

CHAPTER 2

Prevalence of Kidney Failure with Replacement Therapy

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

CONTENTS

Summary and Highlights	3
Suggested Citation	3
All Kidney Replacement Therapy Modalities	4
Dialysis	10
Co-morbidities	12
References	13

SUMMARY AND HIGHLIGHTS

The prevalent patients undertaking Kidney Replacement Therapy (KRT) in Australian and New Zealand continues to steadily increase, reaching 29,025 people (1117 per million population) in Australia and 5474 (1069 per million population) in New Zealand in 2022. The greatest prevalence rate was among people aged 75-84 in Australia with a prevalence of 2995 per million population, whereas in New Zealand this was those aged 65-74 with a prevalence of 2732 per million population.

Kidney disease requiring KRT continues to disproportionately impact First Nations people. In Australia, the prevalence of dialysis amongst Aboriginal and Torres Strait Islander people is 2441 per million population compared with 519 per million population for people who are not of Aboriginal and Torres Strait Islander ethnicity. In New Zealand, the prevalence of dialysis in Māori people is 1071 per million population compared with 515 per million population in non-Māori people. The rates of KRT on dialysis remains relatively stable amongst Aboriginal and Torres Strait Islander people and Māori people in Australia and New Zealand respectively, with a steady rise in the prevalence of people with kidney transplants in both groups.

Calciphylaxis episodes in patients on KRT were collected by ANZDATA from 2019. A greater number of calciphylaxis episodes have been reported in patients on haemodialysis compared to those on peritoneal dialysis.

SUGGESTED CITATION

E Au, C Davies, S Bateman, J Chen, K Hurst, G Irish, D Lee, H McCarthy, S McDonald, W Mulley, M Roberts, T Sun, P Clayton. 46th Report, Chapter 2: Prevalence of Kidney Failure with Replacement Therapy. Australia and New Zealand Dialysis and Transplant Registry, Adelaide, Australia. 2023. Available at: <http://www.anzdata.org.au>

ALL KIDNEY REPLACEMENT THERAPY MODALITIES

Table 2.1 shows the number of prevalent patients treated with kidney replacement therapy (KRT) in Australia and New Zealand over the last 20 years. The prevalence per million population (pmp) is also shown. 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 (2022)¹ and Stats NZ (2022)².

Table 2.1
Prevalence (pmp) of Kidney Replacement Therapy 2003-2022

Year	Australia			New Zealand		
	Dialysis	Transplant	Total	Dialysis	Transplant	Total
2003	7719 (391)	6078 (308)	13797 (700)	1711 (425)	1165 (289)	2876 (714)
2004	8003 (402)	6382 (320)	14385 (722)	1774 (434)	1221 (299)	2995 (733)
2005	8638 (428)	6645 (329)	15283 (757)	1878 (454)	1245 (301)	3123 (755)
2006	9262 (453)	6978 (341)	16240 (794)	1997 (477)	1260 (301)	3257 (778)
2007	9733 (467)	7246 (348)	16979 (815)	2071 (490)	1305 (309)	3376 (799)
2008	10181 (479)	7659 (360)	17840 (840)	2106 (494)	1356 (318)	3462 (813)
2009	10487 (483)	8054 (371)	18541 (855)	2282 (530)	1409 (327)	3691 (858)
2010	10754 (488)	8510 (386)	19264 (874)	2389 (549)	1450 (333)	3839 (882)
2011	11112 (497)	8874 (397)	19986 (895)	2395 (546)	1491 (340)	3886 (886)
2012	11576 (509)	9271 (408)	20847 (917)	2475 (561)	1529 (347)	4004 (908)
2013	11903 (515)	9669 (418)	21572 (933)	2603 (586)	1580 (356)	4183 (942)
2014	12326 (525)	10075 (429)	22401 (954)	2692 (596)	1633 (362)	4325 (958)
2015	12646 (531)	10482 (440)	23128 (971)	2717 (589)	1710 (371)	4427 (960)
2016	12824 (530)	11053 (457)	23877 (987)	2772 (588)	1789 (379)	4561 (968)
2017	13124 (534)	11614 (472)	24738 (1006)	2799 (581)	1896 (394)	4695 (975)
2018	13552 (543)	12179 (488)	25731 (1031)	2870 (586)	1982 (404)	4852 (990)
2019	14009 (553)	12732 (502)	26741 (1055)	2854 (573)	2097 (421)	4951 (994)
2020	14605 (569)	13063 (509)	27668 (1078)	2995 (588)	2191 (430)	5186 (1019)
2021	15218 (592)	13293 (517)	28511 (1110)	3141 (615)	2278 (446)	5419 (1060)
2022	15518 (597)	13507 (520)	29025 (1117)	3157 (617)	2317 (453)	5474 (1069)

Table 2.2
Prevalence (pmp) of Kidney Replacement Therapy by Modality 2018-2022

Country	Patients	2018	2019	2020	2021	2022
Australia	Total	25731 (1031)	26741 (1055)	27668 (1078)	28511 (1110)	29025 (1117)
	Transplant	12179 (488)	12732 (502)	13063 (509)	13293 (517)	13507 (520)
	Dialysis	13552 (543)	14009 (553)	14605 (569)	15218 (592)	15518 (597)
	Percentage PD	18%	17%	17%	18%	17%
	Percentage Home HD*	8%	8%	8%	7%	7%
	Percentage Facility HD	74%	75%	75%	75%	76%
New Zealand	Total	4852 (990)	4951 (994)	5186 (1019)	5419 (1060)	5474 (1069)
	Transplant	1982 (404)	2097 (421)	2191 (430)	2278 (446)	2317 (453)
	Dialysis	2870 (586)	2854 (573)	2995 (588)	3141 (615)	3157 (617)
	Percentage PD	30%	29%	28%	26%	24%
	Percentage Home HD*	15%	14%	13%	12%	12%
	Percentage Facility HD	55%	57%	59%	62%	64%

*Includes Community House HD

Table 2.3 and figures 2.1-2.2 show the 2022 prevalence (pmp) of KRT by age groups.

Table 2.3
Prevalence (pmp) of Kidney Replacement Therapy by Age 2022

Age	Australia	New Zealand
0-4	30 (20)	9 (30)
5-14	174 (54)	36 (54)
15-24	536 (169)	113 (177)
25-34	1376 (369)	332 (448)
35-44	2730 (760)	640 (966)
45-54	5065 (1547)	990 (1526)
55-64	6930 (2290)	1503 (2410)
65-74	7061 (2886)	1304 (2732)
75-84	4314 (2995)	507 (1879)
85+	809 (1473)	40 (432)

Figure 2.1.1
Prevalent KRT Patient Numbers - Australia - 31 December 2022

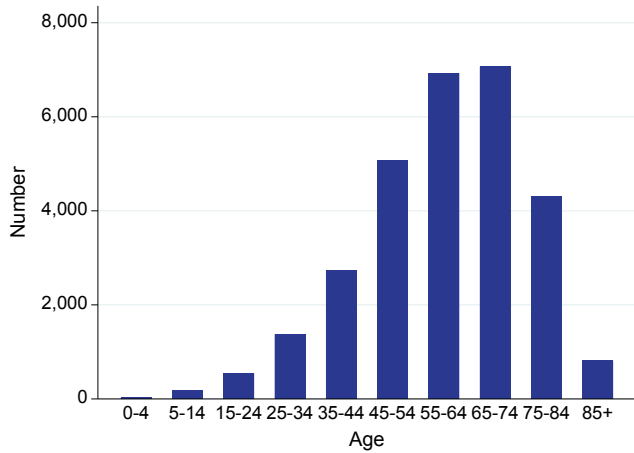


Figure 2.1.2
Prevalent KRT Patients Per Million Population - Australia - 31 December 2022

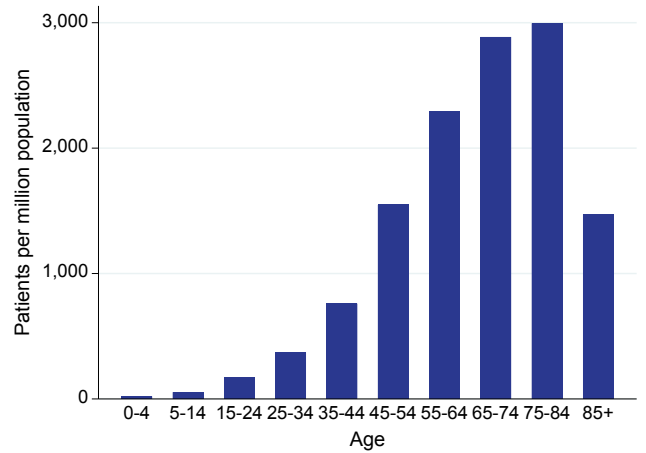


Figure 2.2.1
Prevalent KRT Patient Numbers - New Zealand - 31 December 2022

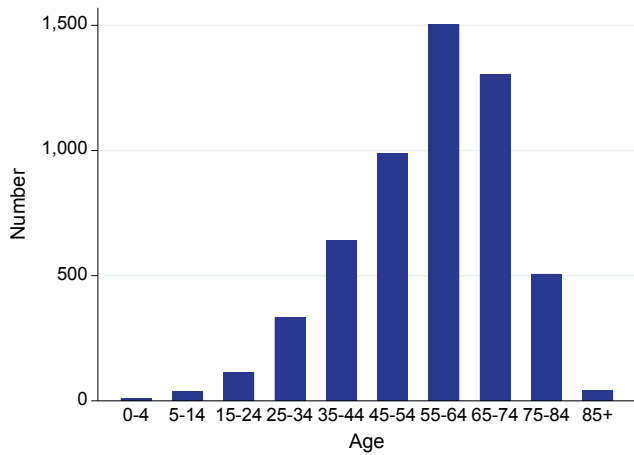


Figure 2.2.2
Prevalent KRT Patients Per Million Population - New Zealand - 31 December 2022

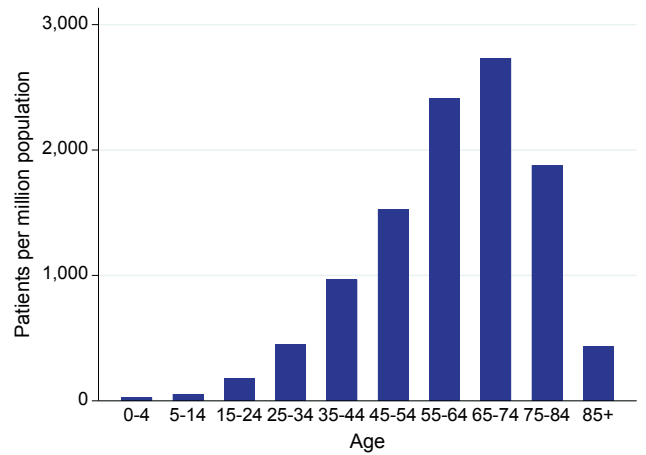


Table 2.4 shows the prevalence (pmp) of KRT by state/territory over 2018-2022. State is based on the state of the treating hospital.*

*NSW population estimates exclude residents of the NSW South Eastern region which includes the local government areas of Bega Valley, Eurobodalla, Goulburn Mulwaree, Hilltops, Queanbeyan-Palerang Regional, Snowy Monaro Regional, Upper Lachlan Shire and Yass Valley. ACT population includes residents of the NSW South Eastern region. The population base for the NSW South Eastern region is based on the estimated resident population by local government area from the Australian Bureau of Statistics (2023)³.

Table 2.4
Prevalence (pmp) of Kidney Replacement Therapy by State/Territory 2018-2022

Modality	State	2018	2019	2020	2021	2022
Dialysis	QLD	2691 (537)	2791 (548)	2948 (570)	3089 (592)	3184 (598)
	NSW*	4075 (528)	4213 (540)	4387 (558)	4549 (579)	4612 (583)
	ACT*	268 (406)	291 (432)	299 (436)	314 (454)	328 (471)
	VIC	3241 (505)	3288 (503)	3453 (523)	3567 (545)	3586 (542)
	TAS	209 (387)	226 (409)	211 (374)	230 (405)	236 (413)
	SA	913 (522)	926 (523)	978 (545)	1010 (560)	1052 (578)
	NT	740 (2980)	785 (3163)	783 (3145)	800 (3210)	809 (3228)
	WA	1415 (540)	1489 (559)	1546 (569)	1659 (603)	1711 (614)
	Australia	13552 (543)	14009 (553)	14605 (569)	15218 (592)	15518 (597)
	New Zealand	2870 (586)	2854 (573)	2995 (588)	3141 (615)	3157 (617)
Transplant	QLD	2269 (453)	2394 (470)	2440 (471)	2526 (484)	2549 (479)
	NSW*	3459 (448)	3595 (461)	3677 (468)	3723 (474)	3736 (472)
	ACT*	299 (453)	298 (442)	301 (438)	298 (431)	305 (438)
	VIC	3531 (550)	3703 (567)	3800 (575)	3833 (585)	3923 (593)
	TAS	289 (535)	300 (543)	308 (547)	309 (544)	319 (558)
	SA	1058 (605)	1089 (615)	1111 (619)	1138 (631)	1146 (629)
	NT	116 (467)	129 (520)	142 (570)	149 (598)	158 (630)
	WA	1158 (442)	1224 (459)	1284 (472)	1317 (479)	1371 (492)
	Australia	12179 (488)	12732 (502)	13063 (509)	13293 (517)	13507 (520)
	New Zealand	1982 (404)	2097 (421)	2191 (430)	2278 (446)	2317 (453)

*ACT and NSW population estimates adjusted for SE NSW Region.

Tables 2.5 and 2.6 show the same data by ethnicity for Australia and New Zealand, respectively.

Table 2.5
Prevalence (pmp) of Kidney Replacement Therapy by Ethnicity, Australia 2018-2022

Ethnicity	Modality	2018	2019	2020	2021	2022
First Nations	Dialysis	1996 (2402)	2108 (2486)	2148 (2481)	2190 (2477)	2204 (2441)
	Transplant	311 (374)	343 (404)	371 (429)	398 (450)	421 (466)
Other	Dialysis	11162 (462)	11573 (473)	12145 (490)	12714 (513)	13007 (519)
	Transplant	10987 (455)	11461 (468)	11745 (474)	11939 (481)	12113 (483)
Not reported	Dialysis	394	328	312	314	307
	Transplant	881	928	947	956	973

Table 2.6
Prevalence (pmp) of Kidney Replacement Therapy by Ethnicity, New Zealand 2018-2022

Ethnicity	Modality	2018	2019	2020	2021	2022
Māori	Dialysis	930 (1139)	927 (1112)	973 (1139)	987 (1128)	955 (1071)
	Transplant	234 (287)	251 (301)	267 (312)	284 (325)	300 (336)
Other	Dialysis	1926 (472)	1916 (462)	1999 (472)	2131 (503)	2177 (515)
	Transplant	1745 (427)	1844 (445)	1920 (453)	1988 (469)	2011 (476)
Not reported	Dialysis	14	11	23	23	25
	Transplant	3	2	4	6	6

Figure 2.3 shows the overall distribution of KRT modality by country at the end of 2022. The dialysis modalities are shown separately in figure 2.4.

Figure 2.3
KRT Modality by Country 2022

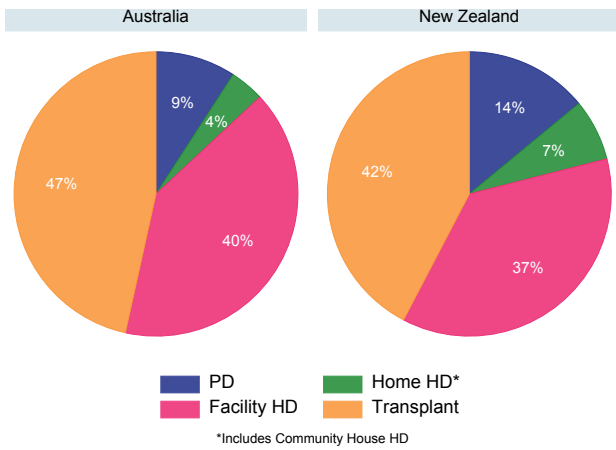
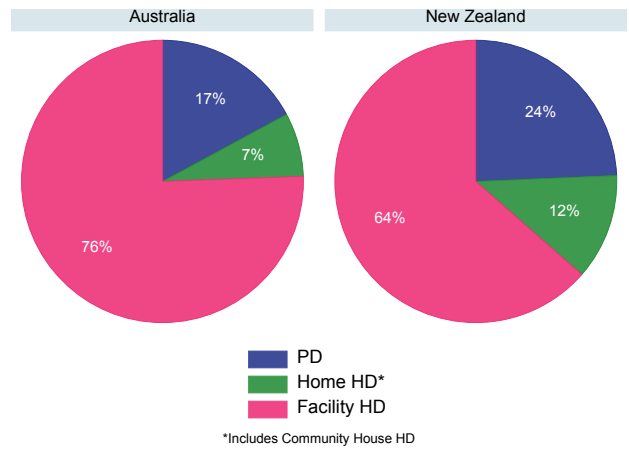


Figure 2.4
Dialysis Modality by Country 2022



Figures 2.5 and 2.6 show the same data by Australian state/territory.

Figure 2.5
KRT Modality by State/Territory - 31 December 2022

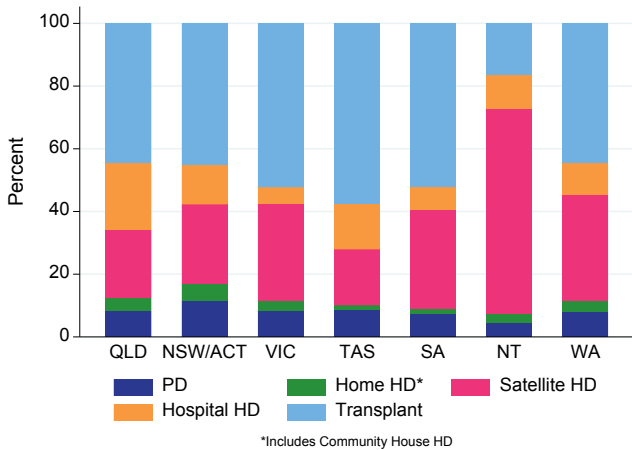
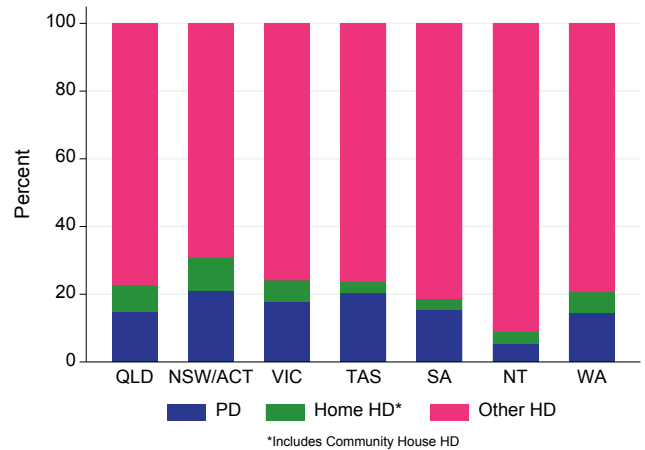


Figure 2.6
Dialysis Modality by State/Territory - 31 December 2022



DIALYSIS

Table 2.7 and figures 2.7-2.8 show the age distribution of prevalent dialysis patients in 2022.

Table 2.7
Dialysis Prevalence (pmp) by Age - 2022

Age	Australia	New Zealand
0-4	18 (12)	4 (13)
5-14	27 (8)	2 (3)
15-24	172 (54)	48 (75)
25-34	559 (150)	168 (227)
35-44	1151 (320)	337 (509)
45-54	2281 (697)	554 (854)
55-64	3362 (1111)	825 (1323)
65-74	3893 (1591)	804 (1685)
75-84	3328 (2311)	383 (1420)
85+	727 (1324)	32 (345)

Figure 2.7.1
Prevalent Dialysis Patient Numbers - Australia - 31 December 2022

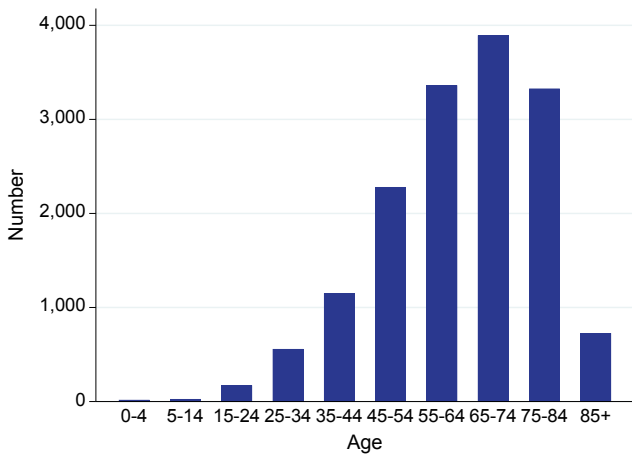


Figure 2.7.2
Prevalent Dialysis Patients Per Million Population - Australia - 31 December 2022

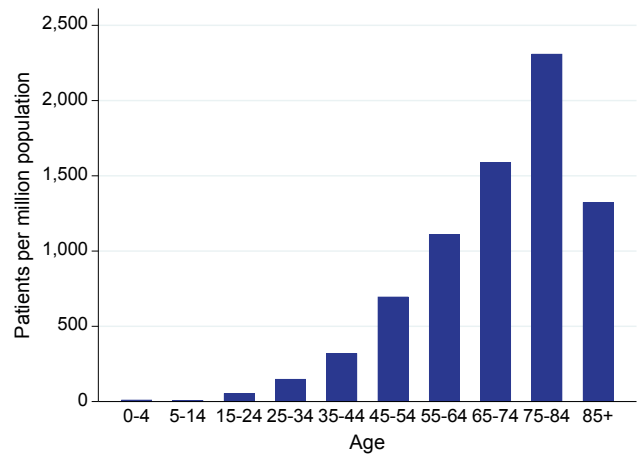


Figure 2.8.1
Prevalent Dialysis Patient Numbers - New Zealand - 31 December 2022

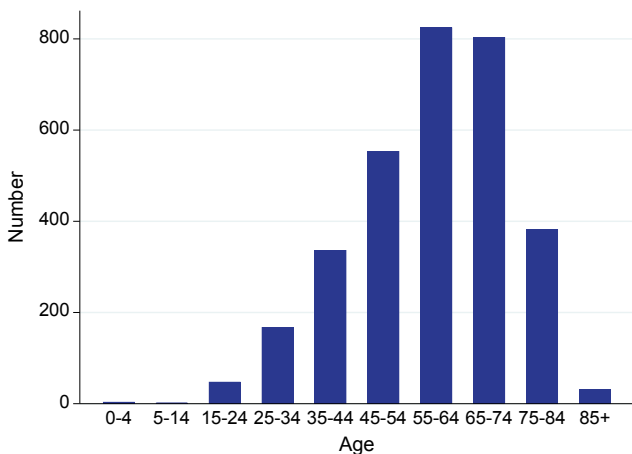
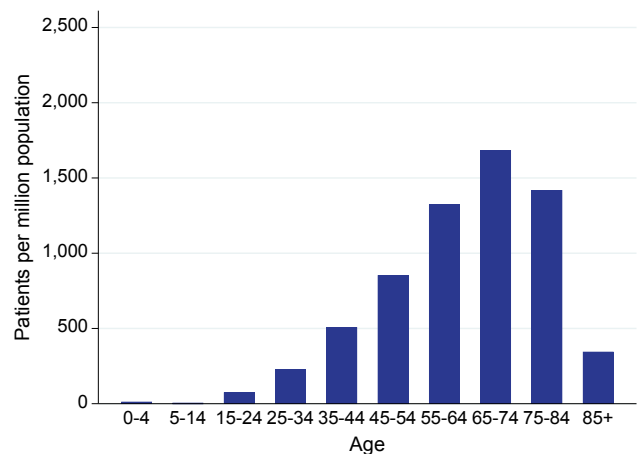


Figure 2.8.2
Prevalent Dialysis Patients Per Million Population - New Zealand - 31 December 2022



[BACK TO CONTENTS](#)

Figure 2.9 and table 2.8 show trends in the method and location of dialysis in Australia and New Zealand over 2018-2022.

Figure 2.9.1
Method and Location of Dialysis - Australia, 2018-2022

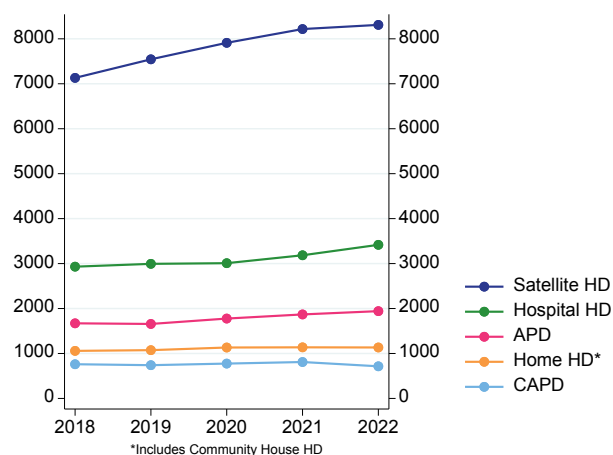


Figure 2.9.2
Method and Location of Dialysis - New Zealand, 2018-2022

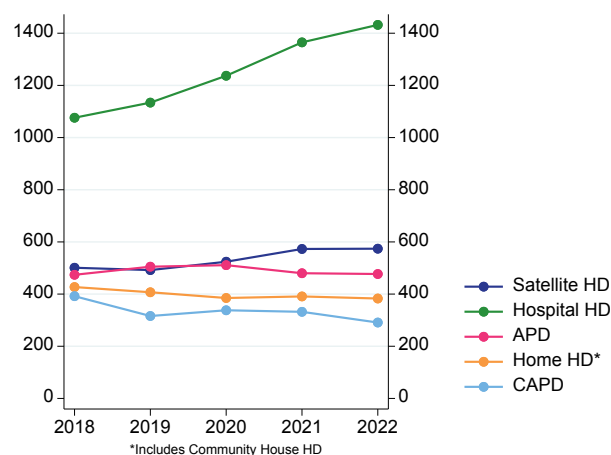


Table 2.8
Prevalence (pmp) of Kidney Replacement Therapy by State/Territory 2018-2022

Modality	Dialysis type	Modality	2018	2019	2020	2021	2022	
Australia	PD	APD	1671 (69%)	1657 (69%)	1777 (70%)	1869 (70%)	1942 (73%)	
		CAPD	761 (31%)	740 (31%)	775 (30%)	810 (30%)	715 (27%)	
		Total	2432	2397	2552	2679	2657	
	HD	Hospital	2931 (26%)	2994 (26%)	3009 (25%)	3185 (25%)	3417 (27%)	
		Satellite	7131 (64%)	7544 (65%)	7911 (66%)	8217 (66%)	8310 (65%)	
		Home	1058 (10%)	1074 (9%)	1108 (9%)	1116 (9%)	1123 (9%)	
		Community House	N/A	N/A	25 (0%)	21 (0%)	11 (0%)	
		Total	11120	11612	12053	12539	12861	
	New Zealand	PD	APD	474 (55%)	505 (62%)	511 (60%)	480 (59%)	477 (62%)
			CAPD	392 (45%)	316 (38%)	338 (40%)	332 (41%)	291 (38%)
Total			866	821	849	812	768	
HD		Hospital	1076 (54%)	1134 (56%)	1237 (58%)	1365 (59%)	1432 (60%)	
		Satellite	501 (25%)	492 (24%)	524 (24%)	573 (25%)	574 (24%)	
		Home	427 (21%)	407 (20%)	353 (16%)	363 (16%)	355 (15%)	
		Community House	N/A	N/A	32 (1%)	28 (1%)	28 (1%)	
		Total	2004	2033	2146	2329	2389	

Community House was collected from 2020 onwards, as a modality of treatment.

CO-MORBIDITIES

Figure 2.10 shows trends in the prevalence of co-morbidities (with 95% CIs) in prevalent KRT patients over the last 10 years. Figure 2.11 shows the prevalence of diabetes.

Figure 2.10.1
Comorbid Conditions at End of Year - Australia

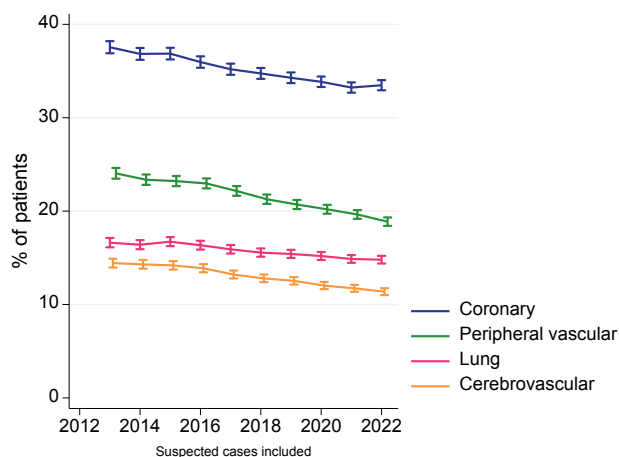


Figure 2.10.2
Comorbid Conditions at End of Year - New Zealand

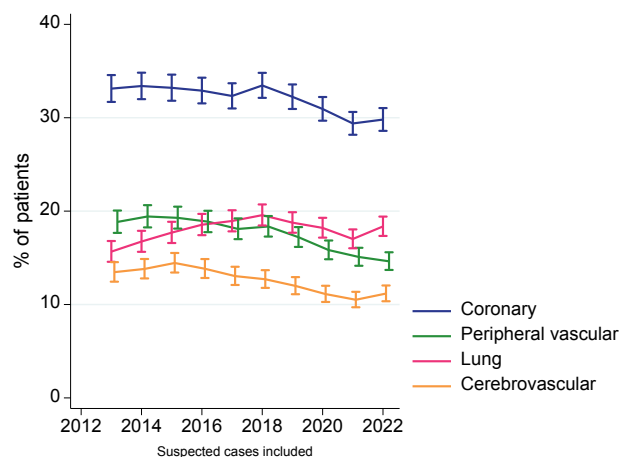


Figure 2.11
Diabetes Status at End of Year

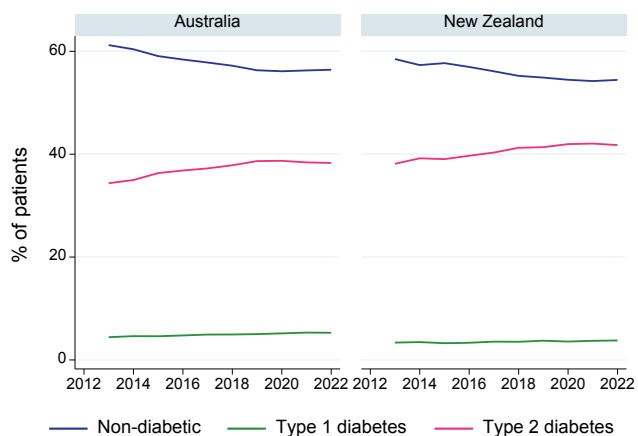


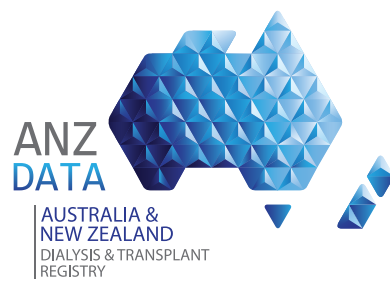
Table 2.9 shows the number of dialysis patients in Australia and New Zealand diagnosed with Calciphylaxis in a survey year, since collection started in 2019.

Table 2.9
Calciphylaxis Reported in Dialysis Patients, 2019-2022

Country	Dialysis Modality	2019	2020	2021	2022
Australia	HD	43	60	63	50
	PD	12	4	7	13
New Zealand	HD	14	13	16	30
	PD	7	6	5	7

REFERENCES

1. Australian Bureau of Statistics, 2022, Quarterly Population Estimates (ERP), by State/Territory, Sex and Age, Jun 2022, viewed 20 Dec 2022, <https://www.abs.gov.au/statistics/people/population/national-state-and-territory-population/jun-2022>
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, 2022, Estimated Resident Population by Age and Sex (1991+) (Annual-Jun), NZ Infoshare, viewed 20 Dec 2022, <http://infoshare.stats.govt.nz/>
3. Australian Bureau of Statistics, 2023, Regional Population by Age and Sex, Australia, 2022, viewed 28 Sep 2023, <https://www.abs.gov.au/statistics/people/population/regional-population-age-and-sex/2022>



CHAPTER 2

Prevalence of Kidney Failure with
Replacement Therapy