



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.

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Suggested citation

ANZDATA Registry. 42nd Report, Chapter 2: Prevalence of Renal Replacement Therapy for End Stage Kidney Disease. Australia and New Zealand Dialysis and Transplant Registry, Adelaide, Australia. 2019. 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 per million population (pmp) is also shown. The prevalence of renal replacement therapy continues to grow in both countries. Table 2.2 shows the same data for the last 5 years, but with dialysis modality categorised.

Population estimates for Australia and New Zealand used throughout this chapter for the calculation of prevalence per million population were sourced from the Australian Bureau of Statistics (2018)¹ and Stats NZ (2018)².

Table 2.1 Prevalence (pmp) of Renal Replacement Therapy 1999-2018

Year	Australia			New Zealand		
	Dialysis	Transplant	Total	Dialysis	Transplant	Total
1999	6020 (320)	5135 (273)	11155 (593)	1230 (321)	976 (254)	2206 (575)
2000	6409 (337)	5340 (281)	11749 (617)	1331 (345)	1018 (264)	2349 (609)
2001	6852 (355)	5562 (289)	12414 (644)	1462 (377)	1058 (273)	2520 (649)
2002	7262 (373)	5848 (300)	13110 (672)	1594 (404)	1113 (282)	2707 (686)
2003	7718 (391)	6080 (308)	13798 (700)	1711 (425)	1164 (289)	2875 (714)
2004	8003 (402)	6384 (320)	14387 (722)	1774 (434)	1219 (298)	2993 (732)
2005	8639 (428)	6647 (329)	15286 (758)	1878 (454)	1243 (301)	3121 (755)
2006	9262 (453)	6979 (341)	16241 (794)	1997 (477)	1258 (301)	3255 (778)
2007	9731 (467)	7248 (348)	16979 (815)	2071 (490)	1303 (308)	3374 (799)
2008	10178 (479)	7659 (360)	17837 (839)	2106 (494)	1354 (318)	3460 (812)
2009	10483 (483)	8053 (371)	18536 (855)	2282 (530)	1407 (327)	3689 (857)
2010	10748 (488)	8509 (386)	19257 (874)	2389 (549)	1447 (333)	3836 (882)
2011	11102 (497)	8870 (397)	19972 (894)	2395 (546)	1488 (339)	3883 (886)
2012	11562 (509)	9269 (408)	20831 (916)	2475 (561)	1526 (346)	4001 (908)
2013	11886 (514)	9670 (418)	21556 (932)	2603 (586)	1576 (355)	4179 (941)
2014	12302 (524)	10078 (429)	22380 (953)	2692 (597)	1629 (361)	4321 (958)
2015	12611 (530)	10481 (440)	23092 (970)	2716 (591)	1704 (371)	4420 (962)
2016	12772 (528)	11056 (457)	23828 (985)	2763 (589)	1782 (380)	4545 (968)
2017	13032 (530)	11621 (472)	24653 (1002)	2779 (580)	1888 (394)	4667 (974)
2018	13399 (536)	12253 (490)	25652 (1026)	2846 (583)	1966 (402)	4812 (985)

Table 2.2 Prevalence (pmp) of Renal Replacement Therapy by Modality 2014-2018

Country	Patients	2014	2015	2016	2017	2018
	Total	22380 (953)	23092 (970)	23828 (985)	24653 (1002)	25652 (1026)
Australia	Transplant	10078 (429)	10481 (440)	11056 (457)	11621 (472)	12253 (490)
	Dialysis	12302 (524)	12611 (530)	12772 (528)	13032 (530)	13399 (536)
	Proportion home	30%	29%	28%	27%	26%
	Proportion satellite HD	48%	49%	50%	52%	52%
	Proportion PD	20%	20%	19%	19%	18%
	Total	4321 (958)	4420 (962)	4545 (968)	4667 (974)	4812 (985)
New Zealand	Transplant	1629 (361)	1704 (371)	1782 (380)	1888 (394)	1966 (402)
	Dialysis	2692 (597)	2716 (591)	2763 (589)	2779 (580)	2846 (583)
	Proportion home	49%	47%	47%	47%	45%
	Proportion satellite HD	16%	17%	16%	17%	18%
	Proportion PD	31%	29%	30%	31%	30%

Table 2.3 and figures 2.1-2.2 show the 2018 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 2018

Age	Australia	New Zealand
0-4	33 (21)	7 (23)
5-14	185 (59)	43 (67)
15-24	525 (162)	99 (147)
25-34	1232 (329)	304 (428)
35-44	2491 (751)	519 (881)
45-54	4638 (1450)	962 (1509)
55-64	6183 (2140)	1306 (2234)
65-74	6178 (2776)	1149 (2657)
75-84	3528 (2974)	400 (1757)
85+	659 (1308)	23 (265)

Figure 2.1.1 - Prevalent RRT Patient Numbers - Australia - 31 December 2018

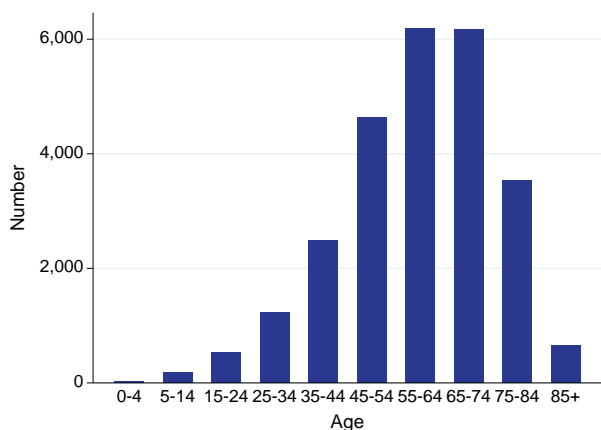


Figure 2.1.2 - Prevalent RRT Patients Per Million Population - Australia - 31 December 2018

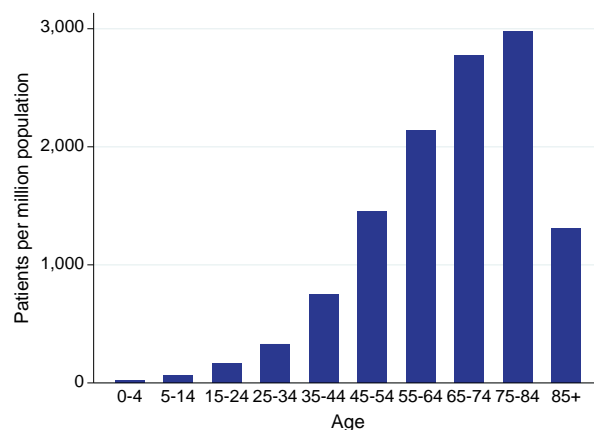


Figure 2.2.1 - Prevalent RRT Patient Numbers - New Zealand - 31 December 2018

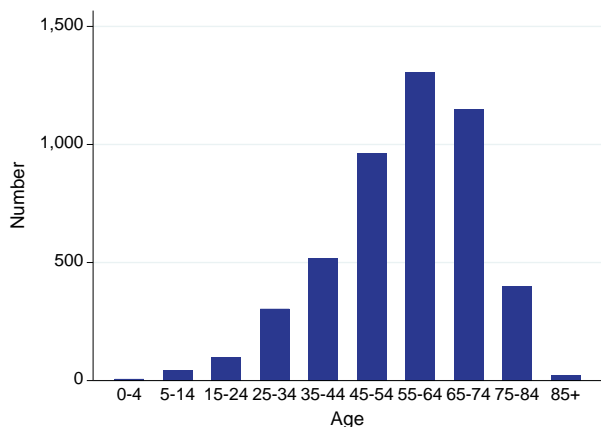


Figure 2.2.2 - Prevalent RRT Patients Per Million Population - New Zealand - 31 December 2018

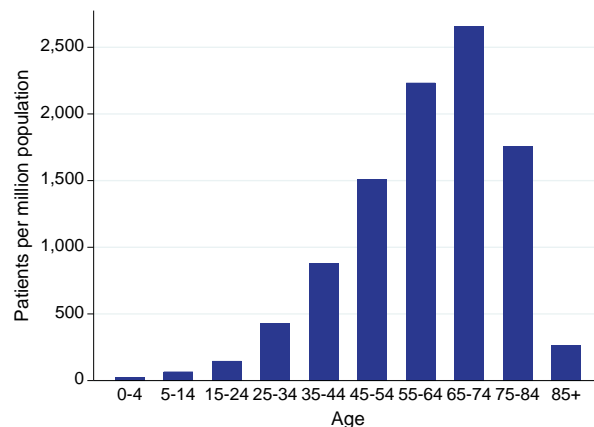


Table 2.4 shows the prevalence (pmp) of RRT by state over 2014-2018. In Australia at the end of 2018 the Northern Territory had the highest prevalence of dialysis patients and Tasmania the lowest; the Australian Capital Territory had the highest prevalence of transplant patients and New South Wales the lowest.

Table 2.4 Prevalence (pmp) of Renal Replacement Therapy by State 2014-2018

Modality	State	2014	2015	2016	2017	2018
Dialysis	QLD	2349 (498)	2435 (510)	2430 (502)	2536 (515)	2670 (533)
	NSW	3912 (521)	3957 (520)	3982 (515)	3957 (503)	4004 (501)
	ACT	285 (733)	282 (712)	292 (724)	273 (663)	269 (639)
	VIC	2988 (507)	3043 (505)	3076 (498)	3128 (495)	3210 (497)
	TAS	229 (446)	242 (470)	229 (443)	217 (415)	211 (400)
	SA	752 (446)	767 (451)	801 (468)	866 (502)	909 (524)
	NT	559 (2301)	613 (2505)	632 (2572)	685 (2767)	731 (2956)
	WA	1228 (488)	1272 (501)	1330 (520)	1370 (532)	1395 (537)
	Australia	12302 (524)	12611 (530)	12772 (528)	13032 (530)	13399 (536)
	New Zealand	2692 (597)	2716 (591)	2763 (589)	2779 (580)	2846 (583)
Transplant	QLD	1915 (406)	1964 (411)	2079 (429)	2179 (442)	2287 (456)
	NSW	2841 (378)	2983 (392)	3131 (405)	3289 (418)	3506 (439)
	ACT	247 (635)	257 (649)	275 (682)	302 (733)	299 (710)
	VIC	2823 (479)	2945 (489)	3123 (506)	3310 (524)	3529 (546)
	TAS	223 (434)	236 (458)	243 (470)	263 (503)	285 (540)
	SA	976 (579)	1004 (590)	1047 (611)	1055 (612)	1066 (614)
	NT	96 (395)	98 (401)	107 (436)	109 (440)	114 (461)
	WA	957 (380)	994 (391)	1051 (411)	1114 (433)	1167 (450)
	Australia	10078 (429)	10481 (440)	11056 (457)	11621 (472)	12253 (490)
	New Zealand	1629 (361)	1704 (371)	1782 (380)	1888 (394)	1966 (402)

Table 2.5 shows the same data by ethnicity.

Table 2.5 Prevalence of Renal Replacement Therapy by Ethnicity 2014-2018

Country	Ethnicity	Modality	2014	2015	2016	2017	2018	
Australia	Caucasian	Dialysis	8447	8498	8327	8261	8329	
	Caucasian	Transplant	8429	8659	9025	9356	9703	
	Aboriginal/Torres Strait Islander	Dialysis	1602	1678	1754	1880	1934	
	Aboriginal/Torres Strait Islander	Transplant	219	235	258	270	298	
	Asian	Dialysis	1286	1292	1347	1381	1448	
	Asian	Transplant	1036	1125	1203	1328	1434	
	Māori	Dialysis	132	132	135	139	138	
	Māori	Transplant	56	60	62	65	71	
	Pacific	Dialysis	378	411	446	495	525	
	Pacific	Transplant	116	119	128	132	156	
	Other	Dialysis	371	470	540	589	697	
	Other	Transplant	180	213	259	310	359	
	Not reported	Dialysis	86	130	223	287	328	
	Not reported	Transplant	42	70	121	160	232	
	New Zealand	Caucasian	Dialysis	848	836	839	812	798
		Caucasian	Transplant	1208	1250	1276	1298	1322
Aboriginal/Torres Strait Islander		Dialysis	0	1	2	2	2	
Aboriginal/Torres Strait Islander		Transplant	0	0	0	1	1	
Asian		Dialysis	238	252	254	254	263	
Asian		Transplant	141	145	154	179	186	
Māori		Dialysis	880	867	894	912	917	
Māori		Transplant	160	174	193	207	225	
Pacific		Dialysis	690	703	711	739	796	
Pacific		Transplant	105	118	128	163	182	
Other		Dialysis	32	47	53	50	57	
Other		Transplant	12	13	20	27	31	
Not reported		Dialysis	4	10	10	10	13	
Not reported		Transplant	3	4	11	13	19	

Figure 2.3 shows the overall distribution of RRT modality by country at the end of 2018. 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 2018

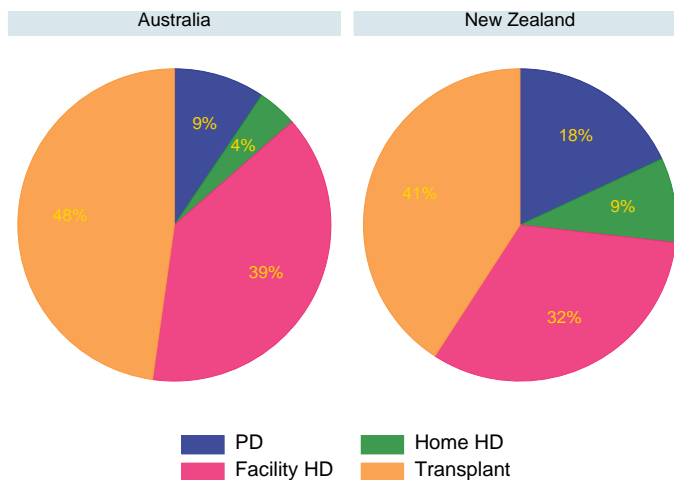
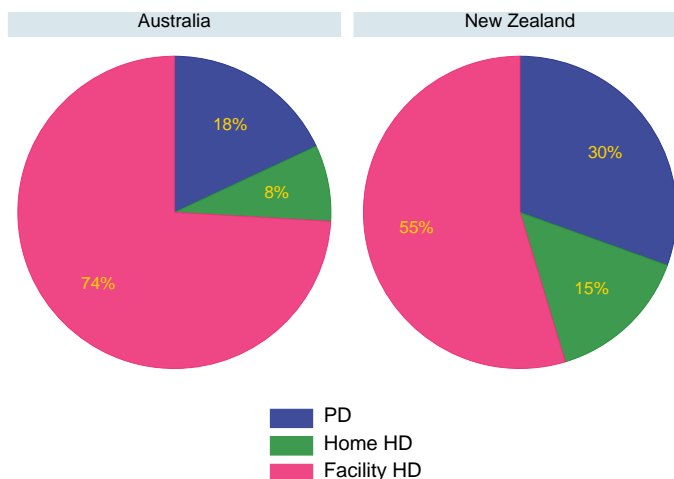


Figure 2.4 - Dialysis Modality by Country 2018



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 - 31 December 2018

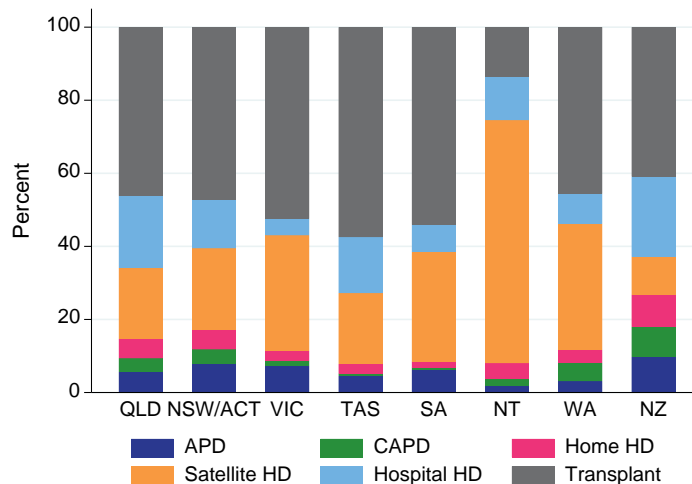
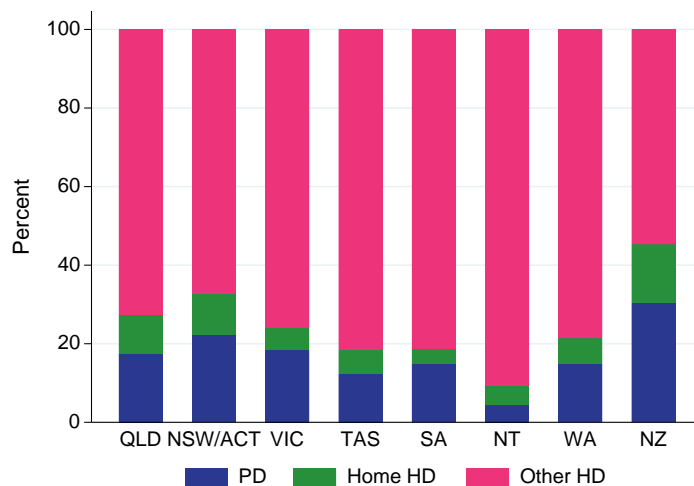


Figure 2.6 - Dialysis Modality by State - 31 December 2018



Dialysis

Table 2.6 and figures 2.7-2.8 show the age distribution of prevalent dialysis patients in 2018. The dialysis population in New Zealand is slightly younger than that of Australia.

Table 2.6 Dialysis Prevalence (pmp) by Age - 2018

Age	Australia	New Zealand
0-4	15 (9)	4 (13)
5-14	21 (7)	13 (20)
15-24	149 (46)	47 (70)
25-34	476 (127)	166 (234)
35-44	959 (289)	284 (482)
45-54	1945 (608)	509 (799)
55-64	2878 (996)	737 (1261)
65-74	3420 (1537)	753 (1741)
75-84	2915 (2457)	314 (1379)
85+	621 (1233)	19 (219)

Figure 2.7.1 - Prevalent Dialysis Patient Numbers - Australia - 31 December 2018

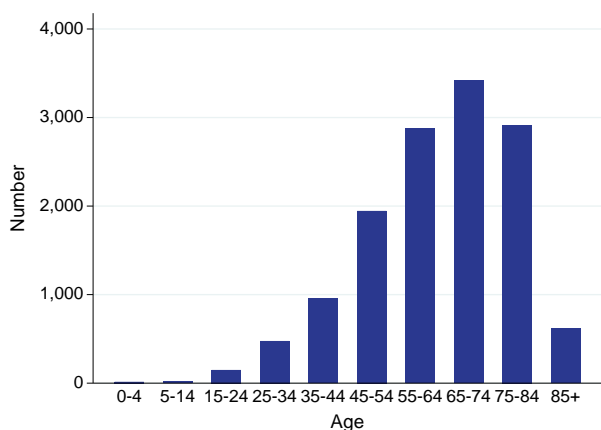


Figure 2.7.2 - Prevalent Dialysis Patients Per Million Population - Australia - 31 December 2018

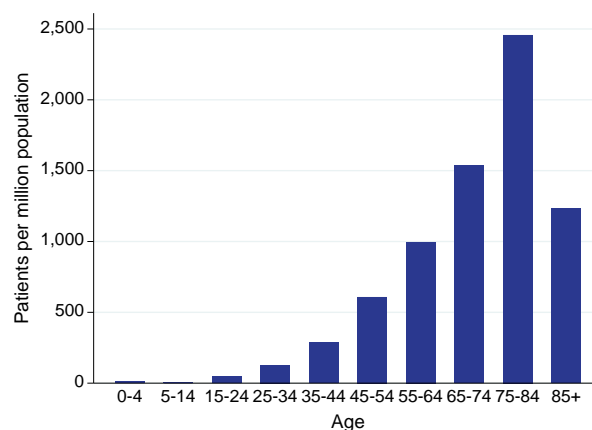


Figure 2.8.1 - Prevalent Dialysis Patient Numbers - New Zealand - 31 December 2018

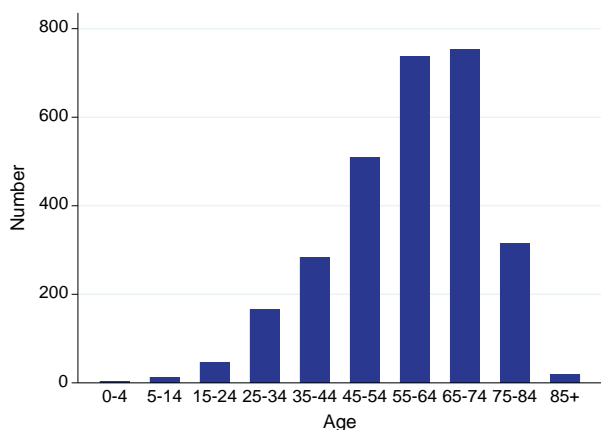


Figure 2.8.2 - Prevalent Dialysis Patients Per Million Population - New Zealand - 31 December 2018

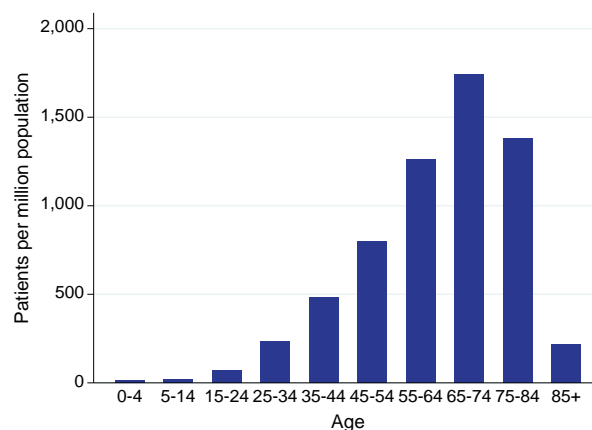


Figure 2.9 and table 2.7 show trends in the method and location of dialysis in Australia and New Zealand over 2014-2018. In Australia the growth is in satellite and hospital HD, whereas in New Zealand there is growth in hospital HD, satellite HD and PD, whereas home HD numbers are falling.

Figure 2.

9.1 - Method and Location of Dialysis - Australia, 2014-2018

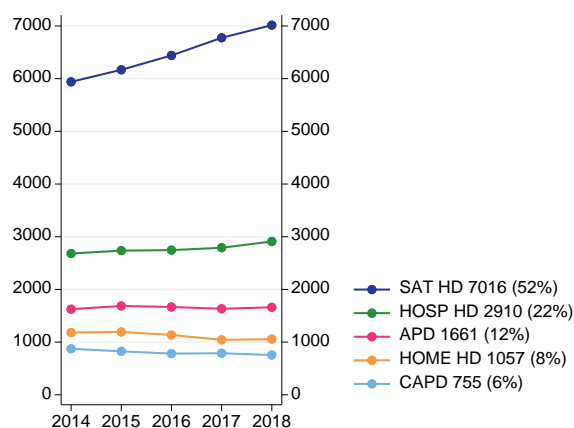


Figure 2.9.2 - Method and Location of Dialysis - New Zealand, 2014-2018

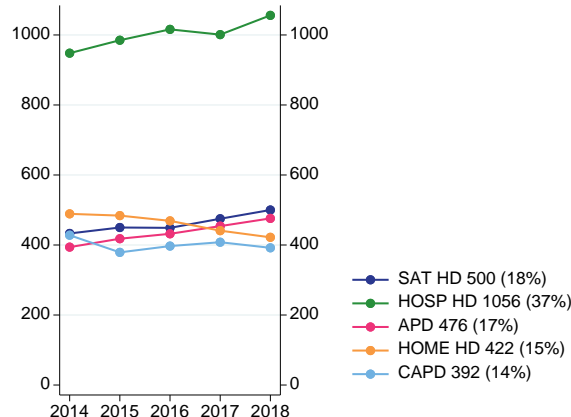


Table 2.7 Method and Location of Dialysis 2014-2018

Country	Dialysis type	Modality	2014	2015	2016	2017	2018
Australia	PD	APD	1625 (65%)	1687 (67%)	1667 (68%)	1633 (67%)	1661 (69%)
	PD	CAPD	874 (35%)	825 (33%)	782 (32%)	789 (33%)	755 (31%)
	PD	Total	2499	2512	2449	2422	2416
	HD	Hospital	2681 (27%)	2737 (27%)	2746 (27%)	2791 (26%)	2910 (26%)
	HD	Satellite	5940 (61%)	6168 (61%)	6441 (62%)	6776 (64%)	7016 (64%)
	HD	Home	1182 (12%)	1194 (12%)	1136 (11%)	1043 (10%)	1057 (10%)
	HD	Total	9803	10099	10323	10610	10983
New Zealand	PD	APD	394 (48%)	418 (52%)	432 (52%)	454 (53%)	476 (55%)
	PD	CAPD	428 (52%)	379 (48%)	397 (48%)	408 (47%)	392 (45%)
	PD	Total	822	797	829	862	868
	HD	Hospital	948 (51%)	985 (51%)	1016 (53%)	1001 (52%)	1056 (53%)
	HD	Satellite	433 (23%)	450 (23%)	449 (23%)	475 (25%)	500 (25%)
	HD	Home	489 (26%)	484 (25%)	469 (24%)	441 (23%)	422 (21%)
	HD	Total	1870	1919	1934	1917	1978

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

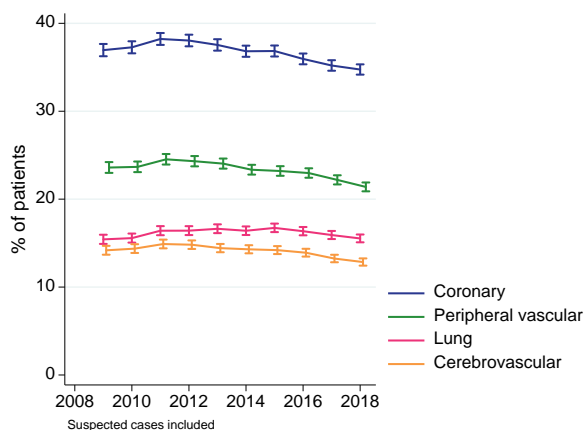


Figure 2.10.2 - Comorbid Conditions at End of Year - New Zealand

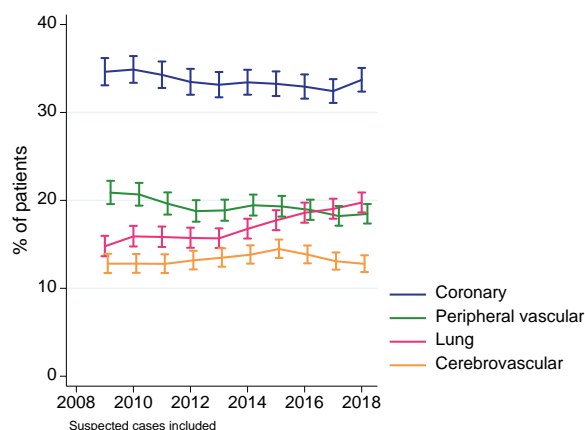
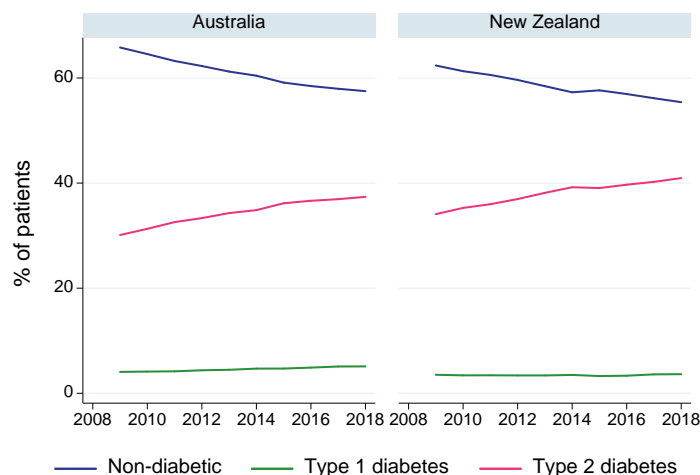


Figure 2.11 - Diabetes Status at End of Year



References

¹ Australian Bureau of Statistics, 2018, Australian Demographic Statistics, Jun 2018, time series spreadsheets, cat. no. 3101.0, viewed 27 Dec 2018, <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/3101.0Jun%202018?OpenDocument>

² 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, 2018, Estimated Resident Population by Age and Sex (1991+) (Annual-Jun), NZ Infoshare, viewed 27 Dec 2018, <http://archive.stats.govt.nz/infoshare/>