

CHAPTER 2



Prevalence of Renal Replacement Therapy for End Stage Kidney Disease

Summarising the number of prevalent renal replacement therapy patients in Australia and New Zealand, the prevalence rate per million population and the demographics and clinical characteristics of prevalent patients.

Contents

Suggested citation	2
All Renal Replacement Therapy Modalities	3
Dialysis	7
Co-morbidities.....	8

Suggested citation

ANZDATA Registry. 40th Report, Chapter 2: Prevalence of End Stage Kidney Disease. Australia and New Zealand Dialysis and Transplant Registry, Adelaide, Australia. 2018. Available at: <http://www.anzdata.org.au>

All Renal Replacement Therapy Modalities

Table 2.1 shows the number of prevalent patients treated with renal replacement therapy in Australia and New Zealand over the last 20 years. The prevalence rate per million population (pmp) is also shown. The prevalence of renal replacement therapy continues to grow in both countries, however, the prevalence rate (pmp) for patients treated with dialysis fell in 2016 in both Australia and New Zealand. Table 2.2 shows the same data for the last 5 years, but with dialysis modality categorised.

Table 2.1 Prevalence (pmp) of Renal Replacement Therapy 1997-2016

Year	Australia			New Zealand		
	Dialysis	Transplant	Total	Dialysis	Transplant	Total
1997	5187 (282)	4737 (257)	9924 (539)	1017 (269)	876 (232)	1893 (501)
1998	5535 (297)	4966 (267)	10501 (564)	1126 (295)	929 (244)	2055 (539)
1999	6017 (320)	5137 (273)	11154 (593)	1230 (321)	976 (254)	2206 (575)
2000	6408 (337)	5343 (281)	11751 (618)	1331 (345)	1018 (264)	2349 (609)
2001	6851 (355)	5565 (289)	12416 (644)	1462 (377)	1058 (273)	2520 (649)
2002	7262 (373)	5851 (300)	13113 (673)	1594 (404)	1113 (282)	2707 (686)
2003	7718 (391)	6083 (308)	13801 (700)	1711 (425)	1164 (289)	2875 (714)
2004	8003 (402)	6388 (320)	14391 (722)	1774 (434)	1219 (298)	2993 (732)
2005	8638 (428)	6651 (330)	15289 (758)	1878 (454)	1243 (301)	3121 (755)
2006	9262 (453)	6980 (341)	16242 (794)	1997 (477)	1257 (300)	3254 (778)
2007	9732 (467)	7252 (348)	16984 (815)	2071 (490)	1302 (308)	3373 (799)
2008	10178 (479)	7660 (360)	17838 (839)	2106 (494)	1353 (318)	3459 (812)
2009	10482 (483)	8051 (371)	18533 (854)	2282 (530)	1405 (327)	3687 (857)
2010	10742 (488)	8510 (386)	19252 (874)	2389 (549)	1443 (332)	3832 (881)
2011	11091 (496)	8872 (397)	19963 (894)	2394 (546)	1483 (338)	3877 (884)
2012	11547 (508)	9271 (408)	20818 (916)	2475 (561)	1521 (345)	3996 (907)
2013	11864 (513)	9665 (418)	21529 (931)	2600 (585)	1571 (354)	4171 (939)
2014	12262 (523)	10085 (430)	22347 (953)	2688 (596)	1623 (360)	4311 (956)
2015	12556 (528)	10508 (442)	23064 (970)	2707 (589)	1698 (369)	4405 (958)
2016	12706 (527)	11134 (461)	23840 (988)	2750 (586)	1782 (380)	4532 (966)

Table 2.2 Prevalence (pmp) of Renal Replacement Therapy by Modality 2012-2016

Country	Patients	2012	2013	2014	2015	2016
	Total	20818 (916)	21529 (931)	22347 (953)	23064 (970)	23840 (988)
Australia	Transplant	9271 (408)	9665 (418)	10085 (430)	10508 (442)	11134 (461)
	Dialysis	11547 (508)	11864 (513)	12262 (523)	12556 (528)	12706 (527)
	Proportion home	29%	29%	30%	29%	28%
	Proportion satellite HD	49%	49%	49%	49%	50%
	Proportion PD	20%	20%	20%	20%	19%
	Total	3996 (907)	4171 (939)	4311 (956)	4405 (958)	4532 (966)
New Zealand	Transplant	1521 (345)	1571 (354)	1623 (360)	1698 (369)	1782 (380)
	Dialysis	2475 (561)	2600 (585)	2688 (596)	2707 (589)	2750 (586)
	Proportion home	51%	51%	49%	47%	47%
	Proportion satellite HD	15%	14%	16%	17%	16%
	Proportion PD	31%	32%	31%	29%	30%

Table 2.3 and figures 2.1-2.2 show the 2016 prevalence (pmp) of RRT by age groups. In both countries the modal age group was 55-64, although the highest prevalence rates were in the 65-74 year-old group in New Zealand and

the 75-84 year old group in Australia. The prevalence in the 75-84 and 85+ age groups was substantially higher in Australia than in New Zealand.

Table 2.3 Prevalence (pmp) of Renal Replacement Therapy by Age 2016

Age	Australia	New Zealand
0-4	46 (29)	8 (26)
5-14	166 (56)	34 (55)
15-24	485 (153)	102 (153)
25-34	1148 (322)	299 (469)
35-44	2483 (768)	479 (825)
45-54	4432 (1406)	953 (1500)
55-64	5708 (2044)	1224 (2213)
65-74	5511 (2645)	1061 (2631)
75-84	3244 (2910)	345 (1627)
85+	617 (1273)	27 (325)

Figure 2.1.1 - Prevalent RRT Patient Numbers - Australia - 31 December 2016

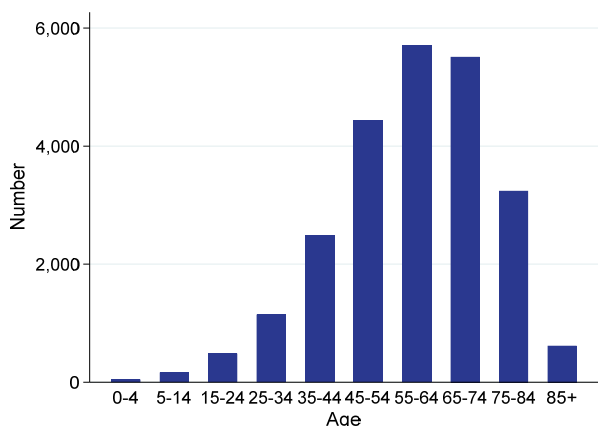


Figure 2.1.2 - Prevalent RRT Patients Per Million Popⁿ - Australia - 31 December 2016

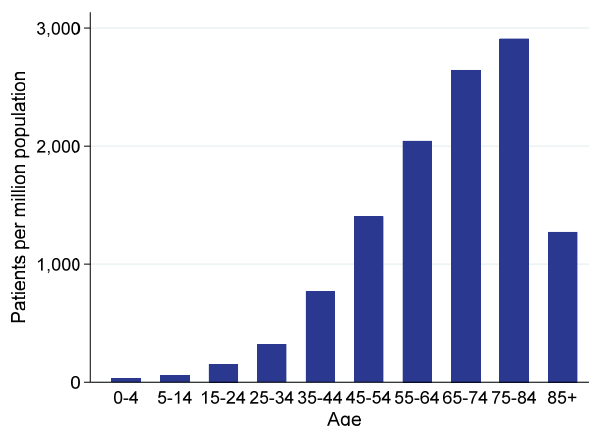


Figure 2.2.1 - Prevalent RRT Patient Numbers - New Zealand - 31 December 2016

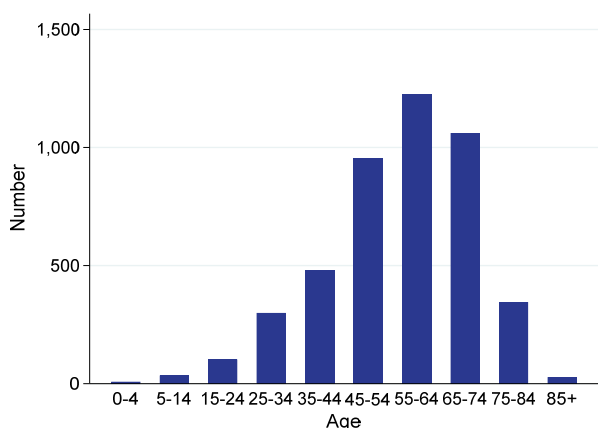


Figure 2.2.2 - Prevalent RRT Patients Per Million Popⁿ - New Zealand - 31 December 2016

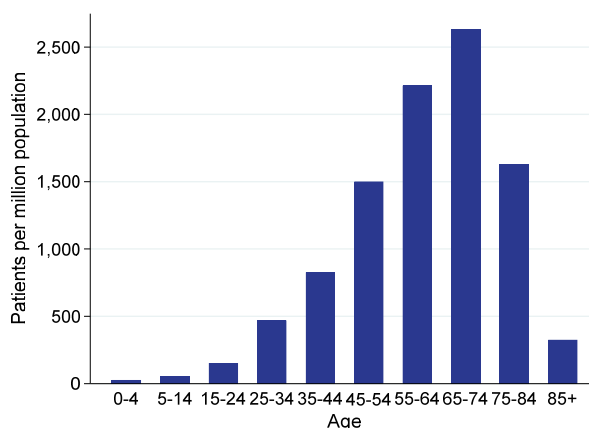


Table 2.4 shows the prevalence (pmp) of RRT by state over 2012-2016. In Australia at the end of 2016 the Northern Territory had the highest prevalence of dialysis patients and Tasmania the lowest; the ACT had the highest prevalence of transplant patients and Western Australia the lowest.

Table 2.4 Prevalence (pmp) of Renal Replacement Therapy by State 2012-2016

Modality	State	2012	2013	2014	2015	2016
Dialysis	QLD	2105 (461)	2226 (479)	2331 (494)	2406 (503)	2376 (490)
	NSW	3764 (515)	3823 (516)	3906 (520)	3947 (518)	3987 (516)
	ACT	267 (712)	286 (751)	283 (734)	277 (708)	287 (724)
	VIC	2811 (499)	2908 (507)	2984 (511)	3035 (511)	3040 (501)
	TAS	217 (424)	218 (425)	229 (445)	242 (468)	229 (441)
	SA	738 (446)	752 (450)	752 (446)	767 (451)	806 (472)
	NT	500 (2120)	520 (2144)	558 (2293)	613 (2509)	636 (2597)
	WA	1145 (470)	1131 (450)	1219 (477)	1269 (490)	1345 (514)
	Australia	11547 (508)	11864 (513)	12262 (523)	12556 (528)	12706 (527)
	New Zealand	2475 (561)	2600 (585)	2688 (596)	2707 (589)	2750 (586)
Transplant	QLD	1797 (393)	1863 (401)	1917 (406)	1967 (412)	2087 (431)
	NSW	2594 (355)	2701 (365)	2844 (379)	2996 (393)	3170 (410)
	ACT	235 (626)	239 (627)	241 (625)	249 (637)	267 (674)
	VIC	2495 (443)	2645 (461)	2827 (484)	2956 (497)	3145 (518)
	TAS	229 (447)	226 (440)	223 (433)	236 (457)	244 (470)
	SA	950 (574)	966 (578)	977 (580)	1009 (594)	1054 (617)
	NT	82 (348)	87 (359)	98 (403)	101 (413)	113 (461)
	WA	889 (365)	938 (373)	958 (375)	994 (384)	1054 (403)
	Australia	9271 (408)	9665 (418)	10085 (430)	10508 (442)	11134 (461)
	New Zealand	1521 (345)	1571 (354)	1623 (360)	1698 (369)	1782 (380)

Table 2.5 shows the same data by ethnicity.

Table 2.5 Prevalence of Renal Replacement Therapy by Ethnicity 2012-2016

Country	Ethnicity	Modality	2012	2013	2014	2015	2016	
Australia	Caucasian	Dialysis	8275	8376	8432	8467	8277	
		Transplant	7911	8168	8450	8696	9106	
	Aboriginal/ Torres Strait Islander	Dialysis	1426	1482	1582	1654	1727	
		Transplant	191	205	219	237	260	
	Asian	Dialysis	1159	1215	1280	1285	1331	
		Transplant	884	961	1033	1122	1204	
	Māori	Dialysis	117	120	133	132	136	
		Transplant	48	54	56	60	63	
	Pacific	Dialysis	327	345	375	408	438	
		Transplant	93	105	115	119	129	
	Other	Dialysis	204	274	369	464	535	
		Transplant	131	154	178	211	258	
	Not reported	Dialysis	39	52	91	146	262	
		Transplant	13	18	34	63	114	
	New Zealand	Caucasian	Dialysis	863	852	848	836	840
			Transplant	1148	1186	1207	1249	1281
		Aboriginal/ Torres Strait Islander	Dialysis	0	0	0	1	2
			Transplant	0	0	0	0	0
Asian		Dialysis	211	226	235	249	249	
		Transplant	124	130	138	142	151	
Māori		Dialysis	776	852	880	865	890	
		Transplant	150	148	159	173	191	
Pacific		Dialysis	602	644	688	699	708	
		Transplant	89	94	105	118	129	
Other		Dialysis	18	21	32	47	52	
		Transplant	9	11	12	13	20	
Not reported		Dialysis	5	5	5	10	9	
		Transplant	1	2	2	3	10	

Figure 2.3 shows the overall distribution of RRT modality by country at the end of 2016. The dialysis modalities are shown separately in figure 2.4. A substantially higher proportion of New Zealand dialysis patients receive dialysis at home (either PD or home HD) than in Australia. A higher proportion of patients on renal replacement therapy in Australia have a functioning renal transplant than in New Zealand.

Figure 2.3 - RRT Modality by Country - 2016

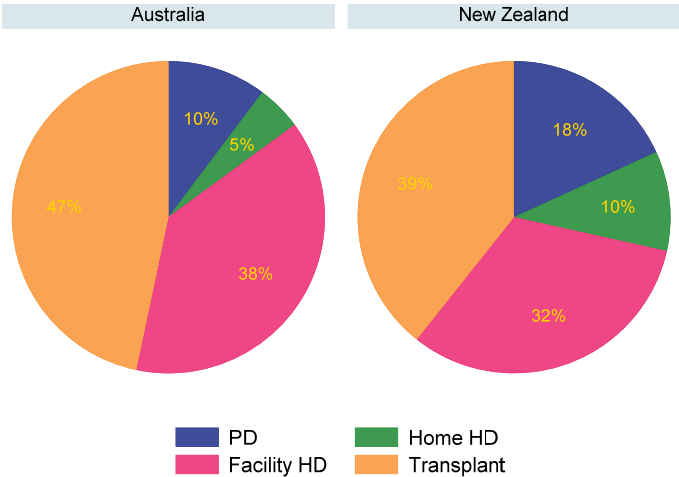
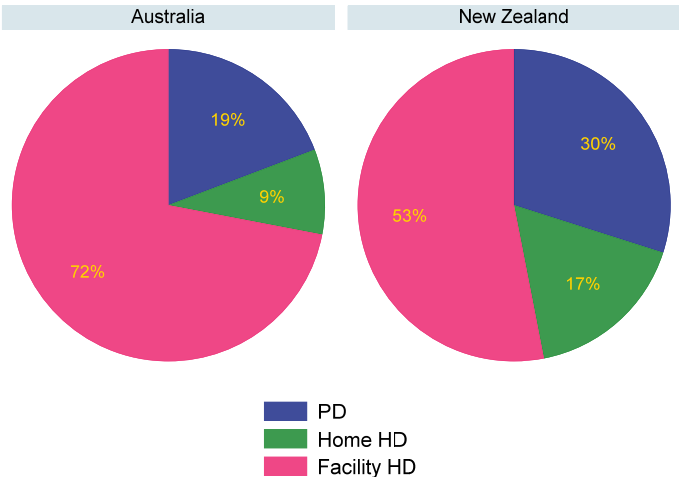


Figure 2.4 - Dialysis Modality by Country - 2016



Figures 2.5 and 2.6 show the same data by state. There was substantial variation in the types of RRT received between states; in particular, in the Northern Territory the large majority of patients were receiving satellite HD.

Figure 2.5 - RRT Modality by State - at End of 2016

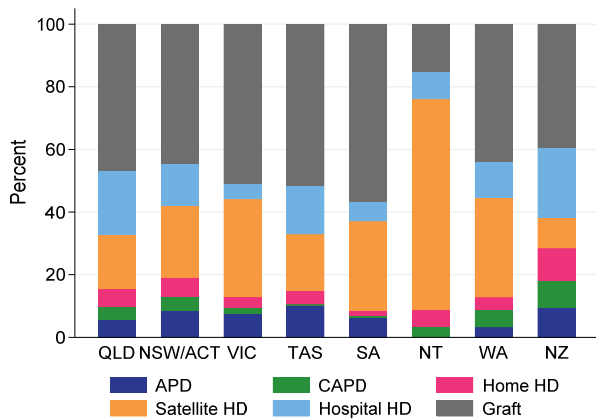
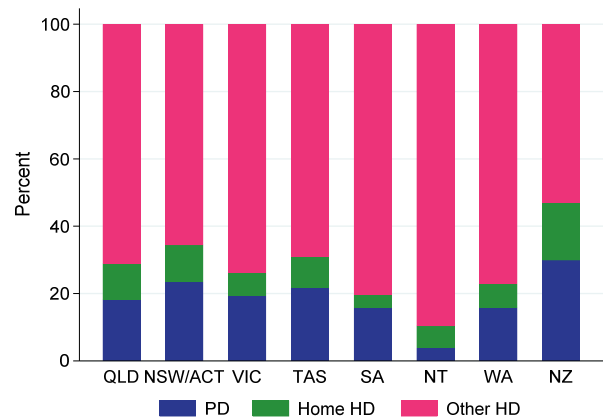


Figure 2.6 - Dialysis Modality by State - at End of 2016



Dialysis

Table 2.6 and figures 2.7-2.8 show the age distribution of prevalent dialysis patients in 2016. The dialysis population in New Zealand is slightly younger than that of Australia.

Table 2.6 Dialysis Prevalence (pmp) by Age - 2016

Age	Australia	New Zealand
0-4	27 (17)	4 (13)
5-14	25 (8)	8 (13)
15-24	138 (44)	51 (76)
25-34	450 (126)	152 (239)
35-44	924 (286)	285 (491)
45-54	1879 (596)	505 (795)
55-64	2674 (958)	733 (1325)
65-74	3241 (1556)	713 (1768)
75-84	2757 (2473)	276 (1302)
85+	591 (1219)	23 (277)

Figure 2.7.1 - Prevalent Dialysis Patient Numbers - Australia - 31 December 2016

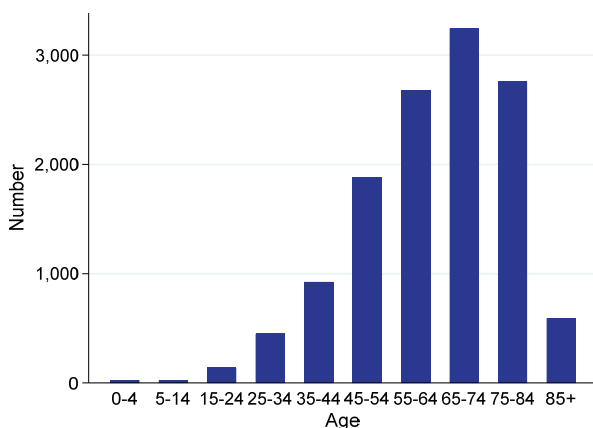


Figure 2.7.2 - Prevalent Dialysis Patients Per Million Popⁿ - Australia - 31 December 2016

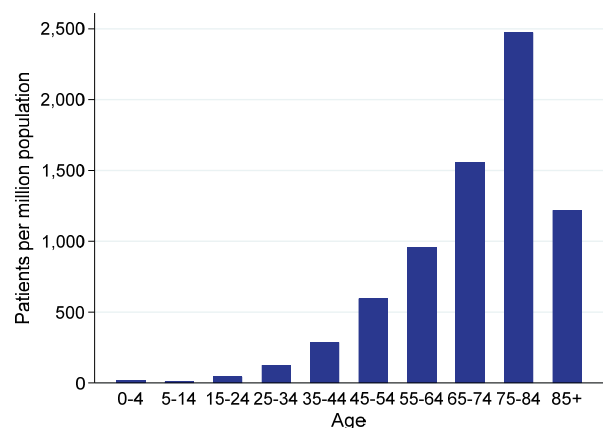


Figure 2.8.1 – Prevalent Dialysis Patient Numbers - New Zealand - 31 December 2016

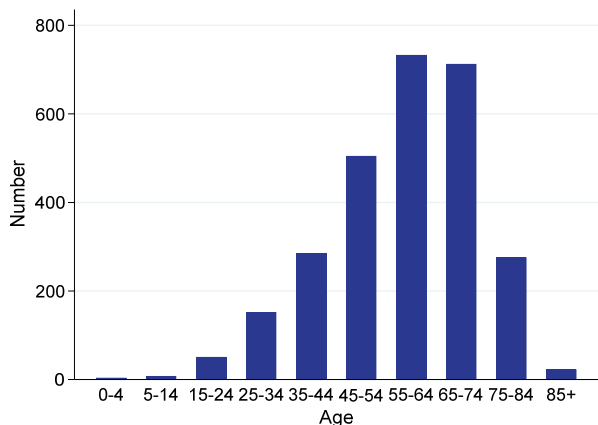


Figure 2.8.2 - Prevalent Dialysis Patients Per Million Popⁿ - New Zealand - 31 December 2016

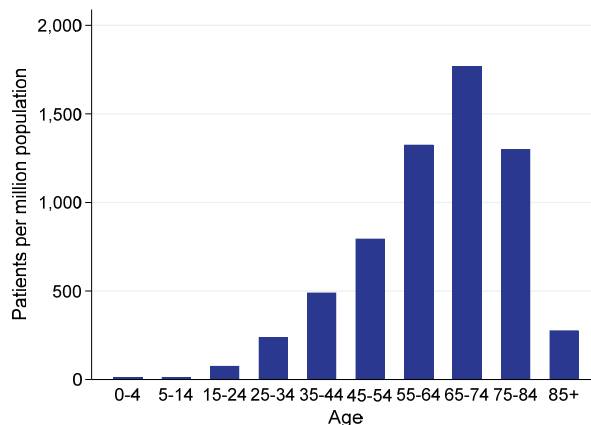


Figure 2.9 and table 2.7 show trends in the method and location of dialysis in Australia and New Zealand over 2012-2016. In Australia most of the growth is in satellite and hospital HD, whereas in New Zealand there is growth in hospital HD and a slight decline in home HD.

Figure 2.9.1 - Method and Location of Dialysis - Australia, 2012-2016

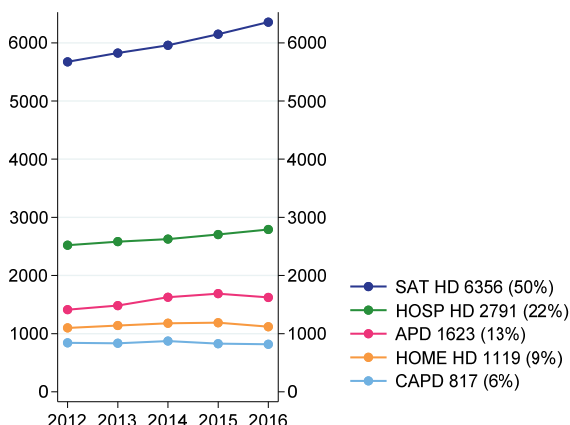


Figure 2.9.2 - Method and Location of Dialysis - New Zealand, 2012-2016

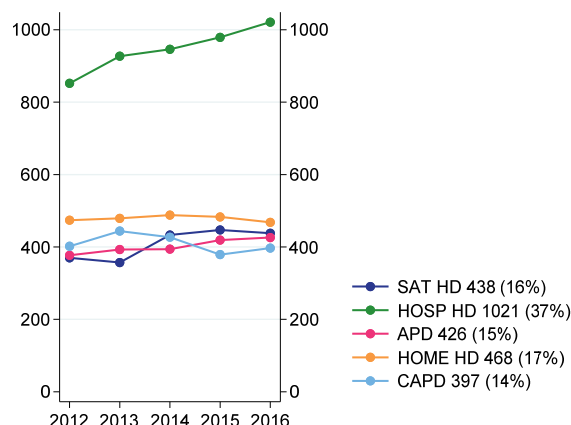


Table 2.7 Method and Location of Dialysis 2012-2016

Country	Dialysis Type	Modality	2012	2013	2014	2015	2016
Australia	PD	APD	1412 (63%)	1482 (64%)	1626 (65%)	1688 (67%)	1623 (67%)
	PD	CAPD	842 (37%)	835 (36%)	873 (35%)	827 (33%)	817 (33%)
	PD	Total	2254	2317	2499	2515	2440
	HD	Hospital	2521 (27%)	2582 (27%)	2626 (27%)	2704 (27%)	2791 (27%)
	HD	Satellite	5673 (61%)	5825 (61%)	5958 (61%)	6149 (61%)	6356 (62%)
	HD	Home	1099 (12%)	1140 (12%)	1179 (12%)	1188 (12%)	1119 (11%)
	HD	Total	9293	9547	9763	10041	10266
New Zealand	PD	APD	377 (48%)	393 (47%)	394 (48%)	419 (53%)	426 (52%)
	PD	CAPD	402 (52%)	444 (53%)	427 (52%)	379 (47%)	397 (48%)
	PD	Total	779	837	821	798	823
	HD	Hospital	852 (50%)	927 (53%)	946 (51%)	979 (51%)	1021 (53%)
	HD	Satellite	370 (22%)	357 (20%)	433 (23%)	447 (23%)	438 (23%)
	HD	Home	474 (28%)	479 (27%)	488 (26%)	483 (25%)	468 (24%)
	HD	Total	1696	1763	1867	1909	1927

Co-morbidities

Figure 2.10 shows trends in the prevalence of co-morbidities (with 95% CIs) in prevalent RRT patients over the last 10 years. In general, the rates of these co-morbidities appear to be falling over time, with the exception of lung disease in New Zealand.

Figure 2.11 shows the prevalence of diabetes. Although the majority of prevalent RRT patients are non-diabetic, there is a strong trend in both countries towards a higher percentage of patients with type II diabetes.

Figure 2.10.1 - Comorbid conditions at end of year - Australia

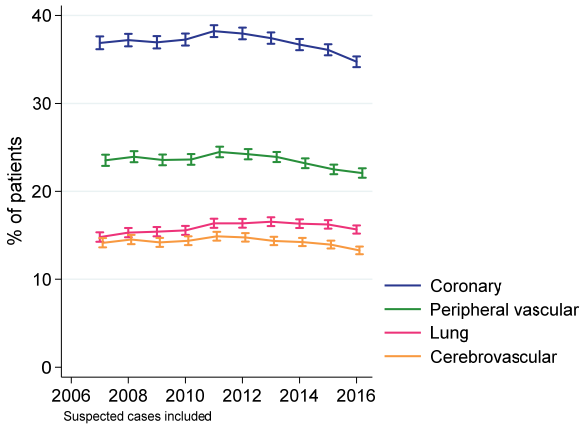


Figure 2.10.2 - Comorbid conditions at end of year - New Zealand

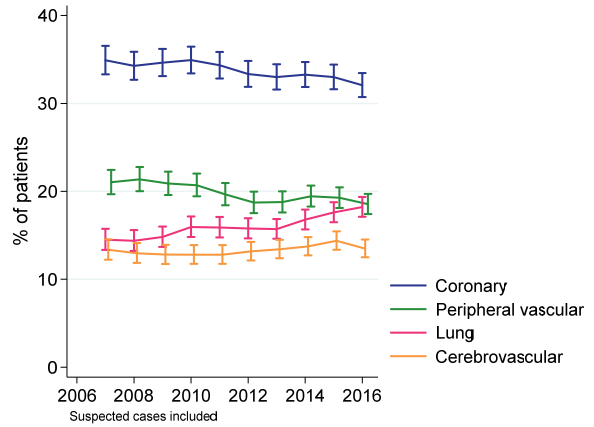


Figure 2.11 - Diabetes status at end of year

