

## CHAPTER 4

### METHOD AND LOCATION OF DIALYSIS

Stephen McDonald  
Leonie Excell  
Victoria Shtangey



Figure 4.1

		Mode of Treatment	2000	2001	2002	2003	2004
<b>AUST</b>	<b>PD</b>	APD	390	501	617	733	746
		CAPD	1347	1306	1173	1107	1032
		<b>Total</b>	<b>1737</b>	<b>1807</b>	<b>1790</b>	<b>1840</b>	<b>1778</b>
	<b>HD</b>	Hospital	1722	1803	1993	2081	2082
		Home	742	773	777	775	785
		Satellite	2211	2469	2709	3024	3307
<b>Total</b>		<b>4675</b>	<b>5045</b>	<b>5479</b>	<b>5880</b>	<b>6174</b>	
<b>NZ</b>	<b>PD</b>	APD	81	112	135	153	176
		CAPD	600	603	635	615	566
		<b>Total</b>	<b>681</b>	<b>715</b>	<b>770</b>	<b>768</b>	<b>742</b>
	<b>HD</b>	Hospital	337	371	372	439	498
		Home	189	201	230	240	249
		Satellite	129	181	228	266	281
<b>Total</b>		<b>655</b>	<b>753</b>	<b>830</b>	<b>945</b>	<b>1028</b>	

**AUSTRALIA**

During the past year, there was an increase of 232 (3%) in the total number of prevalent dialysis patients. There were 7,952 patients (395 per million) receiving dialysis treatment at the end of the year to 31<sup>st</sup> December, 2004.

The distribution of these patients across the modalities continues to slowly change (fig 4.1, 4.3). The majority (74%) were out of hospital: 32% were dialysing at home and 42% in satellite centres.

Thirteen percent of all prevalent dialysis patients were using continuous ambulatory peritoneal dialysis, 9% automated peritoneal dialysis, 26% hospital based haemodialysis, 42% satellite haemodialysis and 10% home haemodialysis.

Automated peritoneal dialysis continues to increase each year, but only by 2% (746 patients) in 2004. This was at the expense of continuous ambulatory peritoneal dialysis, which continued to decrease (7% fewer in 2004 compared to 2003). The overall previous increases were 19% (733 patients) in 2003 and 23% (617 patients) in 2002. Satellite haemodialysis increased by 9%.

Forty five percent of all prevalent dialysis patients were 65 years and older and 130 patients (2%) were 85 years or more, an increase of 48% in 2004. An increase occurred in most age groups 25 years or older, though the increase in the 65-84 year group was 3% (110 patients), after a 9% (268 patients) increase in both 2003 and 2002.

Figure 4.2

**State Distribution of Dialysis Dependent Patients  
2000 - 2004**  
(per Million Population)

	2000	2001	2002	2003	2004
Queensland	1044 (293)	1094 (301)	1203 (324)	1338 (352)	1442 (371)
New South Wales *	2163 (343)	2335 (366)	2429 (377)	2542 (392)	2513 (385)
Aust. Capital Territory *	162 (324)	159 (313)	177 (343)	186 (358)	184 (351)
Victoria	1704 (359)	1851 (385)	1934 (398)	1993 (405)	2047 (412)
Tasmania	121 (257)	123 (260)	143 (303)	153 (321)	147 (305)
South Australia	396 (263)	434 (287)	457 (301)	505 (331)	517 (337)
Northern Territory	178 (910)	210 (1061)	233 (1173)	247 (1245)	277 (1386)
Western Australia	644 (344)	646 (340)	693 (360)	756 (387)	825 (416)
<b>Australia</b>	<b>6412 (335)</b>	<b>6852 (353)</b>	<b>7269 (370)</b>	<b>7720 (388)</b>	<b>7952 (395)</b>
<b>New Zealand</b>	<b>1336 (346)</b>	<b>1468 (378)</b>	<b>1600 (406)</b>	<b>1713 (427)</b>	<b>1770 (436)</b>

\*NSW population excludes residents of the Southern Area Health Service  
 \*ACT population includes residents of the Southern Area Health Service (Medical services in the ACT service the Southern Area Region of NSW)

The differences with age, dialysis method and location are shown in the Appendix (page 6). For those <15 years, peritoneal dialysis was used in 83% (89% in 2003), compared to 18% for 25-34 years, 23% for 65-84 years and 13% for >=85 years.

The number of patients receiving dialysis treatment rose in most States/Territories, falling in Tasmania by 4% and New South Wales by 1% with ACT similar to 2003. Northern Territory rose by 12%, Western Australia 9%, Queensland 8%, Victoria 3% and South Australia 2%. The number of dialysis patients in relation to population in each State is shown in Figure 4.2.

In relation to State/Territory population, the highest prevalence rate of dialysis patients was in the Northern Territory (1,386 per million), with rates in other States/Territories ranging from 305 to 416 per million (fig 4.2).

Figure 4.3

Method and Location of Dialysis 1999 - 2004

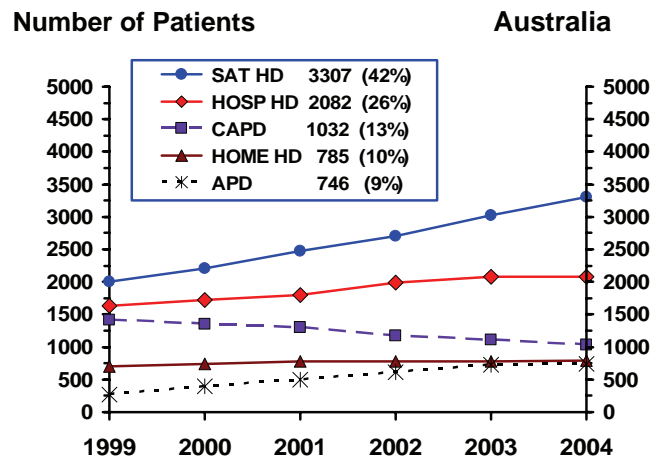
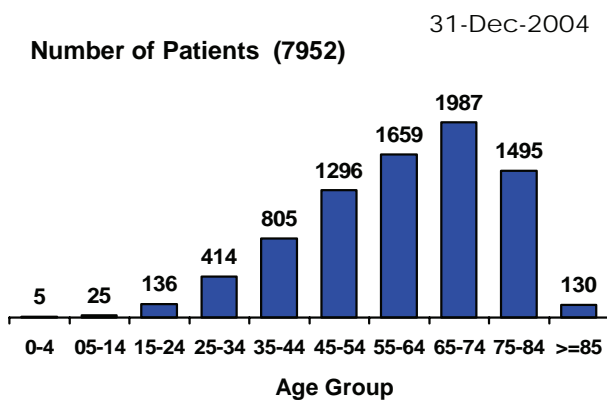


Figure 4.4

Prevalent Dialysis Patients (Australia)



Prevalent Dialysis Patients (Australia)

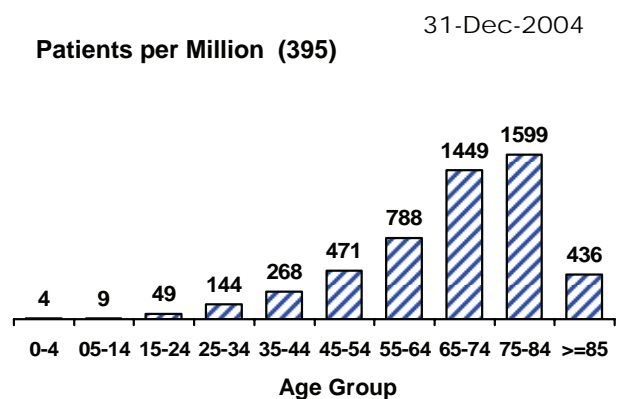
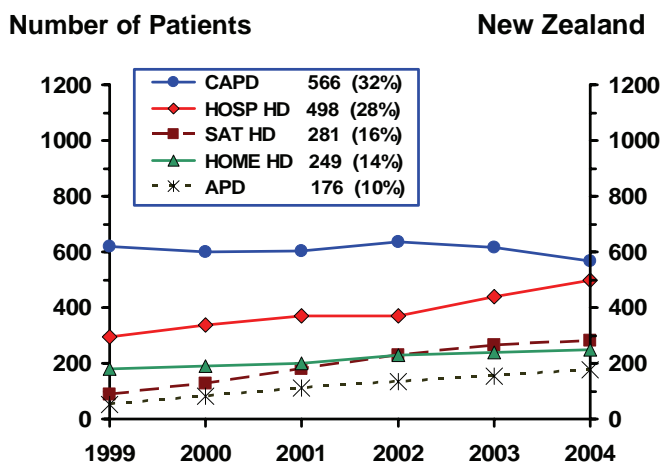




Figure 4.5

Method and Location of Dialysis 1999 - 2004



NEW ZEALAND

Figures 4.1, 4.2, 4.5 and 4.6.

There was a 3% increase in dialysis patient numbers from 2003 to 2004, after rises of 7% in 2003 and 9% in 2002. The age groups that increased this year were the 35-44, 65-74, 75-84 and >= 85 years. Fifty six percent of patients were treated with a form of home dialysis (of whom 75% were peritoneal dialysis patients).

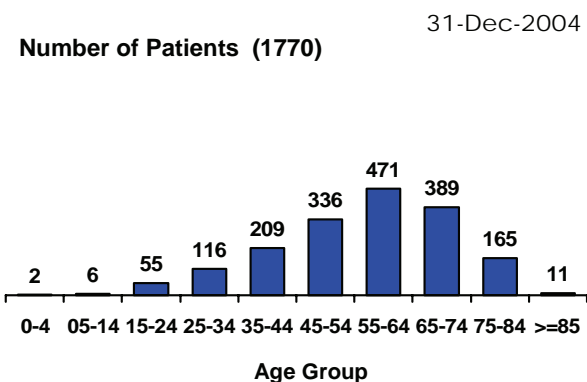
Home automated peritoneal dialysis continues to increase; this year by 15%, 176 patients, from 153 in December 2003 .

Continuous ambulatory peritoneal dialysis continues to decrease: this year by 8%, 566 patients compared to 615 in December 2003.

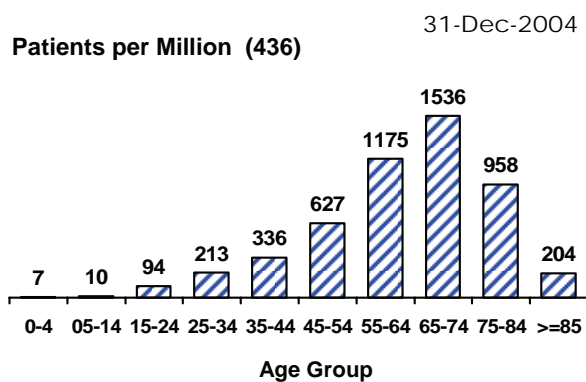
Together, satellite and hospital haemodialysis accounted for 44% of patients in 2004, increasing from 41% in 2003 and 38% in 2002. Satellite haemodialysis has increased 6% (281 patients in 2004, from 266 patients in 2003).

Figure 4.6

Prevalent Dialysis Patients (New Zealand)



Prevalent Dialysis Patients (New Zealand)

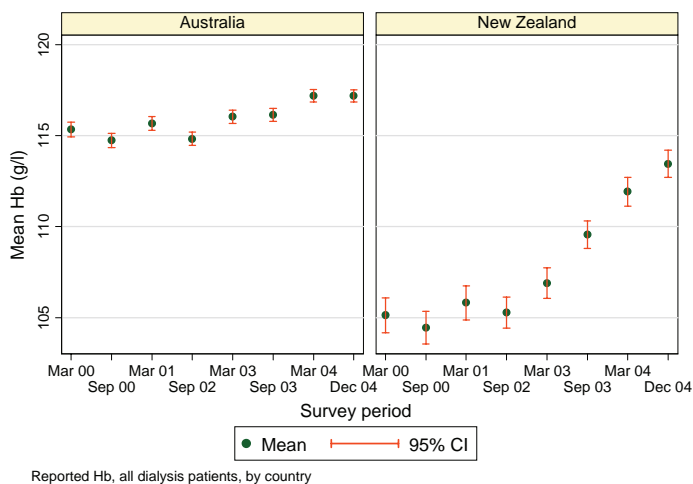


### ERYTHROPOIETIC AGENTS

Only 5% of patients in Australia had a haemoglobin level  $\leq 90$  gm/l; in New Zealand it has decreased from 21% in 2003 to 10% in March 2004. While the mean Hb in Australia has been stable for sometime, there has been a recent increase in reported Hb in New Zealand (fig.4.7).

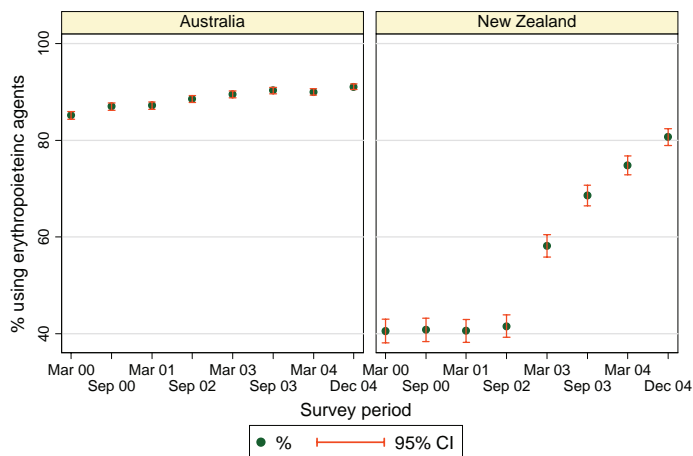
There have been substantial changes in usage of erythropoietic agents in New Zealand over the past few surveys, presumably reflecting changes regulations regarding government subsidy of these agents (fig 4.8).

Figure 4.7 Mean Haemoglobin Among Dialysis Patients by Survey



Reported Hb, all dialysis patients, by country

Figure 4.8 Use of Erythropoietic Agents By Survey



Reported use of erythropoietic agents, all dialysis patients, by country



Figure 4.9

Patients Receiving Erythropoietic Agents  
Haemoglobin and Ferritin Concentration  
Alive on All Modes of Dialysis at 31-Dec-2004

Haemoglobin	Ferritin Levels					Total
	00-49	50-99	100-199	200-499	>=500	
<b>AUSTRALIA</b>						
<=89	22 (6%)	19 (4%)	30 (3%)	99 (4%)	124 (5%)	<b>294 (4%)</b>
90-109	78 (22%)	110 (23%)	211 (22%)	679 (25%)	613 (25%)	<b>1691 (24%)</b>
110-129	163 (47%)	226 (48%)	491 (52%)	1370 (51%)	1275 (51%)	<b>3525 (51%)</b>
130-149	75 (22%)	98 (21%)	193 (20%)	518 (19%)	436 (18%)	<b>1320 (19%)</b>
>=150	9 (3%)	16 (3%)	22 (2%)	43 (2%)	30 (1%)	<b>120 (2%)</b>
<b>Total</b>	<b>347 (100%)</b>	<b>469 (100%)</b>	<b>947 (100%)</b>	<b>2709 (100%)</b>	<b>2478 (100%)</b>	<b>6950 (100%)</b>
<b>NEW ZEALAND</b>						
<=89	3 (4%)	6 (6%)	12 (6%)	45 (8%)	37 (8%)	<b>103 (7%)</b>
90-109	26 (34%)	28 (27%)	61 (31%)	178 (33%)	199 (42%)	<b>492 (35%)</b>
110-129	35 (46%)	43 (41%)	87 (44%)	240 (44%)	187 (39%)	<b>592 (43%)</b>
130-149	12 (16%)	24 (23%)	34 (17%)	73 (13%)	52 (11%)	<b>195 (14%)</b>
>=150	-	3 (3%)	3 (2%)	5 (1%)	-	<b>11 (1%)</b>
<b>Total</b>	<b>76 (100%)</b>	<b>104 (100%)</b>	<b>197 (100%)</b>	<b>541 (100%)</b>	<b>475 (100%)</b>	<b>1393 (100%)</b>

Figure 4.10

Patients Receiving Erythropoietic Agents  
Haemoglobin and Transferrin Saturation  
Alive on All Modes of Dialysis at 31-Dec-2004

Haemoglobin	Transferrin Levels				Total
	00-19	20-24	25-29	>=30	
<b>AUSTRALIA</b>					
<=89	143 (8%)	52 (4%)	27 (2%)	68 (3%)	<b>290 (4%)</b>
90-109	575 (31%)	342 (23%)	264 (23%)	471 (20%)	<b>1652 (24%)</b>
110-129	860 (46%)	753 (51%)	607 (53%)	1236 (54%)	<b>3456 (51%)</b>
130-149	270 (14%)	289 (20%)	227 (20%)	495 (21%)	<b>1281 (19%)</b>
>=150	33 (2%)	29 (2%)	19 (2%)	38 (2%)	<b>119 (2%)</b>
<b>Total</b>	<b>1881 (100%)</b>	<b>1465 (100%)</b>	<b>1144 (100%)</b>	<b>2308 (100%)</b>	<b>6798 (100%)</b>
<b>NEW ZEALAND</b>					
<=89	30 (10%)	16 (7%)	10 (6%)	33 (8%)	<b>89 (8%)</b>
90-109	120 (39%)	74 (32%)	58 (32%)	136 (32%)	<b>388 (34%)</b>
110-129	110 (36%)	104 (45%)	78 (43%)	184 (44%)	<b>476 (42%)</b>
130-149	43 (14%)	34 (15%)	32 (18%)	68 (16%)	<b>177 (16%)</b>
>=150	4 (1%)	2 (1%)	2 (1%)	2 (<1%)	<b>10 (1%)</b>
<b>Total</b>	<b>307 (100%)</b>	<b>230 (100%)</b>	<b>180(100%)</b>	<b>423 (100%)</b>	<b>1140 (100%)</b>