CHAPTER 5

HAEMODIALYSIS

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STOCK AND FLOW

AUSTRALIA

The annual stock and flow of haemodialysis patients during the period 2000-2004 is shown in Figures 5.1 and 5.2.

There were 6,174 patients (307 per million) receiving treatment at 31st December 2004, an increase of 5%; 34% were hospital based (35% in 2003), 54% were in satellite centres (limited or self-care), (51% in 2003) and 13% at home (the same as 2003). The proportion of patients receiving satellite haemodialysis increased by 9% (12% in 2003).

The proportion of all haemodialysis patients who were using home haemodialysis in each State was 18% for New South Wales, 10% for the ACT and less than 8% for the other States.

A total of 1,697 patients received haemodialysis for the first time during the year, a similar number to last year (1,692); after an 8% increase (1,569 patients) in 2003. The modal age group was 65-74 years (26%).

The proportion of all haemodialysis patients in each age group is shown in Figure 5.6.

There were 437 transplant operations, a 17% increase from 2003, after a 6% decrease from 2002, representing 7% of all haemodialysis patients dialysing and 12% of those patients <65 years. Thirty eight patients aged >=65 years were transplanted.

There were 918 deaths, representing 15.2 deaths per 100 patient years (fig 3.8).

For more detail regarding age and mode of haemodialysis in each State see Appendix II at the Website (www.anzdata.org.au/ANZDATA/AnzdataReport/download.htm).

Figure 5.1

Stock and Flow of Haemodialysis Patients
2000 - 2004

	2000	2001	2002	2003	2004
Australia					
Patients new to HD	1521	1608	1569	1692	1697
First Dialysis Treatment	1287	1381	1342	1435	1424
Previous Dialysis (PD)	208	198	200	227	236
Failed Transplant	26	29	27	30	37
Transplanted	362	382	394	372	437
Deaths	683	770	714	831	918
Never Transplanted	618	706	653	756	851
Previous Transplant	65	64	61	75	67
Permanent Transfers Out (>12 months)	249	247	205	265	355
Temporary Transfers (12 months)	156	128	116	98	69
Patients Dialysing (HD) at 31 December	4675	5045	5479	5880	6174
Patients Dialysing (HD) at Home 31 December	742	773	777	775	785
% of all Home Dialysis Patients	30%	30%	31%	30%	31%
New Zealand					
Patients new to HD	357	334	340	364	345
First Dialysis Treatment	265	275	292	298	266
Previous Dialysis (PD)	81	53	41	61	77
Failed Transplant	11	6	7	5	2
Transplanted	50	61	61	64	54
Deaths	106	127	109	133	149
Never Transplanted	95	114	99	116	138
Previous Transplant	11	13	10	17	11
Permanent Transfers Out (>12 months)	105	86	106	114	121
Temporary Transfers (<12 months)	37	18	30	20	20
Patients Dialysing (HD) at 31 December	655	753	830	945	1028
Patients Dialysing (HD) at Home 31 December	189	201	230	240	249
% of all Home Dialysis Patients	22%	22%	23%	24%	25%

NEW ZEALAND

The annual stock and flow of haemodialysis patients during the period 2000-2004 is shown in Figure 5.4 and 5.5.

There were 1,028 patients (253 per million) receiving treatment at 31st December 2004, a 9% increase compared to 2003.

Hospital based haemodialysis increased from last year to 48% (46% in 2003), satellite haemodialysis remained similar at 27% and home haemodialysis decreased from 25% in 2003 to 24% this year.

N.Z. continued on page 66.

Figure 5.2

Stock and Flow of Haemodialysis Patients
Australia 2000 - 2004

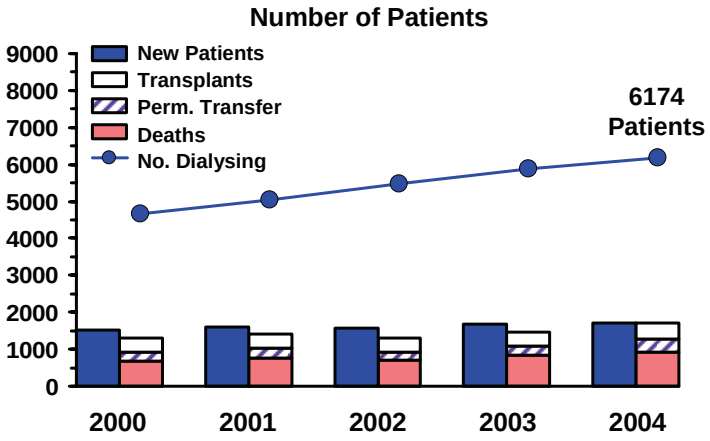


Figure 5.3

Stock and Flow of Haemodialysis Patients 2000 - 2004
Number (%)

Age Groups	2000	2001	2002	2003	2004
New Patients *					
00-14 years	5 (<1%)	13 (<1%)	11 (<1%)	9 (<1%)	11 (<1%)
15-24 years	56 (4%)	43 (3%)	38 (3%)	48 (3%)	46 (3%)
25-34 years	107 (7%)	106 (7%)	85 (5%)	91 (5%)	84 (5%)
35-44 years	151 (10%)	178 (11%)	135 (9%)	161 (10%)	164 (10%)
45-54 years	255 (17%)	274 (17%)	268 (17%)	279 (17%)	254 (15%)
55-64 years	295 (19%)	319 (20%)	321 (20%)	321 (20%)	340 (20%)
65-74 years	406 (27%)	416 (26%)	419 (27%)	419 (27%)	447 (26%)
75-84 years	238 (16%)	249 (15%)	271 (17%)	271 (17%)	322 (19%)
>=85 years	8 (<1%)	10 (<1%)	21 (1%)	21 (1%)	29 (2%)
Total	**1521 (100%)**	**1608 (100%)**	**1569 (100%)**	**1569 (100%)**	**1697 (100%)**
Patients Dialysing					
00-14 years	7 (<1%)	13 (<1%)	11 (<1%)	3 (<1%)	6 (<1%)
15-25 years	93 (2%)	94 (2%)	102 (2%)	101 (2%)	107 (2%)
25-34 years	354 (8%)	356 (7%)	348 (6%)	340 (6%)	339 (5%)
35-44 years	595 (13%)	605 (12%)	567 (10%)	608 (10%)	626 (10%)
45-54 years	815 (17%)	892 (18%)	947 (17%)	1000 (17%)	1029 (17%)
55-64 years	949 (20%)	1019 (20%)	1161 (21%)	1228 (21%)	1289 (21%)
65-74 years	1186 (25%)	1298 (26%)	1400 (26%)	1461 (25%)	1479 (24%)
75-84 years	647 (14%)	739 (15%)	885 (16%)	1065 (18%)	1186 (19%)
>=85 years	29 (<1%)	29 (<1%)	58 (1%)	74 (1%)	113 (2%)
Total	**4675 (100%)**	**5043 (100%)**	**5479 (100%)**	**5880 (100%)**	**6174 (100%)**
Primary Renal Disease *					
Glomerulonephritis	484 (32%)	458 (28%)	420 (27%)	456 (27%)	434 (26%)
Analgesic Nephropathy	63 (4%)	86 (5%)	65 (4%)	68 (4%)	46 (3%)
Hypertension	199 (13%)	217 (13%)	241 (16%)	268 (16%)	229 (13%)
Polycystic Disease	99 (6%)	100 (6%)	88 (6%)	80 (5%)	94 (6%)
Reflux Nephropathy	69 (5%)	60 (4%)	57 (3%)	61 (4%)	53 (3%)
Diabetic Nephropathy	331 (22%)	384 (24%)	427 (27%)	439 (26%)	511 (30%)
Miscellaneous	179 (12%)	179 (11%)	180 (11%)	205 (12%)	209 (12%)
Uncertain	97 (6%)	124 (8%)	91 (6%)	115 (6%)	121 (7%)
Total	**1521 (100%)**	**1608 (100%)**	**1569 (100%)**	**1692 (100%)**	**1697 (100%)**

* New patients receiving first haemodialysis treatment

Figure 5.4

Stock and Flow of Haemodialysis Patients
New Zealand 2000 - 2004

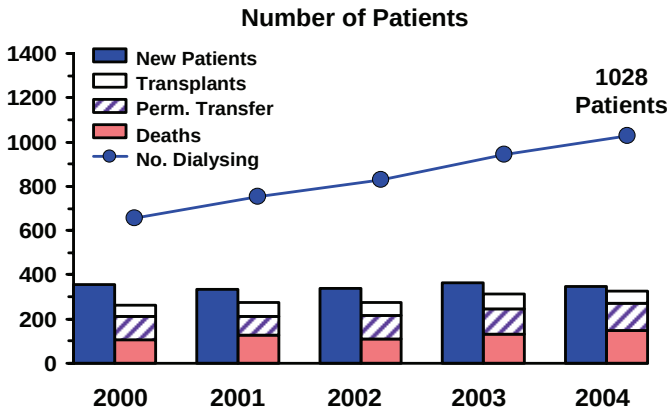


Figure 5.5

Stock and Flow of Haemodialysis Patients 2000 - 2004
Number (%)

Age Groups	2000	2001	2002	2003	2004
New Patients *					
00-14 years	2 (<1%)	5 (1%)	1 (<1%)	- (-)	1 (<1%)
15-24 years	21 (6%)	9 (3%)	13 (4%)	21 (6%)	10 (3%)
25-34 years	29 (8%)	18 (6%)	20 (6%)	14 (4%)	24 (7%)
35-44 years	37 (10%)	43 (13%)	33 (10%)	37 (10%)	43 (12%)
45-54 years	78 (22%)	78 (23%)	76 (22%)	70 (19%)	74 (22%)
55-64 years	107 (30%)	84 (25%)	113 (34%)	93 (26%)	94 (27%)
65-74 years	57 (16%)	74 (22%)	66 (19%)	91 (25%)	69 (20%)
75-84 years	26 (7%)	22 (7%)	16 (5%)	38 (10%)	25 (7%)
>=85 years	- (-)	1 (<1%)	2 (<1%)	- (-)	5 (1%)
Total	**357 (100%)**	**334 (100%)**	**340 (100%)**	**364 (100%)**	**345 (100%)**
Patients Dialysing					
00-14 years	2 (<1%)	3 (<1%)	2 (<1%)	- (-)	1 (<1%)
15-25 years	36 (6%)	30 (4%)	29 (3%)	33 (3%)	33 (3%)
25-34 years	63 (9%)	57 (8%)	63 (8%)	64 (7%)	74 (7%)
35-44 years	97 (15%)	125 (16%)	116 (14%)	118 (12%)	137 (13%)
45-54 years	145 (22%)	184 (24%)	189 (23%)	214 (23%)	220 (21%)
55-64 years	179 (27%)	192 (26%)	230 (28%)	262 (28%)	284 (28%)
65-74 years	95 (15%)	126 (17%)	161 (19%)	193 (20%)	208 (20%)
75-84 years	38 (6%)	36 (5%)	40 (5%)	61 (6%)	68 (7%)
>=85 years	- (-)	- (-)	- (-)	- (-)	3 (<1%)
Total	**655 (100%)**	**753 (100%)**	**830 (100%)**	**945 (100%)**	**1028 (100%)**
Primary Renal Disease *					
Glomerulonephritis	103 (29%)	95 (29%)	79 (23%)	88 (24%)	91 (27%)
Analgesic Nephropathy	- (-)	- (-)	- (-)	- (-)	1 (<1%)
Hypertension	52 (15%)	37 (11%)	32 (10%)	39 (11%)	42 (12%)
Polycystic Disease	11 (3%)	24 (7%)	13 (4%)	14 (4%)	19 (6%)
Reflux Nephropathy	20 (5%)	7 (2%)	11 (3%)	3 (<1%)	12 (3%)
Diabetic Nephropathy	124 (35%)	123 (37%)	156 (46%)	155 (43%)	146 (42%)
Miscellaneous	30 (8%)	31 (9%)	38 (11%)	39 (11%)	18 (5%)
Uncertain	17 (5%)	17 (5%)	11 (3%)	26 (7%)	16 (5%)
Total	**357 (100%)**	**334 (100%)**	**340 (100%)**	**364 (100%)**	**345 (100%)**

* New patients receiving first haemodialysis treatment

Figure 5.6

Proportion (%) of Prevalent Patients aged >=65 years Treated with Home Haemodialysis 2000 - 2004

State	2000	2001	2002	2003	2004
Queensland	2%	1%	2%	2%	2%
New South Wales	7%	6%	6%	7%	7%
Aust. Capital Territory	7%	8%	7%	7%	5%
Victoria	2%	3%	2%	2%	2%
Tasmania	-	-	-	-	-
South Australia	<1%	2%	2%	<1%	2%
Northern Territory	-	-	-	-	-
Western Australia	<1%	<1%	<1%	<1%	<1%
Australia	**3%**	**4%**	**4%**	**4%**	**3%**
New Zealand	**5%**	**5%**	**5%**	**5%**	**4%**

Figure 5.7

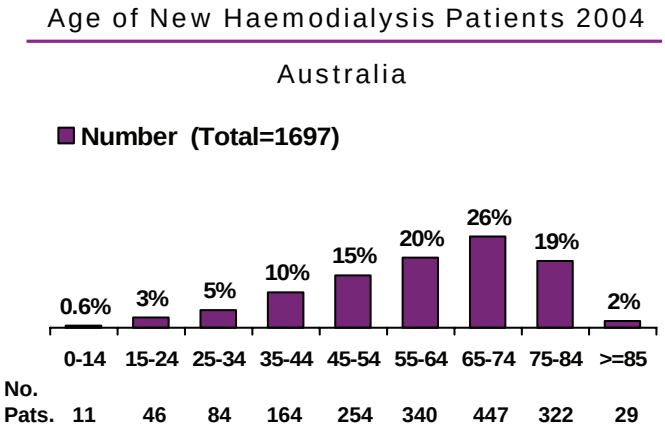
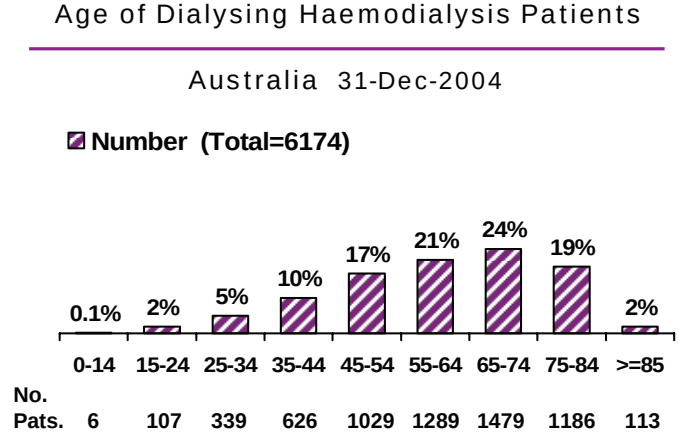


Figure 5.8



NEW ZEALAND (continued from page 62)

There were 345 patients who received haemodialysis for the first time, a 5% decrease from 2003. Twenty two percent of these were previously dialysing with peritoneal dialysis, <1% failed transplants and 77% having their initial dialysis treatment. The modal age group was 45-74 years (69%), 10% were <35 years and 29% >=65 years (fig 5.5 and 5.9), and Appendix III at the Website (www.anzdata.org.au/ANZDATA/AnzdataReport/download.htm).

Fifty four haemodialysis patients received transplants in 2004 (64 in 2003), representing 5% of all haemodialysis patients dialysing and 7% of those patients <65 years. Two patients >=65 years were transplanted.

There were 149 deaths, at a rate of 15.2 deaths per 100 patient years of treatment (fig 3.10).

Figure 5.9

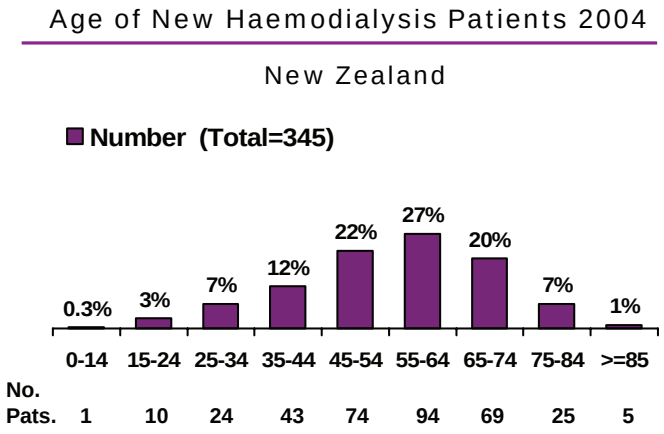
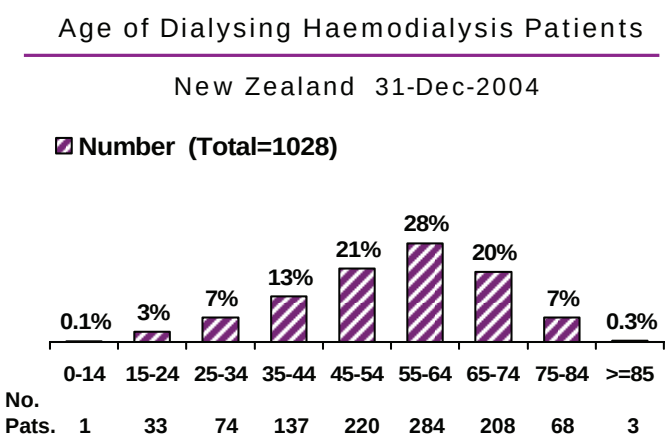


Figure 5.10



AUSTRALIA

In 2004, the survey dates changed from six to 12 months, with an interim period of nine months, beginning 1st April 2004 and ending 31st December 2004.

The previous trend towards a prescribed blood flow rate of 300 mls/minute or higher has continued, 77% of all patients, compared with 76% in March 2004. In March 1998 it was 51%. Only 5% were now prescribed less than 250 mls/minute.

Blood flow rates are lower in patients dialysing using central venous catheters than in those using fistulas or grafts (fig 5.12).

Figure 5.11

Blood Flow Rates (mls/minute) 1998 - December 2004

Country		No. Pts	Mls/Minute					
			<200	200-249	250-299	300-349	350-399	>400
Aust	December 2004	6174	<1%	5%	18%	55%	18%	4%
	March 2004	5924	<1%	6%	18%	55%	17%	4%
	March 2003	5502	<1%	6%	18%	57%	16%	3%
	March 2002	5128	<1%	6%	20%	56%	15%	3%
	March 2001	4717	<1%	7%	23%	55%	11%	3%
	March 2000	4374	1%	8%	26%	54%	9%	2%
	March 1999	4029	1%	10%	29%	51%	8%	1%
	March 1998	3590	1%	10%	33%	49%	6%	1%
NZ	December 2004	1028	1%	10%	25%	42%	20%	2%
	March 2004	938	<1%	8%	21%	45%	23%	3%
	March 2003	826	<1%	10%	23%	43%	23%	1%
	March 2002	761	<1%	15%	30%	37%	17%	1%
	March 2001	679	1%	13%	34%	36%	15%	1%
	March 2000	575	1%	19%	37%	35%	8%	<1%
	March 1999	501	1%	25%	40%	26%	8%	-
	March 1998	441	1%	25%	44%	28%	2%	-

NEW ZEALAND

In December 2004, 64% of patients were prescribed 300 mls/minute or higher compared to 71% in March 2004 and 67% in March 2003. There were 11% using <250 mls/minute, compared to 8% in March 2004, many of these receiving long session duration dialysis.

Figure 5.12

Blood Flow Rate and Type of Access December 2004

Blood Flow Rate	Australia			New Zealand		
	Native	Grafts	Catheters	Native	Grafts	Catheters
<200	14 (<1%)	2 (<1%)	12 (1%)	3 (<1%)	1 (1.5%)	5 (2%)
200-249	131 (3%)	35 (4%)	115 (16%)	62 (9%)	4 (6%)	35 (13%)
250-299	700 (15%)	159 (18%)	266 (38%)	126 (19%)	24 (35%)	112 (40%)
300-349	2560 (56%)	547 (63%)	261 (37%)	289 (42%)	28 (41%)	110 (39%)
350-399	967 (21%)	116 (13%)	47 (7%)	174 (26%)	10 (15%)	17 (6%)
>=400	224 (5%)	12 (1%)	6 (1%)	27 (4%)	1 (1.5%)	-
Total	**4569 (100%)**	**871 (100%)**	**707 (100%)**	**681 (100%)**	**68 (100%)**	**279 (100%)**

Figure 5.13

Distribution of Blood Flow Rates

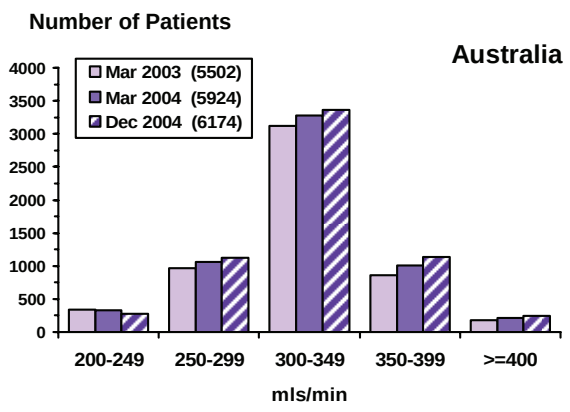


Figure 5.14

Distribution of Blood Flow Rates

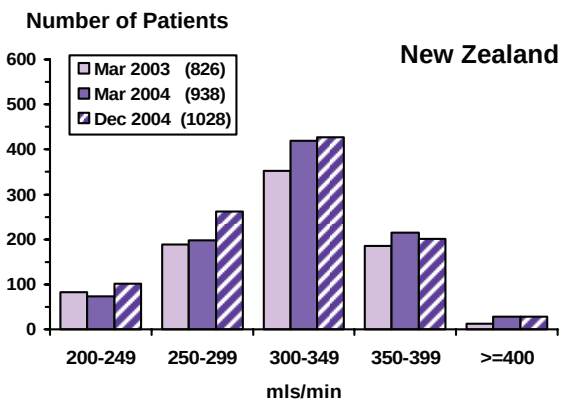


Figure 5.15

Duration and Number of Sessions Per Week
December 2004

Sessions Per week	Hours of Each Treatment										Total
	<2.5	2.5-2.9	3-3.4	3.5-3.9	4-4.4	4.5-4.9	5-5.4	5.5-5.9	6-6.4	>6.5	
Australia											
1	1	-	-	1	3	-	-	-	-	-	**5**
2	4	-	15	6	43	2	17	-	-	3	**90**
2.5	-	-	-	-	2	-	-	-	-	-	**2**
3	4	5	141	195	2583	1027	1499	107	106	43	**5710**
3.5	-	1	2	1	19	11	25	4	9	50	**122**
4	-	-	18	15	24	17	21	2	5	18	**120**
4.5	1	-	1	-	1	-	-	-	-	1	**4**
5	-	8	21	2	9	1	1	1	-	9	**52**
5.5	-	-	-	-	-	-	-	-	-	1	**1**
6	12	21	6	2	3	2	-	-	-	16	**62**
7	1	2	1	-	1	-	-	-	-	1	**6**
Total	**23**	**37**	**205**	**222**	**2688**	**1060**	**1563**	**114**	**120**	**142**	**6174**
New Zealand											
2	-	-	1	-	4	1	7	-	-	-	**13**
3	-	-	10	10	397	173	291	18	27	42	**968**
3.5	-	-	-	1	-	1	1	-	7	11	**21**
4	-	-	3	1	6	-	5	1	1	2	**19**
5	-	1	-	-	1	-	-	-	-	-	**2**
6	-	-	4	-	-	-	-	-	-	1	**5**
Total	**-**	**1**	**18**	**12**	**408**	**175**	**304**	**19**	**35**	**56**	**1028**

AUSTRALIA

Figures 5.15-5.21.

Of the 6,174 patients, there were still 90 receiving dialysis twice a week (1.5%); the great majority (92%) dialysed three times per week.

Of the patients dialysing three times per week at 31st December 2004, 31% were dialysing for five hours or longer per session (30% in March 2004). Only 8% (7% in March 2004) received less than four hours per session. Forty four percent of patients dialysed for 4-4.4 hours.

The median weekly dialysis sessions for all haemodialysis patients was 12 hours (range 3-36 hours). This figure has been stable for some time.

The number of people dialysing five or more days per week continues to rise (121 patients at 31st December, compared to 102 patients at 31st March 2004). The trends in more frequent dialysis are illustrated in Figure 5.19.

Sixty eight percent of patients dialysing for longer than 6.5 hours and 67% of patients dialysing more than three times a week were dialysing at home.

Figure 5.16

Number of Sessions Per Week
2001 - 2004

Sessions per week	Mar. 2001	Mar. 2002	Mar. 2003	Mar. 2004	Dec. 2004
Australia					
1	8	5	5	4	5
2	83	76	73	88	90
2.5	-	1	-	2	2
3	4523	4827	5164	5519	5710
3.5	-	85	101	118	122
4	82	84	83	91	120
4.5	-	-	-	-	4
5	8	17	28	41	52
5.5	-	-	-	-	1
6	12	29	45	59	62
7	1	4	3	2	6
Total	**4717**	**5128**	**5502**	**5924**	**6174**
New Zealand					
1	1	-	2	-	-
2	12	16	13	11	13
3	660	728	794	896	968
3.5	-	2	4	10	21
4	6	10	10	10	19
5	-	2	-	4	2
6	-	3	3	6	5
7	-	-	-	1	-
Total	**679**	**761**	**826**	**938**	**1028**

NEW ZEALAND

Figures 5.15-5.20 and 5.22.

There were 968 patients (94%) dialysing three times per week. There were seven patients on frequent (>=5 times a week) dialysis at 31st December 2004 compared with eleven at 31st March 2004.

The majority (86%) dialysed between four and less than five and a half hours, three times a week. Only 31 patients (3%) dialysed for less than four hours.

The remainder dialysed for five and a half or more hours, three times a week.

Median weekly treatment for all haemodialysis patients was 13 hours, range 6-32 hours per week. Again, this figure has been stable over the last few years.

Seventy eight percent of patients dialysing for longer than 5.5 hours and 66% of patients dialysing more than three times a week were dialysing at home.

Figure 5.17

Duration of Haemodialysis Per Week December 2004

Country	No. Pts	Hours of Haemodialysis Per Week							
		<9	9-11	12-14	15-17	18-20	21-23	24-26	>27
Australia	5879	1%	6%	61%	27%	2%	<1%	<1%	1%
New Zealand	1017	<1%	3%	56%	31%	3%	1%	3%	2%

Excludes patients on haemofiltration and haemodiafiltration
Frequency between 2 and 4 sessions weekly

Figure 5.18

Median Session Length by Country (thrice weekly dialysis)

Country	Mar 00	Sep 00	Mar 01	Sep 02	Mar 03	Sep 03	Mar 04	Dec 04
Australia	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
New Zealand	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5

Figure 5.19

Number of Patients
Dialysing Five or More Days per Week
By Survey Period

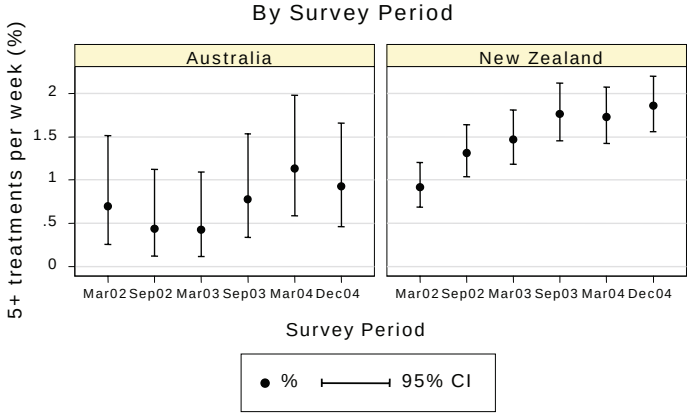


Figure 5.20

Number of Patients
Dialysing 6.5 Hours or Longer
By Survey Period

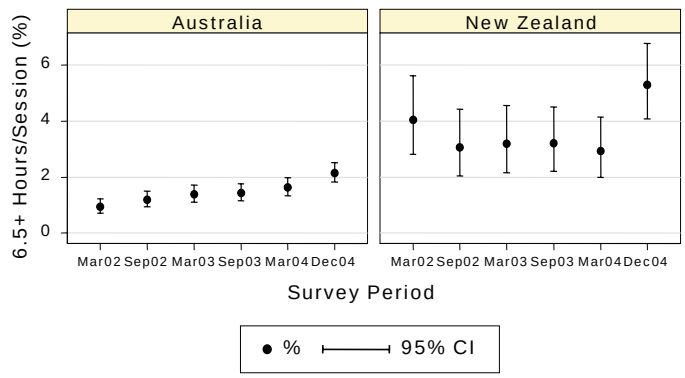


Figure 5.21

Duration of Dialysis Treatment
Three Sessions Per Week - Australia

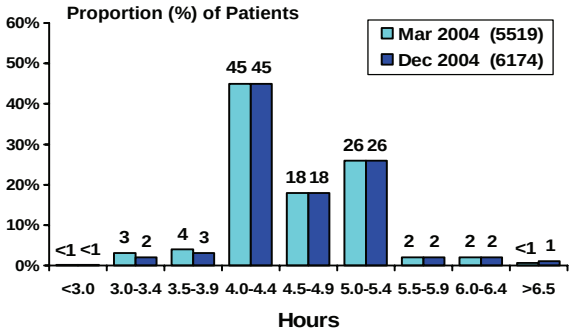


Figure 5.22

Duration of Dialysis Treatment
Three Sessions Per Week – New Zealand

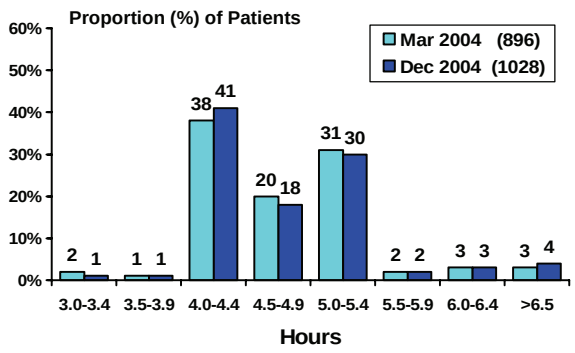


Figure 5.23

Haemodialysis Three Sessions Per Week
By Australian State and Country
<6.5 Hours / >=6.5 Hours

Hours of Treatment	Australia									New Zealand
	Qld	NSW	ACT	Vic	Tas	SA	NT	WA	TOTAL	
<6.5 hours	1237 (98%)	2141 (97%)	157 (100%)	1868 (97%)	146 (100%)	515 (100%)	277 (99%)	722 (99%)	**7063 (98%)**	**1125 (95%)**
>=6.5 hours	30 (2%)	61 (3%)	-	57 (3%)	-	-	1 (<1%)	10 (1%)	**159 (2%)**	**64 (5%)**
Total	**1267 (100%)**	**2202 (100%)**	**157 (100%)**	**1925 (100%)**	**146 (100%)**	**515 (100%)**	**278 (100%)**	**732 (100%)**	**7222 (100%)**	**1189 (100%)**
	p = <0.001									p = <0.001

Figure 5.24

Haemodialysis Three Sessions Per Week
By Age Group and Trend Over the Past Six Survey Periods
<6.5 Hours / >=6.5 Hours

		Australia			New Zealand		
		Hours per Session		Total	Hours per Session		Total
		<6.5	>=6.5		<6.5	>=6.5	
Age Groups in Years	0-19	50 (<1%)	1 (<1%)	**51 (<1%)**	12 (1%)	1 (2%)	**13 (1%)**
	20-29	226 (3%)	13 (8%)	**239 (3%)**	55 (5%)	5 (8%)	**60 (5%)**
	30-39	513 (7%)	22 (14%)	**535 (7%)**	93 (8%)	12 (19%)	**105 (9%)**
	40-49	917 (13%)	40 (25%)	**957 (13%)**	162 (14%)	19 (30%)	**181 (15%)**
	50-59	1347 (19%)	54 (34%)	**1401 (19%)**	311 (28%)	15 (23%)	**326 (27%)**
	60-69	1529 (22%)	22 (14%)	**1551 (21%)**	314 (28%)	12 (19%)	**326 (27%)**
	70-80	1815 (26%)	7 (4%)	**1822 (25%)**	146 (13%)	-	**146 (12%)**
	>80	666 (9%)	-	**666 (9%)**	32 (3%)	-	**32 (3%)**
	Total	**7063 (100%)**	**159 (100%)**	**7222 (100%)**	**1125 (100%)**	**64 (100%)**	**1189 (100%)**
		p = <0.001				p = 0.001	
Survey Periods	31-Mar-2002	5713 (99%)	54 (<1%)	**5767 (100%)**	829 (96%)	35 (4%)	**864 (100%)**
	30-Sep-2002	5878 (99%)	71 (1%)	**5949 (100%)**	885 (97%)	28 (3%)	**913 (100%)**
	31-Mar-2003	6035 (99%)	85 (1%)	**6120(100%)**	908 (97%)	30 (3%)	**928 (100%)**
	30-Sep-2003	6311 (99%)	92 (1%)	**6403 (100%)**	995 (97%)	33 (3%)	**1028 (100%)**
	31-Mar-2004	6496 (98%)	108 (2%)	**6604 (100%)**	1029 (97%)	31 (3%)	**1060 (100%)**
	31-Dec-2004	7063 (98%)	155 (2%)	**7218 (100%)**	1125 (95%)	63 (5%)	**1188 (100%)**

Figure 5.25

Haemodialysis Three Sessions Per Week
<6.5 Hours / >=6.5 Hours
Co-Morbid Conditions At Entry to Dialysis Program
1-Apr-2004 to 31-Dec-2004

		Australia			New Zealand		
		Hours per Session		Total	Hours per Session		Total
		<6.5	>=6.5		<6.5	>=6.5	
Referral	> 3 months	5109 (76%)	122 (87%)	**5231 (76%)**	784 (73%)	47 (84%)	**831 (74%)**
	<3 months	1655 (24%)	19 (13%)	**1674 (24%)**	285 (27%)	9 (16%)	**294 (26%)**
	Total	**6764 (100%)**	**141 (100%)**	**6905 (100%)**	**1069 (100%)**	**56 (100%)**	**1125 (100%)**
		p = 0.003			p = 0.089		
Body Mass Index	<20	724 (11%)	14 (10%)	**738 (11%)**	60 (6%)	3 (5%)	**63 (6%)**
	20-24.9	2329 (35%)	40 (28%)	**2369 (35%)**	241 (22%)	20 (35%)	**261 (23%)**
	25-29.9	2129 (32%)	54 (38%)	**2183 (32%)**	318 (30%)	10 (18%)	**328 (29%)**
	>=30	1541 (23%)	35 (25%)	**1576 (23%)**	455 (42%)	24 (42%)	**479 (42%)**
	Total	**6723 (100%)**	**143 (100%)**	**6866 (100%)**	**1074 (100%)**	**57 (100%)**	**1131 (100%)**
		p = 0.3			p = 0.09		
Smoking	Never	3339 (48%)	76 (50%)	**3415 (48%)**	470 (43%)	27 (44%)	**497 (43%)**
	Current	935 (14%)	24 (16%)	**959 (14%)**	211 (19%)	9 (15%)	**220 (19%)**
	Former	2646 (38%)	51 (34%)	**2697 (38%)**	422 (38%)	25 (41%)	**447 (38%)**
	Total	**6920 (100%)**	**151 (100%)**	**7071 (100%)**	**1103 (100%)**	**61 (100%)**	**1164 (100%)**
		p = 0.5			p =0.7		
Hypertension	No	884 (13%)	26 (17%)	**910 (13%)**	164 (15%)	13 (20%)	**177 (15%)**
	Yes	6027 (87%)	125 (83%)	**6152 (87%)**	943 (85%)	51 (80%)	**994 (85%)**
	Total	**6911 (100%)**	**151 (100%)**	**7062 (100%)**	**1107 (100%)**	**64 (100%)**	**1171 (100%)**
		p = 0.1			p = 0.2		
Chronic Lung Disease	No	5699 (81%)	140 (88%)	**5839 (81%)**	880 (78%)	57 (89%)	**937 (79%)**
	Yes	1364 (19%)	19 (12%)	**1383 (19%)**	245 (22%)	7 (11%)	**252 (21%)**
	Total	**7063 (100%)**	**159 (100%)**	**7222 (100%)**	**1125 (100%)**	**64 (100%)**	**1189 (100%)**
		p = 0.02			p = 0.04		
Coronary Artery Disease	No	3420 (48%)	108 (68%)	**3528 (49%)**	591 (53%)	44 (69%)	**635 (53%)**
	Yes	3643 (52%)	51 (32%)	**3694 (51%)**	534 (47%)	20 (31%)	**554 (47%)**
	Total	**7063 (100%)**	**159 (100%)**	**7222 (100%)**	**1125 (100%)**	**64 (100%)**	**1189 (100%)**
		p = <0.001			p = 0.01		
Peripheral Vascular Disease	No	4556 (65%)	127 (80%)	**4683 (65%)**	769 (68%)	55 (86%)	**8224 (69%)**
	Yes	2507 (35%)	32 (20%)	**2539 (35%)**	356 (32%)	9 (14%)	**365 (31%)**
	Total	**7063 (100%)**	**159 (100%)**	**7222 (100%)**	**1125 (100%)**	**64 (100%)**	**1189 (100%)**
		p = <0.001			p = 0.003		
Cerebrovascular Disease	No	5584 (79%)	151 (95%)	**5735 (79%)**	915 (81%)	60 (94%)	**975 (82%)**
	Yes	1479 (21%)	9 (5%)	**1487 (21%)**	210 (19%)	4 (6%)	**214 (18%)**
	Total	**7063 (100%)**	**159 (100%)**	**7222 (100%)**	**1125 (100%)**	**64 (100%)**	**1189 (100%)**
		p = 0.001			p = 0.01		
Diabetes	No	4613 (65%)	131 (82%)	**4744 (66%)**	608 (54%)	51 (80%)	**659 (55%)**
	Type 1	175 (2%)	5 (3%)	**180 (2%)**	25 (2%)	2 (3%)	**27 (2%)**
	Type 2 Non Ins	1426 (20%)	15 (9%)	**1441 (20%)**	256 (23%)	9 (14%)	**265 (22%)**
	Type 2 Ins	849 (12%)	8 (5%)	**857 (12%)**	236 (21%)	2 (3%)	**238 (20%)**
	Total	**7063 (100%)**	**159 (100%)**	**7222 (100%)**	**1125 (100%)**	**64 (100%)**	**1189 (100%)**
		p = <0.001			p = <0.001		

Those receiving dialysis for longer hours tended to have less peripheral vascular disease or comorbidity (fig 5.25). Longer-duration dialysis was also associated with higher haemoglobin and calcium concentration, and lower phosphate concentrations (fig 5.26).

Figure 5.26

Haemoglobin / Calcium / Phosphate Results
Haemodialysis Three Sessions Per Week <6.5 Hours / >=6.5 Hours
1-Apr-2004 to 31-Dec-2004

		Australia			New Zealand		
		Hours per Session		Total	Hours per Session		Total
		<6.5	>=6.5		<6.5	>=6.5	
Haemoglobin g/l	<=89	346 (5%)	10 (6%)	**356 (5%)**	99 (9%)	4 (6%)	**103 (9%)**
	90-109	1757 (25%)	27 (18%)	**1784 (25%)**	388 (35%)	16 (25%)	**404 (34%)**
	110-129	3444 (49%)	65 (42%)	**3509 (49%)**	473 (42%)	26 (41%)	**499 (42%)**
	130-149	1369 (19%)	43 (28%)	**1412 (20%)**	149 (13%)	17 (27%)	**166 (14%)**
	>=150	136 (2%)	9 (6%)	**145 (2%)**	14 (1%)	1 (2%)	**15 (1%)**
	Total	**7052 (100%)**	**154 (100%)**	**7206 (100%)**	**1123 (100%)**	**64 (100%)**	**1187 (100%)**
		p = <0.001				p = 0.04	
Uncorrected Calcium mmol/l	<2.0	364 (5%)	-	**364 (5%)**	50 (4%)	2 (3%)	**52 (4%)**
	2.0-2.1	1186 (17%)	8 (5%)	**1194 (17%)**	126 (11%)	5 (8%)	**131 (11%)**
	2.2-2.3	2496 (35%)	43 (27%)	**2539 (35%)**	322 (29%)	16 (25%)	**338 (28%)**
	2.4-2.5	2085 (30%)	62 (39%)	**2147 (30%)**	397 (35%)	21 (33%)	**418 (35%)**
	>=2.6	910 (13%)	41 (26%)	**951 (13%)**	223 (20%)	20 (31%)	**243 (20%)**
	Missing	22 (<1%)	5 (3%)	**27 (<1%)**	7 (<1%)	-	**7 (<1%)**
	Total	**7063 (100%)**	**159 (100%)**	**7222 (100%)**	**1125 (100%)**	**64 (100%)**	**1189 (100%)**
		p = <0.001				p = 0.4	
Phosphate mmol/l	<1.8	4342 (62%)	117 (76%)	**4459 (62%)**	516 (46%)	33 (52%)	**549 (46%)**
	1.8-2.2	1486 (21%)	23 (15%)	**1509 (21%)**	291 (26%)	17 (27%)	**308 (26%)**
	>2.2	1216 (17%)	14 (9%)	**1230 (17%)**	314 (28%)	14 (22%)	**328 (28%)**
	Total	**7044 (100%)**	**154 (100%)**	**7198 (100%)**	**1121 (100%)**	**64 (100%)**	**185 (100%)**
		p = <0.001				p =0.5	

Membrane Type and Surface Areas

Australia

Figures 5.27 and 5.28.

Usage of low flux polysulfone dialysers continued to decrease to 26% in December 2004 from 32% in March 2004 and 36% in March 2003, while use of high flux polysulphone increased to 30% (25% in March 2004 and 18% in March 2003).

Forty six percent of patients received dialysis with high flux dialysers (36% in March 2004, 27% in March 2003) and <1% (30 patients) received mid flux dialysis. Use of haemophan continues to decrease to 2% in December 2004, from 8% in March 2004 and 13% in March 2003. Fourteen patients were receiving haemofiltration and 179 haemodiafiltration.

New Zealand

Figures 5.27 and 5.29.

Haemophan decreased to 18% in December 2004 from 30% in March 2004, while low flux polysulphone remained similar (48% in December 2004 and 47% in March 2004).

There were 15% (157 patients) reported as receiving high flux dialysis in December 2004, an increase from 10% in March 2004.

Figure 5.27

Haemodialyser Membrane Types by Surface Area
31-Dec-2004

Dialyser Membrane Type	Flux	Square Metres					Total
		<1.0	1.0-1.4	1.5-1.7	1.8-1.9	>1.9	
Australia							
Cellulose Acetate	Low	-	1	4	-	2	**7**
Cellulose Triacetate	High	-	1	128	210	10	**349**
Cuprophan	Mid	-	-	-	2	19	**21**
Diacetate	Low	1	1	70	-	3	**75**
Exebrane	High	-	-	13	125	17	**155**
Exebrane	Mid	-	-	6	3	-	**9**
Haemophan	Low	-	11	46	4	64	**125**
Polyamide Haemodiafiltration	High	-	45	25	-	32	**102**
Polyamix	High	-	27	195	-	119	**341**
Polyamix	Low	-	216	1101	-	73	**1390**
Polysulphone	High	1	123	-	1424	296	**1844**
Polysulphone	Low	22	96	95	782	605	**1600**
Polysulphone-Helixone	High	-	7	-	43	-	**50**
Polysynthane	Low	-	19	44	-	43	**106**
Total		**24**	**547**	**1727**	**2593**	**1283**	**6174**
New Zealand							
Cellulose Acetate	Low	-	-	1	-	-	**1**
Haemophan	Low	-	3	14	-	168	**185**
Polyamide Haemodiafiltration	High	-	1	10	-	16	**27**
Polyamix	High	-	1	10	-	54	**65**
Polyamix	Low	-	21	136	-	36	**193**
Polycarbonate/Poly/Copolymer	Low	-	-	-	1	-	**1**
Polysulphone	High	-	5	-	59	1	**65**
Polysulphone	Low	1	19	4	359	108	**491**
Total		**1**	**50**	**175**	**419**	**383**	**1028**

Figure 5.28

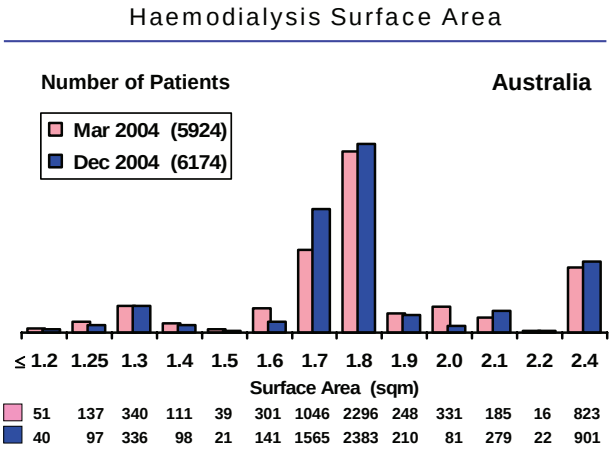
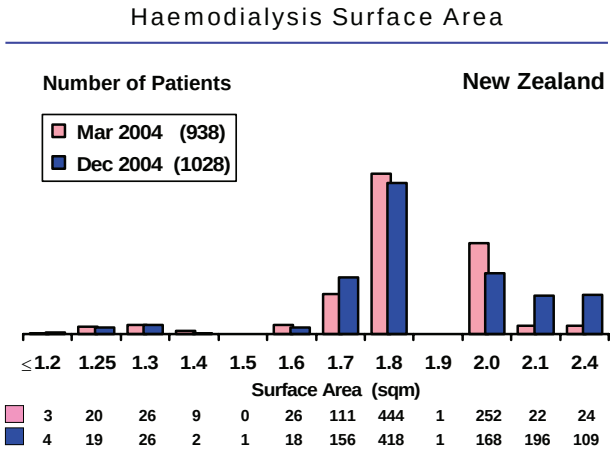


Figure 5.29



CALCIUM AND PHOSPHATE

The caring for Australians with Renal Impairment (CARI) Guidelines for mineral metabolism are currently being updated. Many patients in Australia and New Zealand fall outside of the upper limits recommended in the previous guidelines and in other literature such as the KDOQI Guidelines and the Dialysis Outcomes and Practice Patterns (DOPPS) study (for instance, calcium < 2.6 mmol/l, phosphate <1.8 mmol/l, calcium*phosphate product <4.2 $mmol^2/l^2$). The relationships between the parameters and outcomes are likely to be complex, and need to be defined in the local setting once sufficient data have accrued.

Figure 5.30

Calcium mmol/l
1-Apr-2004 to 31-Dec-2004

Calcium (mmol/l)	Modality: HD 3 Sessions per week	Modality: PD As Prescribed	TOTAL
Australia			
<2.0	349 (5%)	150 (7%)	499 (6%)
2.0-2.1	1115 (17%)	385 (18%)	1500 (17%)
2.2-2.3	2359 (35%)	724 (34%)	3083 (35%)
2.4-2.5	1968 (30%)	584 (27%)	2552 (29%)
>=2.6	845 (13%)	271 (13%)	1116 (13%)
Missing	22 (<1%)	26 (1%)	48 (1%)
Total	**6658 (100%)**	**2140 (100%)**	**8798 (100%)**
	p = <0.001		
New Zealand			
<2.0	47 (4%)	49 (6%)	96 (5%)
2.0-2.1	120 (11%)	140 (16%)	260 (13%)
2.2-2.3	324 (29%)	288 (33%)	612 (31%)
2.4-2.5	391 (35%)	253 (29%)	644 (32%)
>=2.6	229 (20%)	146 (17%)	375 (19%)
Missing	7 (1%0	7 (1%)	14 (1%)
Total	**1118 (100%)**	**883 (100%)**	**2001 (100%)**
	p = <0.001		

Figure 5.31

Phosphate mmol/l
1-Apr-2004 to 31-Dec-2004

Phosphate (mmol/l)	Modality: HD 3 Sessions per week	Modality: PD As Prescribed	TOTAL
Australia			
<1.4	2666 (40%)	873 (41%)	**3539 (40%)**
1.4-1.5	504 (8%)	157 (7%)	**661 (8%)**
1.6-1.7	919 (14%)	297 (14%)	**1216 (14%)**
>=1.8	2550 (38%)	789 (37%)	**3339 (38%)**
Missing	19 (<1%)	24 (1%)	**43 (<1%)**
Total	**6658 (100%)**	**2140 (100%)**	**8798 (100%)**
	p = <0.001		
New Zealand			
<1.4	302 (27%)	270 (31%)	**572 (29%)**
1.4-1.5	65 (6%)	68 (8%)	**133 (7%)**
1.6-1.7	147 (13%)	136 (15%)	**283 (14%)**
>=1.8	600 (54%)	402 (46%)	**1002 (50%)**
Missing	4 (<1%)	7 (1%)	**11 (1%)**
Total	**1118 (100%)**	**883 (100%)**	**2001 (100%)**
	p = 0.005		

Figure 5.32

Calcium*Phosphate $mmol^2/l^2$
1-Apr-2004 to 31-Dec-2004

Calcium Phosphate Product	Modality: HD 3 Sessions per week	Modality: PD As Prescribed	TOTAL
Australia			
<3.5	2727 (41%)	889 (42%)	**3616 (41%)**
3.5-3.9	983 (15%)	316 (15%)	**1299 (15%)**
4.0-4.4	848 (13%)	272 (13%)	**1120 (13%)**
4.5-4.9	662 (10%)	222 (10%)	**884 (10%)**
>=5.0	1413 (21%)	414 (19%)	**1827 (21%)**
Missing	25 (<1%)	27 (1%)	**52 (1%)**
Total	**6658 (100%)**	**2140 (100%)**	**8798 (100%)**
	p = <0.001		
New Zealand			
<3.5	286 (26%)	306 (35%)	**592 (30%)**
3.5-3.9	149 (13%)	132 (15%)	**281 (14%)**
4.1-4.4	135 (12%)	116 (13%)	**251 (13%)**
4.5-4.9	132 (12%)	104 (12%)	**236 (12%)**
>=5.0	409 (37%)	218 (25%)	**627 (31%)**
Missing	7 (1%)	7 (1%)	**14 (1%)**
Total	**1118 (100%)**	**883 (100%)**	**2001 (100%)**
	p = <0.001		

Figure 5.33

Duration of Treatments and Serum Phosphate Levels
Haemodialysis - Three Sessions Per Week
December 2004

Hours per Session	Australia			New Zealand		
	<1.8 mmol/l	1.8-2.2 mmol/l	>2.2 mmol/l	<1.8 mmol/l	1.8-2.2 mmol/l	>2.2 mmol/l
<3.5	108 (3%)	42 (3%)	49 (4%)	9 (2%)	2 (<1%)	2 (<%)
3.5 - 3.9	168 (4%)	33 (2%)	29 (3%)	8 (2%)	1 (<1%)	3 (<1%)
4.0 - 4.4	1953 (48%)	609 (43%)	494 (43%)	232 (45%)	113 (39%)	124 (40%)
4.5 - 4.9	709 (17%)	239 (17%)	213 (19%)	90 (18%)	50 (17%)	53 (17%)
>=5	1151 (28%)	485 (34%)	357 (31%)	175 (34%)	126 (43%)	126 (41%)
Total	**4089 (100%)**	**1408 (100%)**	**1142 (100%)**	**514 (100%)**	**292 (100%)**	**308 (100%)**

Patients with higher phosphate levels in both Australia and New Zealand appear to received longer dialysis sessions as compared to those with lower phosphate levels (fig 5.33).

More patients in New Zealand than Australia fall outside of the upper limits for markers of mineral metabolism recommenced in the previous CARI Guidelines (fig 5.34). The marker with the highest percentage of patients falling outside of recommenced practice is the calcium*phosphate product.

Figure 5.34

Percentage of Patients in each Previous CARI Guideline Category. Haemodialysis - Three Sessions Per Week
December 2004

		Australia	New Zealand	TOTAL
Calcium [mmol/l] CARI	0 - 2.1	1464 (22%)	167 (15%)	**1631 (21%)**
	2.2 - 2.5	4327 (65%)	715 (64%)	**5042 (65%)**
	>= 2.6	845 (13%)	229 (20%)	**1074 (14%)**
	Missing	22 (<1%)	7 (<1%)	**29 (<1%)**
	Total	**6658 (100%)**	**1118 (100%)**	**7776 (100%)**
p = <0.001				
Phosphate [mmol/l] (%) CARI	0 - 1.7	4089 (61%)	514 (46%)	**4603 (59%)**
	1.8 - 2.1	1334 (20%)	272 (24%)	**1606 (21%)**
	>= 2.2	1216 (18%)	328 (29%)	**1544 (20%)**
	Missing	19 (<1%)	4 (<1%)	**23 (<1%)**
	Total	**6658 (100%)**	**1118 (100%)**	**7776 (100%)**
p = <0.001				
Calcium x Phosphate Product (%)	0 - 4.1	4058 (61%)	491 (44%)	**4549 (59%)**
	4.2 - 5.7	1872 (72%)	406 (36%)	**2278 (29%)**
	>= 5.8	703 (11%)	214 (19%)	**917 (12%)**
	Missing	25 (<1%)	7 (<1%)	**32 (<1%)**
	Total	**6658 (100%)**	**1118 (100%)**	**7776 (100%)**
p = <0.001				

UREA REDUCTION RATIO

In both Australia and New Zealand, there is a trend to increased urea reduction ratio (fig 5.35). This is probably a consequence of increasing blood flow rates (fig 5.11), increasing membrane surface area (fig 5.28 and fig 5.29), and the increased usage of high flux haemodialysis (Australia 46% in December 2004, 27% in March 2003; New Zealand 15% in December 2004, 10% in March 2003). In the Australian and New Zealand haemodialysis population, a Kt/V of 1.3 (URR 70%) or greater is associated with the lowest adjusted mortality risk.

Figure 5.35

Urea Reduction Ratio (URR) of Prevalent Patients
Haemodialysis - Three Sessions Per Week
2003 - 2004

Reported URR	Australia			New Zealand		
	30-Sep-03	31-Mar-04	31-Dec-04	30-Sep-03	31-Mar-04	31-Dec-04
00-39%	<1%	<1%	<1%	1%	<1%	<1%
40-49%	1%	1%	<1%	4%	2%	2%
50-59%	4%	4%	3%	18%	15%	12%
60-64%	8%	8%	6%	19%	18%	18%
65-69%	20%	18%	15%	18%	23%	22%
70-74%	29%	29%	27%	21%	20%	19%
75-79%	22%	23%	26%	12%	12%	14%
80-100%	16%	17%	22%	7%	10%	13%
Total Pts	**4626**	**4924**	**5125**	**666**	**714**	**812**
Median	**72**	**73**	**74**	**67**	**68**	**69**
25th Percentile	**68**	**68**	**69**	**60**	**62**	**63**
75th Percentile	**77**	**77**	**79**	**73**	**74**	**75**

Figure 5.36

Urea Reduction Ratio and Type of Access
Haemodialysis - Three Sessions Per Week
December 2004

URR	Australia				New Zealand			
	Native	Grafts	Catheters	Total	Native	Grafts	Catheters	Total
<60	109 (3%)	17 (2%)	64 (10%)	**190 (3%)**	64 (10%)	3 (5%)	51 (19%)	**118 (12%)**
60-64	230(5%)	24 (3%)	71 (11%)	**325 (6%)**	88 (14%)	15 (23%)	46 (17%)	**149 (15%)**
65-69	599 (14%)	83 (10%)	97 (15%)	**779 (14%)**	121 (19%)	11 (17%)	43 (16%)	**175 (18%)**
70-74	1085 (26%)	165 (20%)	111 (17%)	**1361 (24%)**	111 (17%)	11 (17%)	34 (13%)	**156 (16%)**
>=75	1831 (43%)	458 (55%)	181 (27%)	**2470 (43%)**	148 (23%)	18 (28%)	48 (18%)	**214 (22%)**
Unknown	366 (9%)	79 (10%)	140 (21%)	**585 (10%)**	106 (17%)	6 (9%)	44 (17%)	**156 (16%)**
Total	**4220 (100%)**	**826 (100%)**	**664 (100%)**	**5710 (100%)**	**638 (100%)**	**64 (100%)**	**266 (100%)**	**968 (100%)**

ACCESS AT FIRST TREATMENT

Data collection for access used at first haemodialysis commenced from 1st October 2003. Data presented in this report is from 1st January to 31st December 2004.

As well as patients having their first treatment on haemodialysis, data collected also includes patients previously having peritoneal dialysis and changing to haemodialysis, and patients returning to dialysis after graft failure where haemodialysis was given for the first time.

Here, we have only presented data for those whose first treatment was haemodialysis.

The use of catheters is similar between Australia and New Zealand for incident patients (fig 5.37), although lower in Australia for prevalent dialysis.

The incident data gives a very different picture from the prevalent data. Over half of all patients in Australia and New Zealand Commence haemodialysis without a permanent access.

Access type for both incident and prevalent dialysis patients is variable among Australian States (fig 5.40).

Figure 5.37

First Access
Haemodialysis as Initial Modality
1-Jan-2004 to 31-Dec-2004

First Access	Country		TOTAL
	Australia	N.Z.	
Native	506 (36%)	83 (31%)	**589 (35%)**
Synthetic	37 (2%)	2 (1%)	**39 (2%)**
Tunnel CV	520 (37%)	73 (27%)	**593 (35%)**
Non Tunnel CV	361 (25%)	108 (41%)	**469 (28%)**
Total	**1424 (100%)**	**266 (100%)**	**1690 (100%)**

Figure 5.38

First Access for Haemodialysis
Australia 01-Jan-2004 – 31-Dec-2004

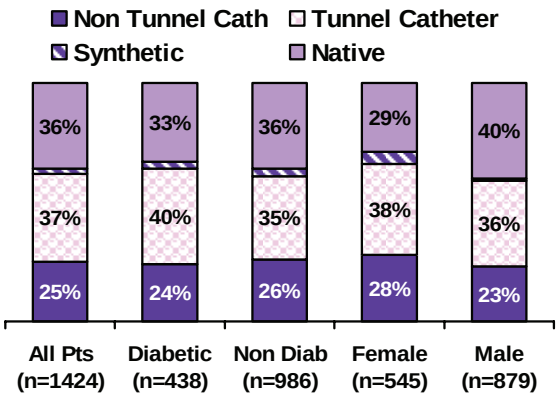


Figure 5.39

First Access for Haemodialysis
New Zealand 01-Jan-2004 – 31-Dec-2004

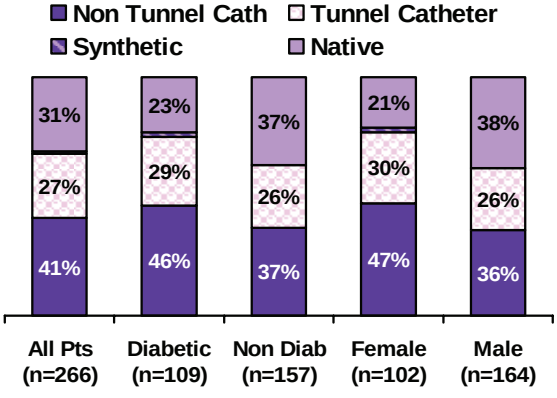


Figure 5.40 Australian States

First Access
Haemodialysis as at Initial Modality
1-Jan-2004 to 31-Dec-2004

First Access	QLD	NSW	ACT	VIC	TAS	SA	NT	WA
Native	105 (36%)	107 (28%)	3 (10%)	144 (41%)	7 (29%)	56 (50%)	35 (45%)	49 (31%)
Synthetic	9 (3%)	19 (5%)	4 (13%)	2 (1%)	-	1 (<1%)	-	2 (1%)
Tunnel CV	104 (36%)	114 (30%)	23 (77%)	150 (43%)	11 (46%)	29 (26%)	11 (14%)	78 (49%)
Non Tunnel CV	74 (25%)	140 (37%)	-	52 (15%)	6 (25%)	27 (24%)	32 (41%)	30 (19%)
Total	**292 (100%)**	**380 (100%)**	**30 (100%)**	**348 (100%)**	**24 (100%)**	**113 (100%)**	**78 (100%)**	**159 (100%)**

A graph of this Table is also available to download from the PowerPoint slides at www.anzdata.org.au

Figure 5.41

Age at First Treatment
Access in use where first Treatment was Haemodialysis
1-Jan-2004 to 31-Dec-2004

Related to Disease	Age Groups						Total
	00-24	25-54	55-64	65-74	75-84	>=85	
Australia							
Diabetic Patients							
Native	-	42	40	46	18	-	**146**
Synthetic	-	4	4	2	1	-	**11**
Tunnel CV Catheter	1	60	47	44	24	1	**177**
Non Tunnel CV Catheter	-	35	30	30	7	2	**104**
Sub TOTAL	**1**	**141**	**121**	**122**	**50**	**3**	**438**
Non Diabetic Patients							
Native	6	117	82	78	72	5	**360**
Synthetic	-	9	1	6	8	2	**26**
Tunnel CV Catheter	21	95	39	81	93	14	**343**
Non Tunnel CV Catheter	14	46	45	79	68	5	**257**
Sub TOTAL	**41**	**267**	**167**	**244**	**241**	**26**	**986**
TOTAL	**42**	**408**	**288**	**366**	**291**	**39**	**1424**
New Zealand							
Diabetic Patients							
Native	-	13	8	4	-	-	**25**
Synthetic	-	-	1	1	-	-	**2**
Tunnel CV Catheter	-	11	16	3	2	-	**32**
Non Tunnel CV Catheter	-	16	16	17	1	-	**50**
Sub TOTAL	**-**	**40**	**41**	**25**	**3**	**-**	**109**
Non Diabetic Patients							
Native	-	30	16	8	4	-	**58**
Synthetic	-	-	-	-	-	-	**-**
Tunnel CV Catheter	3	13	8	10	6	1	**41**
Non Tunnel CV Catheter	4	26	10	11	7	-	**58**
Sub TOTAL	**7**	**69**	**34**	**29**	**17**	**1**	**157**
TOTAL	**7**	**109**	**75**	**54**	**20**	**1**	**266**

ACCESS IN USE AT 31ST DECEMBER 2004

Figure 5.42

Percentage Synthetic Fistulae/Grafts
December 2004
Number of Patients (% Patients)

	No. of Pts.	Diabetic	Non Diabetic
Queensland	1096	270 (12%)	826 (13%)
New South Wales	1863	313 (24%)	1550 (22%)
Aust. Capital Territory	125	24 (21%)	101 (39%)
Victoria	1661	373 (7%)	1288 (9%)
Tasmania	120	27 (7%)	93 (8%)
South Australia	419	82 (13%)	337 (10%)
Northern Territory	249	123 (2%)	126 (5%)
Western Australia	641	201 (7%)	440 (9%)
Australia	**6174**	**1413 (12%)**	**4761 (15%)**
March 2004	*5924*	*1224 (14%)*	*4680 (16%)*
New Zealand	**1028**	**400 (5%)**	**628 (8%)**
March 2004	*938*	*356 (10%)*	*582 (10%)*

Figure 5.43

Percentage of Non Native Access
December 2004
n = Number of Patients

	Australia (n=6174)		New Zealand (n=1028)	
	Grafts	Catheters	Grafts	Catheters
Total HD Population	14%	11%	7%	27%
Diabetics	12%	16%	5%	31%
Female	20%	14%	11%	36%

Figures 5.42 to 5.46 describe the data about prevalent haemodialysis access (i.e. access in use at 31st December 2004). Native fistulas predominate. The proportion with central catheters continues to be higher in New Zealand.

Figure 5.44

Type of Access for Haemodialysis
Australia December 2004

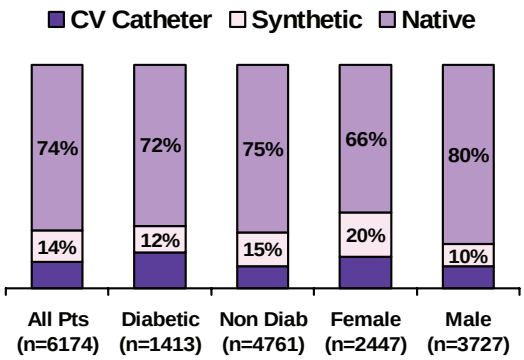


Figure 5.45

Type of Access for Haemodialysis
New Zealand December 2004

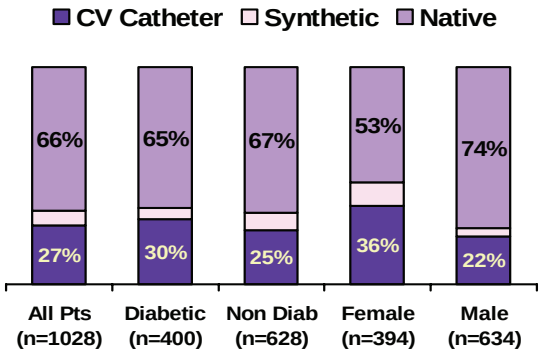


Figure 5.46

Access Intervention in Previous Six Months
December 2004
n = Number of Patients

		Revision of Access			Declotting of Access		
		Native	Grafts	Catheters	Native	Grafts	Catheters
Australia	**n=6174**	**9%**	**32%**	**22%**	**4%**	**25%**	**19%**
Diabetics	n=1413	10%	37%	25%	4%	29%	22%
Female	n=2447	10%	33%	24%	3%	24%	**20%**
New Zealand	**n=1025**	**16%**	**21%**	**6%**	**6%**	**21%**	**9%**

PATIENT BODY MASS INDEX

The BMI of new dialysis patients has steadily risen for many years, a trend which continues. Overall, there is little difference between haemodialysis and peritoneal dialysis. The box plots in Figures 5.47 and 5.48 show 25th, 50th and 75th centiles with the 95th centiles indicated by the whiskers.

Figure 5.47

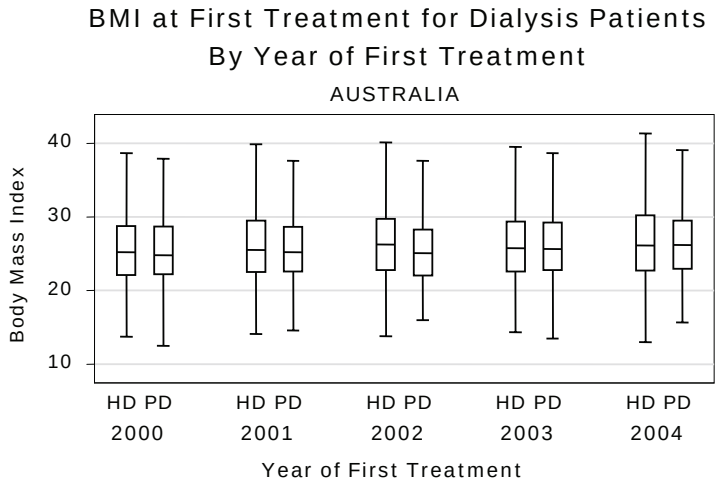


Figure 5.48

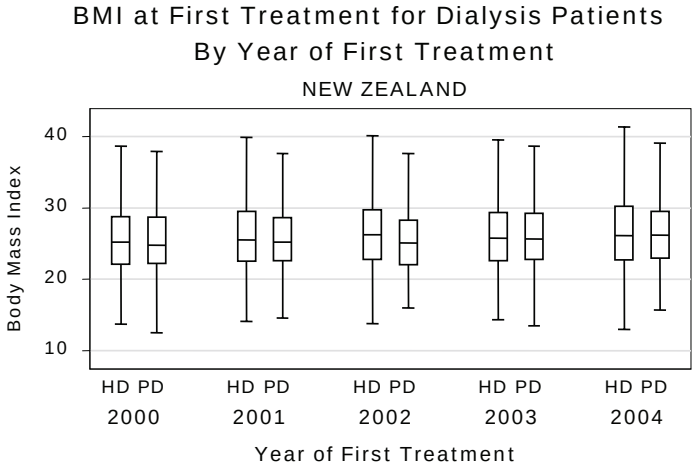


Figure 5.49

Patient Body Mass Index at First Treatment 2000 - 2004

Year	BMI	Age Groups				
		20-34	35-54	55-74	>=75	Total
Australia						
2000	<20	11 (9%)	43 (12%)	62 (11%)	26 (12%)	**142 (11%)**
	20-24.9	68 (57%)	113 (32%)	191 (33%)	91 (43%)	**463 (37%)**
	25-29.9	29 (24%)	100 (29%)	207 (35%)	66 (31%)	**402 (32%)**
	>=30	11 (9%)	91 (26%)	125 (21%)	26 (12%)	**253 (20%)**
	Total	**199 (100%)**	**347 (100%)**	**585 (100%)**	**209 (100%)**	**1260 (100%)**
2001	<20	15 (13%)	36 (9%)	55 (9%)	32 (14%)	**138 (10%)**
	20-24.9	47 (42%)	132 (34%)	213 (34%)	93 (40%)	**485 (36%)**
	25-29.9	28 (25%)	119 (31%)	196 (31%)	70 (30%)	**413 (30%)**
	>=30	22 (20%)	97 (25%)	164 (26%)	36 (16%)	**319 (24%)**
	Total	**112 (100%)**	**384 (100%)**	**628 (100%)**	**231 (100%)**	**1355 (100%)**
2002	<20	13 (13%)	34 (10%)	36 (6%)	38 (15%)	**121 (9%)**
	20-24.9	46 (46%)	103 (29%)	171 (28%)	94 (37%)	**414 (31%)**
	25-29.9	22 (22%)	125 (35%)	231 (38%)	92 (36%)	**470 (35%)**
	>=30	18 (18%)	94 (26%)	176 (29%)	31 (12%)	**319 (24%)**
	Total	**99 (100%)**	**356 (100%)**	**614 (100%)**	**255 (100%)**	**1324 (100%)**
2003	<20	17 (17%)	38 (10%)	50 (8%)	27 (9%)	**132 (10%)**
	20-24.9	38 (38%)	118 (31%)	193 (31%)	132 (44%)	**481 (35%)**
	25-29.9	24 (24%)	118 (31%)	213 (35%)	105 (35%)	**460 (33%)**
	>=30	19 (19%)	103 (27%)	158 (26%)	37 (12%)	**317 (23%)**
	Total	**98 (100%)**	**377 (100%)**	**614 (100%)**	**301 (100%)**	**1390 (100%)**
2004	<20	10 (12%)	28 (8%)	58 (9%)	39 (13%)	**135 (10%)**
	20-24.9	38 (45%)	106 (30%)	185 (29%)	122 (40%)	**451 (32%)**
	25-29.9	21 (25%)	108 (31%)	210 (32%)	101 (33%)	**440 (32%)**
	>=30	15 (18%)	110 (31%)	196 (30%)	41 (14%)	**362 (26%)**
	Total	**84 (100%)**	**352 (100%)**	**649 (100%)**	**303 (100%)**	**1388 (100%)**
New Zealand						
2000	<20	2 (6%)	5 (6%)	10 (8%)	3 (18%)	**20 (8%)**
	20-24.9	21 (60%)	25 (29%)	34 (27%)	4 (24%)	**84 (32%)**
	25-29.9	5 (14%)	23 (27%)	38 (30%)	10 (59%)	**76 (29%)**
	>=30	7 (20%)	32 (37%)	41 (33%)	0 (0%)	**80 (30%)**
	Total	**35 (100%)**	**85 (100%)**	**123 (100%)**	**17 (100%)**	**260 (100%)**
2001	<20	2 (10%)	5 (5%)	4 (4%)	3 (16%)	**15 (6%)**
	20-24.9	9 (45%)	16 (16%)	47 (35%)	10 (53%)	**82 (30%)**
	25-29.9	3 (15%)	28 (28%)	30 (22%)	3 (16%)	**64 (24%)**
	>=30	6 (30%)	48 (49%)	51 (38%)	3 (16%)	**108 (40%)**
	Total	**20 (100%)**	**97 (100%)**	**133 (100%)**	**19 (100%)**	**269 (100%)**
2002	<20	2 (19%)	4 (4%)	10 (7%)	2 (13%)	**18 (6%)**
	20-24.9	7 (41%)	23 (24%)	35 (23%)	9 (60%)	**74 (26%)**
	25-29.9	3 (18%)	27 (28%)	44 (29%)	1 (7%)	**75 (27%)**
	>=30	5 (29%)	41 (43%)	64 (42%)	3 (20%)	**113 (40%)**
	Total	**17 (100%)**	**95 (100%)**	**153 (100%)**	**15 (100%)**	**280 (100%)**
2003	<20	2 (9%)	2 (2%)	6 (4%)	4 (14%)	**14 (5%)**
	20-24.9	7 (32%)	17 (21%)	29 (20%)	7 (24%)	**60 (22%)**
	25-29.9	7 (32%)	35 (42%)	45 (31%)	8 (28%)	**95 (34%)**
	>=30	6 (27%)	29 (35%)	65 (45%)	10 (35%)	**110 (39%)**
	Total	**22 (100%)**	**83 (100%)**	**145 (100%)**	**29 (100%)**	**279 (100%)**
2004	<20	2 (9%)	2 (2%)	3 (2%)	1 (5%)	**8 (3%)**
	20-24.9	8 (35%)	24 (26%)	21 (17%)	8 (42%)	**61 (23%)**
	25-29.9	7 (30%)	18 (19%)	46 (37%)	7 (37%)	**78 (30%)**
	>=30	6 (26%)	50 (53%)	55 (44%)	3 (16%)	**114 (44%)**
	Total	**23 (100%)**	**94 (100%)**	**125 (100%)**	**19 (100%)**	**261 (100%)**