



CHAPTER 4

Haemodialysis

Reporting the incidence, prevalence, and survival of haemodialysis patients in Australia and New Zealand; summarising dialysis prescriptions, laboratory results, dialysis adequacy, vascular access, and rates of home haemodialysis treatment

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SUMMARY AND HIGHLIGHTS

While from 2020 to 2024 the total number of patients treated with haemodialysis increased in both Australia and New Zealand, the number of new patients commencing haemodialysis was relatively stable since 2022. The proportions treated at home continues to fall in both countries (Table 4.1).

In 2024, the proportion of both incident and prevalent patients aged 75 years or greater was much larger in Australia than New Zealand (22% versus 10% and 27% versus 14% incident and prevalent respectively) (Table 4.2.1 and Figures 4.1-4.2).

Overall survival from commencing haemodialysis has not changed over the last five years, being approximately 90% at 1 year and 50% at 5 years in both countries. As expected, survival differs considerably based on age group and co-morbidity status at commencement (Figures 4.3-4.7). To enable more accurate 1- and 5-year prognostication for clinicians, survival by age, diabetes status and cardiovascular disease status is presented (Tables 4.4 & 4.5).

The proportion of people starting haemodialysis with established vascular access remains low, perhaps paradoxically particularly in younger patients. Large variation continues year by year, between individual caring hospitals in Australia and to a lesser extent in New Zealand. In New Zealand in 2024, only 17% of people starting dialysis did so with established vascular access while the prevalent rate increased to just 52% (Tables 4.6 & 4.7). In Australia, 39% of people starting dialysis did so with established vascular access with the prevalent rate increasing to 80% (Tables 4.6 & 4.7).

In terms of dialysis prescription, the proportion of people receiving >3 sessions per week or >15 hours of haemodialysis each week continues to fall in both countries (Tables 4.10, 4.12 & Figures 4.22, 4.24). A much greater proportion of the people doing haemodialysis at home are receiving >3 sessions per week or >15 hours per week (Figures 4.37, 4.39). The proportion of home haemodialysis patients continues to fall and is low and at 15.4% in New Zealand and 7.7% in Australia (Table 4.17).

SUGGESTED CITATION

K Polkinghorne, C Davies, S Bateman, J Chen, P Clayton, D Forcey, F Kholmurodova, D Lee, K Marshall, H McCarthy, S McDonald, W Mulley, K Richards, M Roberts, B Solomon, G Irish. 48th Report, Chapter 4: Haemodialysis. Australia and New Zealand Dialysis and Transplant Registry, Adelaide, Australia. 2025. Available at: <http://www.anzdata.org.au>

INCIDENCE, CESSATION AND PREVALENCE

Table 4.1 presents the incidence, cessation and prevalence of haemodialysis patients in Australia and New Zealand over 2020-2024. Note that dialysis modality changes lasting less than 30 days are not included.

^aNote that in this chapter hybrid dialysis (collected as a treatment modality from 2023) is included in the category of HD as opposed to the other chapters where it is generally categorised with PD.

Table 4.1
Incidence, Cessation and Prevalence of Haemodialysis^a Patients in Australia and New Zealand 2020-2024

Country		2020	2021	2022	2023	2024
Australia	All patients who commenced HD					
	First dialysis treatment or returning after kidney recovery	2361	2398	2566	2519	2528
	Transfer from PD (no prior HD)	394	436	429	464	469
	Transfer from PD (prior HD)	183	172	151	161	171
	Failed Transplant (no prior HD)	42	50	48	51	43
	Failed Transplant (prior HD)	157	183	196	167	161
	Total	3137	3239	3390	3362	3372
	All patients who ceased HD					
	Received kidney transplant	541	545	594	679	680
	Transfer to PD	308	290	270	320	243
	Kidney recovery	89	88	91	91	121
	Withdrawal from dialysis	580	743	781	765	785
	Deaths	1158	1075	1334	1265	1232
	Total	2676	2741	3070	3120	3061
	Total patients on HD at 31 December	12057	12538	12855	13061	13344
	Patients on HD at home* at 31 December (% of all HD patients)	1132 (9.4%)	1133 (9.0%)	1125 (8.8%)	1075 (8.2%)	1030 (7.7%)
New Zealand	All patients who commenced HD					
	First dialysis treatment or returning after kidney recovery	410	446	449	498	514
	Transfer from PD (no prior HD)	123	143	117	117	117
	Transfer from PD (prior HD)	57	68	56	47	45
	Failed Transplant (no prior HD)	5	10	7	7	7
	Failed Transplant (prior HD)	27	28	25	27	17
	Total	622	695	654	696	700
	All patients who ceased HD					
	Received kidney transplant	84	76	71	95	104
	Transfer to PD	127	113	110	90	101
	Kidney recovery	14	5	12	7	15
	Withdrawal from dialysis	62	75	103	98	100
	Deaths	234	250	298	305	275
	Total	521	519	594	595	595
	Total patients on HD at 31 December	2122	2297	2342	2450	2550
	Patients on HD at home* at 31 December (% of all HD patients)	386 (18.2%)	394 (17.2%)	389 (16.6%)	387 (15.8%)	392 (15.4%)

^aIncludes Hybrid Dialysis *Includes Community House HD

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Figures 4.1-4.2 and Table 4.2 present the age distribution of incident and prevalent haemodialysis patients in Australia and New Zealand.

Figure 4.1.1
Age (%) of Incident Haemodialysis^ Patients - Australia 2024

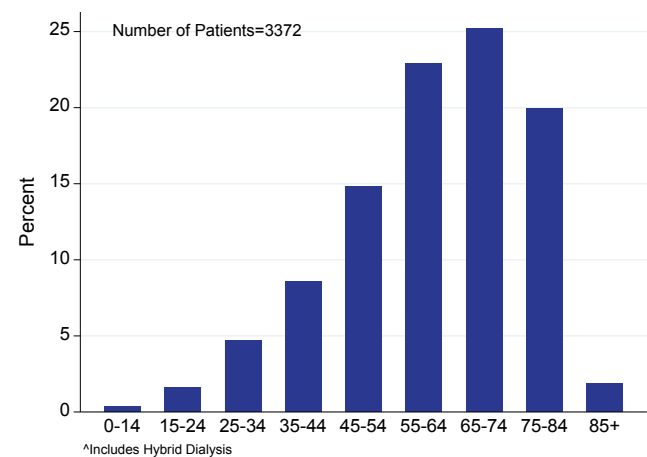


Figure 4.1.2
Age (%) of Incident Haemodialysis^ Patients - New Zealand 2024

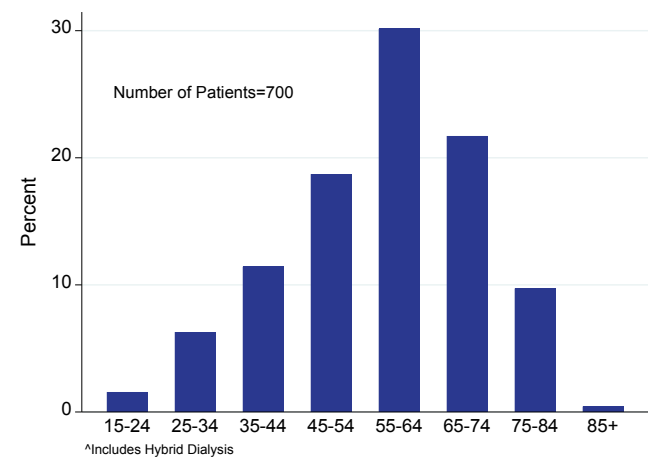


Figure 4.2.1
Age (%) of Prevalent Haemodialysis^ Patients - Australia 31 Dec 2024

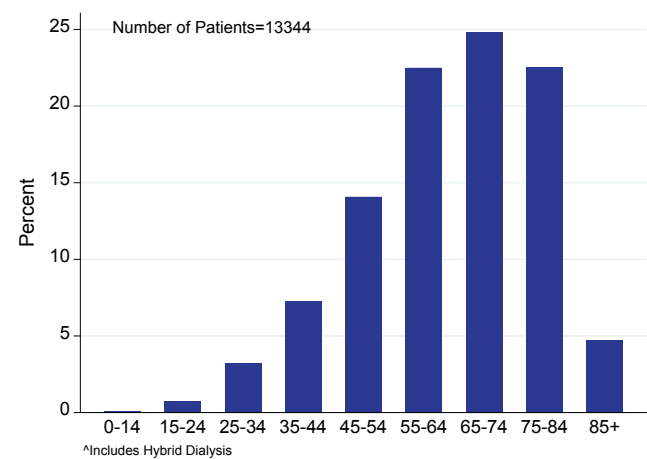


Figure 4.2.2
Age (%) of Prevalent Haemodialysis^ Patients - New Zealand 31 Dec 2024

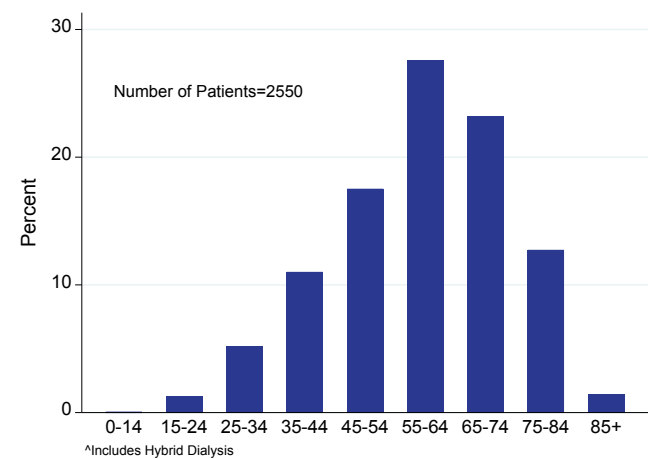


Table 4.2.1

Incident and Prevalent Haemodialysis[^] Patients in Australia by Age Group 2020-2024

	Age group	2020	2021	2022	2023	2024
Incident Patients	0-14	8 (0%)	15 (0%)	10 (0%)	14 (0%)	12 (0%)
	15-24	51 (2%)	67 (2%)	62 (2%)	57 (2%)	54 (2%)
	25-34	153 (5%)	163 (5%)	175 (5%)	172 (5%)	159 (5%)
	35-44	248 (8%)	278 (9%)	309 (9%)	283 (8%)	289 (9%)
	45-54	478 (15%)	494 (15%)	534 (16%)	527 (16%)	500 (15%)
	55-64	731 (23%)	713 (22%)	751 (22%)	742 (22%)	773 (23%)
	65-74	804 (26%)	862 (27%)	869 (26%)	860 (26%)	849 (25%)
	75-84	575 (18%)	580 (18%)	615 (18%)	642 (19%)	672 (20%)
	85+	89 (3%)	67 (2%)	65 (2%)	65 (2%)	64 (2%)
	Total	3137	3239	3390	3362	3372
Prevalent Patients	0-14	7 (0%)	8 (0%)	5 (0%)	7 (0%)	12 (0%)
	15-24	105 (1%)	112 (1%)	111 (1%)	99 (1%)	100 (1%)
	25-34	417 (3%)	405 (3%)	445 (3%)	454 (3%)	431 (3%)
	35-44	770 (6%)	877 (7%)	933 (7%)	934 (7%)	971 (7%)
	45-54	1768 (15%)	1808 (14%)	1905 (15%)	1916 (15%)	1879 (14%)
	55-64	2681 (22%)	2746 (22%)	2820 (22%)	2915 (22%)	3002 (22%)
	65-74	3058 (25%)	3174 (25%)	3182 (25%)	3188 (24%)	3311 (25%)
	75-84	2655 (22%)	2776 (22%)	2805 (22%)	2906 (22%)	3006 (23%)
	85+	596 (5%)	632 (5%)	649 (5%)	642 (5%)	632 (5%)
	Total	12057	12538	12855	13061	13344

*Includes Hybrid Dialysis

Table 4.2.2

Incident and Prevalent Haemodialysis[^] Patients in New Zealand by Age Group 2020-2024

	Age group	2020	2021	2022	2023	2024
Incident Patients	0-14	3 (0%)	2 (0%)	1 (0%)	2 (0%)	0 (0%)
	15-24	21 (3%)	23 (3%)	14 (2%)	21 (3%)	11 (2%)
	25-34	32 (5%)	41 (6%)	62 (9%)	41 (6%)	44 (6%)
	35-44	54 (9%)	80 (12%)	60 (9%)	89 (13%)	80 (11%)
	45-54	129 (21%)	137 (20%)	106 (16%)	135 (19%)	131 (19%)
	55-64	180 (29%)	185 (27%)	180 (28%)	170 (24%)	211 (30%)
	65-74	136 (22%)	160 (23%)	168 (26%)	172 (25%)	152 (22%)
	75-84	62 (10%)	64 (9%)	60 (9%)	65 (9%)	68 (10%)
	85+	5 (1%)	3 (0%)	3 (0%)	1 (0%)	3 (0%)
	Total	622	695	654	696	700
Prevalent Patients	0-14	1 (0%)	2 (0%)	1 (0%)	1 (0%)	1 (0%)
	15-24	31 (1%)	32 (1%)	28 (1%)	37 (2%)	33 (1%)
	25-34	120 (6%)	127 (6%)	137 (6%)	137 (6%)	132 (5%)
	35-44	219 (10%)	251 (11%)	255 (11%)	266 (11%)	281 (11%)
	45-54	400 (19%)	416 (18%)	427 (18%)	426 (17%)	447 (18%)
	55-64	568 (27%)	610 (27%)	610 (26%)	651 (27%)	703 (28%)
	65-74	535 (25%)	587 (26%)	590 (25%)	593 (24%)	592 (23%)
	75-84	233 (11%)	257 (11%)	275 (12%)	309 (13%)	325 (13%)
	85+	15 (1%)	15 (1%)	19 (1%)	30 (1%)	36 (1%)
	Total	2122	2297	2342	2450	2550

*Includes Hybrid Dialysis

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PATIENT SURVIVAL

Table 4.3 and Figure 4.3 present unadjusted haemodialysis patient survival by era and country. The outcome is patient death, censored at transplantation and transfer to peritoneal dialysis for >30 days. Censoring does not occur with transfer to hybrid dialysis. Survival for all incident kidney replacement therapy (KRT) patients who were treated with haemodialysis at commencement is reported.

Survival begins from the date of commencing KRT with haemodialysis.

Survival of people receiving dialysis differs substantially according to age, diabetes status and cardiovascular disease status (Tables 4.4 and 4.5) and data are presented this way to enable clinicians to estimate their patient's survival based on where they fit in this table. Survival by individual components of this table is presented in the Figures 4.4-4.7.

Table 4.3
Unadjusted HD Patient Survival by Era 2013-2024; % [95% Confidence Interval]

Country	Era	Number of Patients	Survival			
			6 months	1 year	3 years	5 years
Australia	2013-2015	5619	94 [93, 94]	89 [88, 90]	70 [69, 71]	51 [50, 53]
	2016-2018	6456	95 [94, 95]	90 [89, 90]	70 [69, 71]	51 [50, 52]
	2019-2021	7112	95 [94, 95]	89 [89, 90]	68 [67, 69]	47 [46, 49]
	2022-2024	7518	94 [94, 95]	90 [89, 90]	-	-
New Zealand	2013-2015	1028	95 [93, 96]	90 [88, 92]	71 [68, 74]	50 [46, 54]
	2016-2018	1080	93 [92, 95]	88 [86, 90]	72 [69, 75]	50 [46, 53]
	2019-2021	1226	95 [94, 96]	91 [89, 93]	69 [66, 71]	48 [44, 52]
	2022-2024	1446	94 [92, 95]	90 [88, 92]	-	-

Haemodialysis at KRT Start
Censored for transplant and transfer to PD

Figure 4.3.1
Unadjusted HD Patient Survival by Era - Australia 2013-2024

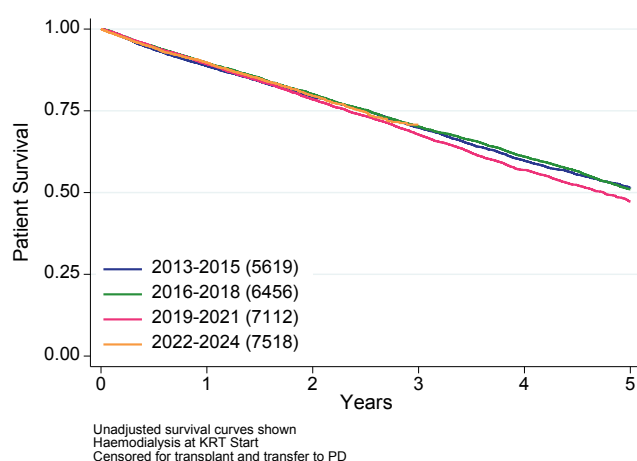
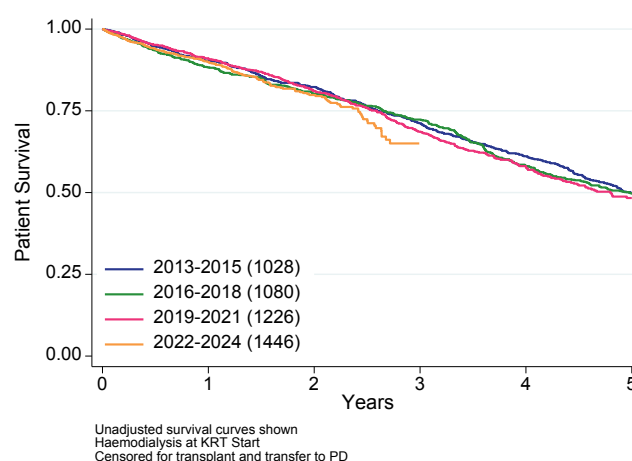


Figure 4.3.2
Unadjusted HD Patient Survival by Era - New Zealand 2013-2024



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Table 4.4

Unadjusted HD Patient Survival by Age Group, Diabetes Status and Cardiovascular Disease Status: Australia 2013-2024; % [95% Confidence Interval]

Age Group	Survival							
	DM-, CVD-		DM+, CVD-		DM-, CVD+		DM+, CVD+	
	1 year	5 years	1 year	5 years	1 year	5 years	1 year	5 years
<40 years	98 [97, 98]	91 [88, 93]	94 [91, 96]	68 [61, 74]	90 [83, 94]	77 [63, 86]	90 [85, 93]	51 [42, 59]
40-59 years	95 [94, 96]	74 [71, 77]	94 [93, 95]	67 [64, 70]	92 [90, 94]	58 [53, 64]	91 [90, 92]	53 [50, 55]
60-74 years	91 [90, 92]	57 [54, 60]	92 [90, 93]	56 [53, 59]	85 [83, 87]	43 [40, 47]	87 [86, 88]	42 [40, 44]
≥75 years	86 [84, 88]	38 [35, 42]	88 [86, 90]	39 [35, 43]	81 [79, 83]	32 [29, 35]	81 [79, 83]	26 [23, 28]

Haemodialysis at KRT Start

Censored for transplant and transfer to PD

DM-, CVD- : No diabetes and no cardiovascular disease

DM+, CVD- : Diabetes but no cardiovascular disease

DM-, CVD+ : Cardiovascular disease but no diabetes

DM+, CVD+ : Both cardiovascular disease and diabetes

Table 4.5

Unadjusted HD Patient Survival by Age Group, Diabetes Status and Cardiovascular Disease Status: New Zealand 2013-2024; % [95% Confidence Interval]

Age Group	Survival							
	DM-, CVD-		DM+, CVD-		DM-, CVD+		DM+, CVD+	
	1 year	5 years	1 year	5 years	1 year	5 years	1 year	5 years
<40 years	96 [93, 98]	85 [76, 90]	95 [90, 98]	68 [56, 78]	100	87 [55, 97]	85 [70, 92]	51 [30, 68]
40-59 years	96 [93, 98]	72 [63, 80]	93 [91, 95]	59 [54, 64]	86 [77, 92]	54 [39, 67]	87 [84, 90]	45 [40, 50]
60-74 years	88 [83, 91]	48 [38, 56]	94 [91, 96]	49 [43, 55]	83 [77, 88]	37 [28, 45]	87 [84, 89]	35 [31, 40]
≥75 years	85 [75, 92]	16 [5, 32]	90 [81, 95]	42 [28, 56]	76 [66, 83]	26 [15, 38]	83 [75, 88]	18 [10, 27]

Haemodialysis at KRT Start

Censored for transplant and transfer to PD

DM-, CVD- : No diabetes and no cardiovascular disease

DM+, CVD- : Diabetes but no cardiovascular disease

DM-, CVD+ : Cardiovascular disease but no diabetes

DM+, CVD+ : Both cardiovascular disease and diabetes

Figure 4.4.1
Unadjusted HD Patient Survival by Age Group
- Australia 2013-2024

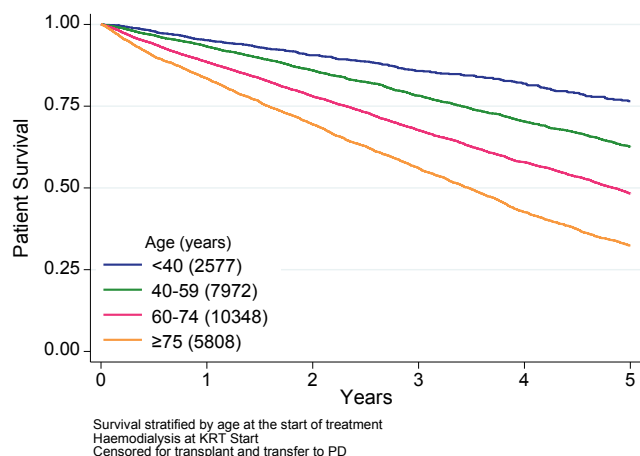


Figure 4.4.2
Unadjusted HD Patient Survival by Age Group
- New Zealand 2013-2024

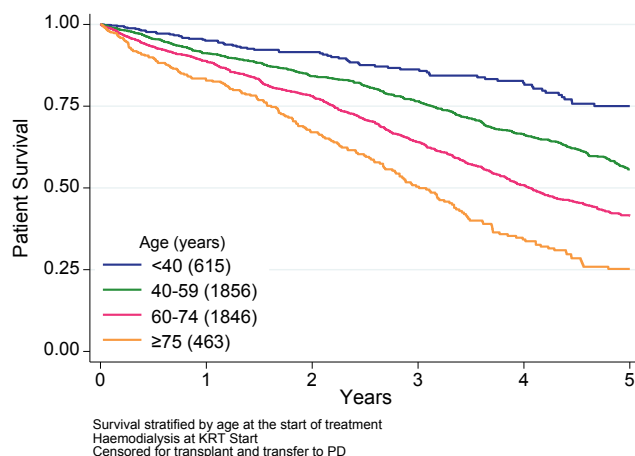


Figure 4.5.1
Unadjusted HD Patient Survival by Diabetes
- Australia 2013-2024

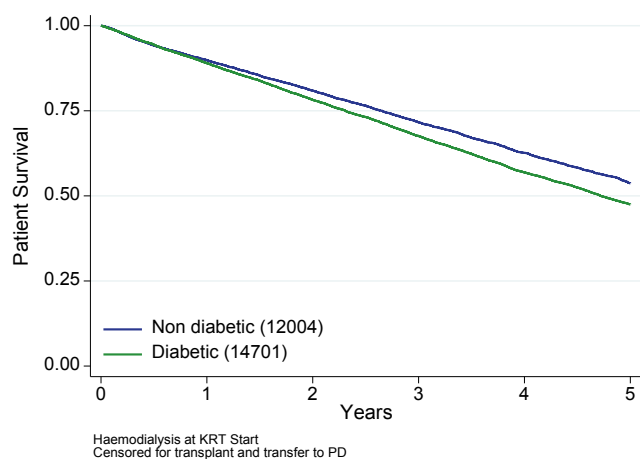


Figure 4.5.2
Unadjusted HD Patient Survival by Diabetes
- New Zealand 2013-2024

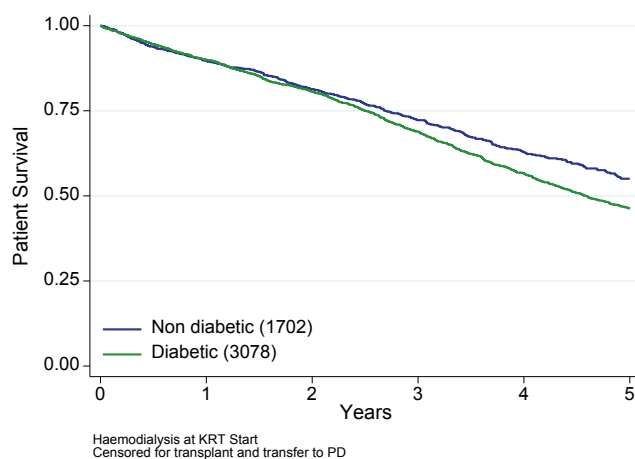


Figure 4.6.1
Unadjusted HD Patient Survival by Age Group
- Australia 2013-2024 No Diabetes and No Cardiovascular Disease

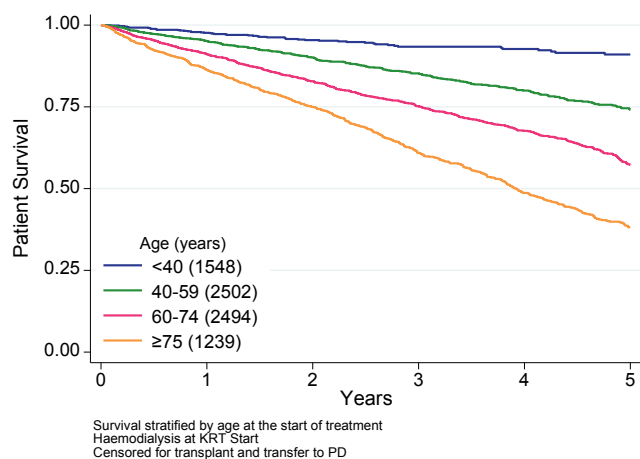
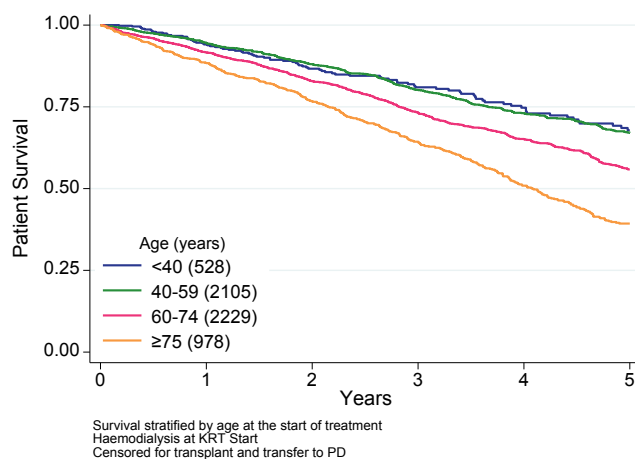


Figure 4.6.2
Unadjusted HD Patient Survival by Age Group
- Australia 2013-2024 Diabetes but No Cardiovascular Disease



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Figure 4.6.3
Unadjusted HD Patient Survival by Age Group - Australia
2013-2024 Cardiovascular Disease but No Diabetes

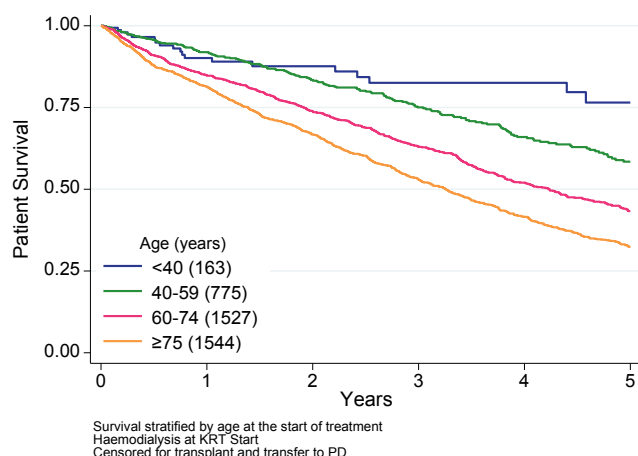


Figure 4.6.4
Unadjusted HD Patient Survival by Age Group - Australia
2013-2024 Both Diabetes and Cardiovascular Disease

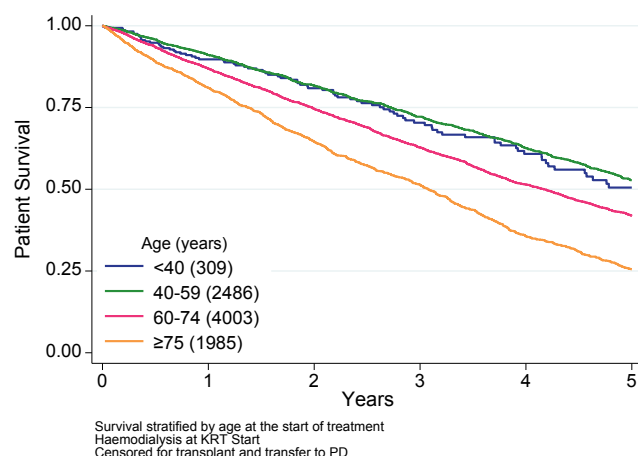


Figure 4.7.1
Unadjusted HD Patient Survival by Age Group -
New Zealand 2013-2024 No Diabetes and No
Cardiovascular Disease

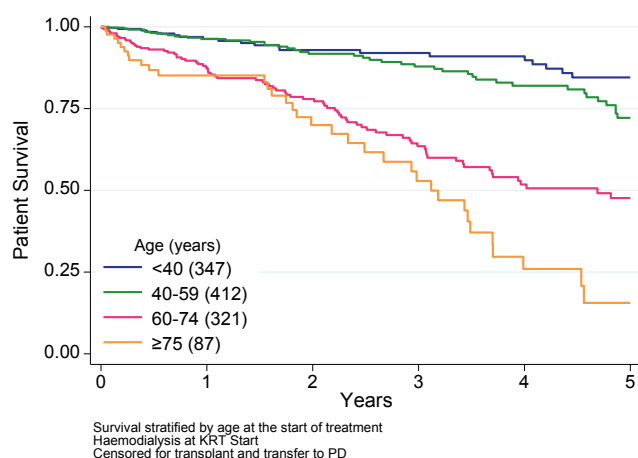


Figure 4.7.2
Unadjusted HD Patient Survival by Age Group -
New Zealand 2013-2024 Diabetes but No
Cardiovascular Disease

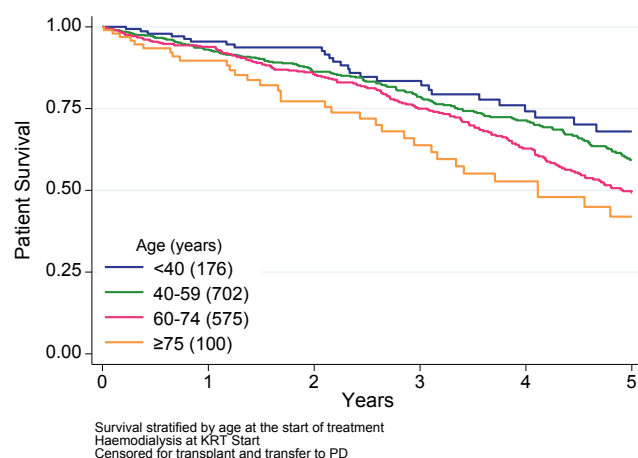


Figure 4.7.3
Unadjusted HD Patient Survival by Age Group -
New Zealand 2013-2024 Cardiovascular Disease but
No Diabetes

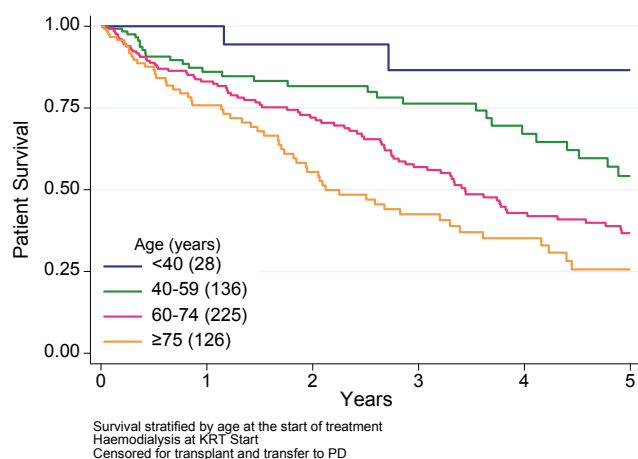
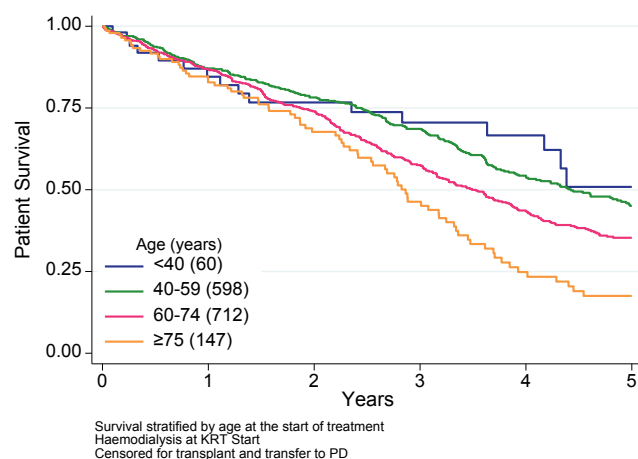


Figure 4.7.4
Unadjusted HD Patient Survival by Age Group -
New Zealand 2013-2024 Both Diabetes and
Cardiovascular Disease



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VASCULAR ACCESS

INCIDENT PATIENTS

Figures 4.8 to 4.11 and Table 4.6 show data related to vascular access for incident haemodialysis patients. This includes patients who start with a catheter and then transfer to planned peritoneal dialysis.

ANZDATA does not collect information about indication for haemodialysis catheter usage, hence the reasons why over half of patients commenced with a central venous catheter, including those referred sufficiently early (Figure 4.11), are not known.

Figure 4.8
Vascular Access - Initial KRT -
Haemodialysis as Initial Modality

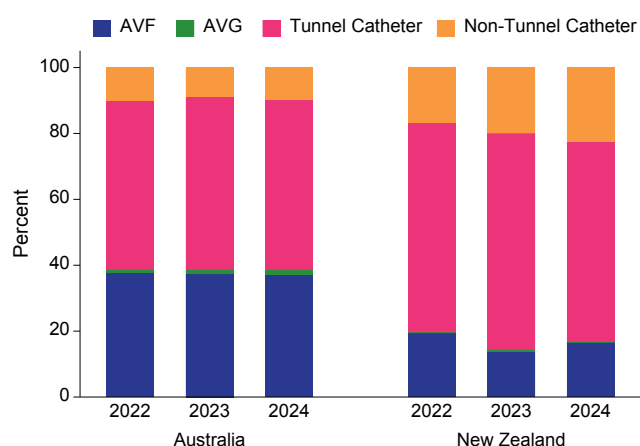


Figure 4.9
Vascular Access - Initial KRT -
By Age Group 2024

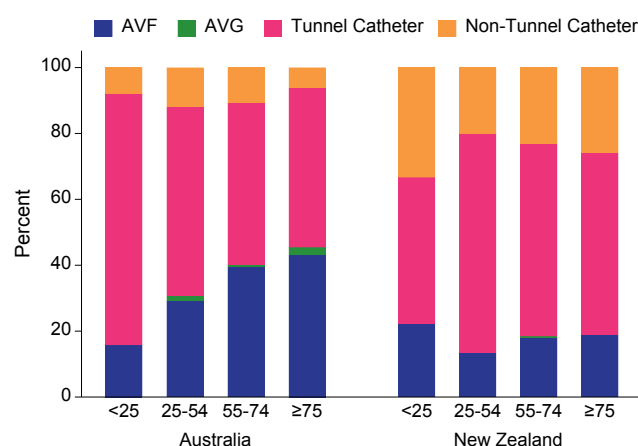


Figure 4.10.1
Vascular Access - Initial KRT - By Gender -
Australia

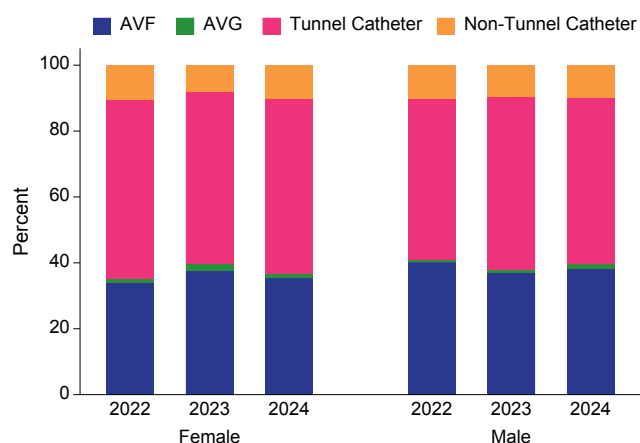


Figure 4.10.2
Vascular Access - Initial KRT - By Gender -
New Zealand

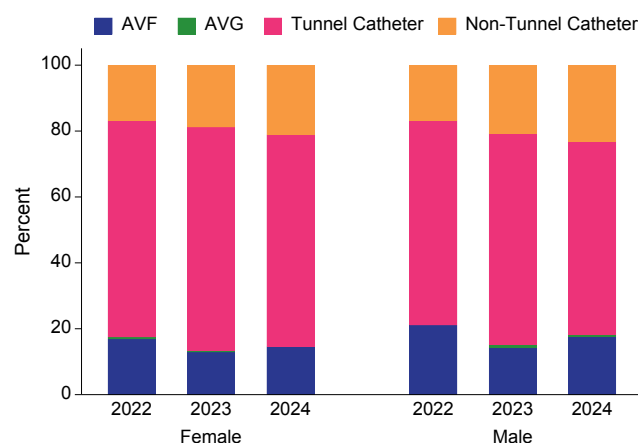


Figure 4.11.1
Vascular Access - Initial KRT - By Referral Time
- Australia

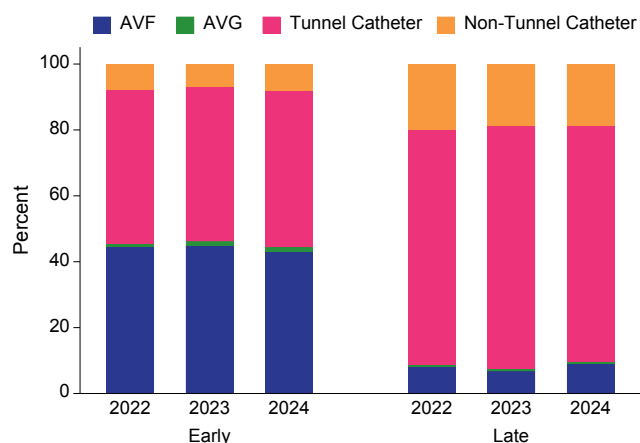


Figure 4.11.2
Vascular Access - Initial KRT - By Referral Time
- New Zealand

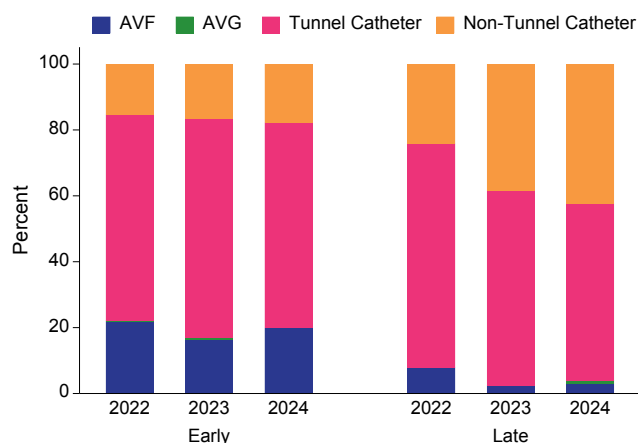


Figure 4.6
Incident Vascular Access by Australian State/Territory and Country 2022-2024

State/Country	2022		2023		2024	
	AVF/AVG	CVC	AVF/AVG	CVC	AVF/AVG	CVC
QLD	214 (40%)	318 (60%)	199 (36%)	352 (64%)	216 (39%)	333 (61%)
NSW/ACT	305 (40%)	467 (60%)	258 (37%)	447 (63%)	272 (37%)	467 (63%)
VIC	228 (40%)	337 (60%)	253 (41%)	365 (59%)	259 (42%)	351 (58%)
TAS	12 (25%)	36 (75%)	17 (57%)	13 (43%)	27 (59%)	19 (41%)
SA	82 (45%)	101 (55%)	80 (46%)	94 (54%)	77 (44%)	100 (56%)
NT	38 (29%)	93 (71%)	47 (41%)	69 (59%)	31 (31%)	69 (69%)
WA	101 (34%)	193 (66%)	101 (36%)	180 (64%)	79 (29%)	193 (71%)
Australia	980 (39%)	1545 (61%)	955 (39%)	1520 (61%)	961 (39%)	1532 (61%)
New Zealand	87 (20%)	355 (80%)	71 (14%)	420 (86%)	86 (17%)	425 (83%)

Figure 4.12.1
Percentage of all Patients who Commenced HD Starting with AVF/AVG - Australia 2024

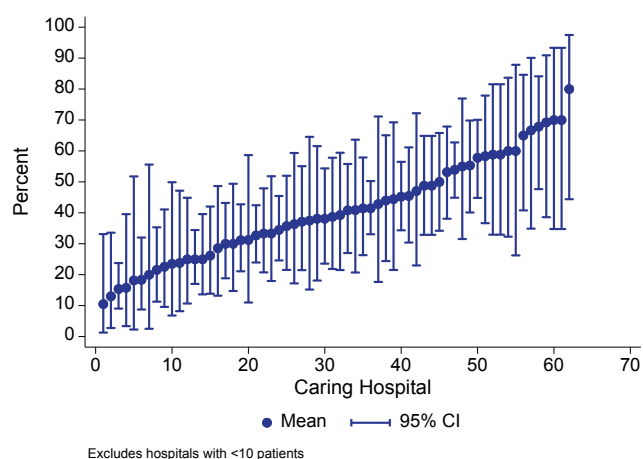
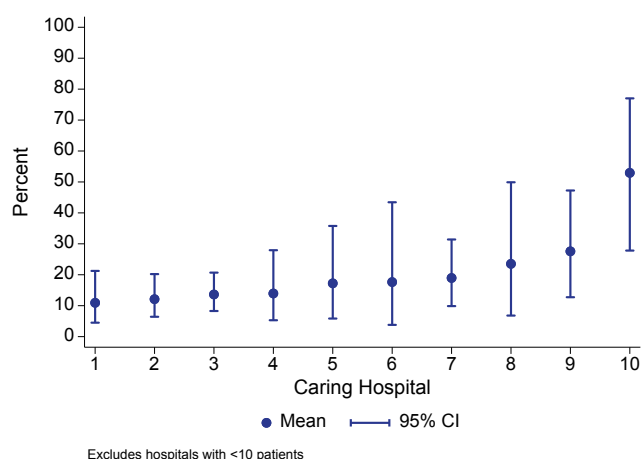


Figure 4.12.2
Percentage of all Patients who Commenced HD Starting with AVF/AVG - New Zealand 2024



PREVALENT PATIENTS

Figures 4.13 to 4.16 and Table 4.7 show dialysis access among prevalent (rather than incident) patients (those receiving haemodialysis or hybrid dialysis at 31 December 2024).

Figure 4.13
Prevalent Haemodialysis[^] Access

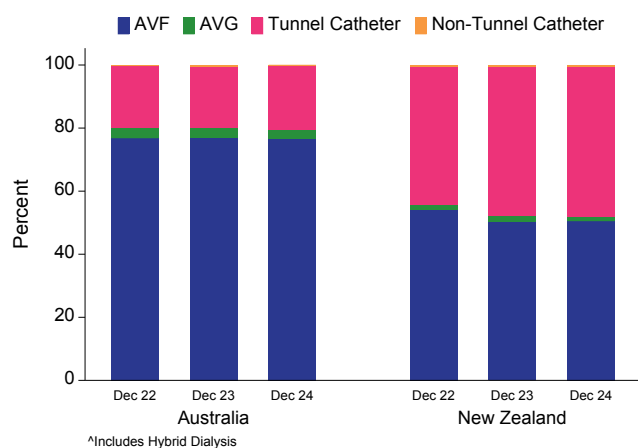


Figure 4.14
Prevalent Haemodialysis[^] Access - By Age Group 2024

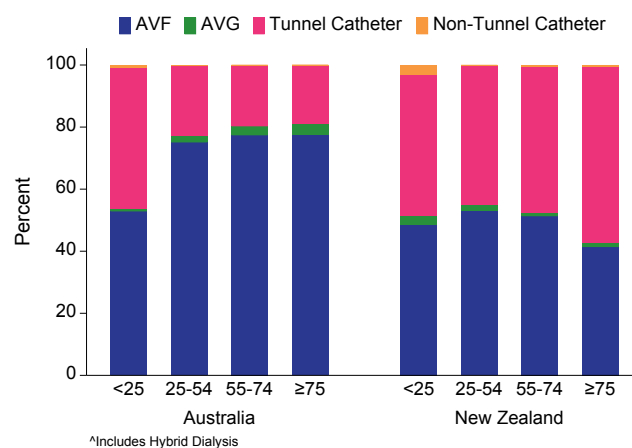


Figure 4.15.1
Prevalent Haemodialysis[^] Access - By Gender - Australia

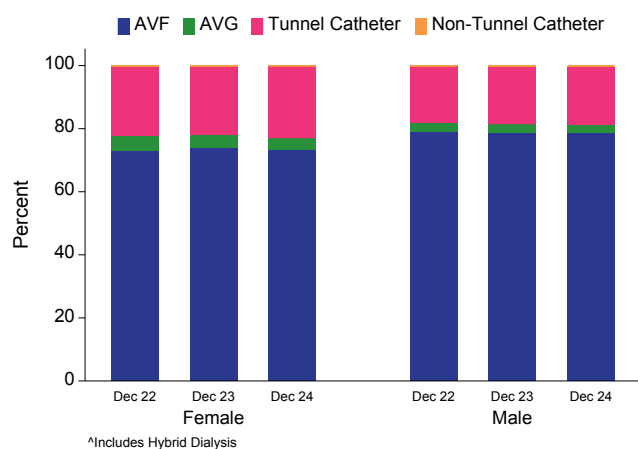


Figure 4.15.2
Prevalent Haemodialysis[^] Access - By Gender - New Zealand

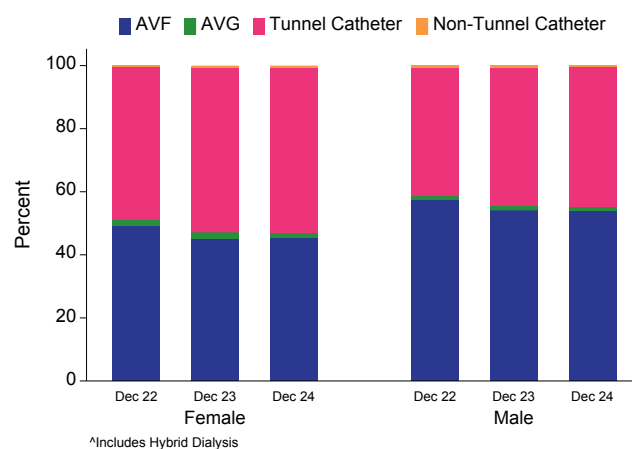
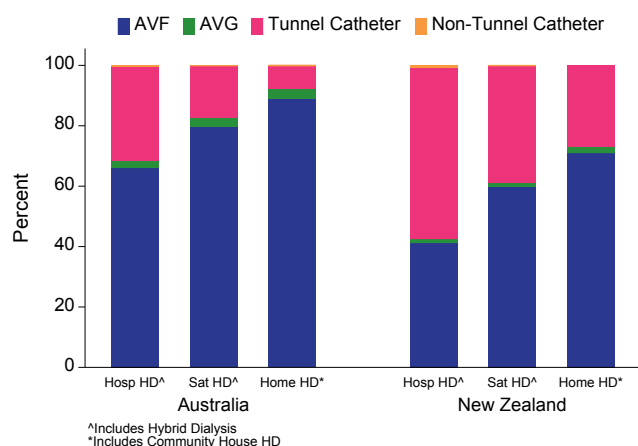


Figure 4.16
Prevalent Haemodialysis[^] Access - By Location 2024



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Table 4.7

Prevalent Haemodialysis[^] Vascular Access by Australian State/Territory and Country at 31 December 2024

State/Country	2022		2023		2024	
	AVF/AVG	CVC	AVF/AVG	CVC	AVF/AVG	CVC
QLD	2142 (82%)	481 (18%)	2149 (81%)	505 (19%)	2238 (81%)	539 (19%)
NSW/ACT	2997 (79%)	818 (21%)	3018 (80%)	777 (20%)	3077 (78%)	852 (22%)
VIC	2310 (81%)	532 (19%)	2356 (80%)	607 (20%)	2433 (80%)	621 (20%)
TAS	121 (64%)	67 (36%)	117 (68%)	56 (32%)	122 (69%)	55 (31%)
SA	739 (84%)	142 (16%)	760 (84%)	143 (16%)	770 (84%)	146 (16%)
NT	662 (89%)	85 (11%)	647 (89%)	84 (11%)	634 (88%)	87 (12%)
WA	1034 (76%)	333 (24%)	1100 (76%)	342 (24%)	1082 (75%)	365 (25%)
Australia	10005 (80%)	2458 (20%)	10147 (80%)	2514 (20%)	10356 (80%)	2665 (20%)
New Zealand	1250 (56%)	997 (44%)	1242 (52%)	1140 (48%)	1278 (52%)	1184 (48%)

[^]Includes Hybrid Dialysis

Figure 4.17 shows the proportion of haemodialysis patients at each hospital dialysing with an AVF/AVG on 31st December 2023, arranged from lowest to highest. In Australia, these proportions varied widely from 62-100%. The corresponding range in New Zealand was 36-74%.

Figure 4.17.1

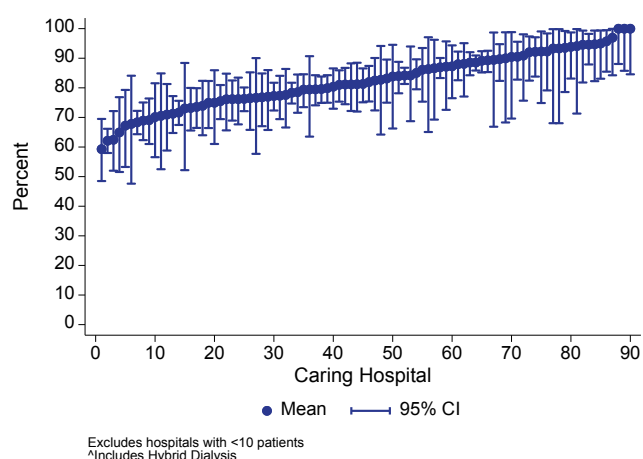
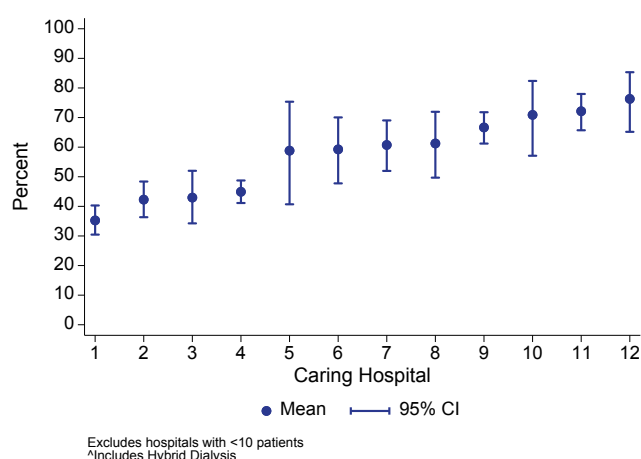
% Prevalent HD[^] Patients Dialysing with AVF/AVG - Australia 31 December 2024

Figure 4.17.2

% Prevalent HD[^] Patients Dialysing with AVF/AVG - New Zealand 31 December 2024

DIALYSIS PRESCRIPTION

HOURS, SESSIONS AND BLOOD FLOW

Table 4.8
Blood Flow Rate by Type of Access at the session closest to 31 December 2024

Blood Flow Rate	Australia				New Zealand			
	AVF	AVG	CVC	Total	AVF	AVG	CVC	Total
<200	23 (0.2%)	0 (0.0%)	24 (0.9%)	47 (0.4%)	2 (0.2%)	0 (0.0%)	1 (0.1%)	3 (0.1%)
200-249	93 (0.9%)	3 (0.8%)	85 (3.2%)	182 (1.4%)	24 (1.9%)	3 (8.6%)	16 (1.4%)	43 (1.7%)
250-299	1284 (12.9%)	49 (13.0%)	889 (33.4%)	2229 (16.7%)	190 (15.3%)	7 (20.0%)	304 (25.7%)	503 (19.7%)
300-349	6997 (70.1%)	268 (71.3%)	1580 (59.3%)	8858 (66.4%)	757 (60.9%)	22 (62.9%)	779 (65.8%)	1558 (61.1%)
350-399	1309 (13.1%)	55 (14.6%)	83 (3.1%)	1447 (10.8%)	251 (20.2%)	2 (5.7%)	84 (7.1%)	337 (13.2%)
400+	273 (2.7%)	1 (0.3%)	3 (0.1%)	277 (2.1%)	19 (1.5%)	0 (0.0%)	0 (0.0%)	19 (0.7%)
Total	9980	376	2664	13343	1243	35	1184	2550

CVV-HD Patients excluded from Total.

Includes Hybrid Dialysis Patients.

Blood Flow Rate or Type of Access Not Reported for 418 Australian and 71 New Zealand patients.

Figure 4.18.1
Distribution of Blood Flow Rates - Prevalent Haemodialysis[^] - Australia

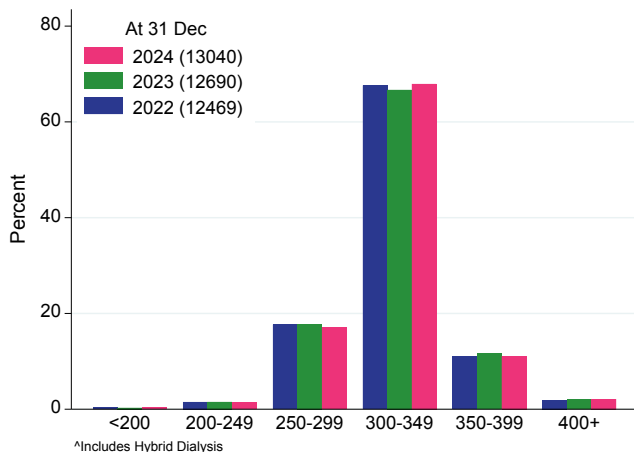
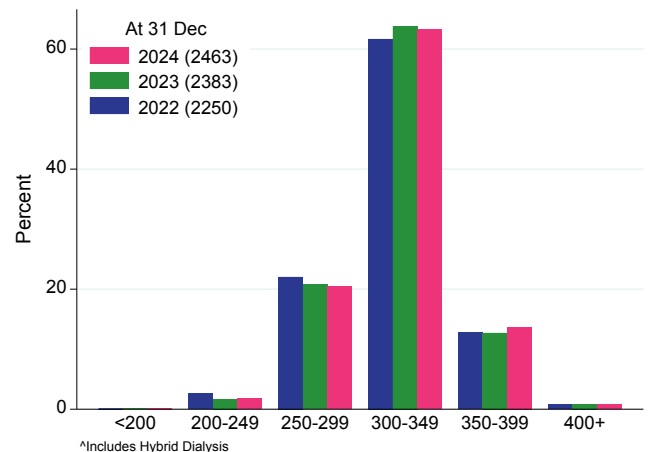


Figure 4.18.2
Distribution of Blood Flow Rates - Prevalent Haemodialysis[^] - New Zealand



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Table 4.9 shows the number of weekly sessions, and hours per session, at 31 December 2024. Figures 4.19 and 4.20 show HD frequency and session length respectively over 2022-2024. Figure 4.21 combines sessions and session length to show the total number of weekly hours of HD over 2022-2024.

Table 4.9
Duration and Number of Sessions per Week - December 2024

Country	Sessions per week	Hours of Each Treatment					Total
		<4	4	4.5	5	>5	
Australia	<3	122 (12.7%)	552 (57.6%)	166 (17.3%)	112 (11.7%)	6 (0.6%)	958
	3	463 (4.0%)	5328 (45.8%)	2690 (23.1%)	2790 (24.0%)	357 (3.1%)	11628
	3.1-4.9	25 (6.2%)	100 (24.7%)	56 (13.8%)	98 (24.2%)	126 (31.1%)	405
	5+	11 (22.0%)	9 (18.0%)	3 (6.0%)	7 (14.0%)	20 (40.0%)	50
	Total	621 (4.8%)	5989 (45.9%)	2915 (22.4%)	3007 (23.1%)	509 (3.9%)	13041
New Zealand	<3	16 (18.2%)	43 (48.9%)	9 (10.2%)	20 (22.7%)	0 (0.0%)	88
	3	42 (1.9%)	855 (39.0%)	542 (24.7%)	606 (27.7%)	146 (6.7%)	2191
	3.1-4.9	5 (2.8%)	43 (24.4%)	30 (17.0%)	54 (30.7%)	44 (25.0%)	176
	5+	2 (25.0%)	2 (25.0%)	1 (12.5%)	2 (25.0%)	1 (12.5%)	8
	Total	65 (2.6%)	943 (38.3%)	582 (23.6%)	682 (27.7%)	191 (7.8%)	2463

Intermediate durations are rounded up, e.g. 4.25 is included in 4.5.

Includes Hybrid Dialysis patients.

Hours or number of sessions were not reported for 303 Australian and 87 New Zealand patients.

Figure 4.19.1
Haemodialysis Frequency Per Week - Prevalent Haemodialysis^ - Australia

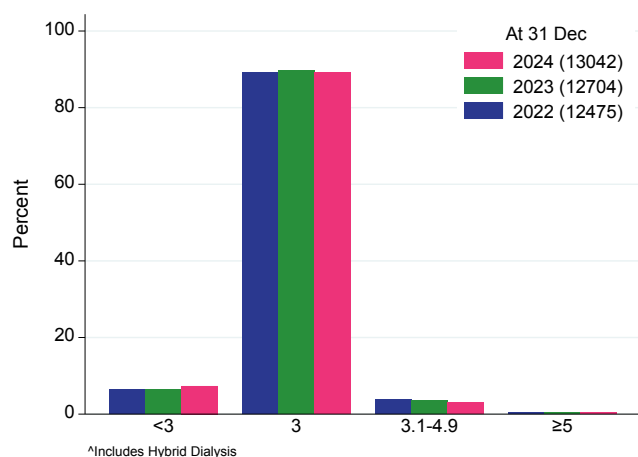


Figure 4.19.2
Haemodialysis Frequency Per Week - Prevalent Haemodialysis^ - New Zealand

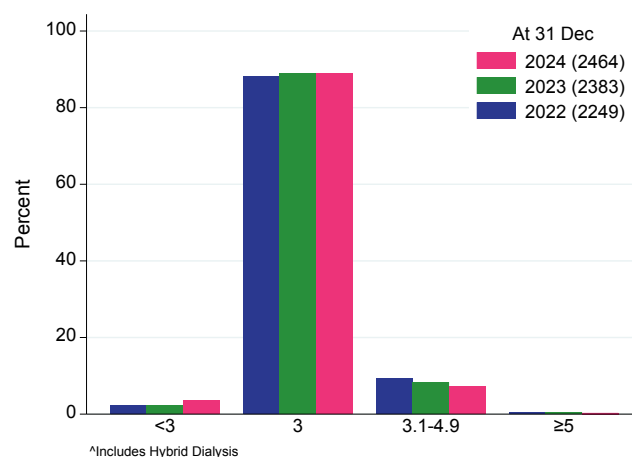


Figure 4.20.1
Haemodialysis Session Length (Hours) -
Prevalent Haemodialysis[^] - Australia

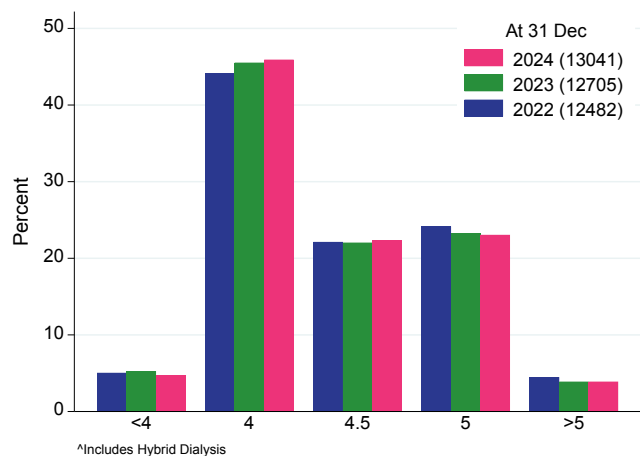


Figure 4.20.2
Haemodialysis Session Length (Hours) -
Prevalent Haemodialysis[^] - New Zealand

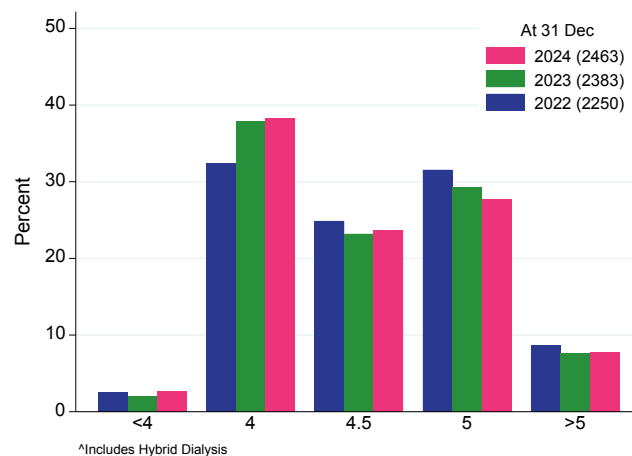


Figure 4.21.1
Haemodialysis Duration (Hours Per Week) -
Prevalent Haemodialysis[^] - Australia

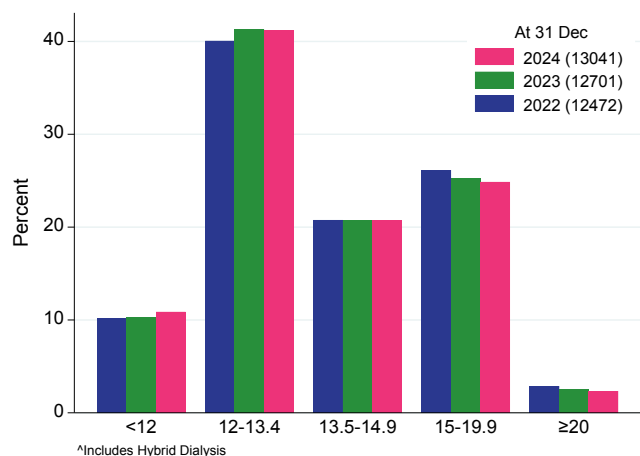
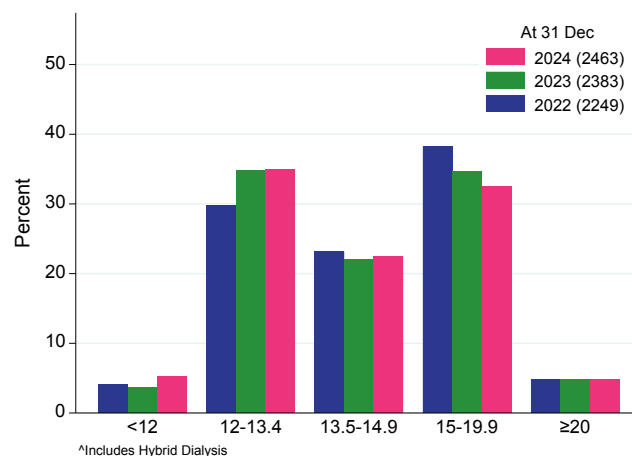


Figure 4.21.2
Haemodialysis Duration (Hours Per Week) -
Prevalent Haemodialysis[^] - New Zealand



Figures 4.22-4.24 show trends in dialysis prescription. Tables 4.10-4.12 present these same data for 2021-2024 by state and country.

Figure 4.22
Percentage of HD[^] Patients Dialysing More than 3 Days Per Week

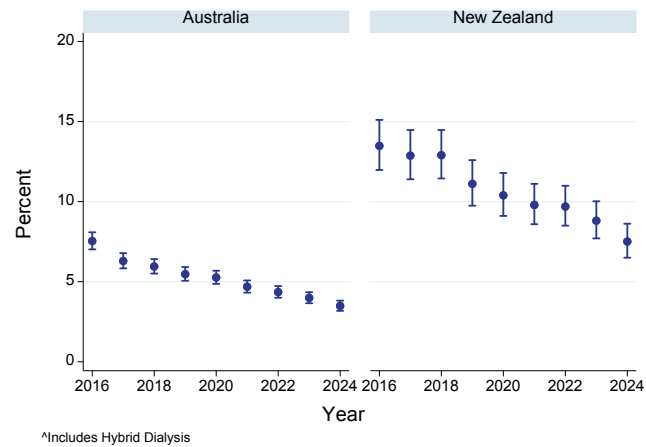


Figure 4.23
*Percentage of HD[^] Patients Dialysing 3 Days Per Week
Dialysing 5 Hours or Longer Per Session*

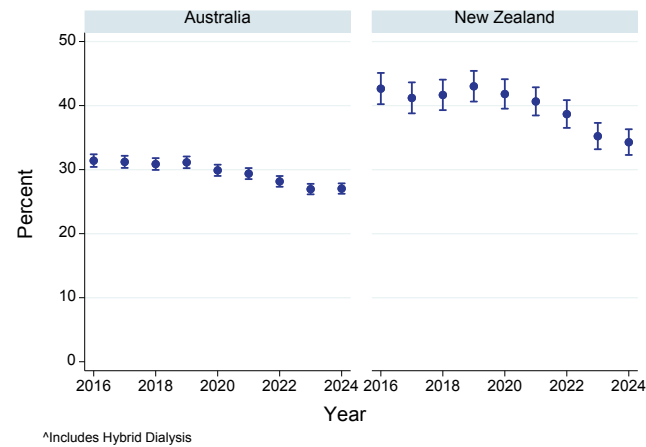


Figure 4.24
Percentage of HD[^] Patients Dialysing >15 Hours Per Week

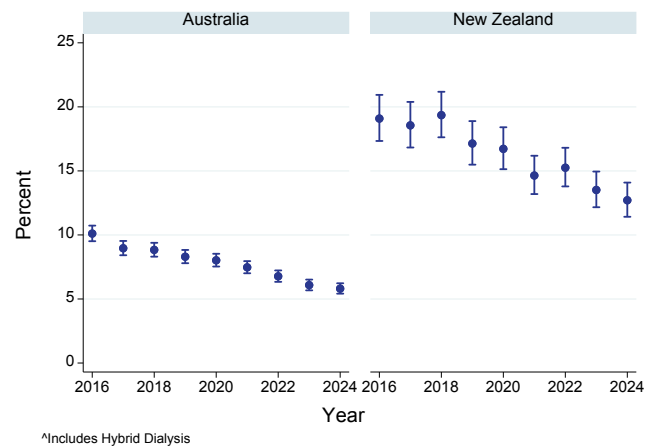


Table 4.10

Haemodialysis[^] >3 Sessions per Week by Australian State/Territory and Country 2021-2024

State	2021	2022	2023	2024
QLD	111 (4.5%)	116 (4.4%)	112 (4.2%)	81 (2.9%)
NSW/ACT	164 (4.4%)	164 (4.3%)	112 (2.9%)	119 (3.0%)
VIC	172 (6.0%)	153 (5.4%)	159 (5.4%)	148 (4.8%)
TAS	12 (6.6%)	7 (3.7%)	8 (4.3%)	8 (4.5%)
SA	25 (2.9%)	28 (3.2%)	31 (3.4%)	19 (2.1%)
NT	5 (0.7%)	8 (1.1%)	10 (1.3%)	5 (0.7%)
WA	76 (6.0%)	67 (4.9%)	75 (5.2%)	75 (5.2%)
Australia	565 (4.7%)	543 (4.4%)	507 (4.0%)	455 (3.5%)
New Zealand	217 (9.8%)	218 (9.7%)	210 (8.8%)	185 (7.5%)

[^]Includes Hybrid Dialysis

Table 4.11

Haemodialysis[^] >5 Hours per Session - Three Sessions per Week by Australian State/Territory and Country 2021-2024

State	2021	2022	2023	2024
QLD	508 (23.7%)	500 (22.3%)	479 (21.3%)	494 (21.1%)
NSW/ACT	1519 (46.0%)	1479 (43.8%)	1392 (41.3%)	1381 (40.0%)
VIC	761 (29.3%)	747 (28.7%)	765 (28.2%)	851 (30.2%)
TAS	20 (12.0%)	26 (14.8%)	30 (17.2%)	31 (20.3%)
SA	77 (9.5%)	85 (10.1%)	75 (8.9%)	77 (8.9%)
NT	226 (32.0%)	215 (29.3%)	232 (31.8%)	225 (31.5%)
WA	74 (6.6%)	82 (7.1%)	95 (7.3%)	85 (6.6%)
Australia	3185 (29.4%)	3134 (28.2%)	3068 (27.0%)	3144 (27.0%)
New Zealand	797 (40.6%)	766 (38.7%)	747 (35.2%)	751 (34.3%)

[^]Includes Hybrid Dialysis

Table 4.12

Haemodialysis[^] >15 Hours per Week by Australian State/Territory and Country 2021-2024

State	2021	2022	2023	2024
QLD	148 (6.0%)	139 (5.3%)	131 (4.9%)	100 (3.6%)
NSW/ACT	391 (10.6%)	372 (9.8%)	300 (7.9%)	333 (8.5%)
VIC	234 (8.2%)	206 (7.2%)	206 (6.9%)	203 (6.6%)
TAS	13 (7.2%)	11 (5.9%)	12 (6.4%)	13 (7.3%)
SA	31 (3.6%)	34 (3.9%)	35 (3.9%)	26 (2.8%)
NT	13 (1.8%)	18 (2.4%)	16 (2.1%)	14 (1.9%)
WA	68 (5.4%)	65 (4.8%)	73 (5.1%)	69 (4.8%)
Australia	898 (7.5%)	845 (6.8%)	773 (6.1%)	758 (5.8%)
New Zealand	324 (14.6%)	343 (15.3%)	322 (13.5%)	313 (12.7%)

[^]Includes Hybrid Dialysis

HAEMODIALYSIS AND HAEMODIAFILTRATION

Figure 4.25 shows the change in percentage of haemodialysis patients treated with haemodiafiltration over time for Australia and New Zealand. Hybrid Dialysis patients are excluded as this information is not collected. Table 4.13 shows the use of high-flux dialysis and haemodiafiltration by state/territory and country in 2024.

Figure 4.25
Use of Haemodiafiltration - Prevalent Haemodialysis[^] Patients 2015-2024

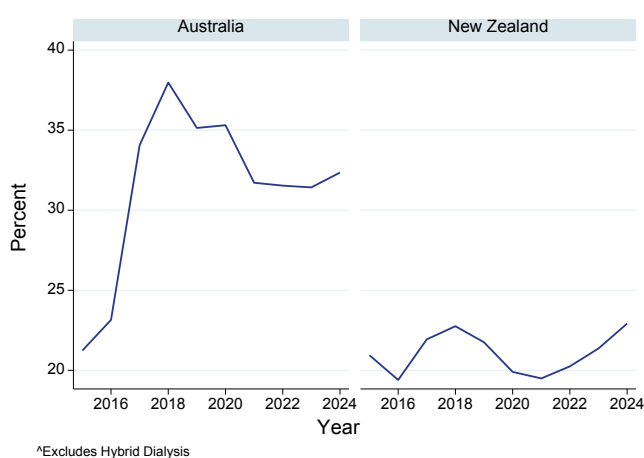


Table 4.13
Number of Patients Receiving Standard Haemodialysis (and Membrane Type), Haemofiltration and Haemodiafiltration - December 2024

HD Modality	QLD	NSW/ ACT	VIC	TAS	SA	NT	WA	Australia	New Zealand
Haemodialysis	1595 (57.4%)	2642 (66.9%)	2631 (86.1%)	177 (100.0%)	686 (74.9%)	686 (95.0%)	392 (27.6%)	8809 (67.6%)	1900 (77.1%)
High Flux	1284	2203	1928	131	664	297	274	6781	1504
Non-High Flux*	304	434	698	46	14	388	116	2000	392
Unreported	7	5	5	0	8	1	2	28	4
Haemofiltration	1 (0.0%)	22 (0.6%)	2 (0.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (0.1%)	27 (0.2%)	1 (0.0%)
Haemodiafiltration	1185 (42.6%)	1284 (32.5%)	424 (13.9%)	0 (0.0%)	230 (25.1%)	36 (5.0%)	1027 (72.3%)	4186 (32.1%)	564 (22.9%)
Total	2781	3948	3057	177	916	722	1421	13022	2465

*Non-High Flux includes low flux and mid-cut-off or other membranes.
Excludes Hybrid Dialysis.

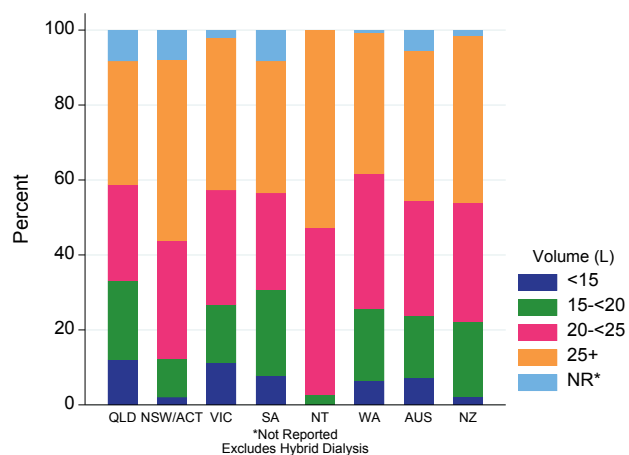
The mode of delivery of substitution fluid for haemodiafiltration is shown in Table 4.14. In Australia and New Zealand, the predominant mode of delivery of substitution fluid for haemodiafiltration was post-dilution.

Table 4.14
Mode of delivery of substitution fluid in patients using haemodiafiltration - December 2024

Country	Haemodiafiltration Type	2020	2021	2022	2023	2024
Australia	Predilution	298 (7%)	306 (8%)	311 (8%)	347 (9%)	397 (9%)
	Mixed Dilution	60 (1%)	49 (1%)	35 (1%)	30 (1%)	11 (0%)
	Postdilution	3746 (91%)	3463 (91%)	3583 (91%)	3602 (91%)	3778 (90%)
	Total	4104	3818	3929	3979	4186
New Zealand	Predilution	98 (24%)	92 (21%)	125 (27%)	89 (18%)	89 (16%)
	Mixed Dilution	0 (0%)	2 (0%)	0 (0%)	6 (1%)	5 (1%)
	Postdilution	311 (76%)	334 (78%)	330 (73%)	413 (81%)	470 (83%)
	Total	409	428	455	508	564

Excludes Hybrid Dialysis

Figure 4.26
HDF Substitution Volume by State/Territory and Country - at 31 Dec 2024



PLACE OF DIALYSIS AND SELF-CARE

Community house haemodialysis has been collected as a 'sub-modality' of haemodialysis since 2020. Community house haemodialysis enables patients/carers to undertake haemodialysis, independent of nursing or medical supervision, in a shared house or community facility. Hybrid dialysis has been collected as a modality of dialysis since 2023. Hybrid dialysis is defined as combined concurrent peritoneal dialysis and haemodialysis therapy. As this is a newly collected variable, there may have been under-reporting in the number of hybrid therapy patients.

Table 4.15
Prevalent Haemodialysis Patients by Location 2020-2024

Country	Modality	2020	2021	2022	2023	2024
Australia	Hospital	3001 (25%)	3170 (25%)	3370 (26%)	3416 (26%)	3724 (28%)
	Hospital Hybrid	-	-	-	5 (<1%)	10 (<1%)
	Satellite	7924 (66%)	8235 (66%)	8360 (65%)	8549 (65%)	8555 (64%)
	Satellite Hybrid	-	-	-	16 (<1%)	25 (<1%)
	Home	1107 (9%)	1113 (9%)	1115 (9%)	1069 (8%)	1025 (8%)
	Community House	25 (<1%)	20 (<1%)	10 (<1%)	6 (<1%)	5 (<1%)
	Total	12057	12538	12855	13061	13344
New Zealand	Hospital	1212 (57%)	1330 (58%)	1376 (59%)	1418 (58%)	1491 (58%)
	Hospital Hybrid	-	-	-	5 (<1%)	0 (0%)
	Satellite	524 (25%)	573 (25%)	577 (25%)	640 (26%)	666 (26%)
	Satellite Hybrid	-	-	-	0 (0%)	1 (<1%)
	Home	354 (17%)	366 (16%)	357 (15%)	348 (14%)	347 (14%)
	Community House	32 (2%)	28 (1%)	32 (1%)	39 (2%)	45 (2%)
	Total	2122	2297	2342	2450	2550

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

Hybrid Dialysis was only collected from 2023 onwards as a modality of treatment.

Self-care is defined as dialysis performed by the patient with minimal assistance from a health care professional. Self-care enables patients to perform dialysis procedures independent of nursing or medical assistance in any type of facility or community setting. It does not refer to Activities of Daily Living.

Table 4.16
Haemodialysis Patients by Self-care 2024

Country	Modality	Self Care	Not Self Care	Not Reported	Total
Australia	Hospital	183 (5%)	3250 (87%)	291 (8%)	3724
	Satellite	728 (9%)	7491 (88%)	336 (4%)	8555
	Home	801 (78%)	138 (13%)	86 (8%)	1025
	Community House	0 (0%)	5 (100%)	0 (0%)	5
	Hybrid	28 (80%)	5 (14%)	2 (6%)	35
	Total	1740 (13%)	10889 (82%)	715 (5%)	13344
New Zealand	Hospital	71 (5%)	1386 (93%)	34 (2%)	1491
	Satellite	121 (18%)	513 (77%)	32 (5%)	666
	Home	304 (88%)	26 (7%)	17 (5%)	347
	Community House	40 (89%)	5 (11%)	0 (0%)	45
	Hybrid	1 (100%)	0 (0%)	0 (0%)	1
	Total	537 (21%)	1930 (76%)	83 (3%)	2550

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HOME HAEMODIALYSIS

PREVALENCE

The distribution of prevalent home haemodialysis patients (including community house haemodialysis patients) by state is shown in Table 4.17. The 2024 data are further stratified by age in Figure 4.27.

Table 4.17
Number (%) of Prevalent Haemodialysis[^] Patients Treated with Home Haemodialysis* 2020-2024

State	2020	2021	2022	2023	2024
QLD	239 (9.7%)	241 (9.3%)	242 (8.9%)	224 (8.2%)	207 (7.3%)
NSW/ACT	470 (12.9%)	469 (12.4%)	481 (12.3%)	444 (11.3%)	404 (10.2%)
VIC	226 (7.9%)	239 (8.1%)	230 (7.8%)	226 (7.4%)	235 (7.6%)
TAS	8 (4.5%)	9 (4.8%)	8 (4.2%)	6 (3.1%)	7 (3.8%)
SA	29 (3.5%)	32 (3.7%)	34 (3.8%)	33 (3.6%)	36 (3.8%)
NT	56 (7.7%)	41 (5.5%)	27 (3.5%)	36 (4.8%)	34 (4.5%)
WA	104 (7.9%)	102 (7.2%)	103 (7.1%)	106 (7.1%)	107 (6.9%)
Australia	1132 (9.4%)	1133 (9.0%)	1125 (8.8%)	1075 (8.2%)	1030 (7.7%)
New Zealand	386 (18.2%)	394 (17.2%)	389 (16.6%)	387 (15.8%)	392 (15.4%)

[^]Includes Hybrid Dialysis

*Includes Community House HD

Figure 4.27
Age Distribution of Home HD* Patients by State/ Territory and Country - at 31 Dec 2024

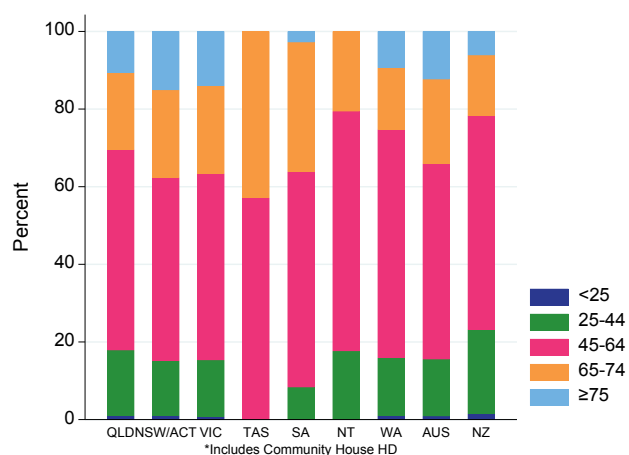


Figure 4.28.1
Home HD* Percent of all HD^ by Age at 31 Dec 2024 - Australia

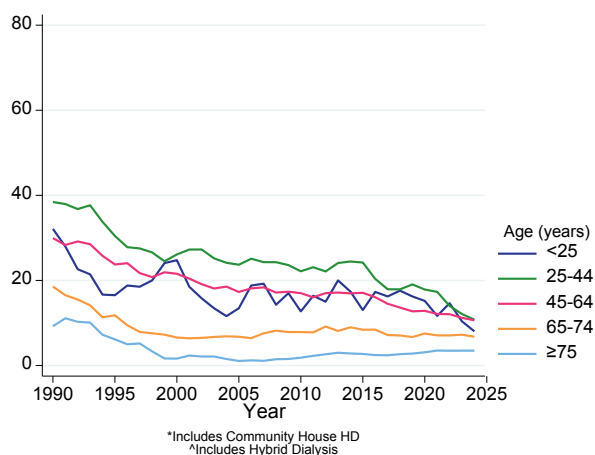
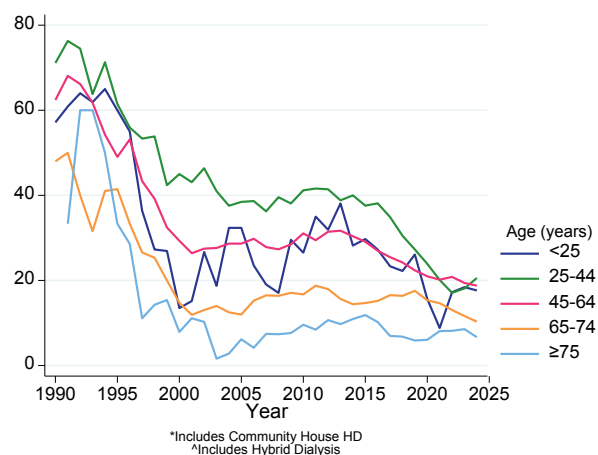


Figure 4.28.2
Home HD* Percent of all HD^ by Age at 31 Dec 2024 - New Zealand



There is substantial variation between hospitals, and between countries, in the proportion of haemodialysis patients who dialyse at home (Figure 4.29).

Figure 4.29.1
% Haemodialysis^ Patients on Home HD* - Australia 31 December 2024

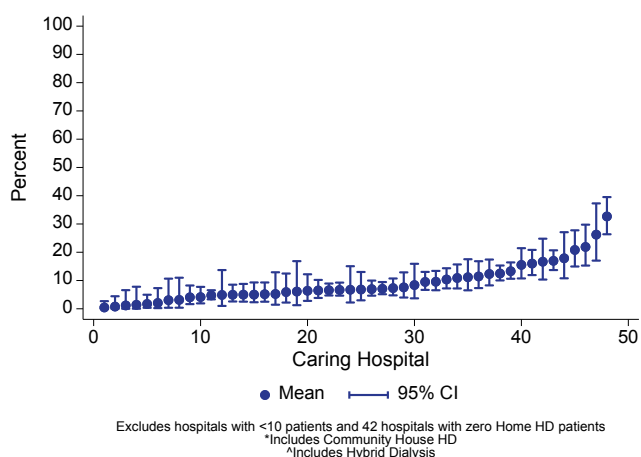
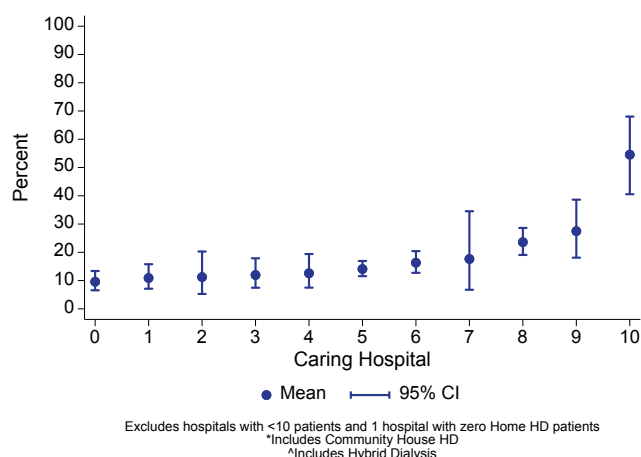


Figure 4.29.2
% Haemodialysis^ Patients on Home HD* - New Zealand 31 December 2024



HOME HAEMODIALYSIS SURVIVAL AND TREATMENT FAILURE

Home haemodialysis treatment failure refers to cessation of home haemodialysis (including community house haemodialysis) to have haemodialysis in satellite or hospital for more than 30 days, to do peritoneal dialysis for more than 30 days, or due to death of the patient. Receipt of a kidney transplant is not a 'treatment failure' and so follow-up is censored at transplantation, or 31 Dec 2024. Only patients initiating home haemodialysis within the first 365 days of KRT commencement are included. When death of a patient is counted as a censoring event (rather than 'failure'), the differences between the age groups become less apparent (Figure 4.32).

Figure 4.30
Treatment Failure - Home Haemodialysis* 2014-2024

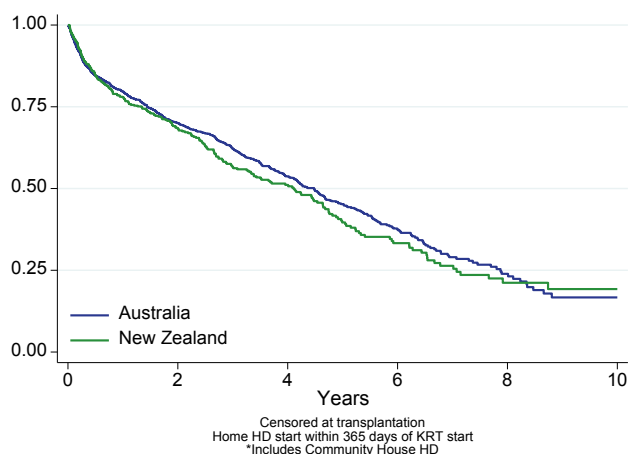


Figure 4.31
Treatment Failure by Age Group - Home Haemodialysis* 2014-2024

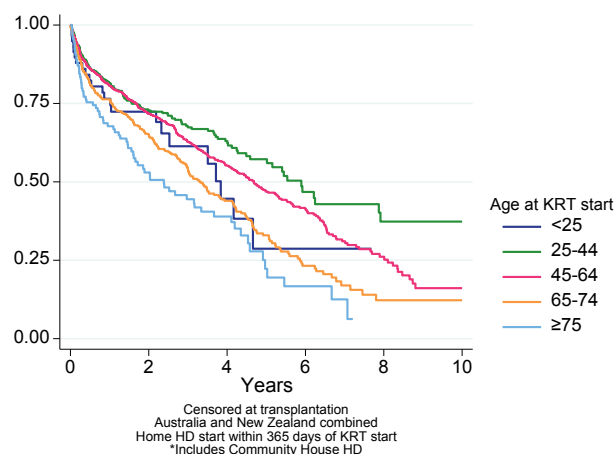
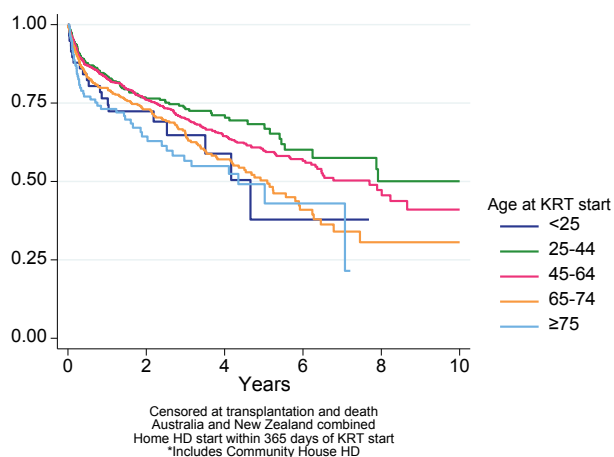


Figure 4.32
Death-Censored Treatment Failure by Age Group - Home Haemodialysis 2014-2024

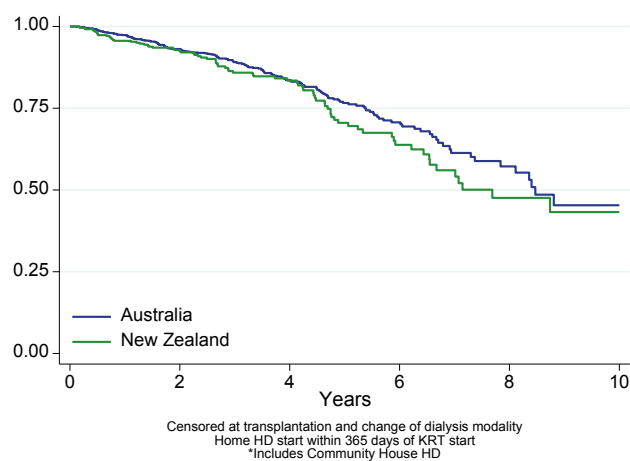


The modality or status following home haemodialysis treatment failure or censoring for 2014-2024 are shown in Table 4.18.

Table 4.18
Reason for Home Haemodialysis Treatment Failure 2014-2024

Modality or Status Following Treatment Failure	Australia	New Zealand
Other HD ≥ 30 days	488 (27%)	168 (31%)
PD ≥ 30 days	50 (3%)	8 (1%)
Transplant	539 (30%)	92 (17%)
Lost to Follow Up	2 (0%)	0 (0%)
Renal Recovery	14 (1%)	4 (1%)
End of follow-up	512 (28%)	187 (35%)
Death	156 (9%)	68 (13%)
Withdrawal from dialysis	37 (2%)	12 (2%)
Total	1798	539

Figure 4.33
Patient Survival - Home Haemodialysis* 2014-2024



HOME HAEMODIALYSIS PRESCRIPTION

The following figures explore trends in home haemodialysis prescriptions.

Figure 4.34.1

Home Haemodialysis* Frequency Per Week - Prevalent Home HD* - Australia

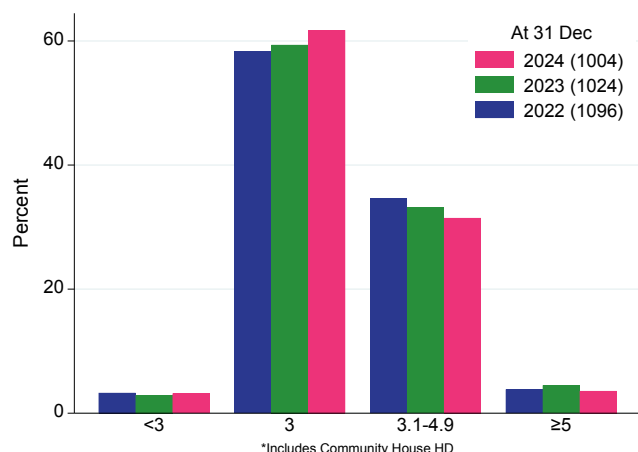


Figure 4.34.2

Home Haemodialysis* Frequency Per Week - Prevalent Home HD* - New Zealand

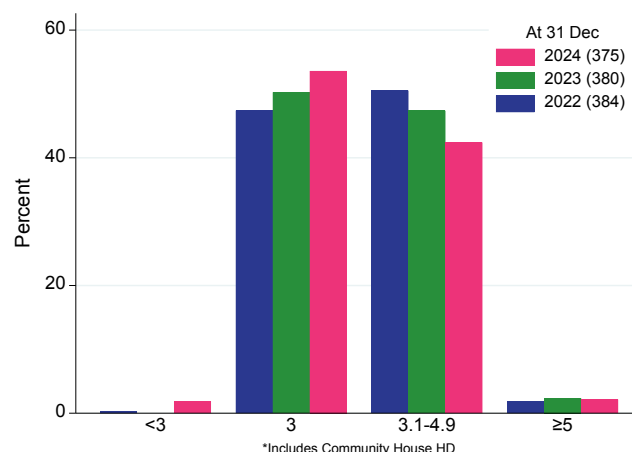


Figure 4.35.1

Home Haemodialysis* Session Length (Hours) - Prevalent Home HD* - Australia

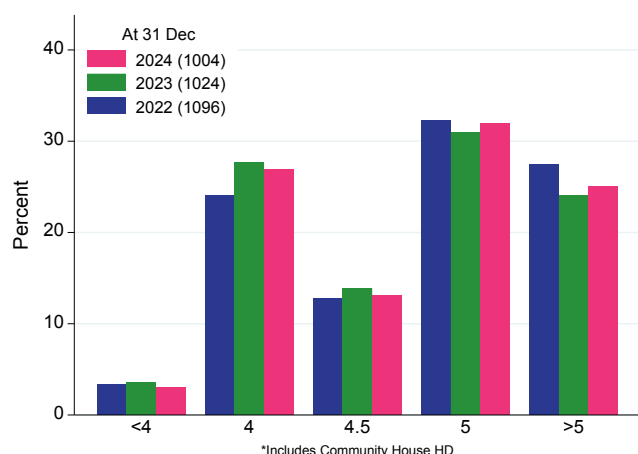


Figure 4.35.2

Home Haemodialysis* Session Length (Hours) - Prevalent Home HD* - New Zealand

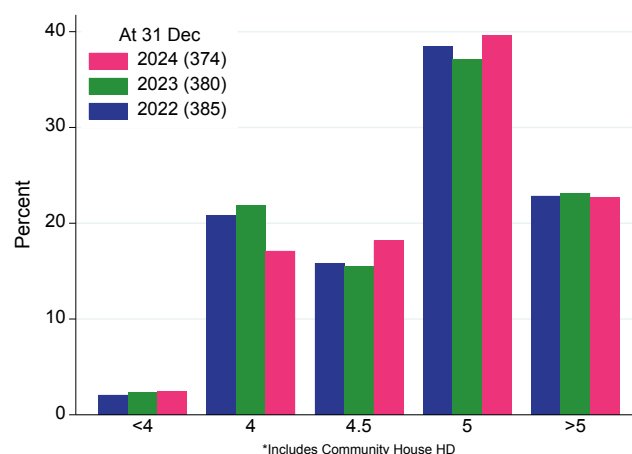


Figure 4.36.1

Home Haemodialysis* Duration (Hours Per Week) - Prevalent Home HD* - Australia

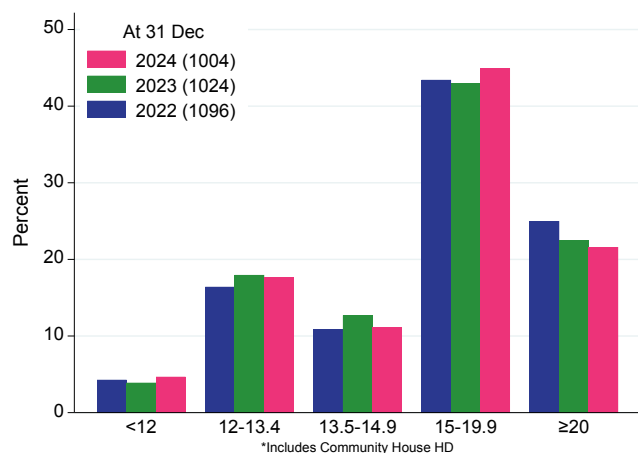
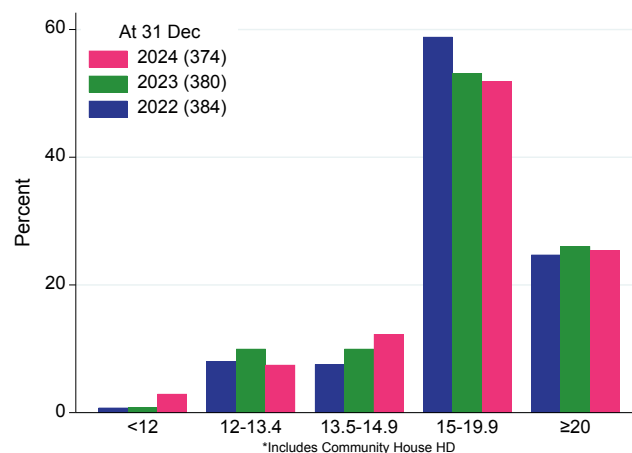


Figure 4.36.2

Home Haemodialysis* Duration (Hours Per Week) - Prevalent Home HD* - New Zealand



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Figure 4.37
Percentage of Home HD* Patients Dialysing More than 3 Days Per Week

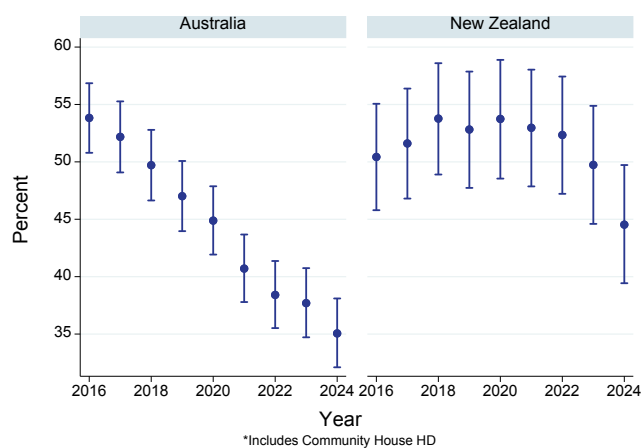


Figure 4.38
Percentage of Home HD* Patients Dialysing 3 Days Per Week Dialysing 5 Hours or Longer Per Session

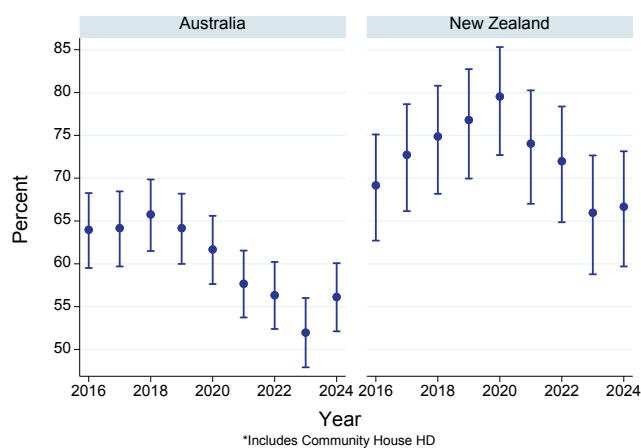
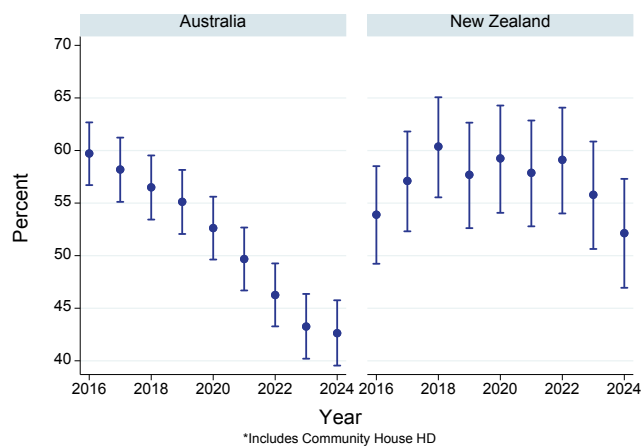


Figure 4.39
Percentage of Home HD* Patients Dialysing >15 Hours Per Week



LABORATORY BASED DATA AT THE TIME OF THE ANNUAL SURVEY

ANAEMIA MANAGEMENT

The median haemoglobin at 31 Dec 2024 of haemodialysis patients at each centre ranged from 102 to 133g/L in Australia and 101 to 115g/L in New Zealand (Figure 4.40). 81% of patients in Australia, and 80% in New Zealand were prescribed an erythropoiesis-stimulating agent (ESA) at the time of the annual survey.

Figure 4.40.1
Haemoglobin in Haemodialysis^a Patients - Australia 31 December 2024

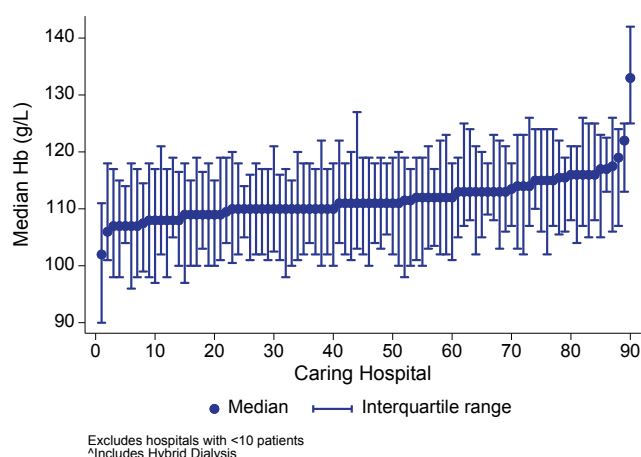
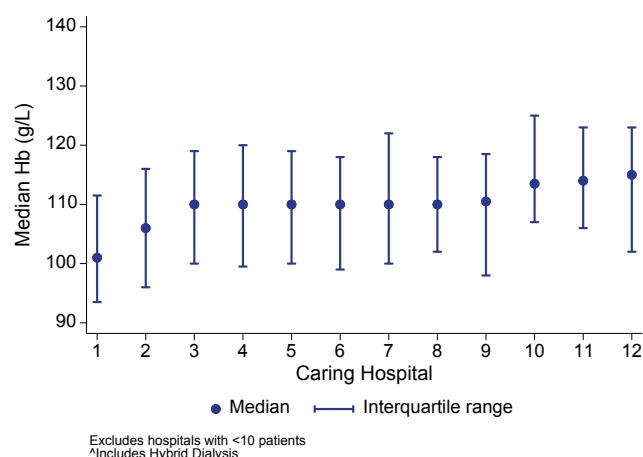


Figure 4.40.2
Haemoglobin in Haemodialysis^a Patients - New Zealand 31 December 2024



The proportion of patients on haemodialysis prescribed an ESA whose haemoglobin was between 100-115g/L ranged from 16-82% in Australia and 37-62% in New Zealand (Figure 4.41).

Figure 4.41.1
% Haemodialysis^a Patients receiving an ESA with Hb 100-115 g/L - Australia 31 December 2024

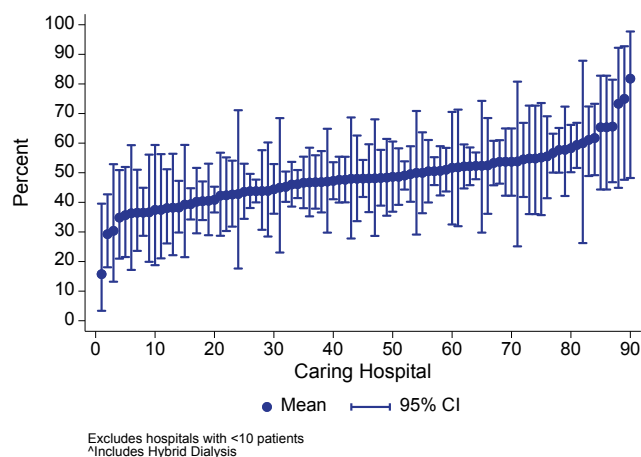
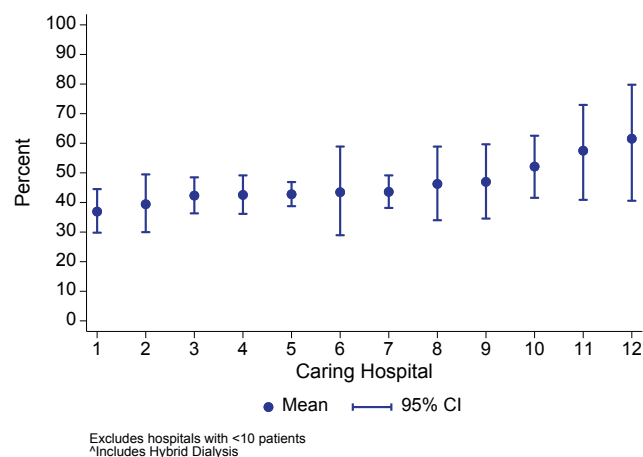


Figure 4.41.2
% Haemodialysis^a Patients receiving an ESA with Hb 100-115 g/L - New Zealand 31 December 2024



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The proportion of patients receiving an ESA considered iron replete (ferritin between 200-500µg/L) ranged from 16-78% in Australia and 23-54% in New Zealand (Figure 4.42). Figure 4.43 presents equivalent data for transferrin saturation.

Figure 4.42.1
% Haemodialysis^ Patients receiving an ESA with Ferritin 200-500 µg/L - Australia 31 December 2024

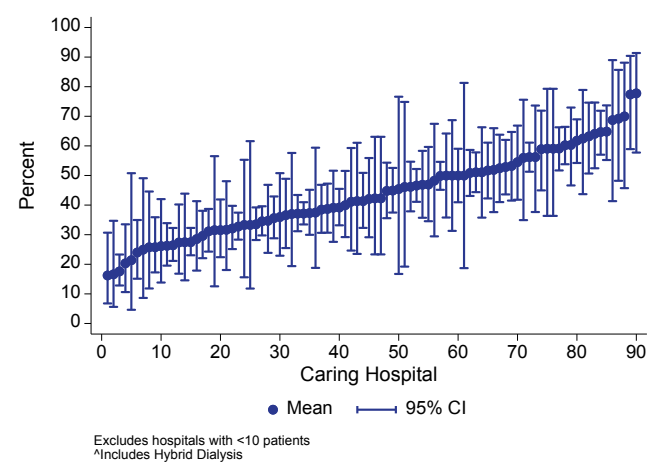


Figure 4.42.2
% Haemodialysis^ Patients receiving an ESA with Ferritin 200-500 µg/L - New Zealand 31 December 2024

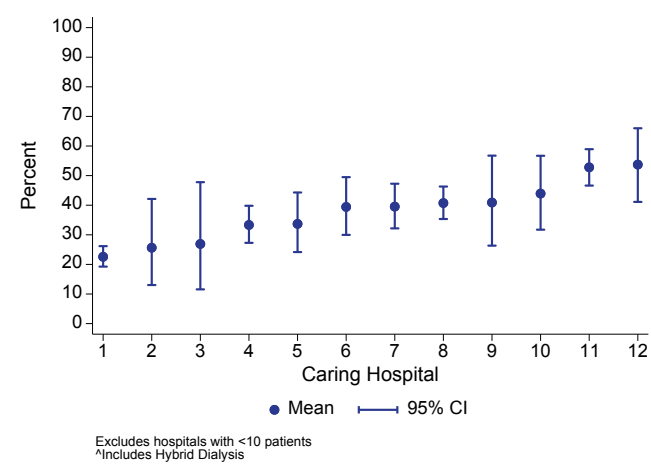


Figure 4.43.1
% Haemodialysis^ Patients receiving an ESA with TSat>20% - Australia 31 December 2024

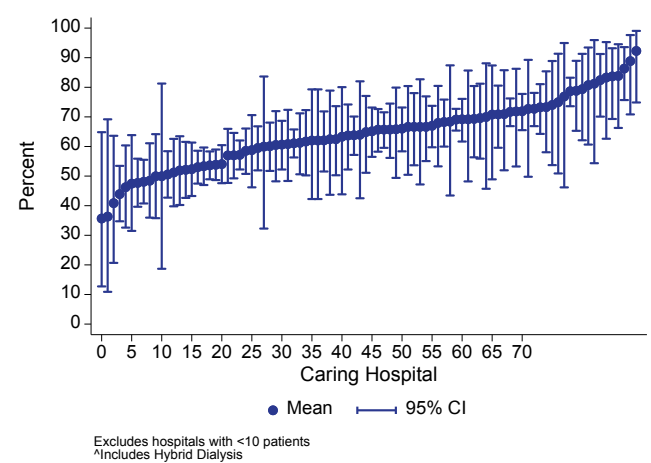
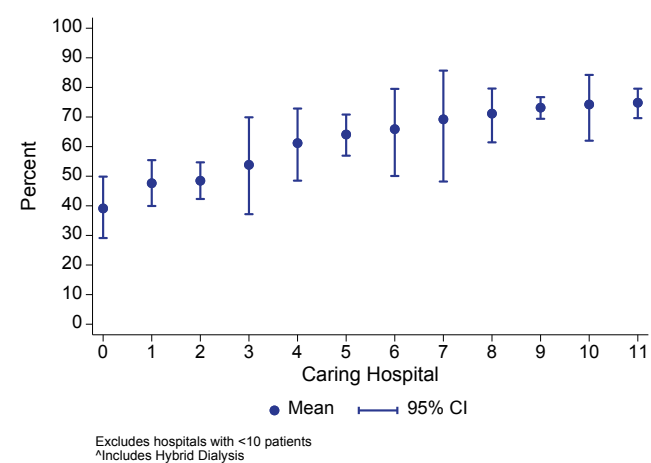


Figure 4.43.2
% Haemodialysis^ Patients receiving an ESA with TSat>20% - New Zealand 31 December 2024



CALCIUM AND PHOSPHATE

Figures 4.44 and 4.45 show the proportions of patients with serum calcium between 2.1-2.4mmol/L and phosphate between 0.8-1.6mmol/L respectively at the time of the annual survey. Note that the calcium is not corrected for albumin.

Figure 4.44.1
% Haemodialysis^ Patients with Calcium 2.1-2.4 mmol/L - Australia 31 December 2024

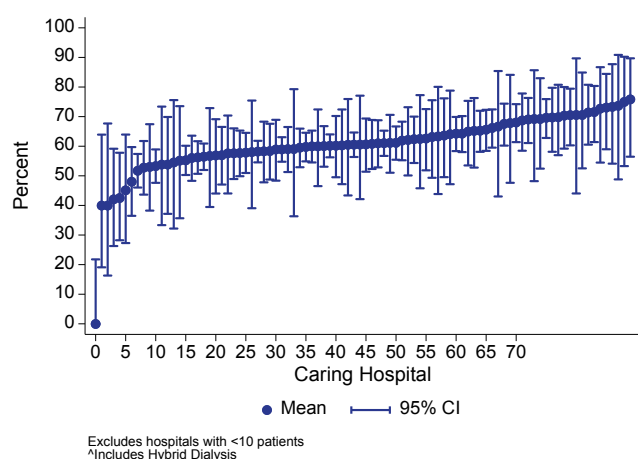


Figure 4.44.2
% Haemodialysis^ Patients with Calcium 2.1-2.4 mmol/L - New Zealand 31 December 2024

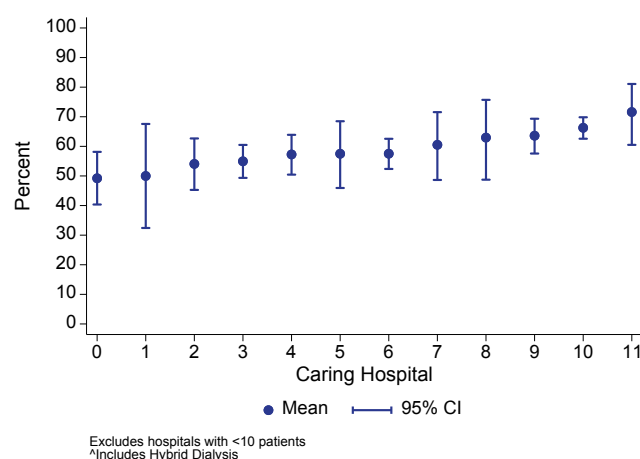


Figure 4.45.1
% Haemodialysis^ Patients with Phosphate 0.8-1.6 mmol/L - Australia 31 December 2024

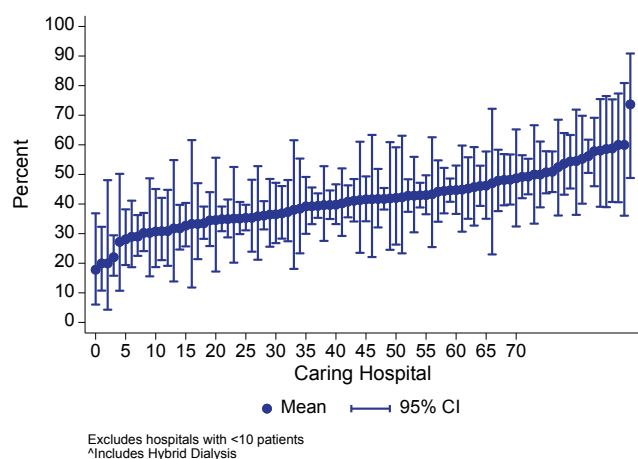
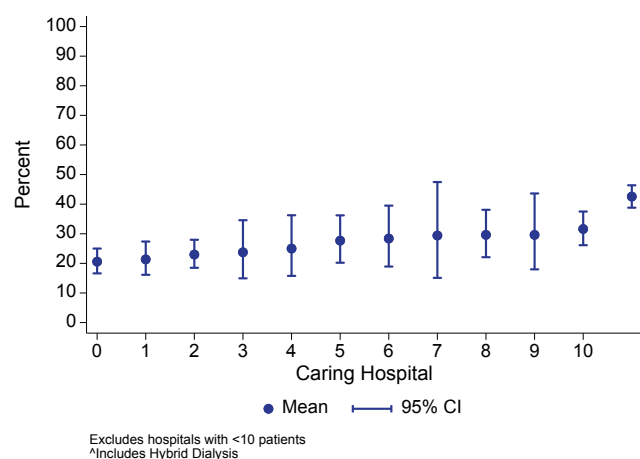


Figure 4.45.2
% Haemodialysis^ Patients with Phosphate 0.8-1.6 mmol/L - New Zealand 31 December 2024



UREA REDUCTION RATIO

Figure 4.46 shows the distribution of urea reduction ratio (URR) by country over 2022-2024.

Figure 4.47 presents the 2024 data stratified by vascular access type.

Figure 4.46.1

Urea Reduction Ratio (%) - HD[^] Three Sessions Per Week - Australia

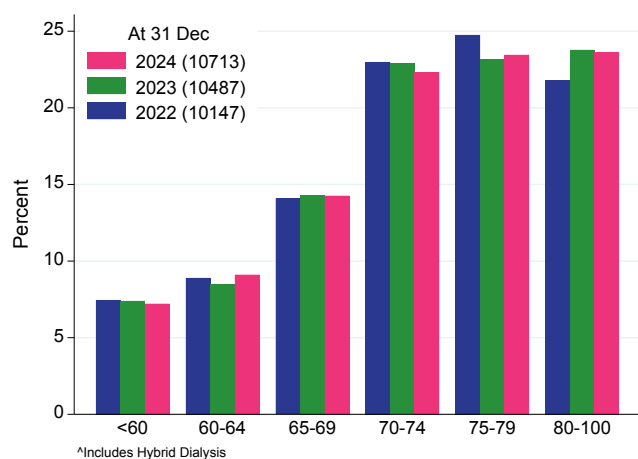


Figure 4.46.2

Urea Reduction Ratio (%) - HD[^] Three Sessions Per Week - New Zealand

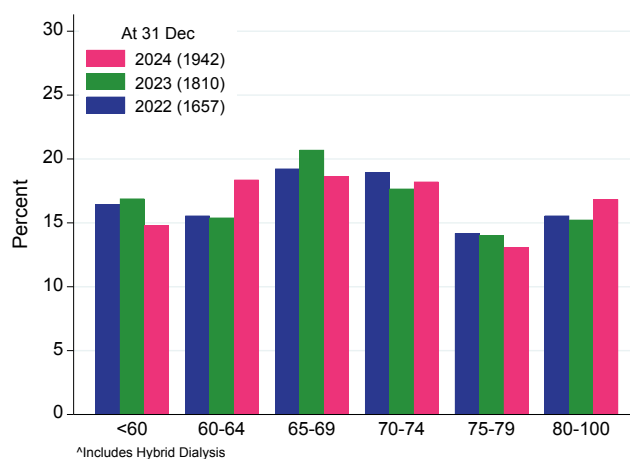


Figure 4.47.1

Urea Reduction Ratio (%) By Type of Access - HD[^] Three Sessions Per Week - Australia 2024

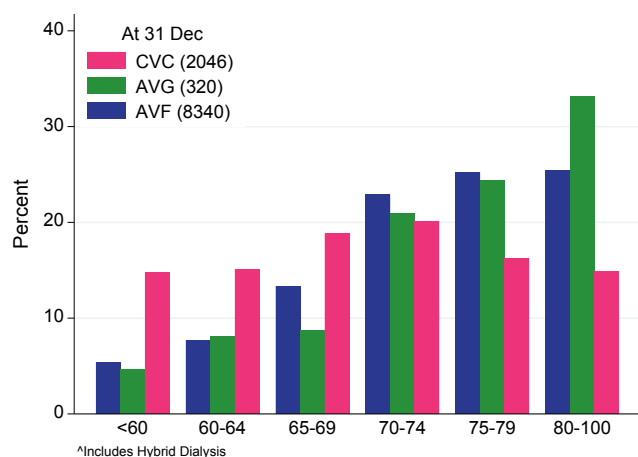


Figure 4.47.2

Urea Reduction Ratio (%) By Type of Access - HD[^] Three Sessions Per Week - New Zealand 2024

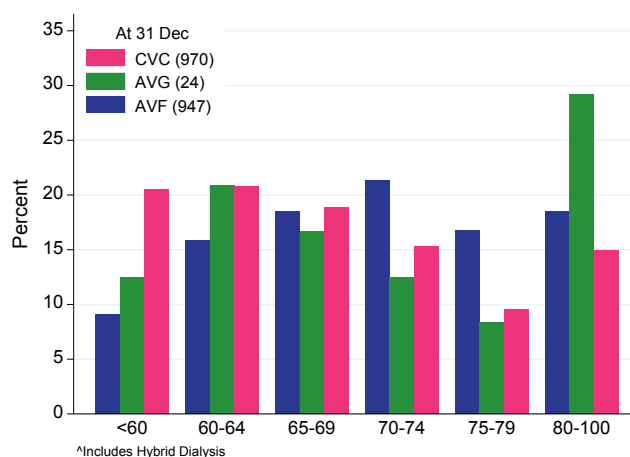


Table 4.19 presents URR by dialysis session duration. In general, as expected, the proportion of patients with a URR >70% typically increases with longer session duration.

Table 4.19
Urea Reduction Ratio - Prevalent Patients HD^ Three Sessions per Week - December 2024

Country	Hours per Session	Urea Reduction Ratio %		
		≤70	>70	Total
Australia	<4 hours	178 (42.7%)	239 (57.3%)	417
	4 hours	1689 (34.4%)	3225 (65.6%)	4914
	>4-5 hours	1642 (32.3%)	3447 (67.7%)	5089
	>5 hours	102 (34.9%)	190 (65.1%)	292
	Total	3611 (33.7%)	7101 (66.3%)	10712
New Zealand	<4 hours	27 (69.2%)	12 (30.8%)	39
	4 hours	453 (57.1%)	341 (42.9%)	794
	>4-5 hours	520 (52.8%)	465 (47.2%)	985
	>5 hours	48 (38.7%)	76 (61.3%)	124
	Total	1048 (54.0%)	894 (46.0%)	1942

^Includes Hybrid Dialysis

Figure 4.48 shows the distribution of median URR by treating hospital for patients dialysing three times per week. In Australia the median ranged from 64-85%, and in New Zealand it ranged from 64-74%.

Figure 4.48.1
Median URR in Haemodialysis^ Patients - Three Sessions Per Week Australia 31 December 2024

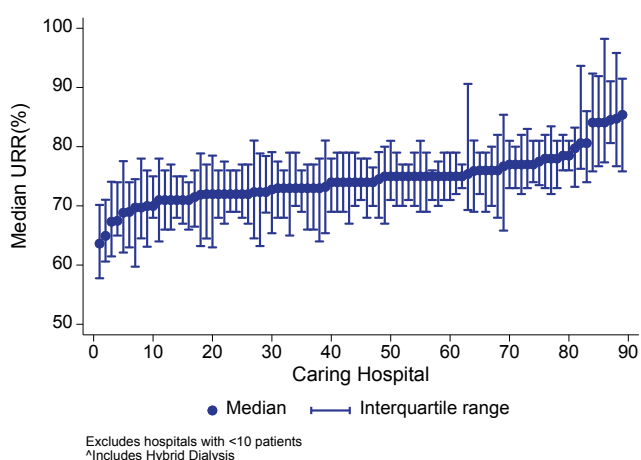
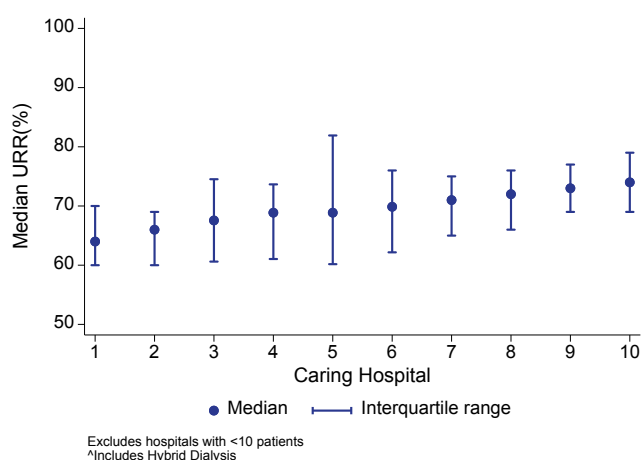


Figure 4.48.2
Median URR in Haemodialysis^ Patients - Three Sessions Per Week New Zealand 31 December 2024



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Figure 4.49 shows the proportion of patients with a URR >70%. In Australia this proportion ranged from 33-100%, and in New Zealand from 18-74%.

Figure 4.49.1
% Haemodialysis^ Patients with URR>70% - Three Sessions Per Week Australia 31 December 2024

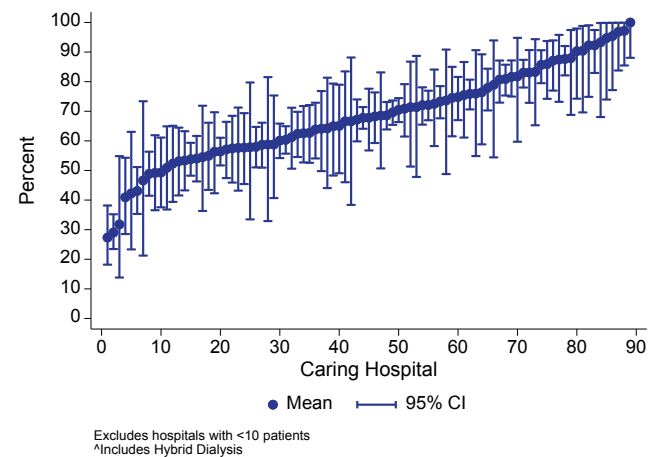
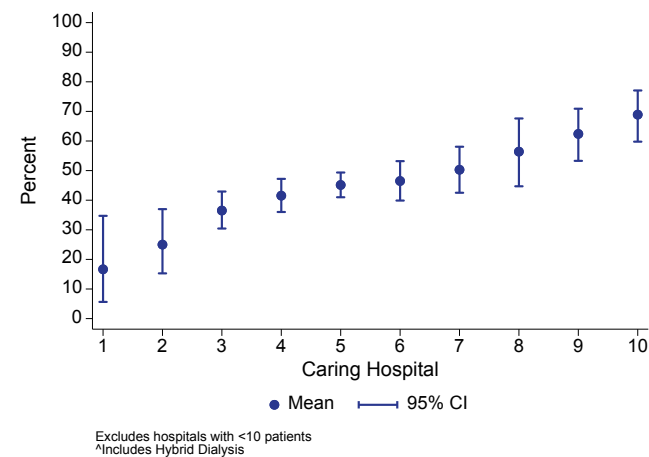


Figure 4.49.2
% Haemodialysis^ Patients with URR>70% - Three Sessions Per Week New Zealand 31 December 2024





CHAPTER 4

Haemodialysis