	673 (57%)	662 (63%)
	% HD at home*	26%	20%	15%
	PD^	398 (15%)	247 (21%)	173 (17%)
	Transplant	1632 (60%)	252 (22%)	211 (20%)
2020	HD	678 (24%)	706 (57%)	728 (66%)
	% HD at home*	24%	18%	13%
	PD^	426 (15%)	255 (21%)	160 (14%)
	Transplant	1701 (61%)	267 (22%)	219 (20%)
2021	HD	756 (26%)	749 (60%)	783 (66%)
	% HD at home*	22%	16%	13%
	PD^	419 (14%)	225 (18%)	162 (14%)
	Transplant	1746 (60%)	283 (23%)	241 (20%)
2022	HD	802 (27%)	719 (58%)	815 (68%)
	% HD at home*	21%	16%	13%
	PD^	395 (13%)	218 (18%)	149 (12%)
	Transplant	1769 (60%)	296 (24%)	242 (20%)
2023	HD	860 (28%)	715 (58%)	867 (68%)
	% HD at home*	20%	15%	12%
	PD^	384 (13%)	206 (17%)	149 (12%)
	Transplant	1798 (59%)	312 (25%)	254 (20%)

*Includes Community House HD
^Includes Hybrid Dialysis
114 excluded due to unreported ethnicity.

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Figure 9.21.1

Prevalent Patients by Modality - Aotearoa New Zealand - Māori

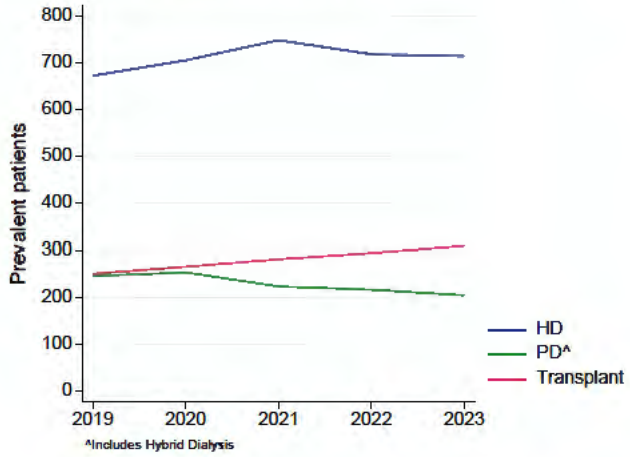


Figure 9.21.2

Prevalent Patients by Modality - Aotearoa New Zealand - Pacific Peoples

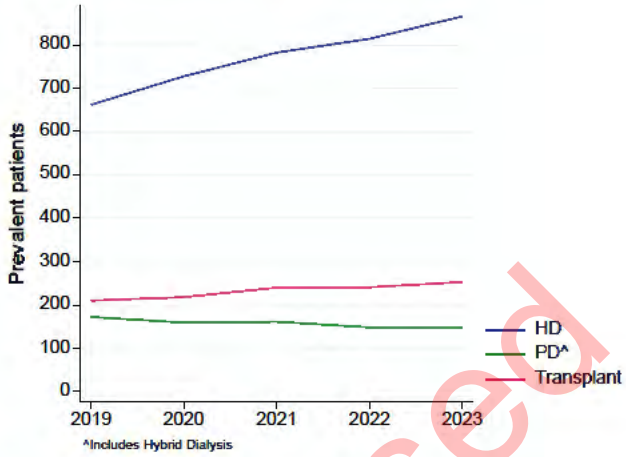


Figure 9.21.3

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

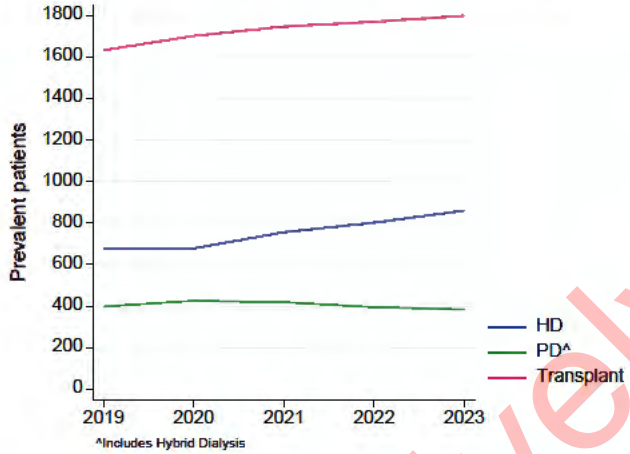
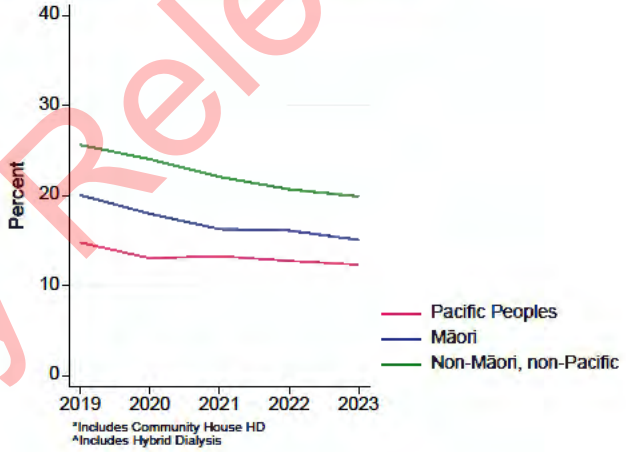


Figure 9.22

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

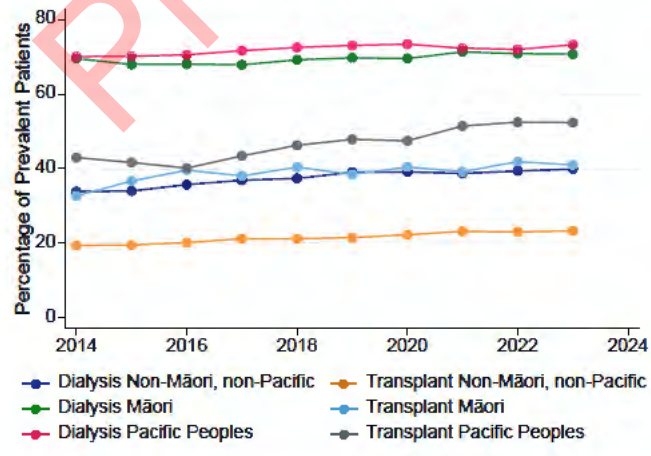


DIABETES

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, 2014-2023



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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

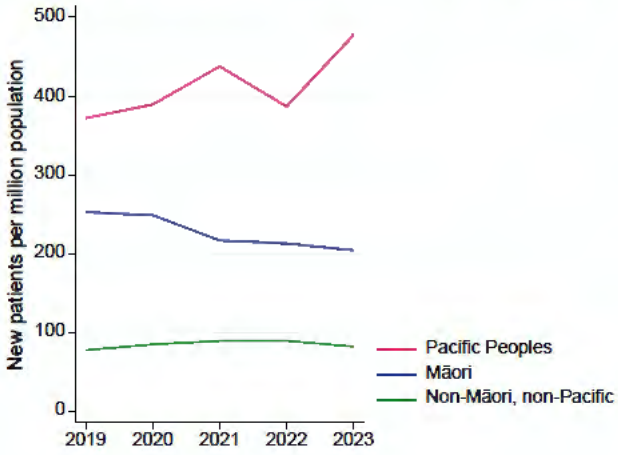


Figure 9.25
Incidence of New Transplants - Aotearoa New Zealand

Figure 9.26
Prevalent Haemodialysis^ Patients - Aotearoa New Zealand

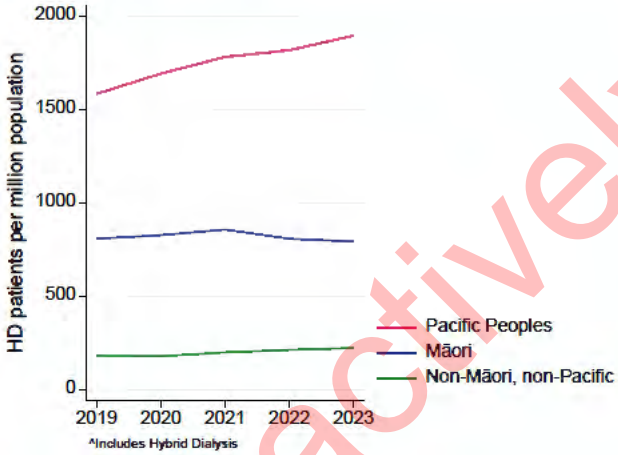


Figure 9.27
Prevalent Peritoneal Dialysis^ Patients - Aotearoa New Zealand

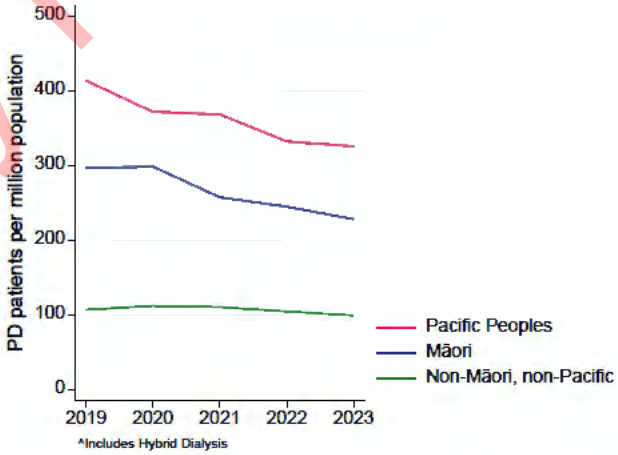


Figure 9.28
Prevalent Transplant Patients - Aotearoa New Zealand

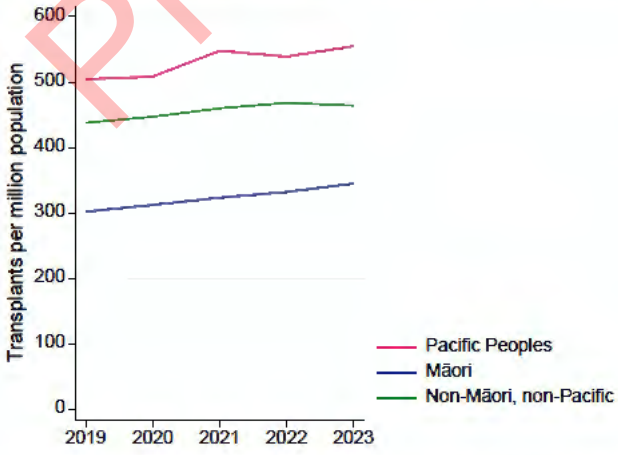
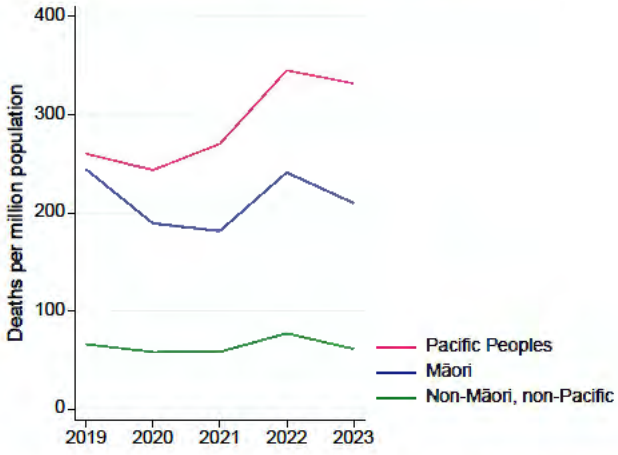


Figure 9.29
Deaths of KRT Patients - Aotearoa New Zealand



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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 2014-2023

Year	Donor Type	Non-Māori, non-Pacific	Māori	Pacific Peoples
2014	Deceased Donor	44 (13)	13 (17)	9 (24)
	Living Donor	52 (15)	12 (16)	7 (19)
	Total	**96 (28)**	**25 (33)**	**16 (43)**
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	57 (16)	13 (17)	12 (31)
	Total	**115 (32)**	**26 (33)**	**31 (80)**
2017	Deceased Donor	71 (20)	17 (21)	30 (75)
	Living Donor	52 (14)	6 (7)	11 (28)
	Total	**123 (34)**	**23 (29)**	**41 (103)**
2018	Deceased Donor	65 (18)	15 (18)	18 (44)
	Living Donor	59 (16)	14 (17)	11 (27)
	Total	**124 (34)**	**29 (36)**	**29 (71)**
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)	23 (26)	23 (52)
	Living Donor	62 (16)	14 (16)	8 (18)
	Total	**117 (31)**	**37 (42)**	**31 (70)**
2022	Deceased Donor	53 (14)	28 (31)	23 (51)
	Living Donor	53 (14)	13 (15)	4 (9)
	Total	**106 (28)**	**41 (46)**	**27 (60)**
2023	Deceased Donor	58 (15)	19 (21)	22 (48)
	Living Donor	52 (13)	14 (15)	8 (17)
	Total	**110 (28)**	**33 (37)**	**30 (66)**

7 excluded due to unreported ethnicity.

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Figure 9.30
Donor Type by Ethnicity - Aotearoa New Zealand 2014-2023

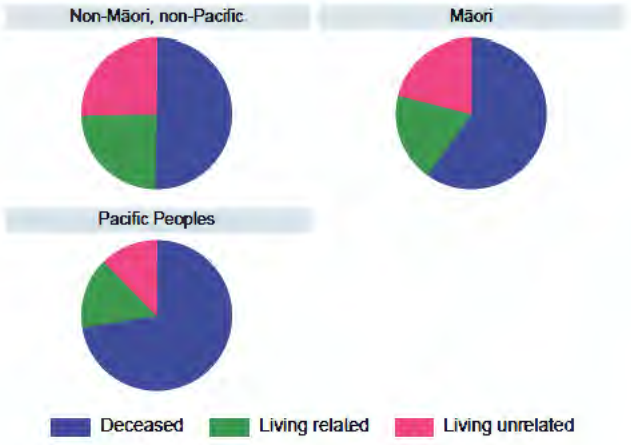

Figure 9.31
Donor Type by Ethnicity and Year - Aotearoa New Zealand

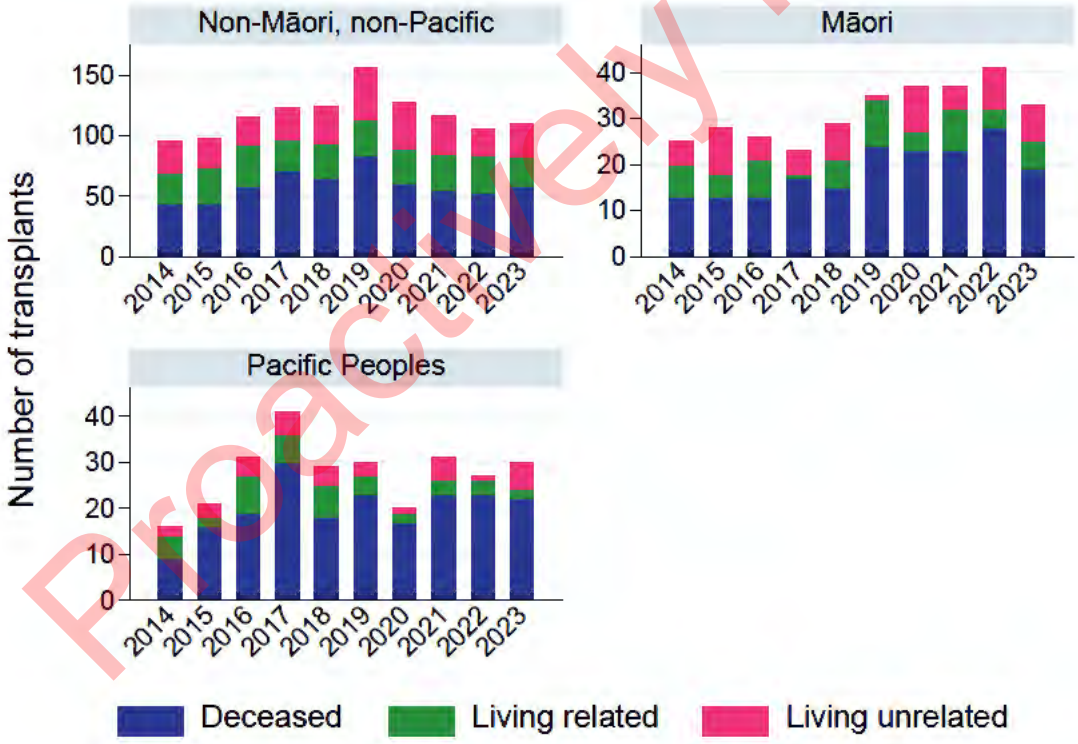

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Figure 9.32 shows the cumulative incidence curve of primary transplant after starting KRT (utilising competing risk techniques to account for the effect of the competing risk of death). Figure 9.33 shows the cumulative incidence curves of primary transplant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

Figure 9.32
Time to Primary Transplant from KRT Start - Aotearoa New Zealand Incident KRT Patients 2014-2023

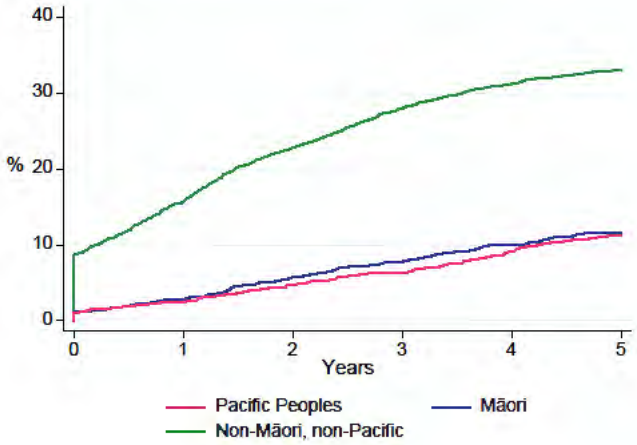
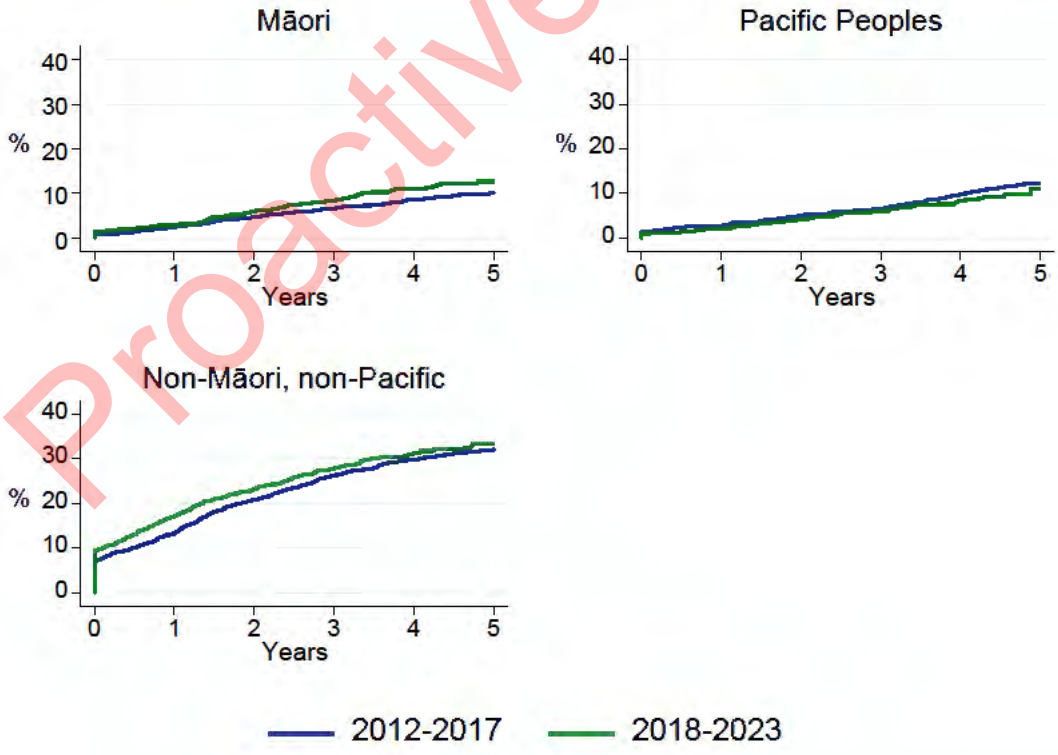


Figure 9.33
Time to Primary Transplant from KRT Start by Era - Aotearoa New Zealand Incident KRT Patients



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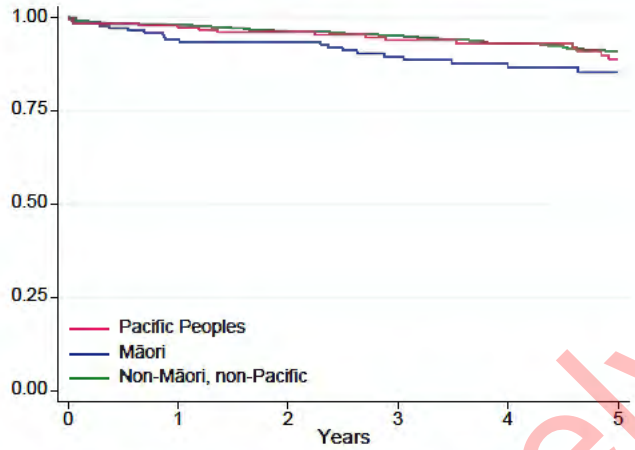
TRANSPLANT SURVIVAL

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.

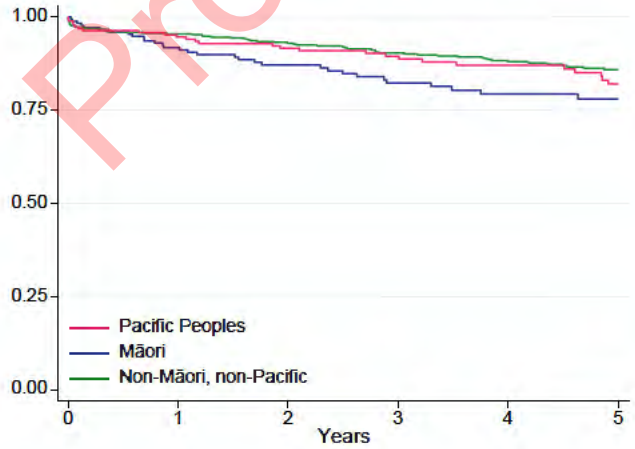
There is a small difference in patient survival after kidney transplantation from a deceased donor between Māori and non-Māori, non-Pacific recipients, which is apparent from 6 months after transplantation. At 5 years post-transplant, 85% of Māori recipients, 89% of Pacific Peoples recipients, and 91% 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 2014-2023



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 78% 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 2014-2023



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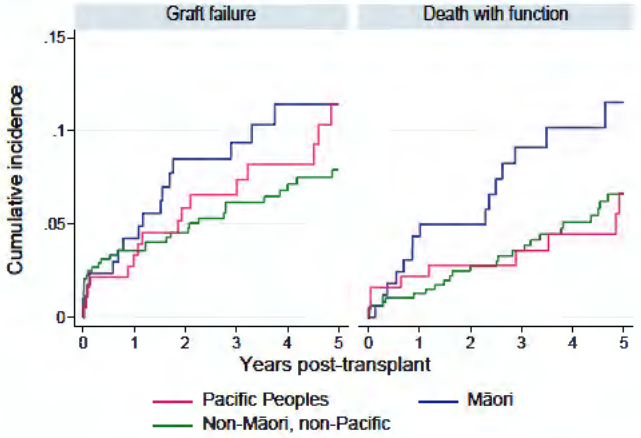
Cumulative incidence curves (utilising competing risk techniques to account for the effects of both components of graft failure, i.e. graft failure and death with a functioning graft) are shown for transplant outcomes by ethnicity in Figure 9.36.

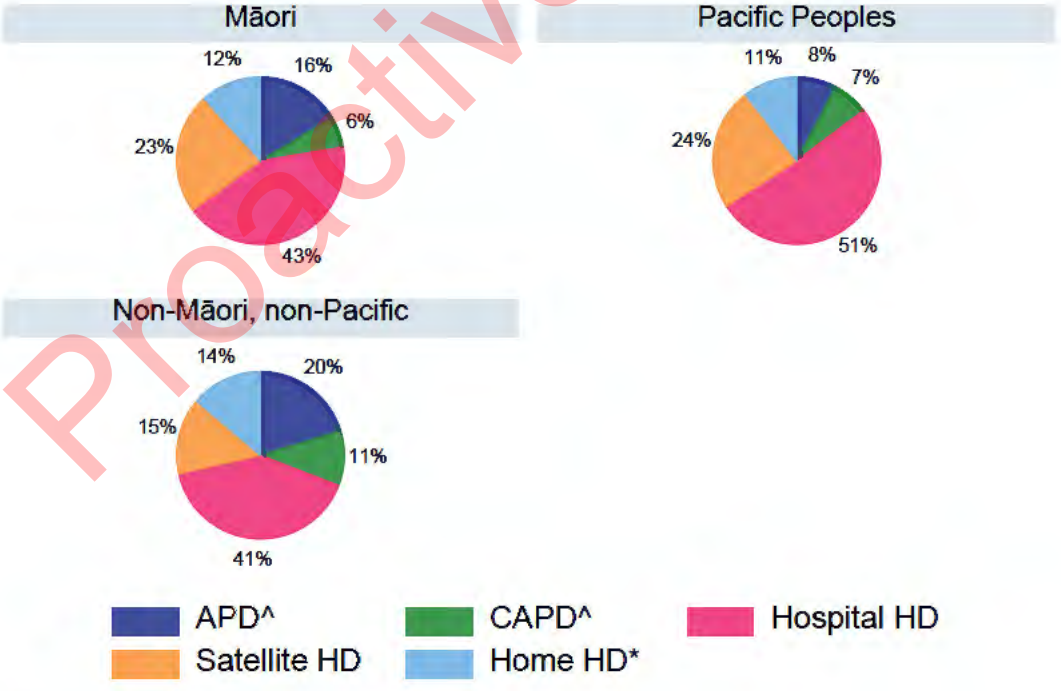
Figure 9.36
Transplant Outcomes, Aotearoa New Zealand - Primary Deceased Donor Kidney-only Transplants 2014-2023



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 2023 - Aotearoa New Zealand, by Ethnicity



^Includes Hybrid Dialysis
*Includes Community House HD

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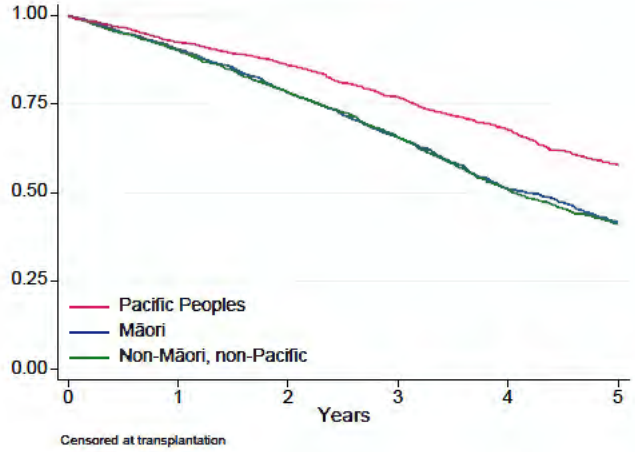
Half of the people who started dialysis over 2014-2023 were alive 5 years later (Figure 9.38). Non-Māori non-Pacific and Māori patients experienced similar survival over 5 years after starting dialysis, with Pacific Peoples patients having better survival. Observed differences in survival between populations may reflect different age distributions and access to competing treatments (transplantation), which may have impacted mortality estimates.

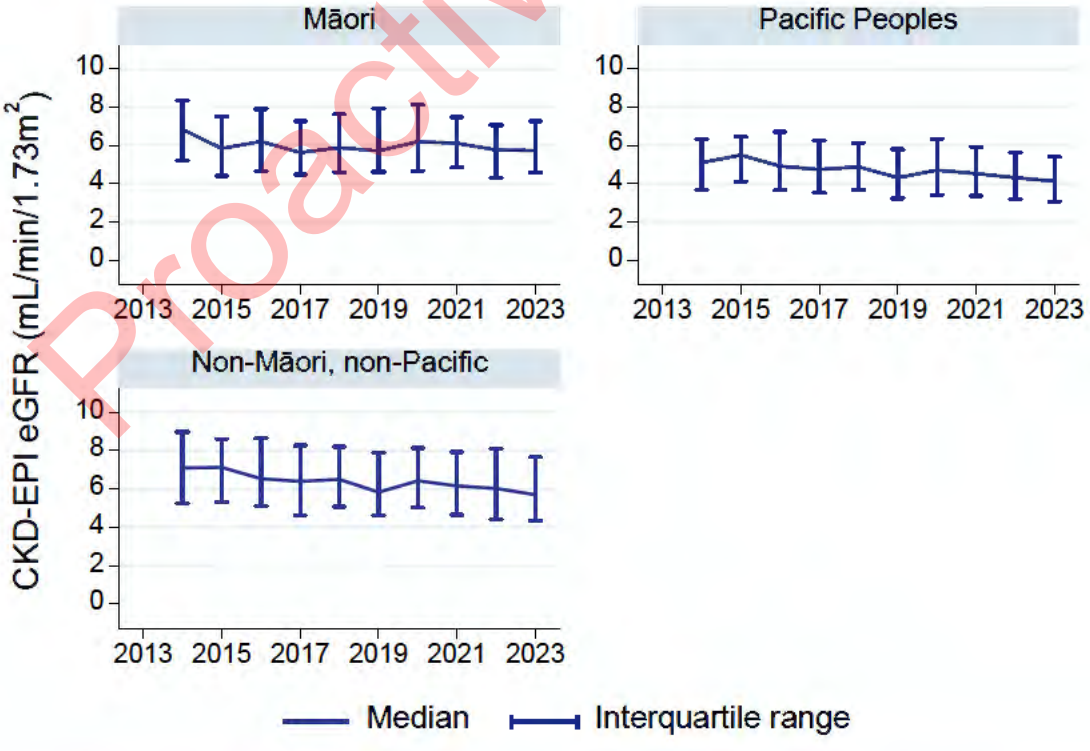
Figure 9.38
Patient Survival, Incident Dialysis Patients - Aotearoa New Zealand 2014-2023



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 9.38
Patient Survival, Incident Dialysis Patients - Aotearoa New Zealand 2014-2023



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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 2019-2023

Year	Vascular access	Non-Māori, non-Pacific	Māori	Pacific Peoples
2019	AVF	33 (24%)	28 (21%)	20 (18%)
	AVG	2 (1%)	0 (0%)	1 (1%)
	CVC	100 (74%)	107 (79%)	90 (81%)
	Not reported	0 (0%)	1 (1%)	0 (0%)
2020	AVF	31 (22%)	22 (17%)	33 (26%)
	AVG	0 (0%)	0 (0%)	0 (0%)
	CVC	106 (76%)	106 (83%)	95 (74%)
	Not reported	2 (1%)	0 (0%)	0 (0%)
2021	AVF	41 (24%)	22 (17%)	32 (23%)
	AVG	1 (1%)	0 (0%)	0 (0%)
	CVC	127 (75%)	105 (83%)	103 (74%)
	Not reported	1 (1%)	0 (0%)	4 (3%)
2022	AVF	44 (22%)	17 (15%)	26 (19%)
	AVG	1 (1%)	0 (0%)	0 (0%)
	CVC	150 (77%)	95 (84%)	110 (81%)
	Not reported	1 (1%)	1 (1%)	0 (0%)
2023	AVF	24 (13%)	14 (11%)	29 (16%)
	AVG	2 (1%)	1 (1%)	0 (0%)
	CVC	158 (86%)	108 (88%)	150 (84%)
	Not reported	0 (0%)	0 (0%)	0 (0%)

AVF: Arteriovenous Fistula, AVG: Arteriovenous Graft, CVC: Central Venous Catheter
17 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 2019-2023

Year	Vascular access	Non-Māori, non-Pacific	Māori	Pacific Peoples
2019	AVF	390 (57%)	422 (63%)	436 (66%)
	AVG	16 (2%)	18 (3%)	5 (1%)
	CVC	247 (36%)	213 (32%)	193 (29%)
	Not reported	26 (4%)	20 (3%)	28 (4%)
2020	AVF	376 (55%)	411 (58%)	440 (60%)
	AVG	11 (2%)	17 (2%)	13 (2%)
	CVC	263 (39%)	251 (36%)	263 (36%)
	Not reported	28 (4%)	27 (4%)	12 (2%)
2021	AVF	388 (51%)	449 (60%)	443 (57%)
	AVG	11 (1%)	11 (1%)	10 (1%)
	CVC	319 (42%)	267 (36%)	309 (39%)
	Not reported	38 (5%)	22 (3%)	21 (3%)
2022	AVF	380 (47%)	397 (55%)	436 (53%)
	AVG	17 (2%)	8 (1%)	9 (1%)
	CVC	362 (45%)	287 (40%)	347 (43%)
	Not reported	43 (5%)	27 (4%)	23 (3%)
2023	AVF	378 (44%)	373 (52%)	448 (52%)
	AVG	18 (2%)	8 (1%)	15 (2%)
	CVC	430 (50%)	319 (45%)	388 (45%)
	Not reported	38 (4%)	16 (2%)	16 (2%)

^Includes Hybrid Dialysis
44 excluded due to unreported ethnicity.

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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 2019-2023

Year	Event	Non-Māori, non-Pacific	Māori	Pacific Peoples
2019	New patients	289 (78)	211 (253)	156 (373)
	New transplants	156 (42)	35 (42)	30 (72)
	Pre-emptive transplants	30 (8)	1 (1)	4 (10)
	Prevalent dialysis	1077 (289)	920 (1104)	835 (1995)
	Prevalent transplants	1632 (438)	252 (302)	211 (504)
	Total prevalence	2709 (727)	1172 (1406)	1046 (2499)
	Deaths	243 (65)	200 (240)	109 (260)
2020	New patients	323 (85)	213 (249)	168 (390)
	New transplants	127 (33)	37 (43)	20 (46)
	Pre-emptive transplants	36 (9)	5 (6)	1 (2)
	Prevalent dialysis	1104 (290)	961 (1125)	888 (2062)
	Prevalent transplants	1701 (447)	267 (312)	219 (508)
	Total prevalence	2805 (737)	1228 (1437)	1107 (2570)
	Deaths	219 (58)	161 (188)	105 (244)
2021	New patients	339 (89)	190 (217)	193 (439)
	New transplants	117 (31)	37 (42)	31 (70)
	Pre-emptive transplants	33 (9)	6 (7)	0 (0)
	Prevalent dialysis	1175 (310)	974 (1113)	945 (2147)
	Prevalent transplants	1746 (460)	283 (323)	241 (548)
	Total prevalence	2921 (769)	1257 (1437)	1186 (2695)
	Deaths	217 (57)	157 (179)	119 (270)
2022	New patients	338 (89)	190 (213)	174 (388)
	New transplants	106 (28)	41 (46)	27 (60)
	Pre-emptive transplants	21 (6)	1 (1)	1 (2)
	Prevalent dialysis	1197 (317)	937 (1052)	964 (2147)
	Prevalent transplants	1769 (468)	296 (332)	242 (539)
	Total prevalence	2966 (785)	1233 (1384)	1206 (2686)
	Deaths	289 (77)	213 (239)	155 (345)
2023	New patients	318 (82)	185 (205)	219 (478)
	New transplants	110 (28)	33 (37)	30 (66)
	Pre-emptive transplants	23 (6)	2 (2)	0 (0)
	Prevalent dialysis	1244 (321)	921 (1019)	1016 (2219)
	Prevalent transplants	1798 (464)	312 (345)	254 (555)
	Total prevalence	3042 (785)	1233 (1364)	1270 (2774)
	Deaths	236 (61)	190 (210)	152 (332)

Patients with unreported ethnicity are excluded.

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CAUSE OF DEATH

The causes of death in 2023 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 2023, Aotearoa New Zealand

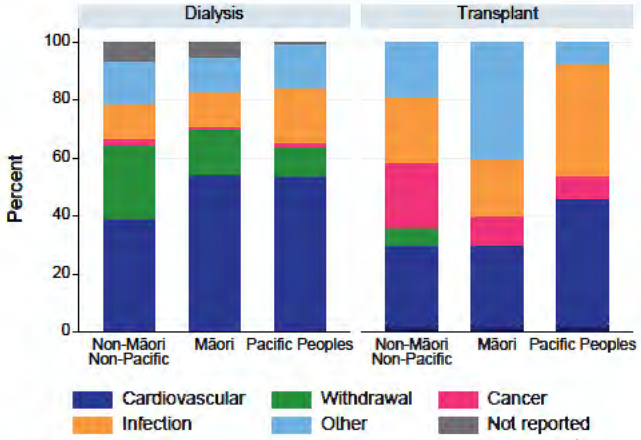

Table 9.10
Cause of Death by Modality and Ethnicity, Aotearoa New Zealand 2023

Modality	Cause of death	Non-Māori, non-Pacific	Māori	Pacific Peoples
Dialysis	Cardiovascular	72 (39%)	98 (54%)	75 (54%)
	Withdrawal	46 (25%)	28 (16%)	14 (10%)
	Cancer	4 (2%)	2 (1%)	2 (1%)
	Infection	22 (12%)	21 (12%)	26 (19%)
	Other	27 (15%)	22 (12%)	21 (15%)
	Not reported	12 (7%)	9 (5%)	1 (1%)
	Total	**183**	**180**	**139**
Transplant	Cardiovascular	16 (30%)	3 (30%)	6 (46%)
	Withdrawal	3 (6%)	0 (0%)	0 (0%)
	Cancer	12 (23%)	1 (10%)	1 (8%)
	Infection	12 (23%)	2 (20%)	5 (38%)
	Other	10 (19%)	4 (40%)	1 (8%)
	Not reported	0 (0%)	0 (0%)	0 (0%)
	Total	**53**	**10**	**13**

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 2019 - 2023

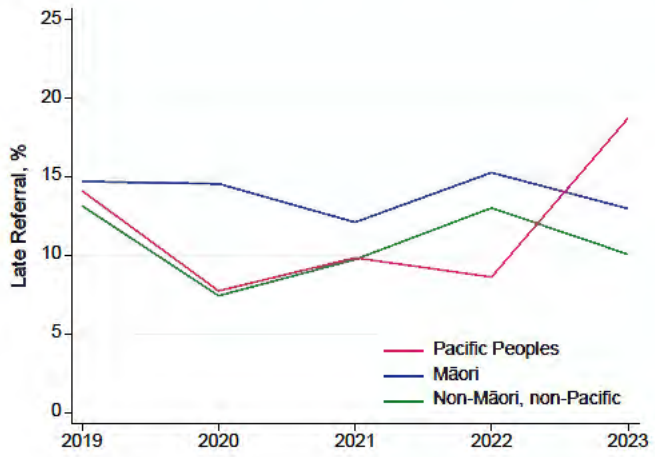

Table 9.11
Percentage of Late Referral by Ethnicity Aotearoa New Zealand 2019-2023

Year	Non-Māori, non-Pacific	Māori	Pacific Peoples
2019	13%	15%	14%
2020	7%	15%	8%
2021	10%	12%	10%
2022	13%	15%	9%
2023	10%	13%	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, 2023, Estimated Resident Population by Age and Sex (1991+) (Annual-Jun), NZ Infoshare, viewed 14 Dec 2023, 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