

CHAPTER 2

NEW PATIENTS

COMMENCING TREATMENT IN 2003

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Figure 2.1

Annual Intake of New Patients 1999 - 2003 (Number Per Million Population)					
	1999	2000	2001	2002	2003
Queensland	306 (87)	342 (96)	338 (93)	375 (101)	408 (107)
New South Wales	547 (88)	539 (86)	601 (94)	583 (91)	624 (96)
Aust. Capital Territory	38 (77)	39 (78)	33 (65)	48 (93)	40 (77)
Victoria	438 (93)	436 (92)	495 (103)	472 (97)	438 (89)
Tasmania	26 (55)	32 (68)	37 (78)	36 (76)	36 (75)
South Australia	145 (97)	117 (78)	153 (101)	121 (80)	152 (100)
Northern Territory	52 (270)	53 (271)	65 (329)	58 (293)	52 (262)
Western Australia	198 (107)	197 (105)	189 (99)	205 (107)	203 (104)
Australia	1750 (92)	1755 (92)	1911 (98)	1898 (97)	1953 (98)
New Zealand	375 (98)	421 (109)	469 (121)	463 (118)	449 (112)

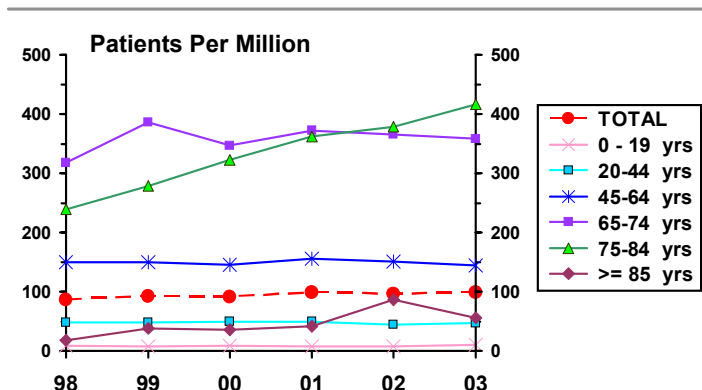
INTAKE OF NEW PATIENTS

For Australia, 1,953 new patients commenced treatment in 2003, a rate of 98 per million population per year. This was an increase of 3% from 2002. Overall, however, the rate has stabilised over the period 2001-2003.

In New Zealand, the number of new patients entering renal failure programs was 449, a rate of 112 per million of population. This was a decrease of 5% from 2002.

Figure 2.2

Acceptance of New Patients 1998 - 2003
Age Specific Rates - Australia

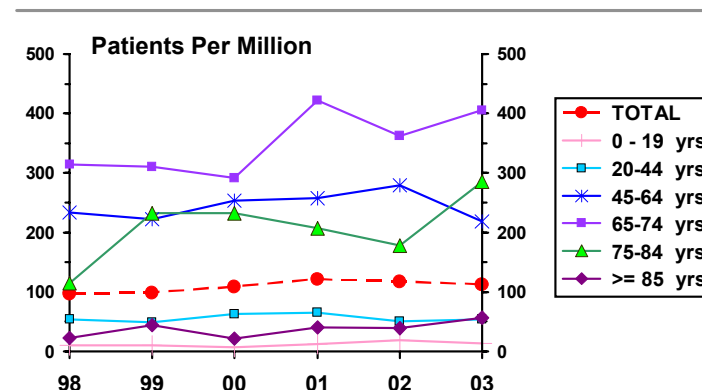


In Australia in 2003, three age groups showed an increase in acceptance of new patients. The 0-19 year age group rose slightly from 8 to 10 per million (41 to 51 patients), the 20-44 year age group from 44 to 47 per million (316 to 341 patients) and the 75-84 year age group rose from 379 to 416 per million (332 to 377 patients).

There were decreases in the other remaining groups in 2003, the largest fall in the 85-94 year age group (24 to 16 patients), from 87 to 55 per million (fig 2.2).

The mean age of patients entering programs in Australia in 2003 was 59.3 years and the median 62.4 years (fig 2.4).

Acceptance of New Patients 1998 - 2003
Age Specific Rates - New Zealand



In New Zealand, the mean age of patients entering was 56.7 years and the median 59.2 years (fig 2.4).

The age specific rates of acceptance increased in 2003 in four of the age groups. The increases were in the 20-44 year age group from 51 to 55 per million, the 65-74 year age group from 363 to 405 per million, the 75-84 year age group from 178 to 285 per million and the 85-94 year group from 39 to 57 per million (fig 2.3).

There were decreases in 2003 in the 0-19 year age group from 19 to 14 per million and in the 45-64 year age group from 279 to 218 per million (fig 2.2).

Within the older age groups, a difference remains between Australia and New Zealand with rates of people 60-74 years greater in New Zealand whereas the rates of people 75-84 years were greater in Australia.

Rates of new patients aged ≥ 85 years remains low in both countries.

Figure 2.3

Acceptance of Elderly New Patients 1999 - 2003 (Number Per Million Population) Age Specific						
Country	Age Groups	1999	2000	2001	2002	2003
Australia	60-64 years	174 (226)	190 (238)	207 (252)	192 (227)	187 (215)
	65-69 years	251 (369)	212 (313)	240 (352)	214 (306)	228 (317)
	70-74 years	255 (406)	242 (382)	252 (395)	275 (432)	256 (406)
	75-79 years	167 (339)	197 (388)	220 (424)	235 (445)	264 (491)
	80-84 years	53 (179)	67 (217)	88 (267)	97 (278)	113 (307)
	≥ 85 years	9 (38)	9 (36)	11 (41)	24 (87)	16 (55)
Total		909 (293)	917 (289)	1018 (313)	1037 (311)	1064 (312)
New Zealand	60-64 years	46 (315)	71 (465)	67 (416)	79 (469)	60 (350)
	65-69 years	47 (355)	44 (335)	56 (428)	50 (377)	50 (368)
	70-74 years	31 (260)	29 (243)	50 (414)	42 (347)	54 (447)
	75-79 years	29 (311)	26 (274)	24 (249)	21 (215)	38 (380)
	80-84 years	6 (104)	10 (167)	9 (137)	8 (123)	10 (146)
	≥ 85 years	2 (44)	1 (21)	2 (40)	2 (39)	3 (57)
Total		161 (271)	181 (299)	208 (333)	202 (317)	215 (331)

STATE OF ORIGIN OF NEW PATIENTS

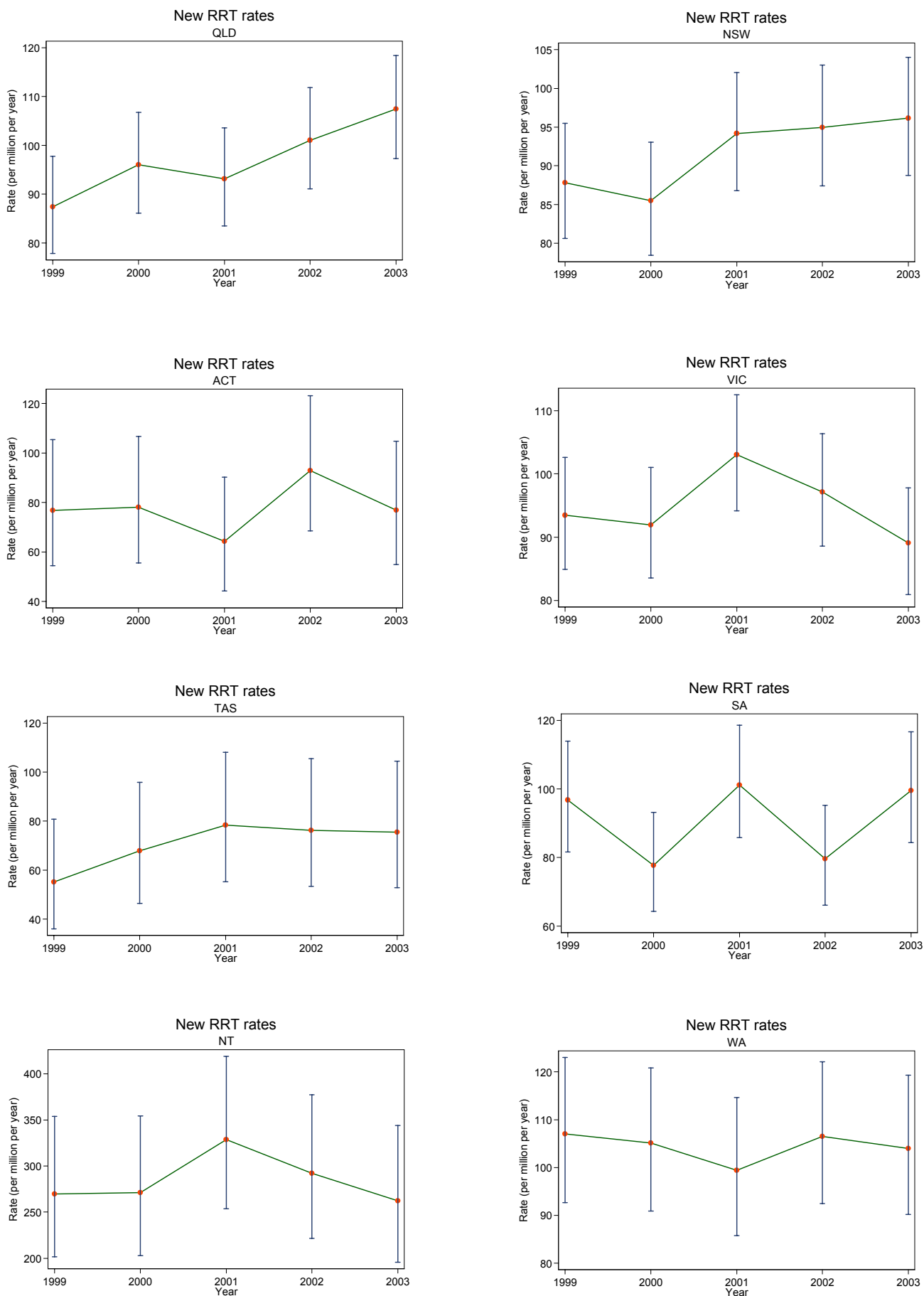
There was an increase in numbers in renal replacement therapy rates in only three states in 2003 (fig 1.5): South Australia (26%), New South Wales (15%) and Queensland (9%). The new patient entry rate decreased in the ACT by 17%, The Northern Territory (10%), Victoria (7%), Western Australia (<1%) and Tasmania remained the same (5%). The graphs (fig 2.5) indicate recent trends, and also indicate 95% confidence intervals around these rates. It can therefore be seen that it is difficult to draw inferences about trends in the smaller states.

The highest acceptance rates were in the Northern Territory (262 per million) and in Queensland (107 per million) and the lowest in the ACT and in Tasmania (77 and 75 per million respectively).

Figure 2.4

Age and Gender of New Patients 1-Jan-2003 to 31-Dec-2003 (n = Number of Patients)																				
Age Groups	Qld (n=408)		NSW (n=624)		ACT (n=40)		Vic (n=438)		Tas (n=36)		SA (n=152)		NT (n=52)		WA (n=203)		Aust (n=1953)		NZ (n=449)	
	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
00-04 yrs	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	1	1	4	0	1
05-14 yrs	2	3	3	4	0	0	4	1	0	0	0	0	0	0	1	2	10	10	5	1
15-24 yrs	4	5	8	16	0	1	8	7	0	1	1	2	1	0	1	1	23	33	12	11
25-34 yrs	13	11	12	22	1	0	12	18	0	0	4	6	0	1	6	6	48	64	8	11
35-44 yrs	16	20	25	41	1	3	13	35	0	4	5	8	6	2	9	11	75	124	20	26
45-54 yrs	21	36	33	66	3	4	23	38	2	1	12	17	16	4	15	18	125	184	36	50
55-64 yrs	36	48	43	56	4	5	40	45	5	4	8	29	6	6	18	22	160	215	42	71
65-74 yrs	43	55	72	91	8	4	40	71	7	7	16	20	5	3	17	25	208	276	47	57
75-84 yrs	36	54	53	70	2	4	26	52	1	4	10	13	1	1	17	33	146	231	25	23
≥ 85 yrs	3	2	3	6	0	0	0	1	0	0	1	0	0	0	0	0	7	9	2	1
Total	174	234	252	372	19	21	167	271	15	21	57	95	35	17	84	119	803	1150	197	252
Mean (yrs)	60.1	61.0	60.6	58.4	61.9	59.8	56.6	59.1	64.4	60.2	59.5	59.0	52.5	56.1	58.8	60.9	59.1	59.4	56.6	56.7
All		60.6		59.3		60.8		58.1		61.9		59.2		53.7		60.0		59.3		56.7
Median (yrs)		64.1		63.3		63.1		61.2		65.3		61.3		52.1		62.6		62.4		59.2
Range		6.0 - 88.9		5.3 - 88.7		21.0 - 77.2		<1m - 85.4		24.8 - 79.9		16.0 - 88.9		19.3 - 78.4		3.8 - 84.7		<1m - 88.9		1.3 - 90.4

Figure 2.5



LATE REFERRAL

Twenty seven percent of all new patients in both Australia and New Zealand were referred late to nephrological care, i.e. less than three months before first treatment (fig 2.6). This rate has been steady for a number of years, however there is variation between States in this rate. Late referral is further examined in a later chapter (pages 29-31).

Figure 2.6

Late Referral of New Patients 2003										
Number of Patients (% Patients)										
Primary Renal Disease	Qld	NSW	ACT	Vic	Tas	SA	NT	WA	Aust	NZ
YES										
Analgesic	5 (4%)	9 (5%)	1 (5.5%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	15 (3%)	0 (0%)
Diabetes-I insulin	4 (3%)	2 (1%)	0 (0%)	6 (6%)	0 (0%)	0 (0%)	0 (0%)	2 (4%)	14 (3%)	0 (0%)
Diabetes-II ins. req.	13 (11%)	15 (8%)	1 (5.5%)	6 (6%)	1 (12.5%)	1 (3%)	0 (0%)	2 (4%)	39 (7%)	21 (17%)
Diabetes-II non-ins.	18 (15%)	17 (9%)	0 (0%)	18 (17%)	0 (0%)	6 (21%)	4 (50%)	8 (15%)	71 (14%)	25 (20%)
Glomerulonephritis	27 (23%)	48 (27%)	7 (39%)	27 (25%)	3 (37.5%)	5 (17%)	0 (0%)	20 (38%)	137 (26%)	29 (24%)
Hypertension	13 (11%)	30 (17%)	1 (5.5%)	16 (15%)	0 (0%)	4 (14%)	0 (0%)	10 (19%)	74 (14%)	15 (12%)
Miscellaneous	12 (10%)	35 (19%)	2 (11%)	18 (17%)	3 (37.5%)	9 (31%)	2 (25%)	6 (11%)	87 (17%)	22 (18%)
Polycystic	3 (3%)	8 (4%)	1 (5.5%)	2 (2%)	0 (0%)	0 (0%)	0 (0%)	2 (4%)	16 (3%)	1 (<1%)
Reflux	5 (4%)	2 (1%)	2 (11%)	4 (4%)	0 (0%)	0 (0%)	0 (0%)	1 (1%)	14 (3%)	2 (2%)
Uncertain	19 (16%)	14 (8%)	3 (17%)	9 (8%)	1 (12.5%)	4 (14%)	2 (25%)	2 (4%)	54 (10%)	8 (7%)
Sub Total	119 (29%)	180 (29%)	18 (45%)	106 (24%)	8 (22%)	29 (19%)	8 (15%)	53 (26%)	521 (27%)	123 (27%)
NO										
Analgesic	19 (7%)	29 (7%)	0 (0%)	2 (<1%)	0 (0%)	5 (4%)	0 (0%)	0 (0%)	55 (4%)	0 (0%)
Diabetes-I insulin	6 (2%)	16 (4%)	0 (0%)	11 (3%)	0 (0%)	6 (5%)	0 (0%)	9 (6%)	48 (3%)	10 (3%)
Diabetes-II ins. req.	40 (14%)	49 (11%)	2 (9%)	47 (14%)	2 (7%)	13 (11%)	2 (4.5%)	15 (10%)	170 (12%)	71 (22%)
Diabetes-II non-ins.	37 (13%)	25 (6%)	6 (27%)	28 (8%)	1 (4%)	9 (7%)	25 (57%)	29 (19%)	160 (11%)	53 (16%)
Glomerulonephritis	59 (20%)	134 (30%)	4 (18%)	103 (31%)	8 (29%)	36 (29%)	7 (16%)	39 (26%)	390 (27%)	87 (27%)
Hypertension	49 (17%)	77 (17%)	5 (23%)	37 (11%)	6 (21%)	16 (13%)	3 (7%)	31 (21%)	224 (16%)	29 (9%)
Miscellaneous	25 (8%)	51 (11%)	1 (4.5%)	45 (14%)	4 (14%)	6 (5%)	2 (4.5%)	12 (8%)	146 (10%)	25 (8%)
Polycystic	14 (5%)	27 (6%)	0 (0%)	25 (8%)	3 (11%)	20 (16%)	0 (0%)	5 (3%)	94 (7%)	20 (6%)
Reflux	11 (4%)	17 (4%)	1 (4.5%)	118 (5%)	2 (7%)	6 (5%)	1 (2%)	3 (2%)	59 (4%)	8 (2%)
Uncertain	29 (10%)	19 (4%)	3 (14%)	16 (5%)	2 (7%)	6 (5%)	4 (9%)	7 (5%)	86 (6%)	23 (7%)
Sub Total	289 (71%)	444 (71%)	22 (55%)	332 (76%)	28 (78%)	123 (81%)	44 (85%)	150 (74%)	1432 (73%)	326 (73%)
Total	408 (100%)	624 (100%)	40 (100%)	438 (100%)	36 (100%)	152 (100%)	52 (100%)	203 (100%)	1953 (100%)	449 (100%)

CO-MORBID CONDITIONS

Co-morbid conditions at entry to RRT are shown in Figure 2.7. There are only minor differences between the two countries except in the incidence of Type II Diabetes which is more common in New Zealand (40% of new patients, compared to 26% in Australia). (See Appendix II and III for further analyses of co-morbid conditions).

Figure 2.7

Co-morbid Conditions at Entry to Program 2003									
Number of Patients (% Patients)									
Country		Chronic Lung Disease	Coronary Artery Disease	Peripheral Vascular Disease	Cerebrovascular Disease	Smoking		Diabetes (Including Diabetic Nephropathy)	
Aust. n=1953	Yes	239 (12%)	593 (30.5%)	367 (19%)	210 (11%)	Current	208 (11%)	I-insulin	68 (3%)
	Suspected	70 (4%)	163 (8.5%)	118 (6%)	57 (3%)	Former	771 (39%)	II-ins.req.	264 (14%)
	No	1644 (84%)	1197 (61%)	1468 (75%)	1686 (86%)	Never	971 (50%)	II-non-ins.	357 (18%)
						Unknown	3 (<1%)	No	1264 (65%)
N.Z. n=449	Yes	49 (11%)	101 (22.5%)	60 (13%)	51 (11.5%)	Current	62 (14%)	I-insulin	11 (3%)
	Suspected	8 (2%)	45 (10%)	18 (4%)	11 (2.5%)	Former	167 (37%)	II-ins.req.	96 (21%)
	No	392 (87%)	303 (67.5%)	371 (83%)	387 (86%)	Never	220 (49%)	II-non-ins.	94 (21%)
								No	248 (55%)



PRIMARY RENAL DISEASE OF NEW PATIENTS

AUSTRALIA

Glomerulonephritis and diabetic nephropathy (excluding diabetics with renal failure due to other causes) were the most common causes of ESRD (27% and 26% respectively), followed by hypertension (15%), polycystic kidney disease (5%), reflux and analgesic nephropathy (both 4%) (fig 2.8). This picture has been stable for a number of year.

IgA mesangioproliferative glomerulonephritis (25% of all GN) was the most common histologically proven form of glomerulonephritis (33% of biopsy proven glomerulonephritis), followed by **focal sclerosing GN** and **systemic disease** (both 14%) (fig 2.9).

A **renal biopsy** based diagnosis was reported in 35% of cases: glomerulonephritis 77%, hypertension 20%, diabetes (types I and II) 15%, analgesic nephropathy 14%, reflux 12% and polycystic kidney disease 3% (fig 2.8). The biopsy rate in Australia is slowly declining (fig 2.11), although for those with a primary diagnosis of glomerulonephritis it is steady.

Amongst the **miscellaneous diseases** causing end stage renal failure, there were ten cases attributed to cyclosporin nephrotoxicity and six to lithium toxicity (fig 2.10).

The incidence of analgesic nephropathy continues to decrease and reached 3.6% (70 patients) in 2003, the lowest recorded.

NEW ZEALAND

Diabetic nephropathy (40%) was the most common cause of ESRD followed by **glomerulonephritis** (26%) and **hypertension** (10%).

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

Focal sclerosing (21%) and **IgA mesangioproliferative** (15%), represented 44% of biopsy proven glomerulonephritis.

Biopsy rates were all lower than those in Australia but are steady.

Figure 2.8

Causes of ESRD 2000 - 2003				
Number of Patients (% Patients)				
Disease	2000	2001	2002	2003
Australia				
Glomerulonephritis	532 (30%)	514 (27%)	507 (27%)	527 (27%)
Analgesic Nephropathy	85 (5%)	100 (5%)	77 (4%)	70 (4%)
Polycystic Kidney	110 (6%)	108 (6%)	107 (6%)	110 (5%)
Reflux Nephropathy	88 (5%)	77 (4%)	73 (4%)	73 (4%)
Hypertension	236 (14%)	277 (14%)	303 (16%)	298 (15%)
Diabetic Nephropathy	391 (22%)	482 (25%)	508 (27%)	502 (26%)
Miscellaneous	198 (11%)	211 (11%)	210 (11%)	233 (12%)
Uncertain Diagnosis	115 (7%)	142 (8%)	113 (5%)	140 (7%)
Total	1755 (100%)	1911 (100%)	1898 (100%)	1953 (100%)
New Zealand				
Glomerulonephritis	112 (27%)	132 (28%)	108 (23%)	116 (26%)
Analgesic Nephropathy	- (-)	- (-)	2 (<1%)	- (-)
Polycystic Kidney	12 (3%)	29 (6%)	19 (4%)	21 (5%)
Reflux Nephropathy	22 (5%)	12 (3%)	17 (4%)	10 (2%)
Hypertension	59 (14%)	56 (12%)	40 (9%)	44 (10%)
Diabetic Nephropathy	151 (36%)	177 (38%)	207 (45%)	180 (40%)
Miscellaneous	42 (10%)	39 (8%)	52 (11%)	47 (10%)
Uncertain Diagnosis	23 (5%)	24 (5%)	18 (4%)	31 (7%)
Total	421 (100%)	469 (100%)	463 (100%)	449 (100%)

Figure 2.9

Types of Glomerulonephritis		
1-Jan-2003 to 31-Dec-2003		
Number (% of all GN)		
	Australia 527	New Zealand 116
Presumed GN - No Biopsy performed	111 (21%)	20 (17%)
Focal Sclerosing	73 (14%)	24 (21%)
MCGN - Type I	6 (1%)	8 (7%)
MCGN - Type II	3 (<1%)	- (-)
Membranous GN	29 (6%)	5 (4%)
Rapidly Progressive GN	14 (3%)	4 (3%)
Mesangioproliferative IgA +	132 (25%)	17 (15%)
Mesangioproliferative IgA -	11 (2%)	1 (<1%)
Mesangioproliferative No I.F.	5 (1%)	1 (<1%)
Focal & Segmental Proliferative GN	34 (6%)	3 (3%)
Advanced GN (end-stage type)	9 (2%)	8 (7%)
Goodpasture's Syndrome	7 (1%)	3 (3%)
Systemic Lupus	25 (5%)	7 (6%)
Henoch-Schonlein Purpura	2 (<1%)	- (-)
Wegener's Granulomatosis	16 (3%)	5 (4%)
Microscopic Polyarteritis	13 (2%)	2 (2%)
Scleroderma	9 (2%)	1 (<1%)
GN Other	12 (2%)	3 (3%)
Familial GN (including Alports)	12 (2%)	2 (2%)
Anti GBM (no haemoptysis)	4 (1%)	1 (<1%)
GN (with systemic disease)	- (-)	1 (<1%)

Figure 2.10

Miscellaneous Causes of ESRD 1-Jan-2003 to 31-Dec-2003 (Number of Patients)					
Renal Disease	Aust (233)	NZ (47)	Renal Disease	Aust (233)	NZ (47)
Interstitial Nephritis	22	1	Calculi	16	4
Cyclosporin Nephrotoxicity	10	3	Medullary Cystic Disease	7	2
Lithium Toxicity	6	-	Gout	3	1
Laurence-Moon-Beidl Syndrome	2	-	Cystinosis	2	-
Bence-Jones Protein Tubular Toxicity	1	-	Medullary Sponge Kidney	1	-
Bilateral Renal Vein Thrombosis	1	-	Multicystic-Pyelonephritis	1	-
Calcium Inhibitor Nephrotoxicity	1	-	Oxalosis	-	1
Chinese Herbal Nephropathy	1	-	Amyloid	33	4
Churg-Strauss Syndrome	1	-	Congenital Renal Hypoplasia & Dysplasia	7	-
Fabry's Disease	1	-	Congenital Nephrotic Syndrome	-	1
Gentamycin Toxicity	1	-	Congenital Disorder Glycosylation Type 2	1	-
Glomerulocystic Disease	1	-	Juvenile Nephronophthisis	1	-
Hepato-renal Syndrome	1	-	Oto-Branchio Renal Syndrome	1	-
Hypokalaemic Nephropathy-Anorexia	1	-	(R) Agenesis - (L) Hydronephrosis	-	1
Loss Single Kidney	1	1	Multiple Myeloma	30	9
Methylmalonic Acidaemia	1	-	Renal Cell Carcinoma	11	1
Renal Tuberculosis	1	-	Transitional Cell Carcinoma	11	1
Pyelonephritis	-	1	Light Chain Nephropathy (Benign)	3	-
Obesity Related Glomerulopathy	-	1	Secondary to Chemotherapy	2	-
Obstructive Uropathy	11	5	Cortical Necrosis	13	2
Posterior Urethral Valves	6	2	Haemolytic Uraemic Syndrome	4	1
Bladder Neck Obstruction	5	-			
Neuropathic Bladder	3	-			
Spina Bifida or Myelomeningocele	3	2			
Ureteric Obstructive Nephropathy	3	1			
Lower Urinary Tract Abnormalities	1	1			
<i>Triad Syndrome [1]</i>					
<i>Sacral Teratoma-Ureteric Reimplant [1]</i>					
Pelvic Ureteric Junction Obstruction	1	1			

Figure 2.11

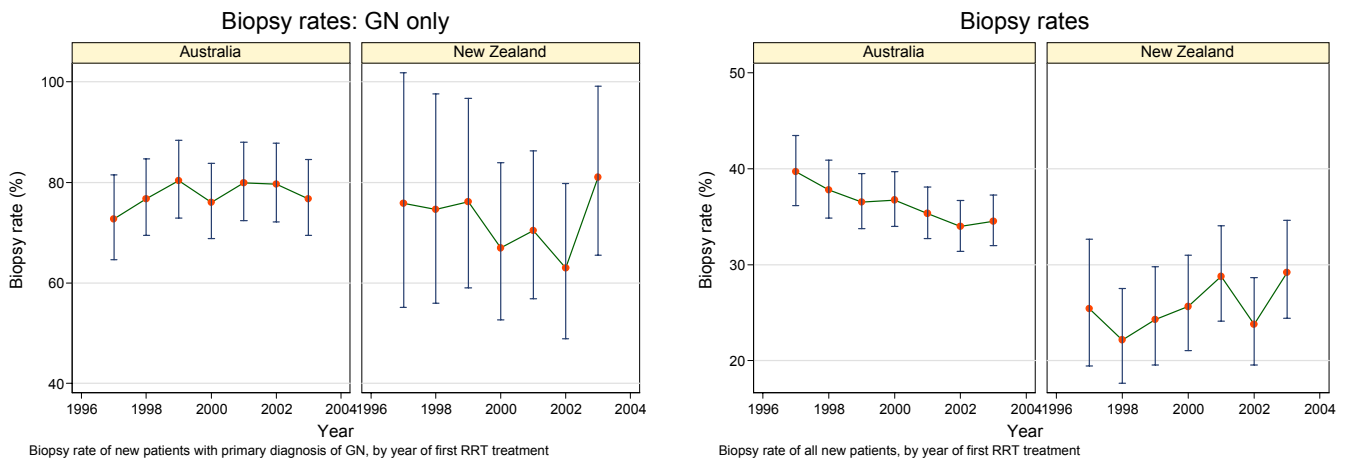




Figure 2.12

Biopsy of New Patients 2003											
Biopsy	Primary Renal Disease	Qld	NSW	ACT	Vic	Tas	SA	NT	WA	Aust	NZ
Yes	Analgesic	1	8	-	1	-	-	-	-	10	-
	Diabetes I - Insulin	-	4	-	3	-	1	-	-	8	1
	Diabetes II - Insulin Req.	2	11	1	7	-	3	-	2	26	3
	Diabetes II - Non Insulin	7	13	4	6	-	4	4	2	40	9
	Glomerulonephritis	65	144	10	105	8	33	3	37	405	94
	Hypertension	14	25	1	17	-	2	1	1	61	5
	Miscellaneous	14	34	3	29	2	9	-	7	98	13
	Polycystic	-	1	-	2	-	-	-	-	3	2
	Reflux	1	1	-	6	-	-	-	1	9	1
	Uncertain	2	4	2	6	-	2	-	-	16	3
	Sub Total	106	245	21	182	10	54	8	50	676	131
No	Analgesic	23	30	1	1	-	5	-	-	60	-
	Diabetes I - Insulin	10	14	-	14	-	5	-	11	54	9
	Diabetes II - Insulin Req.	51	53	2	46	3	11	2	15	183	89
	Diabetes II - Non Insulin	48	29	2	40	1	11	25	35	191	69
	Glomerulonephritis	21	38	1	25	3	8	4	22	122	22
	Hypertension	48	82	5	36	6	18	2	40	237	39
	Miscellaneous	23	52	-	34	5	6	4	11	135	34
	Polycystic	17	34	1	25	3	20	-	7	107	19
	Reflux	15	18	3	16	2	6	1	3	64	9
	Uncertain	46	29	4	19	3	8	6	9	124	28
	Sub Total	302	379	19	256	26	98	44	153	1277	318
	Total	408	624	40	438	36	152	52	203	1953	449

Eighteen per cent of all patients with diabetic nephropathy in Australia (520/2930) and 5% (58/1124) in New Zealand, have had a biopsy proven diagnosis since this data was first collected by the Registry from 1st April, 1997.

Reported serum creatinine at first dialysis is outlined for Australia and New Zealand in Figure 2.13. In both countries, patients commence PD with a lower creatinine than HD.

The boxes in the graph illustrate median, 25th and 75th centiles. The error bars illustrate 95th centiles.

Figure 2.13

