CHAPTER 2

NEW PATIENTS

COMMENCING TREATMENT IN 2001

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Figure 2.1

Annual Intake of New Patients 1997- 2001
(Number Per Million Population)

	1997	1998	1999	2000	2001
Queensland	271 (80)	295 (85)	307 (87)	343 (96)	330 (91)
New South Wales	492 (81)	499 (81)	543 (87)	534 (85)	582 (92)
Aust. Capital Territory	35 (71)	46 (94)	38 (77)	40 (81)	34 (68)
Victoria	360 (78)	426 (91)	438 (93)	438 (92)	496 (103)
Tasmania	30 (63)	29 (61)	26 (55)	32 (68)	38 (81)
South Australia	97 (66)	115 (77)	144 (96)	117 (78)	153 (102)
Northern Territory	57 (305)	48 (253)	53 (275)	53 (271)	64 (324)
Western Australia	141 (78)	151 (82)	198 (106)	197 (105)	186 (97)
Australia	**1483 (80)**	**1609 (86)**	**1747 (92)**	**1754 (92)**	**1883 (97)**
New Zealand	**320 (85)**	**371 (98)**	**375 (98)**	**420 (110)**	**458 (119)**

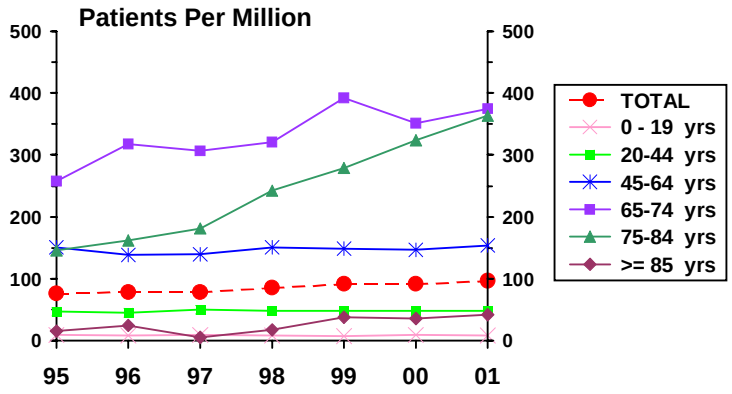
Intake of New Patients

For Australia, 1833 new patients commenced treatment in 2001, a rate of 97 per million population per year. This was an increase of 7% from 2000 and 1999.

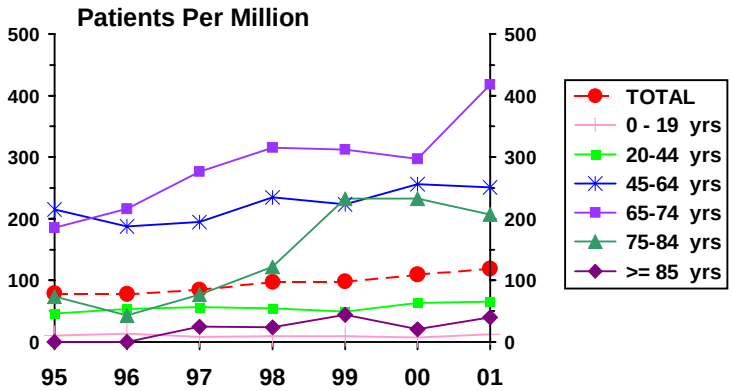
In New Zealand, the number of new patients entering renal failure programs was 458 (a rate of 119 per million of population). This was an increase of 9% over the previous year which has continued since 1999.

Figure 2.2

Acceptance of New Patients 1995 - 2001
Age Specific Rates - Australia



Acceptance of New Patients 1995 - 2001
Age Specific Rates - New Zealand



Age of New Patients

In Australia, all age groups (except 0-19 years) showed an increase in acceptance of new patients although the increase was small in the <65 year group. The largest increase was in the age group 75-84 years (351 to 364 per million) and 65-74 years (351 to 375 per million) (fig 2.2 and 2.3).

The mean age of patients entering programs in Australia in 2001 was 58.5 years (fig 2.4).

In New Zealand, the mean age of patients entering was 55.4 years (fig 2.4). The age specific rates of acceptance increased predominantly in the 65-74 year group where the rate per million increased to 416 from 243 in 2000 (fig 2.2 and 2.3). There was also an increase in the 65-69 year group to 420 per million from 348 in 2000 (fig 2.2 and 2.3).

Figure 2.3

Acceptance of Elderly New Patients 1997 - 2001
(Number Per Million Population)
Age Specific

Country	Age Groups	1997	1998	1999	2000	2001
Australia	60-64 years	177 (245)	178 (241)	170 (224)	191 (245)	205 (255)
	65-69 years	212 (309)	212 (311)	252 (372)	211 (313)	237 (352)
	70-74 years	185 (304)	204 (332)	257 (415)	245 (392)	251 (399)
	75-79 years	110 (247)	140 (299)	166 (335)	195 (386)	218 (424)
	80-84 years	23 (80)	44 (152)	53 (184)	67 (221)	87 (268)
	> 85 years	1 (5)	4 (18)	9 (37)	9 (36)	11 (42)
	Total	**708 (239)**	**782 (259)**	**907 (295)**	**918 (292)**	**1009 (315)**
New Zealand	60-64 years	44 (319)	56 (400)	48 (334)	71 (473)	65 (430)
	65-69 years	36 (269)	46 (348)	47 (359)	45 (348)	54 (420)
	70-74 years	33 (284)	33 (280)	31 (261)	29 (243)	50 (416)
	75-79 years	6 (70)	17 (190)	29 (312)	26 (274)	24 (248)
	80-84 years	5 (87)	1 (17)	6 (104)	10 (167)	9 (144)
	> 85 years	1 (35)	1 (33)	2 (63)	1 (30)	2 (58)
	Total	**125 (218)**	**154 (265)**	**163 (276)**	**182 (303)**	**204 (331)**

State of Origin of New Patients

There was an increase in renal replacement therapy acceptance rates in South Australia (30%), Northern Territory (21%), Victoria (13%), Tasmania (10%) and New South Wales (9%). The new patient entry rate decreased in the ACT by (15%), Western Australia (6%) and Queensland (4%).

The lowest acceptance rate was in the ACT (68 per million) and Tasmania (81 per million) and the highest was in the Northern Territory (324 per million) and Victoria and South Australia (103 and 102 per million respectively).

Figure 2.4

Age and Gender of New Patients 1-Jan-2001 to 31-Dec-2001
(n = Number of Patients)

Age Groups	Qld (n=330)		NSW (n=582)		ACT (n=34)		Vic. (n=496)		Tas. (n=38)		SA (n=153)		NT (n=64)		WA (n=186)		Aust. (n=1883)		N.Z. (n=458)	
	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	3	4	0	0	0	1	0	0	0	0	**3**	**5**	**2**	**3**
05-14 yrs	1	2	4	4	0	0	2	3	0	0	1	2	0	0	0	0	**8**	**11**	**1**	**1**
15-24 yrs	4	4	9	7	1	0	5	4	0	1	4	1	0	1	3	3	**26**	**21**	**7**	**10**
25-34 yrs	7	12	14	14	0	2	12	23	2	2	2	12	0	2	5	7	**42**	**74**	**9**	**17**
35-44 yrs	14	12	23	43	1	3	19	33	1	2	10	9	6	4	11	12	**85**	**118**	**23**	**32**
45-54 yrs	22	28	33	54	1	1	32	47	4	0	9	18	10	10	19	12	**130**	**170**	**39**	**55**
55-64 yrs	37	44	52	55	2	7	37	60	5	5	6	21	13	9	15	18	**167**	**219**	**49**	**71**
65-74 yrs	33	43	72	93	4	8	48	93	2	6	15	15	6	3	13	34	**193**	**295**	**44**	**60**
75-84 yrs	30	34	51	52	1	3	21	48	4	4	6	20	0	0	12	19	**125**	**180**	**14**	**19**
> 85 yrs	2	1	0	2	0	0	1	1	0	0	0	1	0	0	1	2	**4**	**7**	**0**	**2**
Total	**150**	**180**	**258**	**324**	**10**	**24**	**180**	**316**	**18**	**20**	**53**	**100**	**35**	**29**	**79**	**107**	**783**	**1100**	**188**	**270**
Mean (yrs)	60.3	59.9	59.8	58.9	58.2	59.7	56.8	58.7	58.4	59.5	54.6	56.2	54.8	52.2	56.0	60.8	**58.2**	**58.8**	**55.5**	**55.3**
All	60.1		59.3		59.3		58.0		59.0		55.7		53.6		58.8		**58.5**		**55.4**	
Median (yrs)	62.5		62.9		64.6		62.3		60.9		57.9		54.2		62.1		**62.0**		**59.5**	
Range	5.4-86.4		5.1-88.0		17.9-77.9		<1-86.7		21.3-81.1		1.1-87.2		24.9-73.9		15.3-88.7		**<1-88.7**		**<1-85.6**	

Figure 2.5

Late Referral of New Patients 2001

Late Referral	Primary Renal Disease	Qld	NSW	ACT	Vic.	Tas.	SA	NT	WA	Aust.	N.Z.
Yes	Analgesic	5	10	0	0	0	1	0	0	**16**	**0**
	Diabetes-I insulin	1	4	0	4	1	1	0	1	**12**	**2**
	Diabetes-II ins. req.	4	24	1	16	0	1	1	7	**54**	**12**
	Diabetes-II non-ins.	13	9	0	8	0	5	12	11	**58**	**30**
	Glomerulonephritis	17	40	0	27	4	6	3	8	**105**	**35**
	Hypertension	10	24	2	19	1	1	1	8	**66**	**14**
	Miscellaneous	10	19	3	21	0	6	1	9	**69**	**17**
	Polycystic	2	3	0	0	0	0	0	1	**6**	**0**
	Reflux	0	1	0	2	0	4	0	1	**8**	**1**
	Uncertain	11	10	0	7	0	9	7	3	**47**	**5**
	Sub Total	**73**	**144**	**6**	**104**	**6**	**34**	**25**	**49**	**441**	**116**
No	Analgesic	25	43	3	9	0	2	0	1	**83**	**0**
	Diabetes-I insulin	8	15	3	17	2	9	0	8	**62**	**11**
	Diabetes-II ins. req.	21	39	1	53	6	8	5	8	**141**	**56**
	Diabetes-II non-ins.	29	26	2	33	3	10	13	25	**141**	**59**
	Glomerulonephritis	52	131	7	121	12	35	7	34	**399**	**95**
	Hypertension	43	68	1	44	1	19	6	26	**208**	**42**
	Miscellaneous	27	42	5	45	1	15	0	9	**144**	**21**
	Polycystic	17	36	3	27	2	7	0	10	**102**	**29**
	Reflux	9	17	1	23	1	5	2	8	**66**	**11**
	Uncertain	25	21	2	20	4	9	6	8	**95**	**18**
	Sub Total	**256**	**438**	**28**	**392**	**32**	**119**	**39**	**137**	**1441**	**342**
	Total	**329**	**582**	**34**	**496**	**38**	**153**	**64**	**186**	**1882**	**458**

Late Referral

Twenty three percent in Australia and 25% in New Zealand of all new patients were referred late to nephrological care, i.e. less than three months before first treatment (fig 2.5).

Co-morbid Conditions

Co-morbid conditions at entry to RRT are shown in Figure 2.6. There are only minor differences between the two countries except in the incidence of Type II Diabetes which is more common in New Zealand (38% of new patients, compared to 31% in Australia).
(See Appendix II and III for further co-morbid analyses).

Figure 2.6

Co-morbid Conditions at Entry to Program 2001

Number of Patients (% Patients)

Country		Chronic Lung Disease	Coronary Artery Disease	Peripheral Vascular Disease	Cerebro-vascular Disease	Smoking		Diabetes (Including Diabetic Nephropathy)	
Aust. n=1883	Yes	202 (11%)	590 (31%)	362 (19%)	203 (11%)	Current	220 (12%)	I-insulin	81 (4%)
	Suspected	52 (3%)	162 (9%)	148 (8%)	84 (4%)	Former	757 (40%)	II-ins.requ.	233 (12%)
	No	1627 (86%)	1129 (60%)	1371 (73%)	1594 (85%)	Never	900 (48%)	II-non-ins.	356 (19%)
						Unknown	6 (<1%)	No	1212 (64%)
	Unanswered	2 (<1%)	2 (<1%)	2 (<1%)	2 (<1%)			Unanswered	1 (<1%)
N.Z. n=458	Yes	45 (10%)	118 (26%)	85 (19%)	57 (12%)	Current	82 (18%)	I-insulin	14 (3%)
	Suspected	17 (4%)	61 (13%)	32 (7%)	17 (4%)	Former	176 (38%)	II-ins.requ.	70 (15%)
	No	396 (86%)	279 (61%)	341 (74%)	384 (84%)	Never	199 (43%)	II-non-ins.	104 (23%)
						Unknown	1 (<1%)	No	270 (59%)

Primary Renal Disease of New Patients

Australia

Glomerulonephritis (27%) remained the most common cause of ESRD (20% of cases were diagnosed without biopsy). **Diabetic nephropathy** (excluding diabetics with renal failure due to other causes) was the second most common condition (25%), followed by hypertension (15%), polycystic kidney disease (6%) and analgesic nephropathy (5%) (fig 2.7).

IgA mesangial proliferative glomerulonephritis (27% of all GN) was the most common histologically proven form of glomerulonephritis (33% of biopsy proven glomerulonephritis), followed by **focal sclerosing GN** (14%) and **systemic disease** (14%) (fig 2.8).

A renal biopsy based diagnosis was reported in 35% of cases: glomerulonephritis 80%, hypertension 21%, diabetes (both I and II) 17%, analgesic nephropathy 10% and reflux 9% (fig 2.10).

Amongst the **miscellaneous diseases** causing end stage renal failure, there were six cases of cyclosporin nephrotoxicity (eight in 2000) and there were nine cases of lithium toxicity (12 in 2000) (fig 2.9).

The incidence of analgesic nephropathy has remained unchanged at 5-6% over the last four years in Australia.

New Zealand

Diabetic nephropathy (37%) was the most common cause of ESRD followed by **glomerulonephritis** (28%) and **hypertension** (12%). **Diabetes Type II** (non insulin and insulin requiring) represented 92% of diabetic nephropathy.

IgA mesangioproliferative (15%) and **focal sclerosing glomerulonephritis** (13%), represented 41% of biopsy proven glomerulonephritis.

Figure 2.7

Causes of ESRD 1998 - 2001
% (Number of Patients)

Disease	1998	1999	2000	2001
Australia				
Glomerulonephritis	32% (516)	30% (530)	30% (528)	27% (505)
Analgesic Nephropathy	6% (99)	6% (96)	5% (83)	5% (99)
Polycystic Kidney	7% (105)	7% (119)	6% (110)	6% (108)
Reflux Nephropathy	5% (74)	4% (78)	5% (90)	4% (74)
Hypertension	12% (190)	11% (184)	14% (238)	15% (274)
Diabetic Nephropathy	22% (360)	25% (428)	22% (392)	25% (468)
Miscellaneous	10% (164)	10% (182)	11% (197)	11% (213)
Uncertain Diagnosis	6% (101)	7% (130)	7% (116)	7% (142)
Total	**100% (1609)**	**100% (1747)**	**100% (1754)**	**100% (1883)**
New Zealand				
Glomerulonephritis	19% (71)	24% (89)	27% (111)	28% (130)
Analgesic Nephropathy	<1% (2)	<1% (2)	- -	- -
Polycystic Kidney	6% (21)	7% (27)	3% (12)	6% (29)
Reflux Nephropathy	4% (13)	3% (12)	5% (22)	3% (12)
Hypertension	13% (49)	11% (39)	14% (59)	12% (56)
Diabetic Nephropathy	45% (166)	39% (148)	36% (152)	37% (170)
Miscellaneous	7% (26)	9% (34)	10% (42)	8% (38)
Uncertain Diagnosis	6% (23)	6% (24)	5% (22)	5% (23)
Total	**100% (371)**	**100% (375)**	**100% (420)**	**100% (458)**

Figure 2.8

Types of Glomerulonephritis
1-Jan-2001 to 31-Dec-2001
% of all GN (Number)

	Australia (505)	New Zealand (130)
No Biopsy	18% (92)	30% (39)
Focal Sclerosing	14% (72)	13% (17)
MCGN - Type I	3% (16)	2% (2)
MCGN - Type II	<1% (4)	<1% (1)
Membranous GN	5% (25)	5% (7)
Rapidly Progressive GN	3% (13)	4% (5)
Mesangioproliferative IgA +	27% (135)	15% (20)
Mesangioproliferative IgA -	2% (9)	<1% (1)
Mesangioproliferative No I.F.	1% (7)	2% (3)
Focal & Segmental Proliferative GN	4% (19)	3% (4)
Advanced GN (end-stage type)	3% (15)	4% (5)
Goodpasture's Syndrome	2% (10)	<1% (1)
Systemic Lupus	4% (20)	5% (7)
Henoch-Schonlein Purpura	<1% (5)	- -
Wegener's Granulomatosis	3% (13)	2% (3)
Microscopic Polyarteritis	2% (11)	<1% (1)
Scleroderma	2% (8)	- -
GN with Systemic Disease	<1% (3)	<1% (1)
GN Other	2% (8)	6% (8)
Familial GN (including Alports)	3% (15)	2% (3)
Anti GBM (no haemoptysis)	<1% (5)	2% (2)

Figure 2.9

Miscellaneous Causes of ESRD
1-Jan-2001 to 31-Dec-2001

(Number of Patients)

Renal Disease	Aust. (213)	N. Z. (38)
Interstitial Nephritis	22	6
Lithium Toxicity	9	1
Cyclosporin Nephrotoxicity	6	2
Pyelonephritis	3	1
Fabry's Disease	2	1
Gentamicin Toxicity	2	0
Anabolic Steroids	1	0
Hepato-renal Syndrome	1	0
Hydrocarbon Vapour Exposure	1	0
Hyperkalaemic Nephropathy	1	0
Lead Nephropathy	1	0
Meckel Gruber Syndrome	1	0
Renal Tuberculosis	0	1
Sarcoidosis	1	0
Obstructive Uropathy	16	1
Ureteric Obstructive Nephropathy	5	0
Neuropathic Bladder	3	0
Posterior Urethral Valves	3	1
Lower Urinary Tract Abnormalities	2	1
Hypoplastic Bladder (1) (1)		
Quadriplegia-Ileal Bladder (1)		
Bladder Neck Obstruction	1	1
Obstructed Megaureter	0	1
Calculi	20	3
Medullary Cystic Disease	4	0
Gout	2	1
Cystinosis	1	1
Cystinuria	1	0
Tuberous Sclerosis	1	1
Amyloid	19	6
Congenital Renal Hypoplasia & Dysplasia	5	1
Congenital Nephrotic Syndrome	3	0
Denys-Drash Syndrome	0	1
Nephronophthisis	1	0
Oligomeganephronia	1	0
Multiple Myeloma	37	3
Renal Cell Carcinoma	11	0
Transitional Cell Carcinoma	8	0
(L) Oncocytoma-(R) Small Kidney	1	0
Non Hodgkin's Lymphoma	1	0
Cortical Necrosis	10	1
Haemolytic Uraemic Syndrome	4	2
Nephrocalcinosis	0	1
Idiopathic Renal Tubular Acidosis	1	0
Tubular Necrosis	1	0

Figure 2.10

Biopsy of New Patients 2001

Biopsy	Primary Renal Disease	Qld	NSW	ACT	Vic.	Tas.	SA	NT	WA	Aust.	N. Z.
Yes	Analgesic	4	2	0	4	0	0	0	0	**10**	**0**
	Diabetes I - Insulin	1	3	1	5	2	0	0	0	**12**	**1**
	Diabetes II - Insulin Req.	4	14	1	12	2	2	1	5	**41**	**2**
	Diabetes II - Non Insulin	4	10	0	6	1	2	1	4	**28**	**5**
	Glomerulonephritis	49	138	4	130	13	35	5	30	**404**	**90**
	Hypertension	11	22	1	15	0	4	0	5	**58**	**11**
	Miscellaneous	13	32	4	29	0	6	0	8	**92**	**18**
	Polycystic	1	2	0	5	0	0	0	0	**8**	**1**
	Reflux	1	1	1	3	0	0	0	1	**7**	**1**
	Uncertain	2	2	0	1	0	0	0	0	**5**	**1**
	Sub Total	**90**	**226**	**12**	**210**	**18**	**49**	**7**	**53**	**665**	**130**
No	Analgesic	26	51	3	5	0	3	0	1	**89**	**0**
	Diabetes I - Insulin	8	16	2	16	1	10	0	9	**62**	**12**
	Diabetes II - Insulin Req.	21	49	1	57	4	7	5	10	**154**	**66**
	Diabetes II - Non Insulin	38	25	2	35	2	13	24	32	**171**	**84**
	Glomerulonephritis	21	33	3	18	3	6	5	12	**101**	**40**
	Hypertension	42	70	2	48	2	16	7	29	**216**	**45**
	Miscellaneous	24	29	4	37	1	15	1	10	**121**	**20**
	Polycystic	18	37	3	22	2	7	0	11	**100**	**28**
	Reflux	8	17	0	22	1	9	2	8	**67**	**11**
	Uncertain	34	29	2	26	4	18	13	11	**137**	**22**
	Sub Total	**240**	**356**	**22**	**286**	**20**	**204**	**57**	**133**	**1218**	**328**
	Total	**330**	**582**	**34**	**496**	**38**	**153**	**64**	**186**	**1883**	**458**

Nineteen per cent of all patients with diabetic nephropathy in Australia (365/1908) and 4% (32/730) in New Zealand, have had a biopsy proven diagnosis since this data was first collected by the Registry from 1st April, 1997.