

CHAPTER 9



End Stage Kidney Disease in Aotearoa/New Zealand

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

Whakapūpūtia mai o manuka, kia kore ai e whati.

Cluster the branches of the manuka, so they will not break

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Executive Summary

This chapter presents information about the rates of end-stage kidney disease in Aotearoa/New Zealand, including information stratified by age, gender, and ethnicity. Clinical care patterns for treatment of end-stage kidney disease including dialysis and transplantation are described. Population statistics are drawn from estimates from Statistics New Zealand to calculate disease and treatment rates. Ethnicity population data are projections produced by Statistics New Zealand according to assumptions agreed to by the New Zealand Ministry of Health.

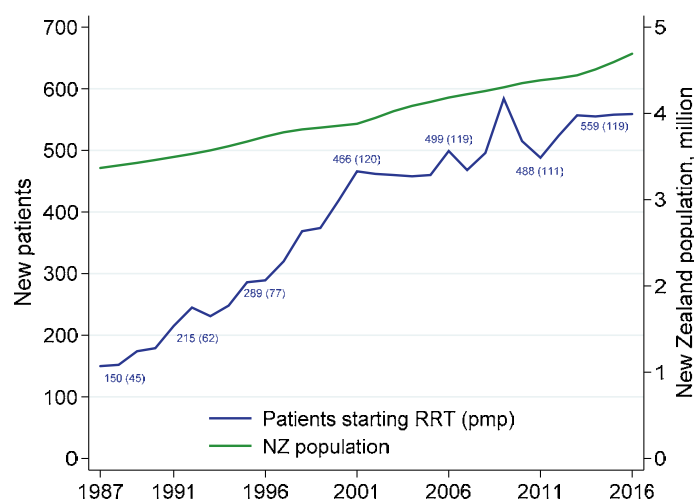
Suggested citation

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Incidence of Renal Replacement Therapy (RRT)

In 2016, 559 adults and children started renal replacement therapy (RRT) in New Zealand, equivalent to 119 per million of population (pmp) (Figure 9.1 and Table 9.1). The proportion of the New Zealand population commencing RRT is similar to that of Australia (119 versus 117 pmp in 2016).

Figure 9.1 - Incidence of Renal Replacement Therapy - New Zealand 1987-2016

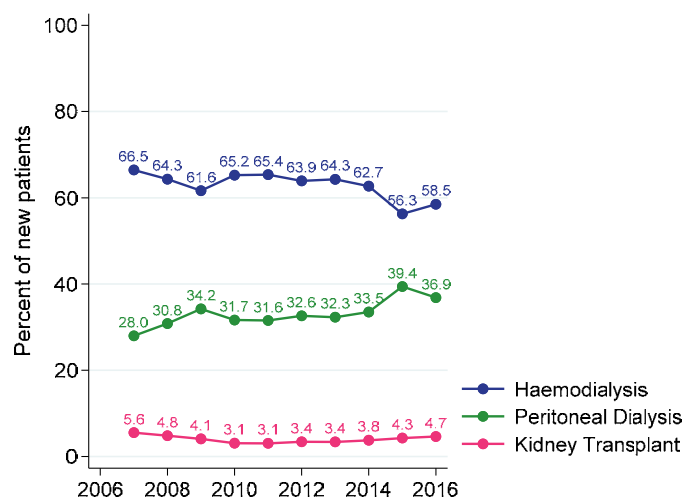


The proportion of patients who start RRT with a pre-emptive kidney transplant in New Zealand is increasing and now represents 5% of all incident patients (Figure 9.2). Similarly, the proportion of patients who start RRT with peritoneal dialysis has increased from 32.6% of all patients in 2012 to 36.9% of all patients starting RRT in 2016. The proportion commencing RRT with haemodialysis has decreased from 63.9% to 58.5% between 2012 and 2016.

Table 9.1 Number (pmp) who Commenced Renal Replacement Therapy in New Zealand, 2012-2016

	2012	2013	2014	2015	2016
Total	524 (119)	557 (125)	555 (123)	558 (121)	559 (119)
Transplant	18 (4)	19 (4)	21 (5)	24 (5)	26 (6)
Haemodialysis	335 (76)	358 (81)	348 (77)	314 (68)	327 (70)
Peritoneal Dialysis	171 (39)	180 (41)	186 (41)	220 (48)	206 (44)

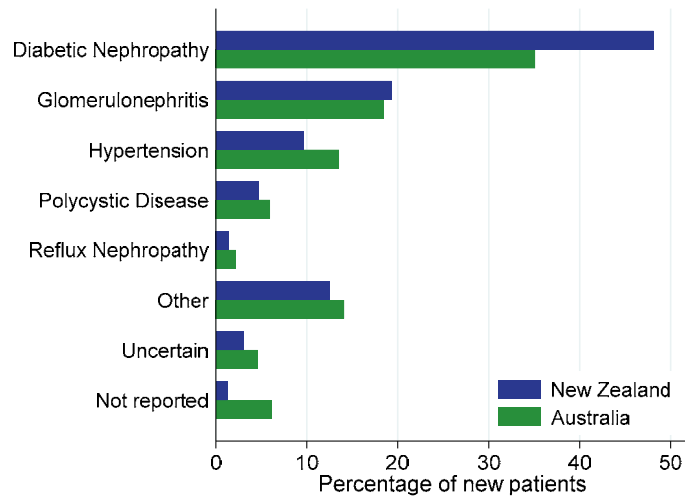
Figure 9.2 - Trends in Modality at Start of Renal Replacement Therapy - New Zealand 2007-2016



Primary Renal Disease

The leading cause of end stage kidney disease in New Zealand is diabetes (48.1%), followed by glomerulonephritis (19.3%) (Figure 9.3).

Figure 9.3 - Primary Renal Disease of New Patients Commencing Renal Replacement Therapy, 2016

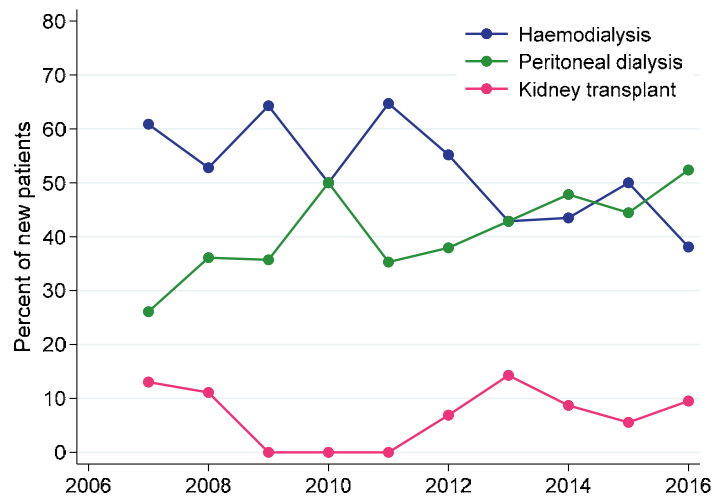


Children and Young Adults

In 2016, 21 patients in the 0-24-year-old age group commenced renal replacement therapy (13 pmp) in New Zealand. The incidence rate of RRT among young patients has ranged between 9 and 19 pmp from 2012-2016. The incidence rate of RRT is variable due to the low numbers of patients commencing RRT in this age group.

Of the 21 younger New Zealand patients commencing RRT in 2016, 2 (10%) patients received a pre-emptive transplant, 11 (52%) patients commenced with peritoneal dialysis, and 8 (38%) patients commenced with haemodialysis (Figure 9.4).

Figure 9.4 - Children and Young Adults (0-24 years) Commencing RRT - New Zealand 2007-2016



Age

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

The highest incidence of renal replacement therapy in New Zealand is among patients in the 65-74-year age group (332 pmp). Children, young adults, and adults 85 years and older have the lowest rates of renal replacement therapy

Figure 9.5 - Incidence of Renal Replacement Therapy by Age Group - New Zealand, 2007-2016

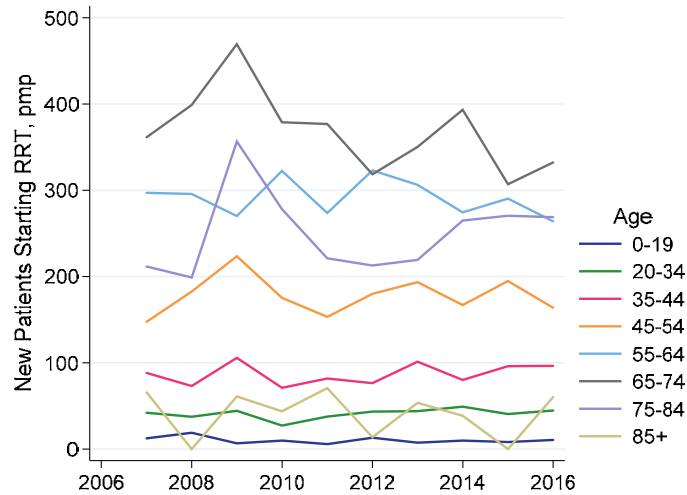
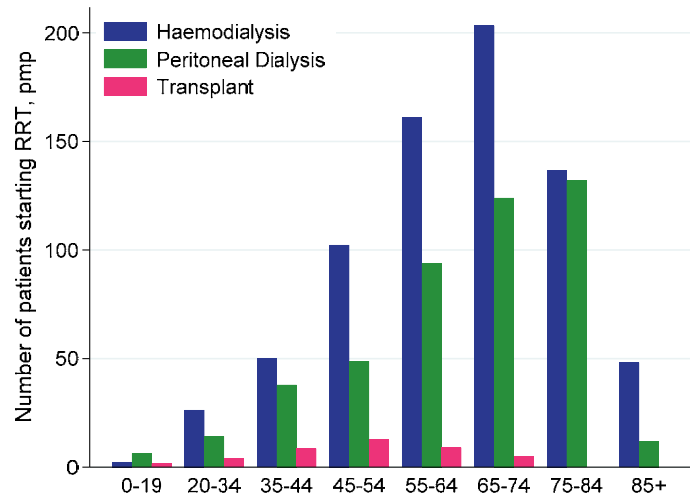


Figure 9.6 - Incidence of RRT by Age Group and Modality - Per Million Population, New Zealand 2016

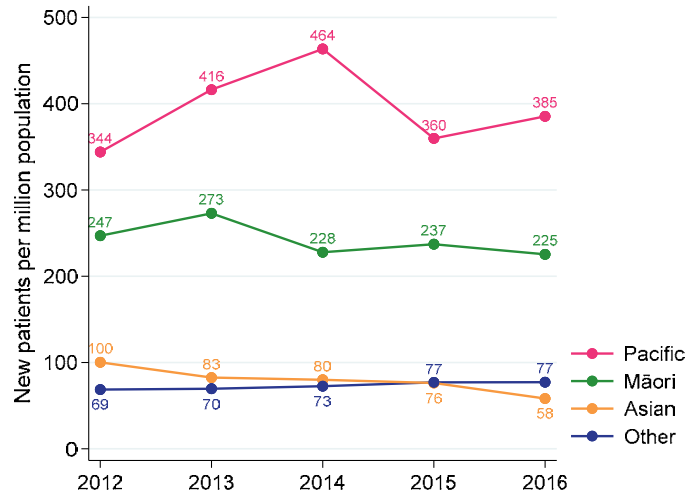


Ethnicity

There are marked and persistent inequities in the incidence and prevalence of end-stage kidney disease and treatment practices in renal replacement therapy based on ethnicity in New Zealand.

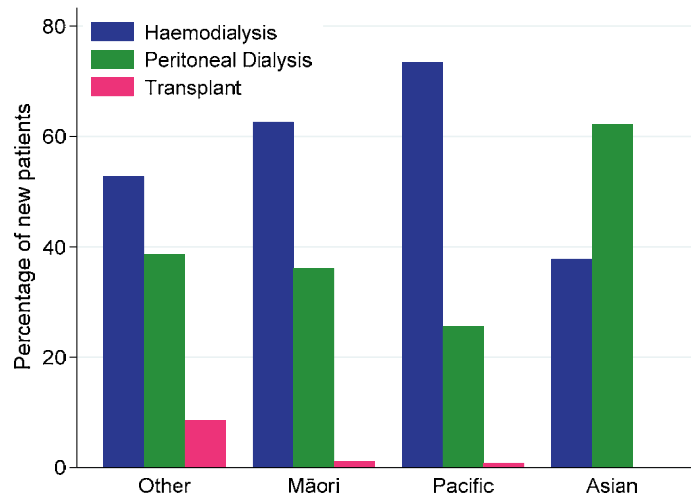
The incidence of commencing renal replacement therapy is lowest among the Asian population (58 pmp) and appears to be decreasing over time (Figure 9.7). The incidence of renal replacement therapy is markedly higher among the Pacific (385 pmp) and Māori (225 pmp) populations, compared to Other ethnicities (77 pmp), including the New Zealand European population.

Figure 9.7 - Incidence of RRT by Ethnicity in New Zealand 2012-2016



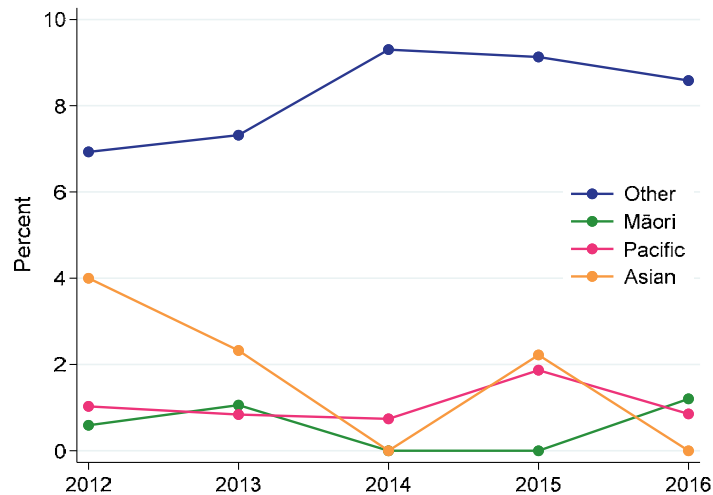
Māori, Pacific and Other ethnicity patients had the highest proportion of patients starting dialysis with haemodialysis (63, 74 and 53 per 100 incident RRT patients), while among Asian patients, the highest proportion of patients started RRT on peritoneal dialysis (62 per 100 incident RRT patients) (Figure 9.8). Overall, 9 Other ethnicity patients had a pre-emptive kidney transplant per 100 incident patients, while there was one pre-emptive kidney transplant per 100 incident patients among Māori patients, one among Pacific patients, and zero among Asian patients.

Figure 9.8 - Incidence of RRT by Ethnicity and Modality - New Zealand 2016



The rate of pre-emptive kidney transplants has continued to be markedly lower among Māori, Pacific, and Asian patients, compared to Other ethnicities (Figure 9.9).

Figure 9.9 - Percentage of Patients Starting RRT with Pre-emptive Kidney Transplant in New Zealand 2012-2016

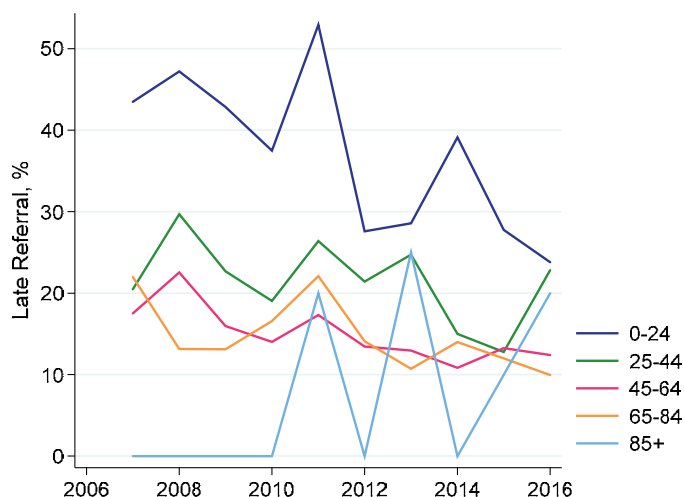


Late Referral to Nephrology Services

The rate of late referrals (defined as the first assessment by a specialist nephrologist within 3 months of commencing dialysis) has decreased in New Zealand over time. Late referrals represented 14% of all patients who commenced renal replacement therapy in 2016. Late referrals reduce opportunities for patients to prepare for their preferred modality of dialysis or to have pre-emptive transplantation.

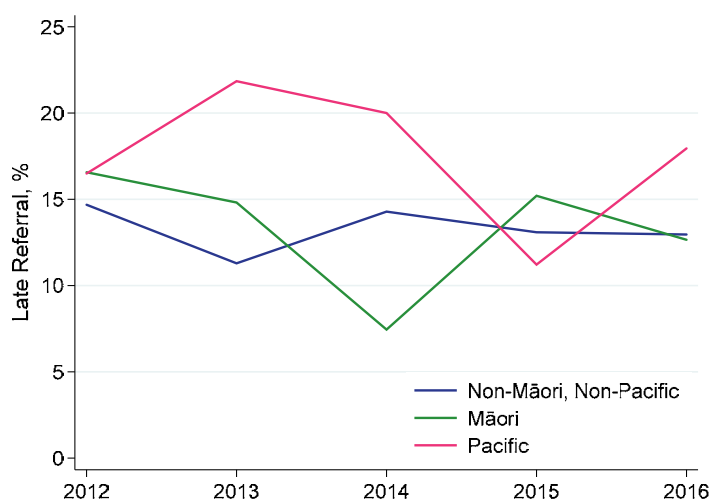
Younger New Zealand patients experience the highest rate of late referral. The highest rate of late referral has occurred among the 0-24-year-old age group in the previous decade (Figure 9.10).

Figure 9.10 - Late Referral Rates by Age Group - New Zealand 2007 - 2016



There is little evidence of different late referral rates by ethnicity in New Zealand (Figure 9.11).

Figure 9.11 - Late Referral Rates by Ethnicity - New Zealand 2012 - 2016



Prevalence of Renal Replacement Therapy

There were 4532 people (966 pmp) receiving renal replacement therapy in the form of dialysis or a kidney transplant in New Zealand at the end of 2016 (Figures 9.12-9.13 and Table 9.2). Overall New Zealand continues to have a higher prevalence (586 pmp) of dialysis patients as compared to Australia (527 pmp), and a lower prevalence of people treated with a kidney transplant (380 pmp versus 461 pmp).

Figure 9.12 - Prevalence of Dialysis and Transplantation - New Zealand 1987-2016

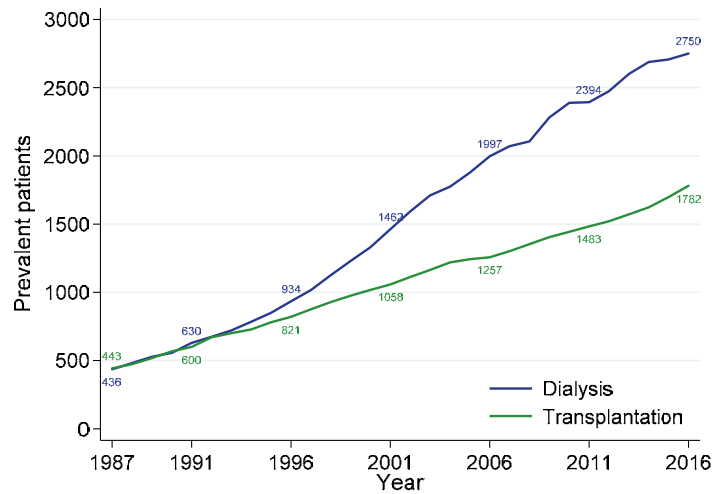
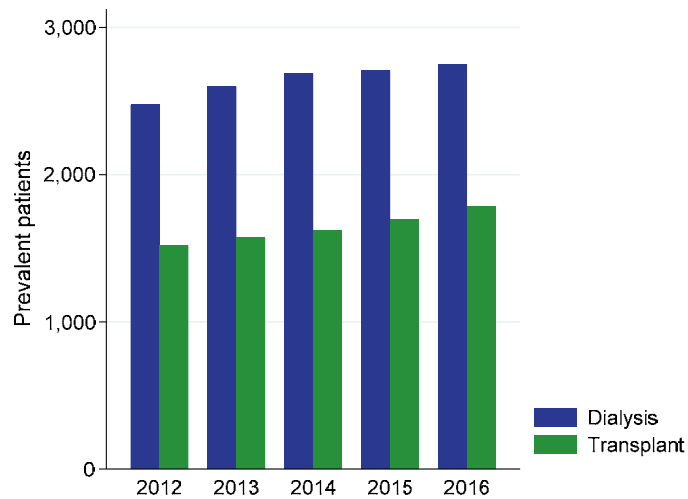


Table 9.2 Prevalence of Renal Replacement Therapy (pmp) in New Zealand 2012-2016

	2012	2013	2014	2015	2016
Total	3996 (907)	4171 (939)	4311 (956)	4405 (958)	4532 (966)
Transplant	1521 (345)	1571 (354)	1623 (360)	1698 (369)	1782 (380)
Dialysis	2475 (561)	2600 (585)	2688 (596)	2707 (589)	2750 (586)

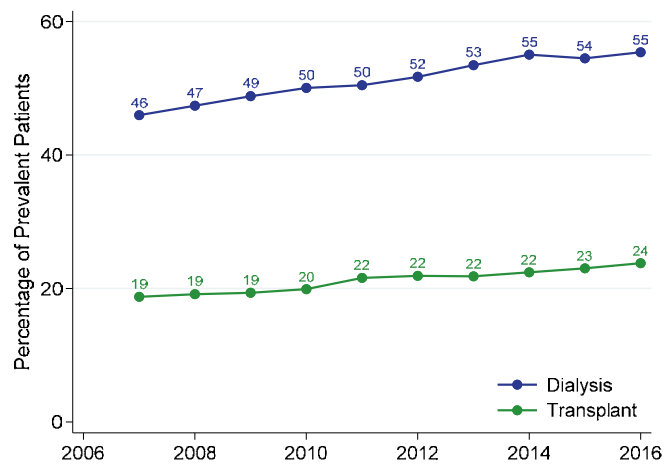
Figure 9.13 - Prevalence of Renal Replacement Therapy - New Zealand 2012-2016



Diabetes

The percentage of prevalent patients with diabetes as a comorbidity has increased by 9% over the previous decade (Figure 9.14).

Figure 9.14 - Diabetes as a Comorbidity in Prevalent Patients - New Zealand, 2007-2016



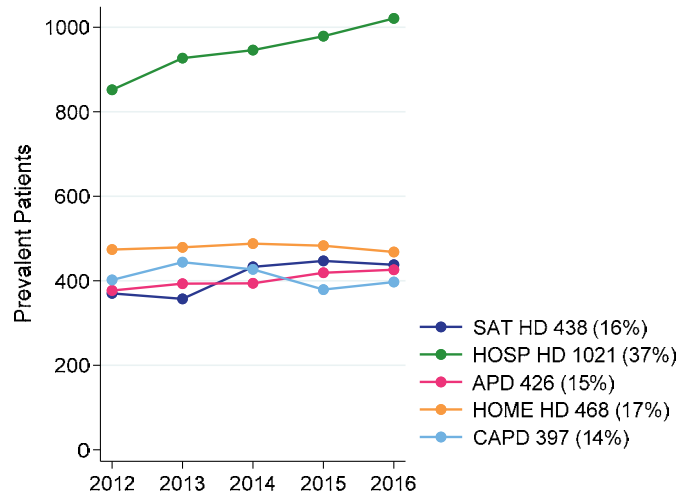
Dialysis

In 2016, 47% of the 2750 New Zealand dialysis patients were treated with home-based dialysis (peritoneal dialysis or home haemodialysis), as compared to 28% in Australia.

Home-based dialysis therapies consisted of 15% of patients treated with automated peritoneal dialysis, 14% treated with continuous ambulatory peritoneal dialysis, and 17% treated with home haemodialysis.

Figure 9.15 shows trends in the method and location of dialysis in New Zealand over 2012-2016.

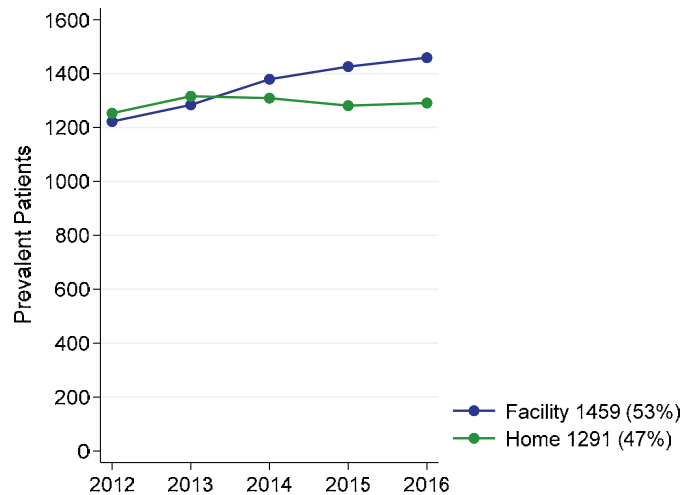
Figure 9.15 - Method and Location of Dialysis - New Zealand, 2012-2016



Overall, 53% of patients on dialysis were treated with haemodialysis in a satellite unit (16%) or in a hospital unit (37%).

Figure 9.16 shows trends in the home and facility-based dialysis in New Zealand over 2012-2016.

Figure 9.16 - Home and Facility Based Dialysis - New Zealand, 2012-2016



Transplantation

The National Renal Transplant Service (NRTS) was established in New Zealand in early 2014 with funding from the New Zealand Government. The purpose of the NRTS is to increase kidney transplantation rates in New Zealand with an initial focus on living donor kidney transplantation.

In 2016, 172 patients (37 pmp) were treated with a kidney transplant – the highest number in any calendar year in New Zealand (Figure 9.17). There were increases in rates of living and deceased kidney donation. The New Zealand transplant rate (37 pmp) remains lower than for Australia (45 pmp).

Figure 9.17 - New Kidney Transplants in New Zealand 2012-2016

