



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. 41st 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. 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 (2017)¹ and Stats NZ (2017)².

Table 2.1 Prevalence (pmp) of Renal Replacement Therapy 1998-2017

Year	Australia			New Zealand		
	Dialysis	Transplant	Total	Dialysis	Transplant	Total
1998	5536 (298)	4964 (267)	10500 (564)	1126 (295)	929 (244)	2055 (539)
1999	6018 (320)	5135 (273)	11153 (593)	1230 (321)	976 (254)	2206 (575)
2000	6409 (337)	5342 (281)	11751 (618)	1331 (345)	1018 (264)	2349 (609)
2001	6853 (356)	5563 (289)	12416 (644)	1462 (377)	1058 (273)	2520 (649)
2002	7264 (373)	5849 (300)	13113 (673)	1594 (404)	1113 (282)	2707 (686)
2003	7720 (391)	6080 (308)	13800 (700)	1711 (425)	1164 (289)	2875 (714)
2004	8005 (402)	6385 (320)	14390 (722)	1774 (434)	1219 (298)	2993 (732)
2005	8641 (428)	6648 (329)	15289 (758)	1878 (454)	1243 (301)	3121 (755)
2006	9265 (453)	6979 (341)	16244 (794)	1997 (477)	1258 (301)	3255 (778)
2007	9734 (467)	7249 (348)	16983 (815)	2071 (490)	1303 (308)	3374 (799)
2008	10180 (479)	7658 (360)	17838 (839)	2106 (494)	1354 (318)	3460 (812)
2009	10484 (483)	8049 (371)	18533 (854)	2282 (530)	1407 (327)	3689 (857)
2010	10747 (488)	8507 (386)	19254 (874)	2389 (549)	1447 (333)	3836 (882)
2011	11099 (497)	8869 (397)	19968 (894)	2395 (546)	1488 (339)	3883 (886)
2012	11560 (508)	9268 (408)	20828 (916)	2475 (561)	1526 (346)	4001 (908)
2013	11883 (513)	9668 (418)	21551 (931)	2600 (585)	1576 (355)	4176 (940)
2014	12290 (523)	10083 (429)	22373 (952)	2689 (596)	1629 (361)	4318 (957)
2015	12596 (528)	10490 (440)	23086 (968)	2710 (590)	1703 (371)	4413 (960)
2016	12753 (527)	11065 (457)	23818 (984)	2754 (587)	1781 (379)	4535 (966)
2017	13051 (531)	11687 (475)	24738 (1006)	2768 (577)	1890 (394)	4658 (972)

Table 2.2 Prevalence (pmp) of Renal Replacement Therapy by Modality 2013-2017

Country	Patients	2013	2014	2015	2016	2017
Australia	Total	21551 (931)	22373 (952)	23086 (968)	23818 (984)	24738 (1006)
	Transplant	9668 (418)	10083 (429)	10490 (440)	11065 (457)	11687 (475)
	Dialysis	11883 (513)	12290 (523)	12596 (528)	12753 (527)	13051 (531)
	Proportion home	29%	30%	29%	28%	26%
	Proportion satellite HD	49%	48%	49%	50%	51%
	Proportion PD	19%	20%	20%	19%	19%
New Zealand	Total	4176 (940)	4318 (957)	4413 (960)	4535 (966)	4658 (972)
	Transplant	1576 (355)	1629 (361)	1703 (371)	1781 (379)	1890 (394)
	Dialysis	2600 (585)	2689 (596)	2710 (590)	2754 (587)	2768 (577)
	Proportion home	51%	49%	47%	47%	47%
	Proportion satellite HD	14%	16%	17%	16%	17%
	Proportion PD	32%	31%	29%	30%	31%

Table 2.3 and figures 2.1-2.2 show the 2017 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 2017

Age	Australia	New Zealand
0-4	30 (19)	9 (29)
5-14	179 (58)	34 (54)
15-24	524 (164)	98 (146)
25-34	1173 (319)	313 (463)
35-44	2495 (765)	489 (840)
45-54	4579 (1437)	958 (1504)
55-64	5961 (2099)	1263 (2218)
65-74	5801 (2693)	1113 (2673)
75-84	3354 (2926)	354 (1598)
85+	642 (1299)	27 (317)

Figure 2.1.1 - Prevalent RRT Patient Numbers - Australia - 31 December 2017

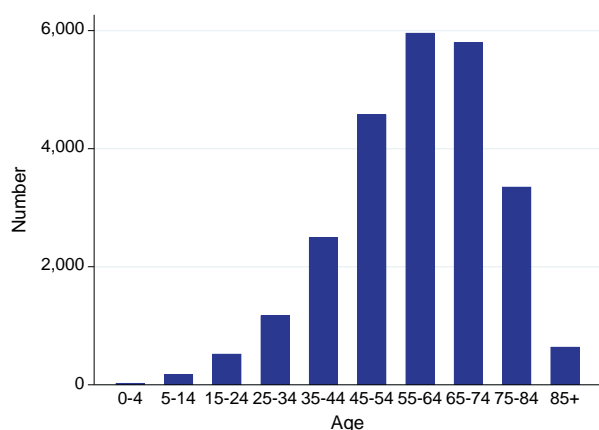


Figure 2.1.2 - Prevalent RRT Patients Per Million Population - Australia - 31 December 2017

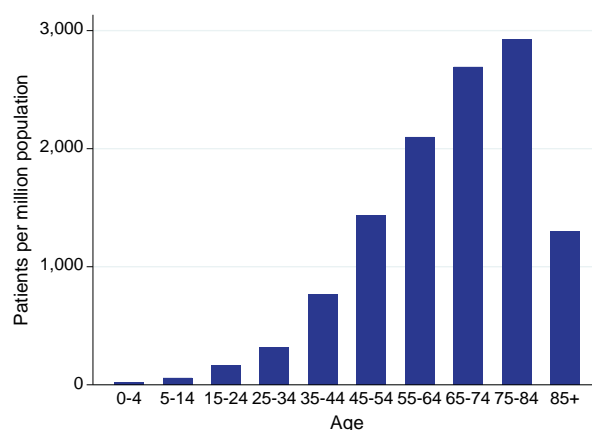


Figure 2.2.1 - Prevalent RRT Patient Numbers - New Zealand - 31 December 2017

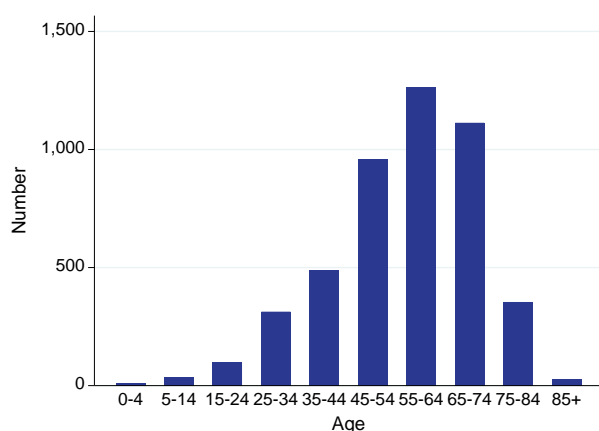


Figure 2.2.2 - Prevalent RRT Patients Per Million Population - New Zealand - 31 December 2017

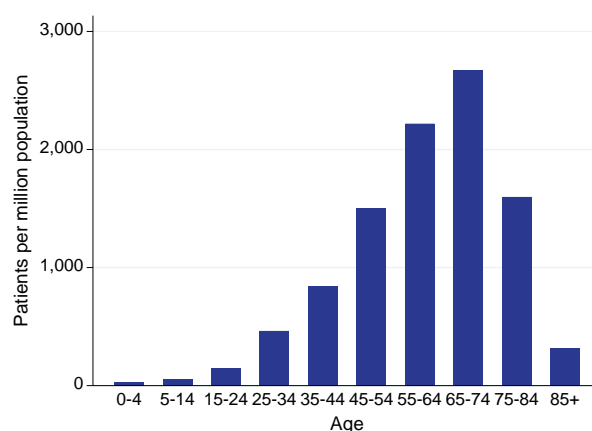


Table 2.4 shows the prevalence (pmp) of RRT by state over 2013-2017. In Australia at the end of 2017 the Northern Territory had the highest prevalence of dialysis patients and Tasmania the lowest; the Australian Capital Territory had the highest prevalence of transplant patients and New South Wales the lowest.

Table 2.4 Prevalence (pmp) of Renal Replacement Therapy by State 2013-2017

Modality	State	2013	2014	2015	2016	2017
Dialysis	QLD	2233 (480)	2345 (496)	2431 (508)	2420 (499)	2524 (512)
	NSW	3826 (516)	3911 (520)	3954 (518)	3985 (515)	3974 (506)
	ACT	288 (751)	286 (734)	282 (711)	292 (724)	276 (673)
	VIC	2911 (504)	2987 (506)	3042 (504)	3071 (497)	3139 (496)
	TAS	218 (425)	229 (446)	242 (470)	229 (442)	216 (415)
	SA	752 (450)	752 (446)	767 (451)	803 (469)	863 (501)
	NT	521 (2146)	559 (2294)	613 (2502)	633 (2576)	692 (2812)
	WA	1134 (455)	1221 (484)	1265 (497)	1320 (516)	1367 (530)
	Australia	11883 (513)	12290 (523)	12596 (528)	12753 (527)	13051 (531)
	New Zealand	2600 (585)	2689 (596)	2710 (590)	2754 (587)	2768 (577)
Transplant	QLD	1865 (401)	1920 (406)	1967 (411)	2086 (430)	2197 (446)
	NSW	2703 (365)	2843 (378)	2988 (392)	3132 (405)	3319 (422)
	ACT	239 (623)	242 (621)	251 (633)	269 (667)	291 (709)
	VIC	2645 (458)	2826 (479)	2950 (489)	3129 (506)	3322 (525)
	TAS	226 (441)	223 (434)	236 (458)	242 (468)	263 (505)
	SA	966 (578)	976 (578)	1005 (591)	1049 (612)	1065 (618)
	NT	85 (350)	96 (394)	98 (400)	107 (435)	111 (451)
	WA	939 (377)	957 (379)	995 (391)	1051 (411)	1119 (434)
	Australia	9668 (418)	10083 (429)	10490 (440)	11065 (457)	11687 (475)
	New Zealand	1576 (355)	1629 (361)	1703 (371)	1781 (379)	1890 (394)

Table 2.5 shows the same data by ethnicity.

Table 2.5 Prevalence of Renal Replacement Therapy by Ethnicity 2013-2017

Country	Ethnicity	Modality	2013	2014	2015	2016	2017
Australia	Caucasian	Dialysis	8382	8437	8482	8290	8235
		Transplant	8164	8442	8673	9038	9408
	Aboriginal/Torres Strait Islander	Dialysis	1490	1598	1672	1748	1888
		Transplant	205	219	236	258	273
	Asian	Dialysis	1219	1285	1290	1339	1382
		Transplant	963	1035	1125	1203	1332
	Māori	Dialysis	120	133	132	136	142
		Transplant	54	56	60	63	67
	Pacific	Dialysis	347	377	409	440	488
		Transplant	106	116	119	128	133
	Other	Dialysis	277	371	469	535	584
		Transplant	155	178	211	258	311
	Not reported	Dialysis	48	89	142	265	332
		Transplant	21	37	66	117	163
New Zealand	Caucasian	Dialysis	851	848	836	840	809
		Transplant	1187	1208	1249	1277	1300
	Aboriginal/Torres Strait Islander	Dialysis	0	0	1	2	2
		Transplant	0	0	0	0	1
	Asian	Dialysis	226	236	249	249	249
		Transplant	132	141	145	154	179
	Māori	Dialysis	853	881	868	895	912
		Transplant	149	160	174	192	206
	Pacific	Dialysis	644	688	699	707	737
		Transplant	94	105	118	127	164
	Other	Dialysis	21	32	47	53	50
		Transplant	11	12	13	20	27
	Not reported	Dialysis	5	4	10	8	9
		Transplant	3	3	4	11	13

Figure 2.3 shows the overall distribution of RRT modality by country at the end of 2017. 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 2017

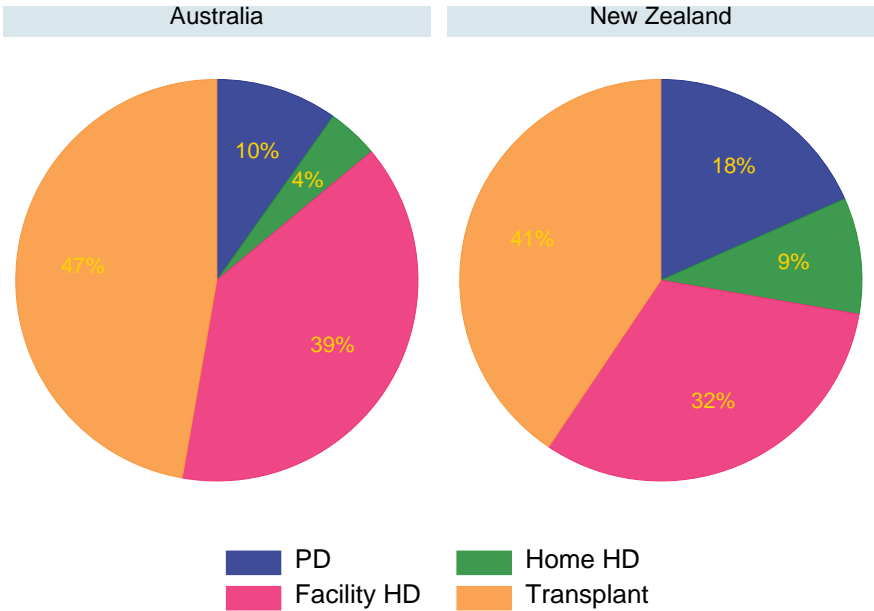
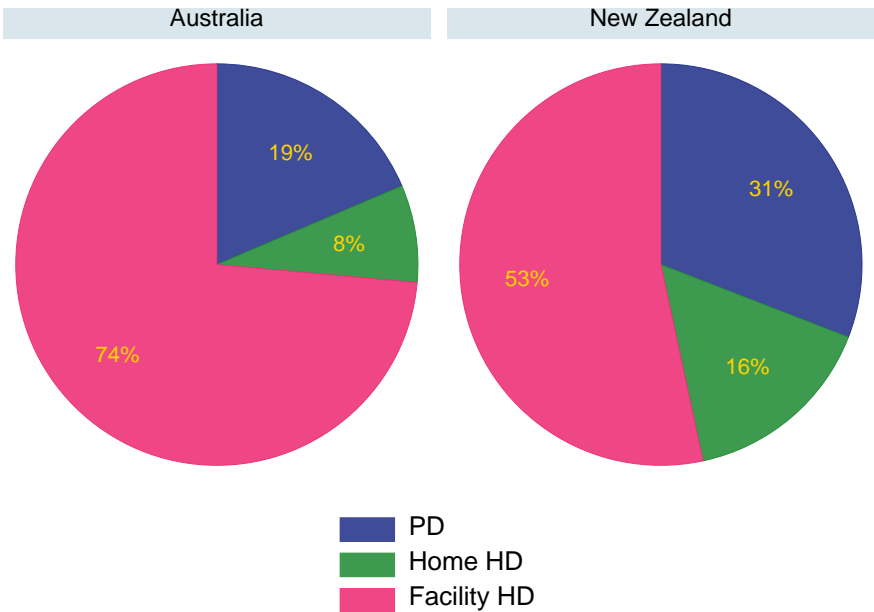


Figure 2.4 - Dialysis Modality by Country 2017



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 2017

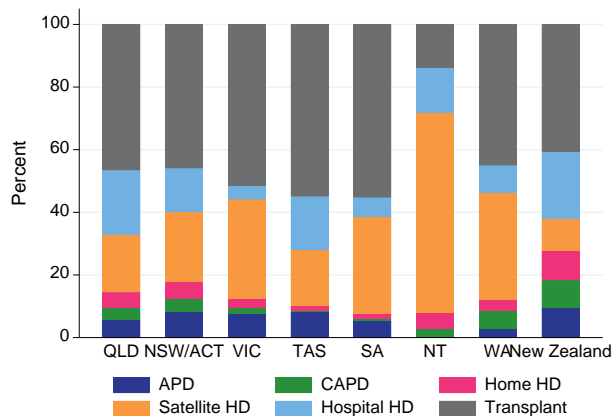
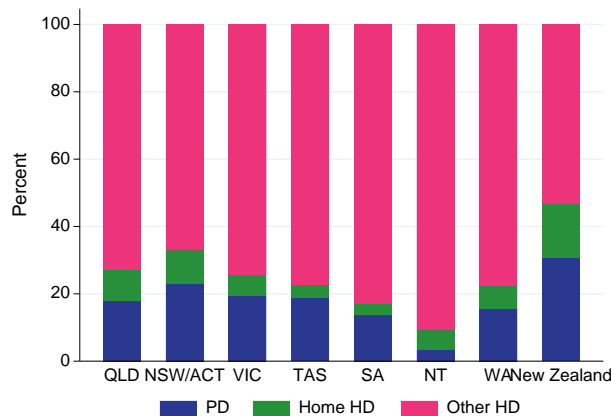


Figure 2.6 - Dialysis Modality by State - 31 December 2017



Dialysis

Table 2.6 and figures 2.7-2.8 show the age distribution of prevalent dialysis patients in 2017. The dialysis population in New Zealand is slightly younger than that of Australia.

Table 2.6 Dialysis Prevalence (pmp) by Age - 2017

Age	Australia	New Zealand
0-4	11 (7)	4 (13)
5-14	29 (9)	10 (16)
15-24	146 (46)	49 (73)
25-34	461 (125)	163 (241)
35-44	962 (295)	281 (483)
45-54	1942 (610)	503 (789)
55-64	2794 (984)	724 (1272)
65-74	3294 (1529)	734 (1763)
75-84	2801 (2444)	277 (1250)
85+	611 (1236)	23 (270)

Figure 2.7.1 - Prevalent Dialysis Patient Numbers - Australia - 31 December 2017

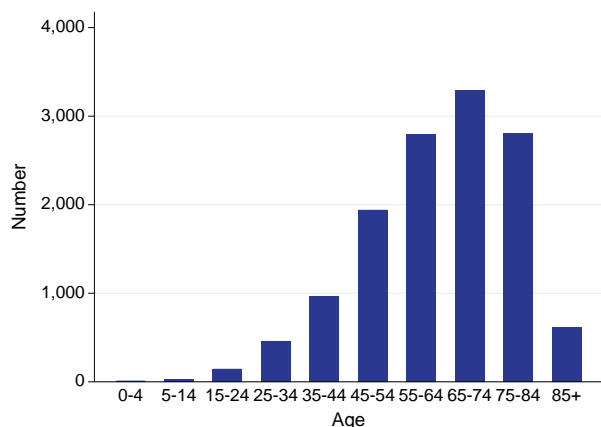


Figure 2.7.2 - Prevalent Dialysis Patients Per Million Population - Australia - 31 December 2017

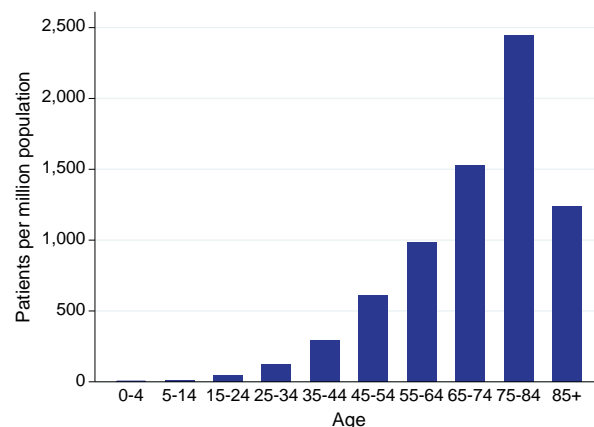


Figure 2.8.1 - Prevalent Dialysis Patient Numbers - New Zealand - 31 December 2017

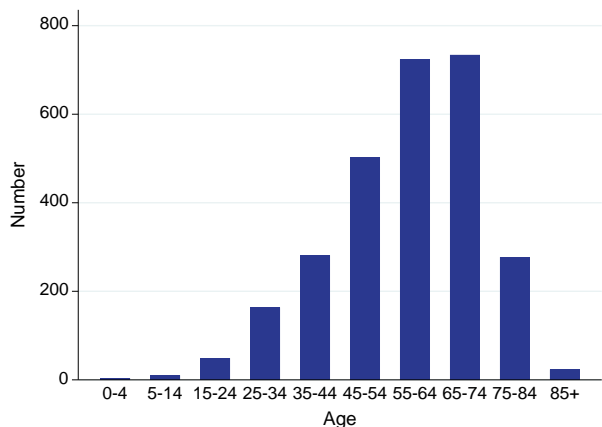


Figure 2.8.2 - Prevalent Dialysis Patients Per Million Population - New Zealand - 31 December 2017

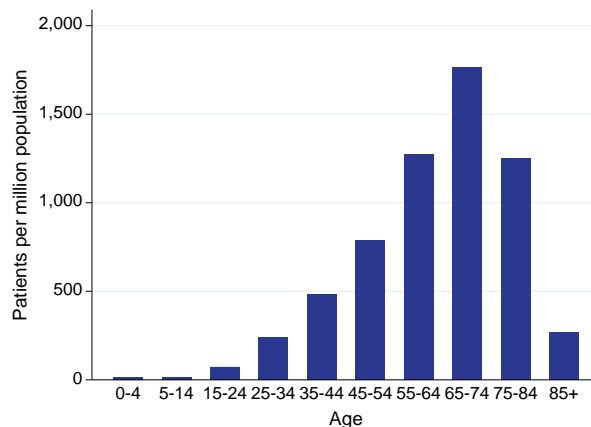


Figure 2.9 and table 2.7 show trends in the method and location of dialysis in Australia and New Zealand over 2013-2017. In Australia the growth is in satellite and hospital HD, whereas in New Zealand there is growth in satellite HD and PD, whereas home HD numbers are falling.

Figure 2.9.1 - Method and Location of Dialysis - Australia, 2013-2017

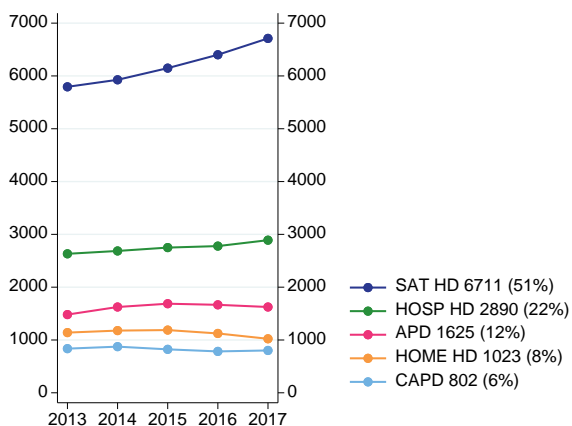


Figure 2.9.2 - Method and Location of Dialysis - New Zealand, 2013-2017

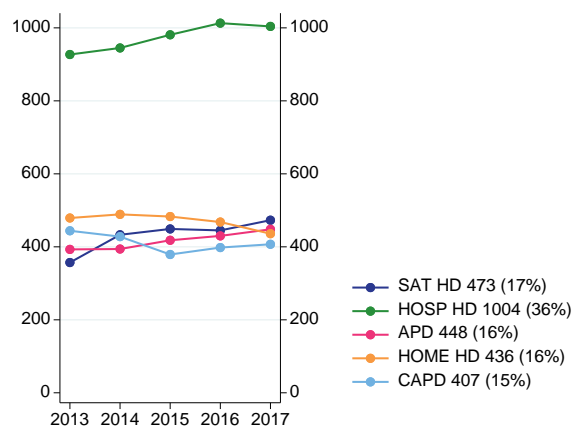


Table 2.7 Method and Location of Dialysis 2013-2017

Country	Dialysis type	Modality	2013	2014	2015	2016	2017
Australia	PD	APD	1481 (64%)	1625 (65%)	1687 (67%)	1666 (68%)	1625 (67%)
		CAPD	836 (36%)	874 (35%)	823 (33%)	784 (32%)	802 (33%)
		Total	2317	2499	2510	2450	2427
	HD	Hospital	2632 (28%)	2686 (27%)	2750 (27%)	2778 (27%)	2890 (27%)
		Satellite	5794 (61%)	5927 (61%)	6148 (61%)	6401 (62%)	6711 (63%)
		Home	1140 (12%)	1178 (12%)	1188 (12%)	1124 (11%)	1023 (10%)
Total		9566	9791	10086	10303	10624	
New Zealand	PD	APD	393 (47%)	394 (48%)	418 (52%)	430 (52%)	448 (52%)
		CAPD	444 (53%)	428 (52%)	379 (48%)	398 (48%)	407 (48%)
		Total	837	822	797	828	855
	HD	Hospital	927 (53%)	945 (51%)	981 (51%)	1013 (53%)	1004 (52%)
		Satellite	357 (20%)	433 (23%)	449 (23%)	445 (23%)	473 (25%)
		Home	479 (27%)	489 (26%)	483 (25%)	468 (24%)	436 (23%)
Total		1763	1867	1913	1926	1913	

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

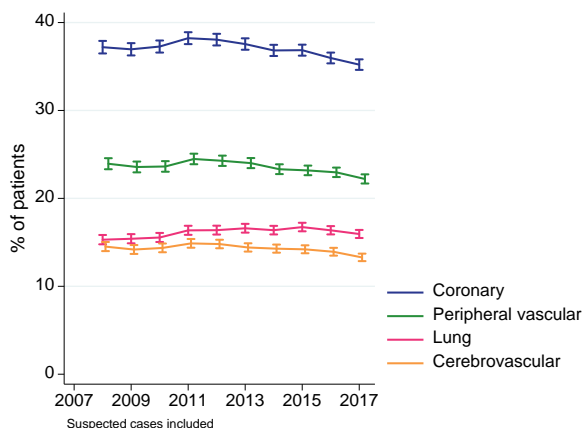


Figure 2.10.2 - Comorbid Conditions at End of Year - New Zealand

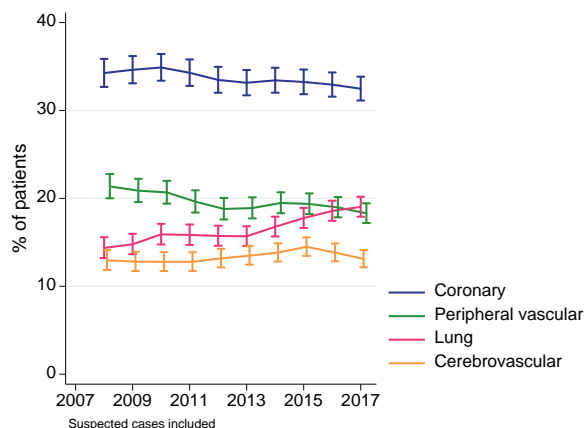
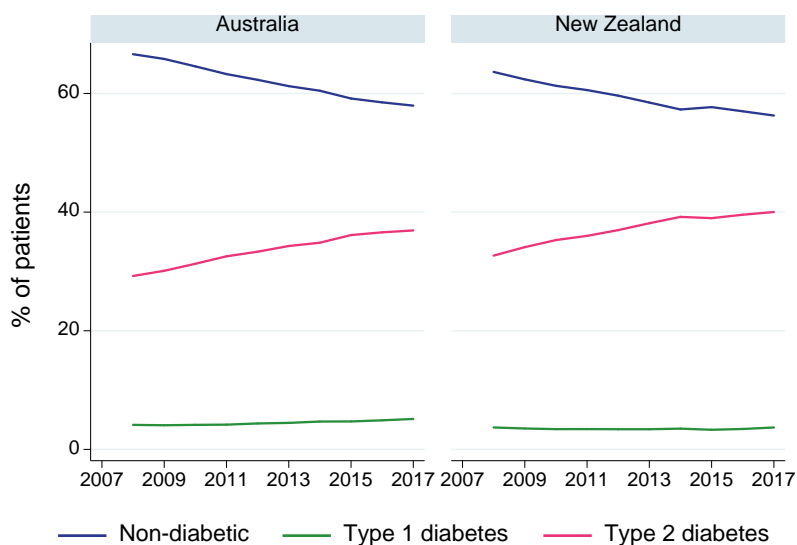


Figure 2.11 - Diabetes Status at End of Year



References

¹ Australian Bureau of Statistics, 2017, Australian Demographic Statistics, Jun 2017, time series spreadsheets, cat. no. 3101.0, viewed 27 Dec 2017, <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/3101.0Jun%202017?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, 2017, Estimated Resident Population by Age and Sex (1991+) (Annual-Jun), NZ Infoshare, viewed 27 Dec 2017, <http://archive.stats.govt.nz/infoshare/>