

## **CHAPTER 2**

### **NEW PATIENTS**

### **COMMENCING TREATMENT IN 2006**

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**Figure 2.1**

**Annual Intake of New Patients 2002 - 2006  
(Number Per Million Population)**

	2002	2003	2004	2005	2006
Queensland	378 (102)	420 (111)	402 (104)	462 (117)	483 (119)
New South Wales	580 (90)	628 (97)	562 (86)	720 (110)	768 (116)
Aust. Capital Territory	49 (95)	39 (75)	45 (86)	46 (87)	53 (99)
Victoria	467 (96)	444 (90)	461 (93)	525 (105)	561 (110)
Tasmania	35 (74)	41 (86)	31 (64)	37 (76)	45 (92)
South Australia	120 (79)	152 (100)	158 (103)	174 (113)	182 (117)
Northern Territory	59 (297)	57 (287)	81 (405)	83 (409)	70 (339)
Western Australia	204 (106)	202 (103)	215 (108)	236 (117)	216 (105)
<b>Australia</b>	<b>1892 (96)</b>	<b>1983 (100)</b>	<b>1955 (97)</b>	<b>2283 (112)</b>	<b>2378 (115)</b>
<b>New Zealand</b>	<b>466 (118)</b>	<b>463 (115)</b>	<b>457 (113)</b>	<b>457 (112)</b>	<b>484 (117)</b>

**INTAKE OF NEW PATIENTS**

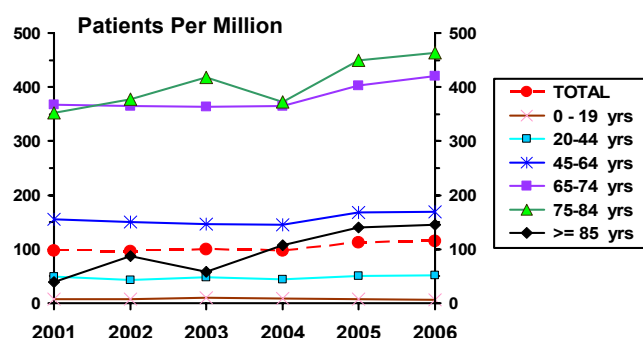
There were 2378 new patients who commenced treatment for end-stage renal failure in Australia in 2006, a rate of 115 per million population per year.

This was an increase of 4% from 2005, after a 17% increase last year from 2004. The number for 2006 was the highest ever recorded.

In New Zealand, the number of new patients entering renal failure programs was 484, a rate of 117 per million of population. This was an increase of 6% from 2005 and was the highest ever recorded.

**Figure 2.2**

**Acceptance of New Patients 2001 - 2006  
Age Specific Rates - Australia**



**AGE OF NEW PATIENTS**

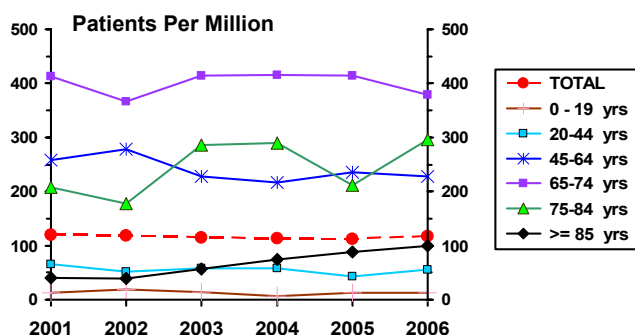
In Australia in 2006, all age groups showed an increase in acceptance of new patients except the 0-19 year group, which decreased from 7 to 6 per million (40 to 35 patients).

The largest increases were in the groups 65-74 years, which rose from 403 to 421 per million (564 to 600 patients) and 75-84 years, which rose from 450 to 449 patients (Figure 2.2). The older age groups are examined in more detail in Figure 2.4.

The mean age of patients entering programs in Australia in 2006 was 60.7 years and the median 63.2 years (Figure 2.5).

**Figure 2.3**

**Acceptance of New Patients 2001 - 2006  
Age Specific Rates - New Zealand**



In New Zealand, the mean age of patients entering was 57.0 years and the median 58.8 years (Figure 2.5).

The age specific rates of acceptance increased in three groups, 20-44 years from 43 to 56 per million, 75-84 years from 211 to 296 per million and ≥ 85 year group from 88 to 100 per million. The 0-19 group remained the same as the previous year at 13 patients per million.

The decreases were in the 45-64 year age group (from 236 to 228 per million) and the 65-74 year age group (from 414 to 379 per million), shown in Figure 2.3.

Within the older age groups in Australia, all groups except the 80-84 year group increased (Figure 2.4). The largest increases were in the 75-79 year group (521 from 481 patients per million) followed by the 70-74 year group (515 from 486 patients per million) in 2005.

In New Zealand there were decreases in the 60-64, 65-69 and 70-74 year age groups.

Rates of new patients aged  $\geq 85$  years increased from 140 per million in 2005 to 145 per million in 2006 in Australia and from 88 to 100 per million in New Zealand.

Rates in all age groups  $\geq 70$  years were higher in Australia than in New Zealand.

**Figure 2.4**

Acceptance of Elderly New Patients 2002 - 2006 (Number Per Million Population)						
Country	Age Groups	2002	2003	2004	2005	2006
Australia	60-64 years	193 (228)	194 (223)	188 (208)	236 (250)	256 (259)
	65-69 years	214 (306)	232 (322)	257 (345)	259 (336)	273 (345)
	70-74 years	274 (430)	259 (411)	244 (390)	305 (486)	327 (515)
	75-79 years	234 (443)	264 (491)	246 (448)	266 (481)	291 (521)
	80-84 years	97 (278)	115 (312)	103 (267)	163 (406)	158 (384)
	$\geq 85$ years	24 (87)	17 (59)	32 (107)	44 (140)	49 (145)
	<b>Total</b>	<b>1036 (310)</b>	<b>1081 (310)</b>	<b>1070 (313)</b>	<b>1273 (363)</b>	<b>1345 (364)</b>
New Zealand	60-64 years	79 (469)	63 (368)	65 (368)	68 (377)	60 (326)
	65-69 years	51 (384)	52 (384)	58 (416)	62 (426)	58 (377)
	70-74 years	42 (347)	54 (447)	50 (415)	48 (400)	46 (382)
	75-79 years	21 (215)	38 (380)	38 (375)	28 (274)	31 (298)
	80-84 years	8 (123)	10 (146)	12 (169)	9 (123)	22 (294)
	$\geq 85$ years	2 (39)	3 (57)	4 (74)	5 (88)	6 (100)
	<b>Total</b>	<b>203 (319)</b>	<b>220 (340)</b>	<b>227 (343)</b>	<b>220 (324)</b>	<b>223 (320)</b>

## STATE OF ORIGIN OF NEW PATIENTS

Age at start of dialysis varied between States (Figure 2.5). There was an overall increase in the rate of new renal replacement therapy patients in Australia in 2006 in all States except Western Australia and the Northern Territory (Figure 2.6).

The highest acceptance rates were in the Northern Territory (339 per million) and Queensland (119 per million) and the lowest in the ACT (99 per million) and Tasmania (92 per million) (Figure 2.1).

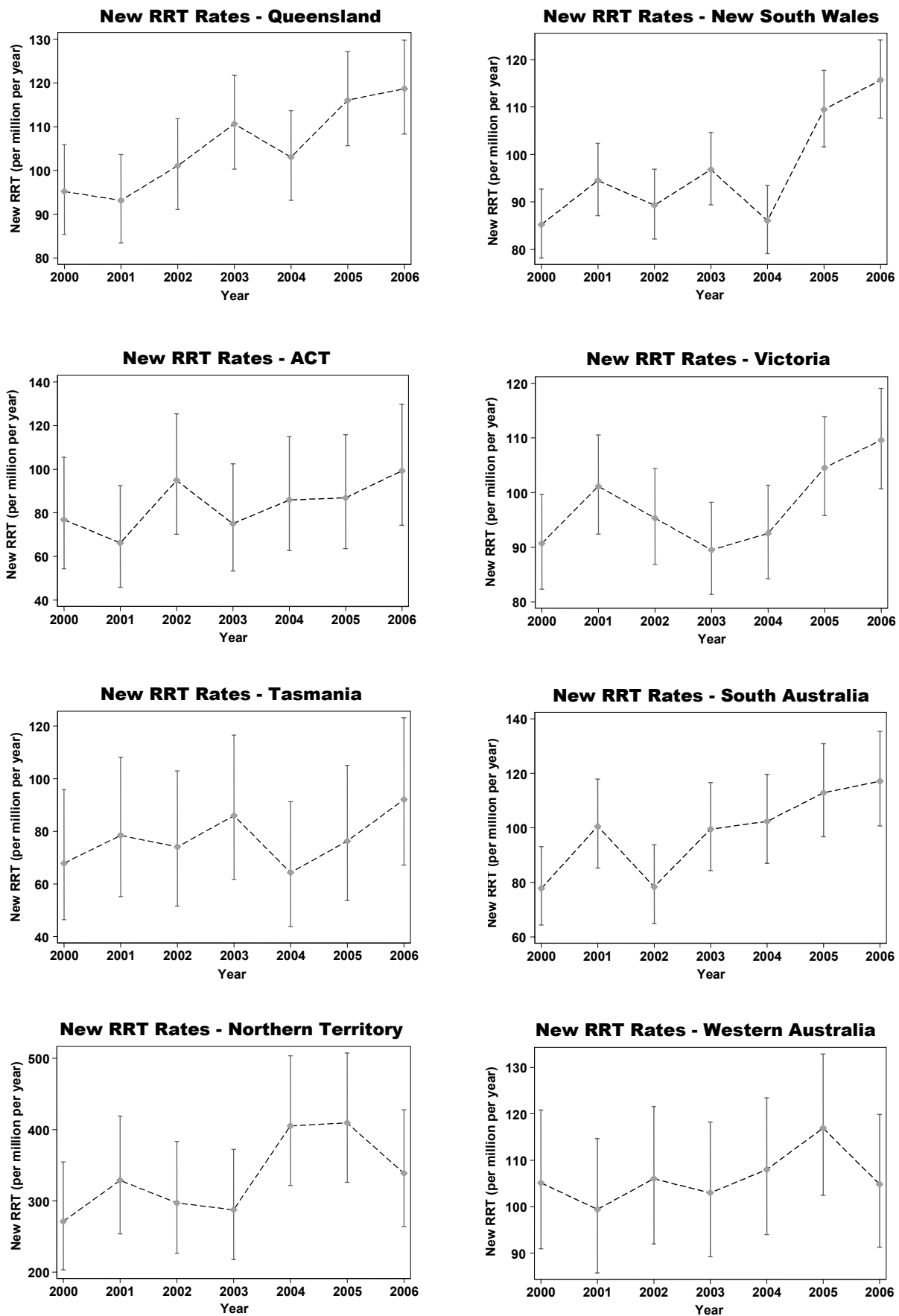
**Figure 2.5**

Age and Gender of New Patients 1-Jan-2006 to 31-Dec-2006 (n = Number of Patients)																				
Age Groups Years	QLD (n=483)		NSW (n=768)		ACT (n=53)		VIC (n=561)		TAS (n=45)		SA (n=182)		NT (n=70)		WA (n=216)		AUST (n=2378)		NZ (n=484)	
	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
00-04	1	1	2	-	-	-	1	2	-	-	-	-	-	-	-	1	4	4	2	1
05-14	1	2	4	-	-	-	3	-	-	-	-	1	-	2	-	1	8	6	-	1
15-24	4	6	5	10	1	-	7	3	-	-	1	2	-	-	2	6	20	27	9	14
25-34	11	9	15	24	-	2	8	16	1	-	5	1	3	2	6	4	49	58	10	18
35-44	22	26	23	39	-	4	18	41	-	5	10	12	7	10	7	15	87	152	19	22
45-54	28	44	39	68	2	4	27	49	4	5	11	16	13	10	14	20	138	216	39	63
55-64	55	51	57	110	2	8	42	69	5	6	17	28	9	4	20	28	207	304	57	66
65-74	40	62	96	118	8	14	59	94	3	8	14	30	3	4	15	32	238	362	44	60
75-84	44	55	46	99	1	7	40	74	3	4	10	21	1	2	18	25	163	286	16	37
$\geq 85$	7	14	9	4	1	-	4	4	1	-	-	3	-	-	1	1	23	26	-	6
<b>Total</b>	<b>213</b>	<b>270</b>	<b>296</b>	<b>472</b>	<b>15</b>	<b>38</b>	<b>209</b>	<b>352</b>	<b>17</b>	<b>28</b>	<b>68</b>	<b>114</b>	<b>36</b>	<b>34</b>	<b>83</b>	<b>133</b>	<b>937</b>	<b>1441</b>	<b>196</b>	<b>288</b>
Mean (yrs)	60.7	61.7	60.9	61.2	65.6	62.3	60.8	61.6	62.7	60.2	57.5	61.9	52.1	49.1	59.7	59.1	60.2	61.0	57.4	56.4
All		61.3		61.1		63.3		61.3		61.1		60.2		50.7		59.3		60.7		57.0
Median (yrs)		63.5		63.7		66.6		64.7		62.6		60.9		49.5		62.1		63.2		58.8
Range		3.8 - 89.6		1.7 - 93.1		23.7 - 86.7		0.4 - 91.0		26.6 - 89.0		5.6 - 86.5		5.5 - 79.5		0.5 - 87.7		0.4 - 93.1		0.4 - 89.7



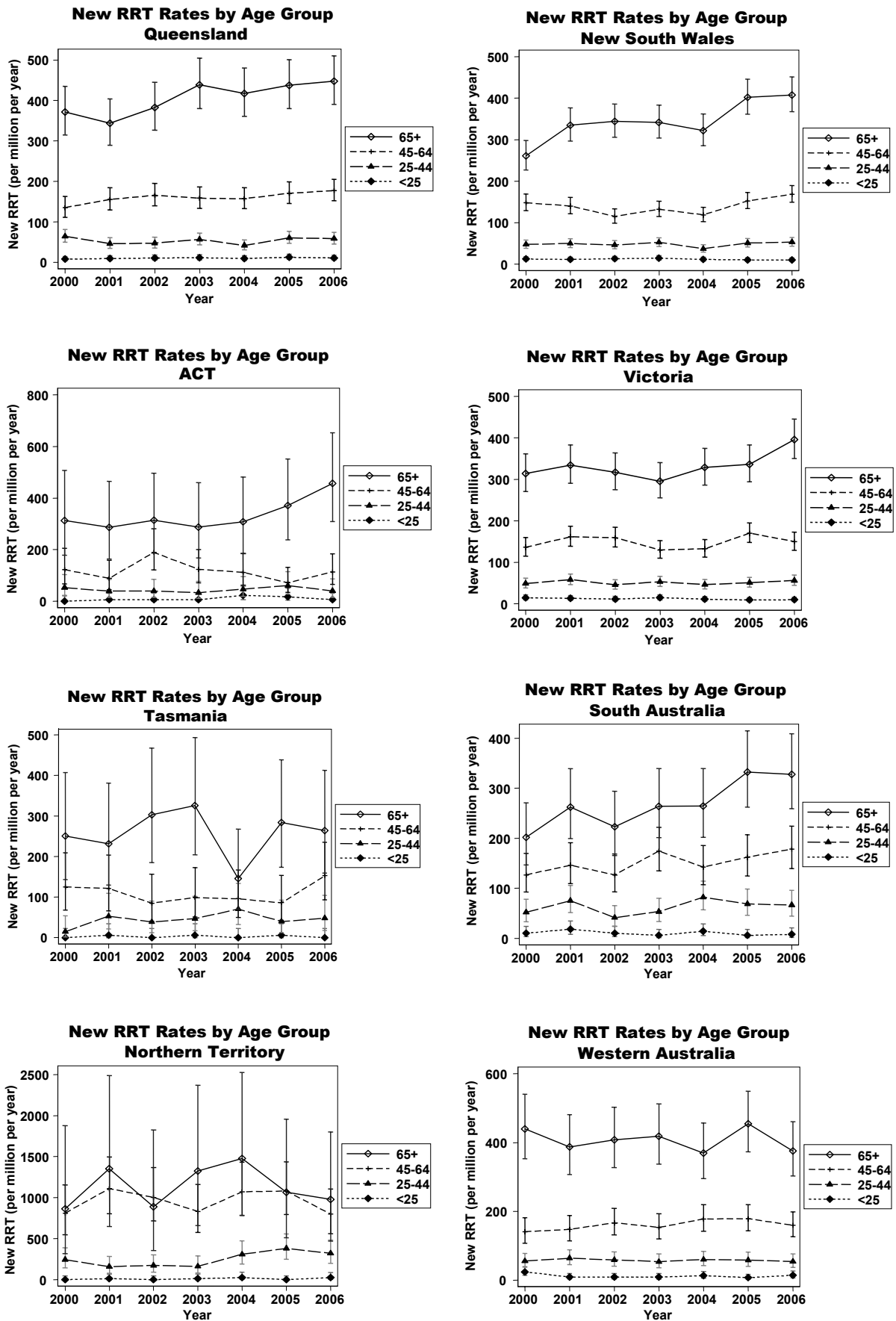
**Figure 2.6**

Incidence rates (95% confidence intervals) for new RRT patients by State.  
 Note different scales for each State; these are crude incidence rates, not age-adjusted.



**Figure 2.7**

Incidence rates (95% confidence intervals) for new RRT patients by State by age group.  
Note different scales for each State.





## LATE REFERRAL

There were 23% (25% in 2005) of all new patients in Australia and 22% of new patients in New Zealand who were referred late to nephrological care, i.e. less than three months before first treatment (Figure 2.8).

Among the States/Territories, the lowest was 16% in Tasmania ranging to 34% in the ACT. Variation of this rate with age is shown in Figure 2.9, trends over time in Figure 2.10 and by racial origin in Figure 2.11.

**Figure 2.8**

<b>Late Referral of New Patients 2006</b>										
<b>Number of Patients (% Patients)</b>										
<b>Primary Renal Disease</b>	<b>QLD</b>	<b>NSW</b>	<b>ACT</b>	<b>VIC</b>	<b>TAS</b>	<b>SA</b>	<b>NT</b>	<b>WA</b>	<b>AUST</b>	<b>NZ</b>
<b>YES</b>										
Analgesic	2 (2%)	2 (1%)	1 (6%)	-	-	-	-	-	5 (1%)	-
Diabetes-I Insulin	1 (1%)	5 (3%)	-	4 (3%)	-	2 (5%)	2 (10%)	1 (2%)	15 (3%)	1 (1%)
Diabetes-II Insulin Req	16 (13%)	24 (15%)	-	17 (13%)	-	4 (11%)	2 (10%)	8 (14%)	71 (13%)	17 (16%)
Diabetes-II Non-Insulin	21 (17%)	18 (11%)	2 (11%)	12 (10%)	-	3 (8%)	6 (30%)	15 (27%)	77 (14%)	20 (19%)
Glomerulonephritis	20 (16%)	34 (21%)	9 (50%)	39 (30%)	-	4 (11%)	2 (10%)	14 (25%)	122 (22%)	25 (24%)
Hypertension	21 (17%)	20 (12%)	1 (6%)	20 (15%)	-	6 (16%)	1 (5%)	5 (9%)	74 (13%)	10 (10%)
Miscellaneous	29 (24%)	35 (22%)	3 (16%)	18 (14%)	2 (29%)	10 (27%)	2 (10%)	9 (16%)	108 (20%)	12 (11%)
Polycystic	1 (1%)	6 (4%)	-	3 (2%)	2 (29%)	1 (3%)	-	1 (2%)	14 (2%)	5 (5%)
Reflux	4 (3%)	5 (3%)	-	4 (3%)	-	-	2 (10%)	-	15 (3%)	3 (3%)
Uncertain	7 (6%)	13 (8%)	2 (11%)	13 (10%)	3 (42%)	7 (19%)	3 (15%)	3 (5%)	51 (9%)	12 (11%)
<b>Sub Total</b>	<b>122 (25%)</b>	<b>162 (21%)</b>	<b>18 (34%)</b>	<b>130 (30%)</b>	<b>7 (16%)</b>	<b>37 (20%)</b>	<b>20 (29%)</b>	<b>56 (26%)</b>	<b>552 (23%)</b>	<b>105 (22%)</b>
<b>No</b>										
Analgesic	10 (2%)	32 (5%)	-	2 (<1%)	-	1 (<1%)	-	2 (1%)	47 (3%)	1 (<1%)
Diabetes-I insulin	14 (4%)	24 (4%)	1 (3%)	19 (4%)	1 (3%)	7 (5%)	-	5 (3%)	71 (4%)	11 (3%)
Diabetes-II Insulin Req	50 (14%)	110 (18%)	11 (31%)	60 (14%)	6 (16%)	32 (22%)	5 (10%)	19 (12%)	293 (16%)	92 (24%)
Diabetes-II Non-insulin	42 (12%)	66 (11%)	4 (11%)	59 (13%)	5 (13%)	17 (12%)	24 (48%)	26 (16%)	243 (13%)	61 (16%)
Glomerulonephritis	67 (19%)	135 (22%)	6 (17%)	119 (28%)	10 (26%)	30 (21%)	10 (20%)	40 (25%)	417 (23%)	78 (21%)
Hypertension	71 (20%)	89 (15%)	6 (17%)	56 (13%)	6 (16%)	14 (10%)	4 (8%)	28 (17%)	274 (15%)	48 (13%)
Miscellaneous	34 (9%)	65 (11%)	3 (9%)	54 (13%)	3 (8%)	17 (12%)	1 (2%)	14 (9%)	191 (10%)	25 (7%)
Polycystic	38 (11%)	40 (7%)	3 (9%)	29 (7%)	3 (8%)	8 (6%)	-	12 (8%)	133 (7%)	31 (8%)
Reflux	12 (3%)	25 (4%)	1 (3%)	20 (5%)	2 (5%)	7 (4%)	2 (4%)	8 (5%)	77 (4%)	11 (3%)
Uncertain	23 (6%)	20 (3%)	-	13 (3%)	2 (5%)	12 (8%)	4 (8%)	6 (4%)	80 (5%)	21 (5%)
<b>Sub Total</b>	<b>361 (75%)</b>	<b>606 (79%)</b>	<b>35 (66%)</b>	<b>431 (77%)</b>	<b>38 (84%)</b>	<b>145 (80%)</b>	<b>50 (71%)</b>	<b>160 (74%)</b>	<b>1826 (77%)</b>	<b>379 (78%)</b>
<b>Total (100%)</b>	<b>483</b>	<b>768</b>	<b>53</b>	<b>561</b>	<b>45</b>	<b>182</b>	<b>70</b>	<b>216</b>	<b>2378</b>	<b>484</b>

<b>Figure 2.9</b>							
<b>Late Referral - All Modes of Treatment Including Pre-emptive Transplants 1-Jan-2001 to 31-Dec-2006</b>							
Country	Age Groups						Total
	0-19	20-44	45-64	65-74	75-84	>=85	
<b>Australia</b>							
Yes	55 (25%)	495 (29%)	905 (24%)	645 (24%)	521 (27%)	52 (31%)	<b>2673 (25%)</b>
No	164 (75%)	1236 (71%)	2889 (76%)	1999 (76%)	1416 (73%)	114 (69%)	<b>7818 (75%)</b>
<b>Total (100%)</b>	<b>219</b>	<b>1731</b>	<b>3794</b>	<b>2644</b>	<b>1937</b>	<b>166</b>	<b>10,491</b>
<b>New Zealand</b>							
Yes	30 (39%)	99 (26%)	243 (22%)	121 (23%)	53 (24%)	4 (20%)	<b>550 (24%)</b>
No	46 (61%)	286 (74%)	865 (78%)	400 (77%)	164 (76%)	16 (80%)	<b>1777 (76%)</b>
<b>Total (100%)</b>	<b>76</b>	<b>385</b>	<b>1108</b>	<b>521</b>	<b>217</b>	<b>20</b>	<b>2327</b>

<b>Figure 2.10</b>						
<b>Late Referral - All Modes of Treatment Including Pre-emptive Transplants 2002 to 2006</b>						
Country	Years					
	2002	2003	2004	2005	2006	
<b>Australia</b>						
Yes	495 (26%)	521 (26%)	550 (28%)	555 (25%)	552 (23%)	
No	1397 (74%)	1462 (74%)	1405 (72%)	1728 (75%)	1826 (77%)	
<b>Total (100%)</b>	<b>1892</b>	<b>1983</b>	<b>1955</b>	<b>2283</b>	<b>2378</b>	
<b>New Zealand</b>						
Yes	125 (27%)	124 (27%)	96 (21%)	100 (22%)	105 (22%)	
No	341 (73%)	339 (73%)	361 (79%)	357 (78%)	379 (78%)	
<b>Total (100%)</b>	<b>466</b>	<b>463</b>	<b>457</b>	<b>457</b>	<b>484</b>	

<b>Figure 2.11</b>						
<b>Late Referral - All Modes of Treatment Including Pre-emptive Transplants By Race 2002 to 2006</b>						
Country	Race					
	Asian	Aboriginal/ TSI	Caucasoid	Maori	Pacific People	Other
<b>Australia</b>						
Yes	229 (29%)	349 (36%)	1988 (24%)	19 (32%)	67 (41%)	21 (22%)
No	569 (71%)	611 (64%)	6425 (76%)	41 (68%)	97 (59%)	75 (78%)
<b>Total (100%)</b>	<b>798</b>	<b>960</b>	<b>8413</b>	<b>60</b>	<b>164</b>	<b>96</b>
<b>New Zealand</b>						
Yes	21 (15%)	-	213 (20%)	229 (31%)	86 (25%)	1 (20%)
No	122 (85%)	1 (100%)	879 (80%)	509 (69%)	262 (75%)	4 (80%)
<b>Total (100%)</b>	<b>143</b>	<b>1</b>	<b>1092</b>	<b>738</b>	<b>348</b>	<b>5</b>



## CO-MORBID CONDITIONS

Co-morbid conditions at entry to RRT are shown in Figures 2.12 - 2.18. The proportion of people with Type II diabetes continues to be more common in New Zealand (39% of new patients), than in Australia (29% of new patients).

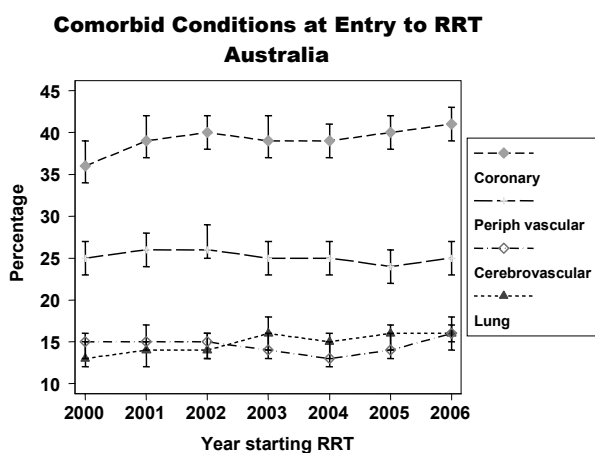
(See Appendix II and III for further analyses of co-morbid conditions)

**Figure 2.12**

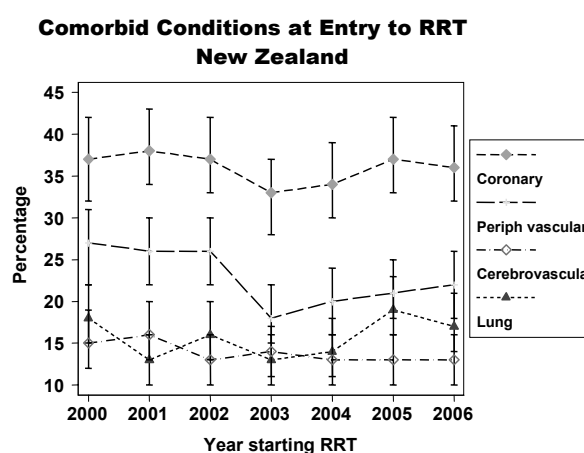
**Co-morbid Conditions at Entry to Program 2006**  
**Number of Patients (% Patients)**

Country		Chronic Lung Disease	Coronary Artery Disease	Peripheral Vascular Disease	Cerebro-Vascular Disease	Smoking	Diabetes (Including Diabetic Nephropathy)
<b>Australia</b> n=2378	Yes	302 (13%)	807 (34%)	441 (19%)	301 (13%)	Current 284 (12%)	Type I 92 (4%)
	Suspected	67 (3%)	167 (7%)	150 (6%)	87 (4%)	Former 945 (40%)	II-Ins Req 443 (19%)
	No	2009 (84%)	1404 (59%)	1787 (75%)	1990 (84%)	Never 1149 (48%)	II-Non Ins 509 (21%)
						No 1334 (56%)	
<b>New Zealand</b> n=484	Yes	63 (13%)	120 (25%)	75 (15%)	48 (10%)	Current 75 (15%)	Type I 12 (3%)
	Suspected	21 (4%)	55 (11%)	30 (6%)	14 (3%)	Former 200 (41%)	II-Ins Req 116 (24%)
	No	400 (83%)	309 (64%)	379 (78%)	422 (87%)	Never 209 (43%)	II-Non Ins 98 (20%)
						No 258 (53%)	

**Figure 2.13**

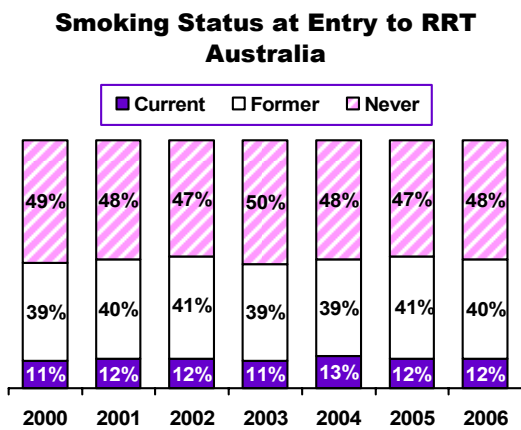


**Figure 2.14**

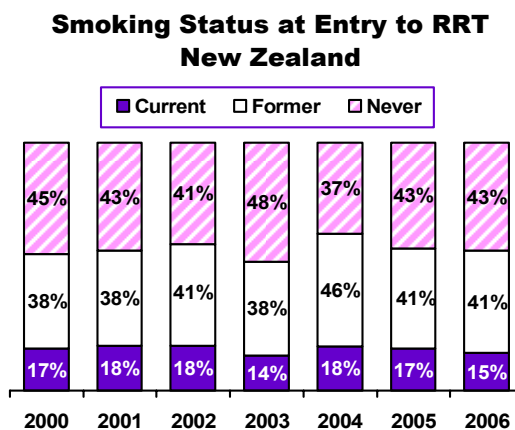




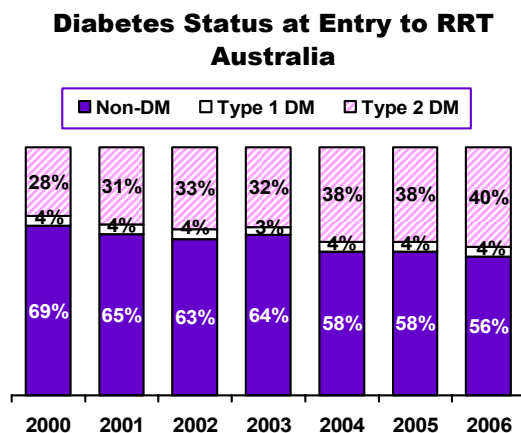
**Figure 2.15**



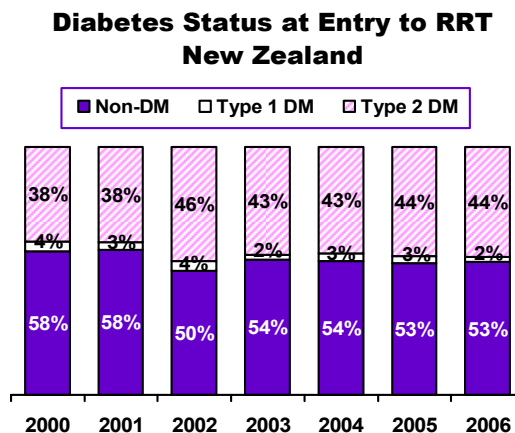
**Figure 2.16**



**Figure 2.17**



**Figure 2.18**





## PRIMARY RENAL DISEASE OF NEW PATIENTS

### AUSTRALIA

**Diabetic nephropathy** (32% of all new patients), continues for the third year in succession as the most common cause of primary renal disease (Figure 2.19).

**Glomerulonephritis** (23%) was the next most common cause of ESRD, followed by hypertension (15%), polycystic kidney disease (6%), reflux nephropathy (4%) and analgesic nephropathy (2%). The number of **analgesic nephropathy** patients fell from 69 to 52 patients in 2006.

**IgA mesangioproliferative GN** (29% of all GN) was the most common histologically proven form of glomerulonephritis (37% of biopsy proven glomerulonephritis), followed by **focal sclerosing GN, including primary and secondary focal sclerosing** (17%) (Figure 2.20).

Amongst the **miscellaneous diseases** causing end stage renal failure, there were 29 cases of amyloid, thirteen attributed to lithium toxicity, nine to haemolytic uraemic syndrome and seven to cyclosporin nephrotoxicity (Figure 2.21).

A renal biopsy based diagnosis was reported in 31% of cases: glomerulonephritis 76%, hypertension 21%, diabetes (types I and II) 15%, reflux 12%, analgesic nephropathy 7% and polycystic kidney disease 4% (Figure 2.22).

### NEW ZEALAND

**Diabetic nephropathy** (42%) was the most common cause of ESRD followed by glomerulonephritis (21%) and hypertension (12%).

**Diabetes Type II** (non-insulin and insulin requiring) represented 94% of diabetic nephropathy.

**IgA mesangioproliferative** (20%) and **Focal sclerosing GN, including primary and secondary focal sclerosing** (13%) represented 45% of biopsy proven glomerulonephritis (Figure 2.20).

Biopsy rates (26%) were lower than those in Australia (31%) in 2006.

**Figure 2.19**

Causes of ESRD 2003 - 2006				
Number of Patients (% Patients)				
Disease	2003	2004	2005	2006
<b>Australia</b>				
Glomerulonephritis	533 (27%)	493 (25%)	538 (24%)	539 (23%)
Analgesic Nephropathy	72 (4%)	47 (2%)	69 (3%)	52 (2%)
Polycystic Kidney	113 (5%)	127 (7%)	173 (7%)	147 (6%)
Reflux Nephropathy	74 (4%)	56 (3%)	65 (3%)	92 (4%)
Hypertension	300 (15%)	260 (13%)	332 (15%)	348 (15%)
Diabetic Nephropathy	515 (26%)	592 (30%)	718 (31%)	770 (32%)
Miscellaneous	236 (12%)	250 (13%)	254 (11%)	299 (13%)
Uncertain Diagnosis	140 (7%)	130 (7%)	134 (6%)	131 (5%)
<b>Total</b>	<b>1983 (100%)</b>	<b>1955 (100%)</b>	<b>2283 (100%)</b>	<b>2378 (100%)</b>
<b>New Zealand</b>				
Glomerulonephritis	117 (25%)	107 (24%)	101 (22%)	103 (21%)
Analgesic Nephropathy	-	2 (<1%)	1 (<1%)	1 (<1%)
Polycystic Kidney	22 (5%)	24 (5%)	33 (7%)	36 (7%)
Reflux Nephropathy	10 (2%)	12 (3%)	10 (2%)	14 (3%)
Hypertension	44 (10%)	72 (16%)	51 (11%)	58 (12%)
Diabetic Nephropathy	191 (41%)	185 (40%)	191 (42%)	202 (42%)
Miscellaneous	47 (10%)	30 (7%)	48 (11%)	37 (8%)
Uncertain Diagnosis	32 (7%)	25 (5%)	22 (5%)	33 (7%)
<b>Total</b>	<b>463 (100%)</b>	<b>457 (100%)</b>	<b>457 (100%)</b>	<b>484 (100%)</b>

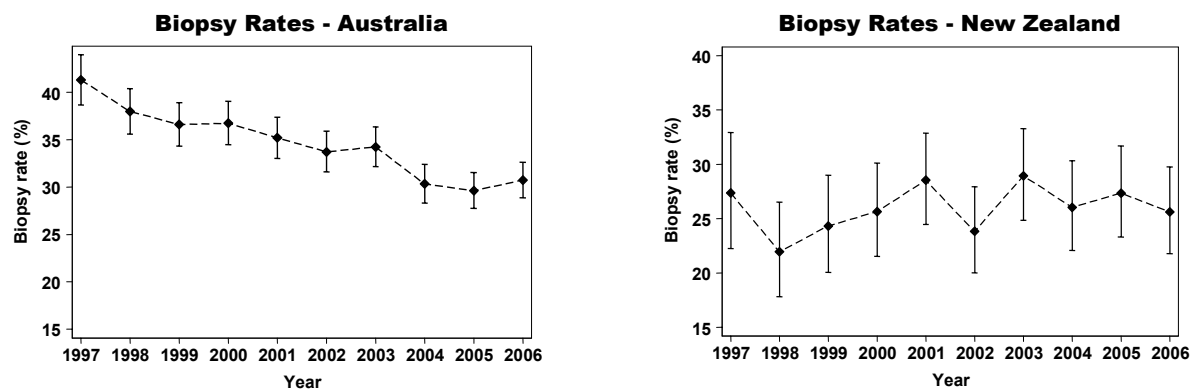
**Figure 2.20**

Types of Glomerulonephritis		
1-Jan-2006 to 31-Dec-2006		
Number (% of all GN)		
	Australia	New Zealand
Presumed GN - No Biopsy performed	117 (22%)	26 (25%)
Focal Sclerosing	54 (10%)	7 (7%)
Primary Focal Sclerosing	34 (6%)	6 (6%)
Secondary Focal Sclerosing	2 (<1%)	-
MCGN - Type I	10 (2%)	4 (4%)
MCGN - Type II	5 (<1%)	-
Membranous GN	26 (5%)	4 (4%)
Rapidly Progressive GN	11 (2%)	-
Mesangioproliferative IgA +	154 (29%)	21 (20%)
Mesangioproliferative IgA -	8 (1%)	1 (<1%)
Mesangioproliferative No I.F.	5 (<1%)	-
Focal & Segmental Proliferative GN	22 (4%)	13 (13%)
Advanced GN (end-stage type)	8 (1%)	4 (4%)
Goodpasture's Syndrome	12 (2%)	3 (3%)
Systemic Lupus	21 (4%)	3 (3%)
Henoch-Schonlein Purpura	1 (<1%)	-
Wegener's Granulomatosis	5 (<1%)	4 (4%)
Microscopic Polyarteritis	14 (3%)	-
Scleroderma	7 (1%)	2 (2%)
GN Other	8 (1%)	2 (2%)
Familial GN (including Alports)	11 (2%)	1 (<1%)
Anti GBM (no haemoptysis)	3 (<1%)	1 (<1%)
GN (with systemic disease)	1 (<1%)	1 (<1%)
<b>Total</b>	<b>539 (100%)</b>	<b>103 (100%)</b>

**Figure 2.21**

<b>Miscellaneous Causes of ESRD 1-Jan-2006 to 31-Dec-2006</b>					
Renal Disease	Aust (299)	NZ (37)	Renal Disease	Aust (299)	NZ (37)
Interstitial Nephritis	22	5	Obstructive Nephropathy	20	4
Lithium Toxicity	13	3	Ureteric Obstructive Nephropathy	13	-
Cyclosporin Nephrotoxicity	7	-	Posterior Urethral Valves	5	1
Calcineurin Toxicity	3	-	Bladder Neck Obstruction	4	-
Renal Tuberculosis	3	-	Neuropathic Bladder	4	-
Severe Congestive Cardiac Failure	3	-	Lower Urinary Tract Abnormalities	3	-
Pyelonephritis	2	-	Horseshoe Kidney-Vater Syndrome (1)		
Sarcoidosis	2	2	Bilateral Hydronephrosis (1)		
Acute Tubular Necrosis	1	-	Radiation Cystitis-Bladder Cancer (1)		
Atrophic Kidneys	1	-	Megaureter	3	-
Camphor Oil Ingestion	1	-	Spina Bifida or Myelomeningocele	3	-
Congenital Glycosylation Type 2	1	-			
Erdheim Chester Disease	1	-			
Fabry's Disease	1	-	Amyloid	29	2
Fanconi Syndrome	1	-	Congenital Renal Hypoplasia and Dysplasia	13	2
Gentamycin Toxicity	1	-	Congenital Nephrotic Syndrome	3	-
Hyperuricaemia	1	-			
(L) Renal Infarct	1	-			
Melioidosis Sepsis	1	-	Multiple Myeloma	46	8
Multiorgan Failure	1	-			
Nephrocalcinosis	1	-	Renal Cell Carcinoma	14	-
Primary Hyperparathyroidism	1	-	Transitional Cell Carcinoma	3	1
Renal Agenesis	1	-	Bone Marrow Transplant Nephropathy	1	-
Renal Tubular Acidosis	1	-	Chronic Lymphoid Leukaemia	1	-
Small Dysplastic Kidney	-	1	Cisplatin Induced Nephrotoxicity	1	-
Tacrolimus Toxicity	1	-	Lymphoma Chemotherapy	1	-
Tubular Acidosis-Nephrocalcinosis	1	-	(L) Renal Cell - (R) Renal Stenosis	-	1
Calculi	25	3	Cortical Necrosis	12	2
Medullary Cystic	10	-	Haemolytic Uraemic Syndrome	9	2
Gout	3	-			

Renal biopsy rates vary widely with different types of disease (Figure 2.23), but have been falling in Australia for several years. However, this in part reflects the changing patterns of primary renal disease. Among patients with glomerulonephritis as a primary renal disease, there has been little change (Figure 2.24).

**Figure 2.22**




**Figure 2.23**

**Biopsy of New Patients 2006**

Biopsy	Primary Renal Disease	Qld	NSW	ACT	Vic	Tas	SA	NT	WA	Aust	NZ
<b>Yes</b>	Analgesic	1	2	-	1	-	-	-	-	4	-
	Diabetes-I Insulin Dependent	2	7	1	4	-	4	-	-	18	1
	Diabetes-II Insulin Requiring	7	24	2	13	1	8	1	1	57	12
	Diabetes-II Non-Insulin	9	14	1	14	-	2	1	3	44	7
	Glomerulonephritis	70	130	9	125	7	31	1	38	411	75
	Hypertension	21	23	2	14	1	5	-	6	72	12
	Miscellaneous	16	38	4	26	2	9	1	3	99	14
	Polycystic	2	2	-	2	-	-	-	-	6	1
	Reflux	2	3	-	4	-	1	1	-	11	1
	Uncertain	3	2	-	1	-	3	-	-	9	1
	<b>Sub Total</b>	<b>133</b>	<b>245</b>	<b>19</b>	<b>204</b>	<b>11</b>	<b>63</b>	<b>5</b>	<b>51</b>	<b>731</b>	<b>124</b>
<b>No</b>	Analgesic	11	32	1	1	-	1	-	2	48	1
	Diabetes-I Insulin Dependent	13	22	-	19	1	5	2	6	68	11
	Diabetes-II Insulin Requiring	59	110	9	64	5	28	6	26	307	97
	Diabetes-II Non-insulin	54	70	5	57	5	18	29	38	276	74
	Glomerulonephritis	17	39	6	33	3	3	11	16	128	28
	Hypertension	71	86	5	62	5	15	5	27	276	46
	Miscellaneous	47	62	2	46	3	18	2	20	200	23
	Polycystic	37	44	3	30	5	9	-	13	141	35
	Reflux	14	27	1	20	2	6	3	8	81	13
	Uncertain	27	31	2	25	5	16	7	9	122	32
	<b>Sub Total</b>	<b>350</b>	<b>523</b>	<b>34</b>	<b>357</b>	<b>34</b>	<b>119</b>	<b>65</b>	<b>165</b>	<b>1647</b>	<b>360</b>
	<b>Total</b>	<b>483</b>	<b>768</b>	<b>53</b>	<b>561</b>	<b>45</b>	<b>182</b>	<b>70</b>	<b>216</b>	<b>2378</b>	<b>484</b>

Sixteen per cent of all patients with diabetic nephropathy in Australia (794/5019) and 7% (117/1714) in New Zealand, have had a biopsy proven diagnosis since this data was first collected by the Registry from 1st April, 1997

Figure 2.24

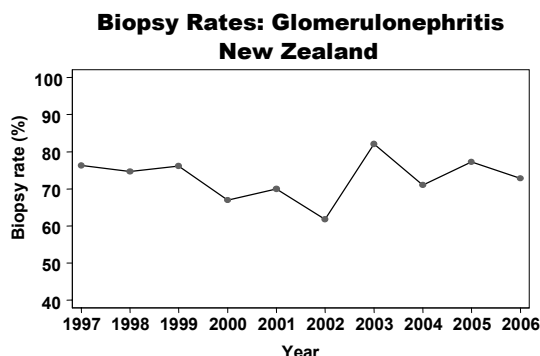
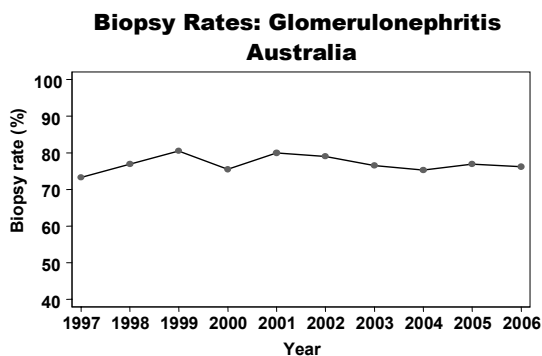


Figure 2.25

