

CHAPTER 2

NEW PATIENTS

COMMENCING TREATMENT IN 2000

Graeme R Russ



Figure 2.1

Annual Intake of New Patients 1996 - 2000 (per Million Population)					
	1996	1997	1998	1999	2000
Queensland	231 (69)	271 (80)	294 (85)	307 (87)	341 (96)
New South Wales	517 (84)	492 (78)	498 (79)	542 (85)	517 (80)
Aust. Capital Territory	31 (101)	35 (113)	46 (149)	38 (123)	36 (116)
Victoria	342 (75)	361 (78)	429 (92)	441 (94)	435 (91)
Tasmania	30 (63)	30 (63)	29 (61)	25 (53)	32 (68)
South Australia	105 (71)	97 (66)	115 (77)	144 (96)	118 (79)
Northern Territory	48 (270)	57 (305)	48 (253)	52 (270)	47 (240)
Western Australia	124 (70)	141 (78)	151 (82)	199 (107)	197 (105)
Australia	1428 (78)	1484 (79)	1610 (86)	1748 (92)	1723 (90)
New Zealand	290 (78)	320 (85)	371 (98)	375 (98)	411 (107)

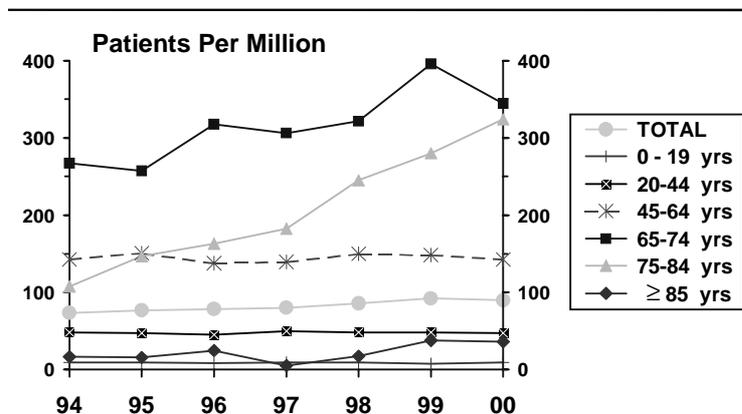
INTAKE OF NEW PATIENTS

For Australia, the number of new patients commencing treatment in 2000 was 1,723 a rate of 90 per million population per year. This was a decrease of 1.5% compared to the previous year after annual increments over the previous three years.

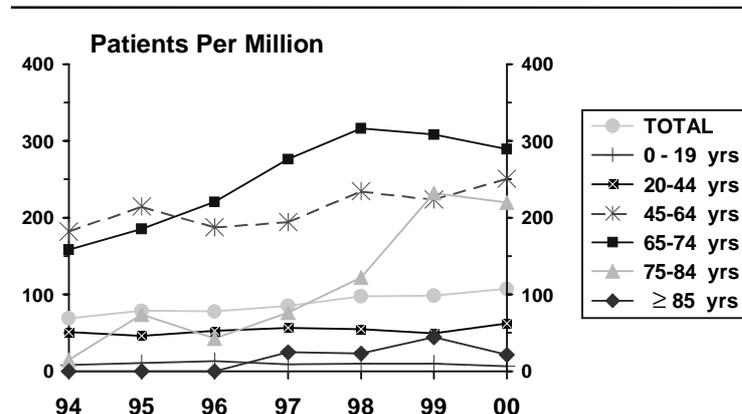
In New Zealand, the number of new patients entering renal failure programs was 411 (a rate of 107 per million of population). This was an increase of 10% over the previous year and has continued an increase over the previous three years.

Figure 2.2

Acceptance of New Patients 1994 - 2000
Age Specific Rates - Australia



Acceptance of New Patients 1994 - 2000
Age Specific Rates - New Zealand



AGE OF NEW PATIENTS

In Australia, the only age group to show an increase in acceptance of new patients was the group 75-84 years which showed an increase in acceptance rate from 281 to 324 per million population. In the 64-74 year age group there was a decrease from 396 to 345 per million (fig 2.2 and 2.3). The mean age of patients entering programs in Australia in 2000 was 57.7 years (fig 2.4).

In New Zealand, the mean age of patients entering was 55.1 years (fig 2.4). The age specific rates of acceptance increased predominantly in the 80-84 year group where the rate per million increased to 167 from 104 in 1999 (fig 2.2 and 2.3).

Figure 2.3

Acceptance of Elderly New Patients 1996 - 2000 (per Million Population)						
Country	Age Groups	1996	1997	1998	1999	2000
Australia	60-64 years	164 (234)	177 (245)	177 (240)	169 (223)	183 (234)
	65-69 years	225 (325)	212 (309)	214 (314)	255 (376)	205 (304)
	70-74 years	186 (309)	185 (304)	203 (330)	258 (417)	243 (389)
	75-79 years	96 (225)	111 (249)	142 (303)	167 (337)	195 (386)
	80-84 years	20 (70)	23 (80)	44 (152)	53 (184)	67 (221)
	≥ 85 years	5 (25)	1 (5)	4 (18)	9 (37)	9 (36)
	Total		696 (239)	709 (239)	784 (259)	911 (296)
New Zealand	60-64 years	29 (212)	44 (319)	56 (400)	48 (334)	72 (480)
	65-69 years	36 (268)	36 (269)	46 (348)	47 (359)	44 (340)
	70-74 years	19 (165)	33 (284)	33 (280)	30 (252)	28 (235)
	75-79 years	6 (72)	6 (70)	17 (190)	29 (312)	24 (253)
	80-84 years	0 (0)	5 (87)	1 (17)	6 (104)	10 (167)
	≥ 85 years	0 (0)	1 (35)	1 (33)	2 (63)	1 (30)
	Total		90 (159)	125 (218)	154 (265)	162 (275)

STATE OF ORIGIN OF NEW PATIENTS

There was an increase in acceptance rates in Tasmania (28%) and Queensland (11%). The new patient entry rate decreased in all other States and Territories but was most marked in South Australia where there was a decrease by 22% in 2000 (96 per million compared to 79 per million in 1999).

The lowest acceptance rate was in Tasmania (68 per million) and South Australia (79 per million) and the highest was in the ACT (116 per million) and the Northern Territory (240 per million).

Figure 2.4

Age and Gender of New Patients 1-Jan-2000 to 31-Dec-2000 (n = Number of Patients)																				
Age Groups	Qld (n=341)		NSW (n=517)		ACT (n=36)		Vic. (n=435)		Tas. (n=32)		SA (n=118)		NT (n=47)		WA (n=197)		Aust. (n=1723)		N.Z. (n=411)	
	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
00-04 yrs	0	2	1	2	0	0	1	1	0	0	0	0	0	0	0	0	2	5	0	2
05-14 yrs	2	1	1	7	0	0	0	2	0	0	0	0	0	0	1	1	4	11	2	1
15-24 yrs	4	1	5	10	0	0	9	10	0	0	1	4	0	0	9	5	28	30	10	6
25-34 yrs	14	21	17	24	0	3	11	23	0	1	4	4	4	3	7	5	57	84	14	17
35-44 yrs	16	17	21	25	3	2	23	14	0	1	7	8	4	3	10	11	84	81	22	22
45-54 yrs	21	27	27	51	1	6	24	44	1	7	10	10	8	9	15	18	107	172	29	51
55-64 yrs	23	39	57	66	1	5	32	48	1	5	13	13	4	5	13	14	144	195	56	72
65-74 yrs	47	53	67	62	3	6	53	64	4	7	11	12	0	7	24	28	209	239	26	46
75-84 yrs	22	31	31	42	2	4	21	52	3	1	11	9	0	0	11	22	101	161	10	24
≥ 85 yrs	0	0	0	1	0	0	1	2	1	0	0	1	0	0	2	1	4	5	1	0
Total	149	192	227	290	10	26	175	260	10	22	57	61	20	27	92	105	740	983	170	241
Mean (yrs)	57.9	58.8	58.9	56.1	59.2	57.9	57.1	58.8	70.6	58.5	59.0	56.4	45.1	53.3	55.6	59.4	57.7	57.7	53.4	56.3
All	58.5		57.4		58.3		58.2		62.3		57.7		49.9		57.7		57.7		55.2	
Median (yrs)	62.2		61.0		55.8		61.5		63.6		59.8		49.1		63.1		61.2		57.9	
Range	1.6-84.5		<1-86.9		32.3-81.8		0.7-86.6		27.5-89.4		18.7-86.4		26.1-72.7		6.6-88.4		<1-89.4		<1-88.9	



RACIAL ORIGIN OF NEW PATIENTS

The racial origin of new patients in Australia and New Zealand is shown in Figure 2.5.

In Australia, 81% were Caucasoid, 8% Aboriginal, 8% Asian, 2% Pacific Islanders and 1% Other Races.

In New Zealand, most patients (47%) were Caucasoid, 31% Maori, 17% Pacific Islander and 5% Asian.

Eighty one percent of patients entering programs in the Northern Territory were Aboriginal compared to 19% in Western Australia, 11% in Queensland and 6% in South Australia. Eleven percent of patients entering programs in New South Wales were Asian compared to 9% in Victoria, 8% in the ACT and 7% in Western Australia (fig 2.5).

Figure 2.5

Racial Origin of New Patients in Australia and New Zealand 2000
(n = Number of Patients)

Racial Origin	Qld (n=341)		NSW (n=517)		ACT (n=36)		Vic. (n=435)		Tas. (n=32)		SA (n=118)		NT (n=47)		WA (n=197)		Aust. (n=1723)		N.Z. (n=411)	
	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
Caucasoid	115	161	184	238	8	24	145	233	10	22	51	54	1	8	60	83	574	823	65	130
Aboriginal	18	15	8	5	0	1	2	4	0	0	2	5	19	19	26	12	75	61	0	0
Torres Strait	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	4	0	0
Maori	2	0	1	3	0	0	0	0	0	0	0	0	0	0	1	0	3	4	56	70
Cook Islander	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	6	6
Samoan	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	3	2	22	17
Tongan	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	2	1	9	1
Pacific Is. - Other	1	0	1	4	0	0	7	2	0	0	0	1	0	0	0	0	9	7	2	6
Arab	1	0	2	2	0	0	0	3	0	0	0	0	0	0	0	0	3	5	0	1
Indian	0	2	7	6	0	1	3	7	0	0	0	0	0	0	3	1	13	17	7	4
Chinese	2	3	5	7	0	0	4	2	0	0	0	1	0	0	1	4	12	17	2	6
Filipino	2	1	5	5	1	0	4	0	0	0	1	0	0	0	0	0	13	6	1	0
Indonesian	0	0	1	3	0	0	1	0	0	0	0	0	0	0	0	0	2	3	0	0
Malay	0	1	0	0	0	0	3	0	0	0	1	0	0	0	1	0	4	2	0	0
Vietnamese	1	0	4	5	1	0	4	7	0	0	1	0	0	0	2	0	13	12	0	0
Other	4	5	3	9	0	0	2	2	0	0	1	0	0	0	0	3	10	19	0	0
Total	149	192	227	290	10	26	175	260	10	22	57	61	20	27	92	105	740	983	170	241

Figure 2.6
**Racial Origin of Patients Treated by the Registry
1-Jan-1963 to 31-Dec-2000**

Country	Racial Origin	1963-1970	1971-1980	1981-1990	1991-2000	Total
Australia	Aboriginal	1	22	262	1066	1351
	Arab	0	10	26	51	87
	Caucasoid	706	3996	6516	11458	22676
	Chinese	2	41	94	244	381
	Cook Islander	0	0	1	9	10
	Filipino	0	1	32	135	168
	Indian	1	25	67	225	318
	Indonesian	0	1	7	36	44
	Malay	0	4	17	32	53
	Maori	0	2	19	49	70
	Other	2	6	52	197	257
	Pacific Islander	0	6	37	99	142
	Samoaan	0	0	6	34	40
	Tongan	0	1	4	29	34
	Torres Strait	0	4	14	72	90
Vietnamese	0	1	42	171	214	
Total		712	4120	7196	13907	25935
New Zealand	Arab	0	0	1	1	2
	Caucasoid	133	533	835	1499	3000
	Chinese	0	7	14	45	66
	Cook Islander	1	4	40	92	137
	Filipino	0	0	4	10	14
	Indian	0	3	15	77	95
	Indonesian	0	0	1	1	2
	Malay	0	0	1	2	3
	Maori	17	115	347	968	1447
	Other	0	1	2	18	21
	Pacific Islander	0	3	19	43	65
	Patient Objects	0	0	0	1	1
	Samoaan	0	11	47	180	238
	Tongan	0	1	10	52	63
Vietnamese	0	0	1	5	6	
Total		151	678	1337	2994	5160
Overseas	Caucasoid	2	21	37	32	92
	Chinese	1	13	15	12	41
	Cook Islander	0	1	0	0	1
	Filipino	0	1	3	2	6
	Indian	0	2	7	6	15
	Indonesian	0	0	3	0	3
	Malay	0	0	4	1	5
	Other	0	0	1	4	5
	Pacific Islander	0	0	9	19	28
	Vietnamese	0	0	1	1	2
Total		(3)	(38)	(80)	(77)	(198)

() Commenced treatment outside Australia or New Zealand



Figure 2.7

Late Referral of New Patients 2000

Late Referral	Primary Renal Disease	Qld	NSW	ACT	Vic.	Tas.	SA	NT	WA	Aust.	N.Z.
Yes	Analgesic	2	5	0	1	0	1	0	0	9	0
	Diabetes-1 insulin	2	6	0	2	0	1	0	0	11	1
	Diabetes-2 insul. req.	6	14	0	10	0	1	0	1	32	18
	Diabetes-2 non-insul.	9	15	1	13	1	0	3	12	54	14
	Glomerulonephritis	17	54	1	22	1	10	1	17	123	30
	Hypertension	22	26	1	16	4	3	1	7	80	16
	Miscellaneous	10	16	1	19	1	6	0	8	61	18
	Polycystic	5	2	0	1	0	1	0	1	10	1
	Reflux	2	6	1	5	1	0	0	0	15	2
	Uncertain	14	11	0	10	0	5	0	3	43	11
	Sub Total	89	155	5	99	8	28	5	49	438	111
No	Analgesic	22	32	1	4	0	6	0	5	70	0
	Diabetes-1 insulin	12	13	2	10	4	2	0	7	50	15
	Diabetes-2 insulin req.	25	46	4	34	0	3	1	7	120	42
	Diabetes-2 non-insul.	19	22	3	26	0	6	18	20	114	58
	Glomerulonephritis	76	103	9	119	8	24	12	44	395	80
	Hypertension	27	42	6	30	4	17	3	30	159	40
	Miscellaneous	24	40	2	39	1	12	3	8	129	23
	Polycystic	16	26	3	30	4	9	0	11	99	11
	Reflux	8	26	0	22	2	7	1	8	74	19
	Uncertain	23	12	1	22	1	4	4	8	75	12
	Sub Total	252	362	31	336	24	90	42	148	1285	300
	Total	341	517	36	435	32	118	47	197	1723	411

LATE REFERRAL

Twenty five percent in Australia, and 27% in New Zealand of all new patients were referred late to nephrological care, i.e. less than three months before first treatment (fig 2.7).

CO-MORBID CONDITIONS

Co-morbid conditions at entry to programs is shown in Figure 2.8. There are only minor differences between the two countries except in the incidence of Type 2 Diabetes which is more common in New Zealand (37% of new patients, compared to 27% in Australia).

Figure 2.8

Co-morbid Conditions at Entry to Program 2000
n = Number of Patients

Country		Chronic Lung Disease	Coronary Artery Disease	Peripheral Vascular Disease	Cerebro-vascular Disease	Smoking	Diabetes Including Diabetic Nephropathy
Aust. n=1723	Yes	182 (11%)	487 (28%)	318 (18%)	175 (10%)	Current	184 (11%)
	Suspected	51 (3%)	164 (10%)	122 (7%)	71 (4%)	Former	665 (38%)
	No	1490 (86%)	1072 (62%)	1283 (75%)	1477 (86%)	Never	872 (51%)
						Unknown	2 (<1%)
N.Z. n=411	Yes	47 (11%)	107 (26%)	82 (20%)	40 (10%)	Current	64 (16%)
	Suspected	27 (7%)	48 (12%)	26 (6%)	23 (5%)	Former	156 (38%)
	No	337 (82%)	256 (62%)	303 (74%)	348 (85%)	Never	191 (46%)
						Unknown	0 (0%)

PRIMARY RENAL DISEASE OF NEW PATIENTS

AUSTRALIA

Glomerulonephritis (30%) remained the most common cause of ESRD (24% of cases were diagnosed without biopsy). **Diabetic nephropathy** (excluding diabetics with renal failure due to other causes) was the second most common condition (22%), followed by hypertension (14%), polycystic kidney disease (6%) and analgesic nephropathy (5%) (fig 2.9).

IgA mesangial proliferative glomerulonephritis (25%) was the most common histologically proven form of glomerulonephritis (33% of biopsy proven glomerulonephritis), followed by **focal sclerosing** (15%) and **systemic disease** (13%) (fig 2.10).

Renal biopsy based diagnosis was reported in 37% of cases: glomerulonephritis 76%, hypertension 22%, diabetes (both I and II) 19%, reflux 13% and analgesic nephropathy 9% (fig 2.12).

Amongst the **miscellaneous diseases** causing end stage renal failure, there were 8 cases of cyclosporin nephrotoxicity (7 last year) and there were 12 cases of lithium toxicity (4 cases last year) (fig 2.11).

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

NEW ZEALAND

Diabetic nephropathy (36%) was the most common cause of ESRD followed by **glomerulonephritis** (27%) and **hypertension** (14%). **Diabetes Type II** (non insulin and insulin requiring) represented 89% of diabetic nephropathy.

IgA mesangioproliferative and focal sclerosing glomerulonephritis both (15%), represented 43% of biopsy proven glomerulonephritis.

Figure 2.9

Causes of ESRD 1997 - 2000 (Number of Patients)				
Disease	1997	1998	1999	2000
Australia				
Glomerulonephritis	34% (505)	32% (517)	30% (533)	30% (518)
Analgesic Nephropathy	5% (78)	6% (99)	6% (97)	5% (79)
Polycystic Kidney	6% (87)	7% (106)	7% (118)	6% (109)
Reflux Nephropathy	5% (81)	5% (75)	4% (79)	5% (89)
Hypertension	12% (175)	12% (189)	11% (185)	14% (239)
Diabetic Nephropathy	22% (321)	22% (357)	25% (429)	22% (381)
Miscellaneous	10% (144)	10% (165)	10% (177)	11% (190)
Uncertain Diagnosis	6% (93)	6% (102)	7% (130)	7% (118)
Total	100% (1484)	100% (1610)	100% (1748)	100% (1723)
New Zealand				
Glomerulonephritis	24% (78)	19% (71)	23% (87)	27% (110)
Analgesic Nephropathy	-	<1% (2)	<1% (2)	-
Polycystic Kidney	5% (17)	6% (21)	7% (27)	3% (12)
Reflux Nephropathy	5% (15)	4% (13)	3% (12)	5% (21)
Hypertension	12% (40)	13% (49)	11% (41)	14% (56)
Diabetic Nephropathy	40% (127)	44% (165)	39% (148)	36% (148)
Miscellaneous	10% (31)	7% (26)	9% (34)	10% (41)
Uncertain Diagnosis	4% (12)	6% (24)	7% (24)	5% (23)
Total	100% (320)	100% (371)	100% (375)	100% (411)

Figure 2.10

Types of Glomerulonephritis 1-Jan-2000 to 31-Dec-2000 (Number of Patients)		
	Australia (518)	New Zealand (110)
No Biopsy	24% (122)	30% (33)
Focal Sclerosing	15% (79)	15% (16)
MCGN - Type I	2% (12)	2% (2)
MCGN - Type II	1% (5)	<1% (1)
Membranous GN	3% (18)	5% (6)
Rapidly Progressive GN	2% (10)	3% (3)
Mesangioproliferative IgA +	25% (132)	15% (16)
Mesangioproliferative IgA -	1% (6)	2% (2)
Mesangioproliferative No I.F.	1% (3)	<1% (1)
Focal & Segmental Proliferative GN	3% (15)	4% (4)
Advanced GN (end-stage type)	2% (12)	6% (7)
Goodpasture's Syndrome	1% (4)	<1% (1)
Systemic Lupus	5% (24)	7% (8)
Henoch-Schonlein Purpura	<1% (1)	-
Wegener's Granulomatosis	2% (12)	-
Microscopic Polyarteritis	3% (17)	2% (2)
Scleroderma	2% (8)	2% (2)
GN with Systemic Disease	1% (3)	<1% (1)
GN Other	2% (11)	4% (4)
Familial GN (including Alports)	4% (22)	<1% (1)
Anti GBM (no haemoptysis)	<1% (2)	-



Figure 2.11		
Miscellaneous Causes of ESRD		
1-Jan-2000 to 31-Dec-2000		
(Number of Patients)		
Renal Disease	Aust. (190)	N. Z. (41)
Interstitial Nephritis	21	5
Lithium Toxicity	12	1
Cyclosporin Nephrotoxicity	8	2
Fabry's Disease	4	0
Barter's Syndrome	0	1
Epirubicin Toxicity	1	0
Gentamycin Toxicity	1	0
Guanidine Nephrotoxicity	1	0
Hepato-renal Syndrome	1	0
Hyperparathyroidism	1	0
Idiopathic Carpotarsal Osteolysis	1	0
Laurence-Moon-Bardet-Biedl Syndrome	1	0
Paroxysmal Haemoglobinuria	1	0
Pfeiffer's Syndrome	1	0
Pyelonephritis	1	0
Renal Tuberculosis	1	0
Sarcoidosis	1	1
Obstructive Nephropathy	13	4
Ureteric Obstructive Nephropathy	5	3
Posterior Urethral Valves	4	0
Bladder Neck Obstruction	3	0
Lower Urinary Tract Abnormalities	2	0
<i>Prune Belly Syndrome (2)</i>		
Spina Bifida or Myelomeningocele	2	2
Neuropathic Bladder	1	1
Pelvi-ureteric Junction Obstruction	1	0
Calculi	14	4
Medullary Cystic Disease	4	0
Gout	2	1
Cystinosis	1	0
Tuberous Sclerosis	0	1
Amyloid	12	2
Light Chain Nephropathy	7	1
Congenital Renal Hypoplasia & Dysplasia	6	1
Congenital Nephrotic Syndrome	2	2
Renal Hypertrophy	0	1
Multiple Myeloma	22	3
Renal Cell Carcinoma	6	0
Transitional Cell Carcinoma	3	0
Radiation Nephritis	2	0
Ewings Sarcoma	1	0
Von Hippel-Lindau Syndrome	1	1
Haemolytic Uraemic Syndrome	9	1
Cortical Necrosis	6	3
Nephrocalcinosis	1	0
Rhabdomyolysis	1	0
Thrombotic Thrombocytopenia	1	0
Tubular Necrosis	1	0

Figure 2.12

Biopsy of New Patients 2000											
Biopsy	Primary Renal Disease	Qld	NSW	ACT	Vic.	Tas.	SA	NT	WA	Aust.	N. Z.
Yes	Analgesic	1	4	0	1	0	1	0	0	7	0
	Diabetes I - Insulin	2	6	0	3	1	1	0	2	15	0
	Diabetes II - Insulin Req.	2	14	0	8	0	0	0	1	25	2
	Diabetes II - Non Insulin	4	8	2	6	0	2	7	4	33	1
	Glomerulonephritis	69	126	9	115	8	24	4	41	396	75
	Hypertension	11	17	3	8	1	3	3	6	52	12
	Miscellaneous	11	21	1	35	0	11	0	4	83	14
	Polycystic	0	0	0	3	0	0	0	0	3	0
	Reflux	0	4	0	8	0	0	0	0	12	1
	Uncertain	1	3	1	4	0	0	1	0	10	0
	Sub Total	101	203	16	191	10	42	15	58	636	105
No	Analgesic	23	33	1	4	0	6	0	5	72	0
	Diabetes I - Insulin	12	13	2	9	3	2	0	5	46	16
	Diabetes II - Insulin Req.	29	46	4	36	0	4	1	7	127	58
	Diabetes II - Non Insulin	24	29	2	33	1	4	14	28	135	71
	Glomerulonephritis	24	31	1	26	1	10	9	20	122	35
	Hypertension	38	51	4	38	7	17	1	31	187	44
	Miscellaneous	23	35	2	23	2	7	3	12	107	27
	Polycystic	21	28	3	28	4	10	0	12	106	12
	Reflux	10	28	1	19	3	7	1	8	77	20
	Uncertain	36	20	0	28	1	9	3	11	108	23
	Sub Total	240	314	20	244	22	76	32	139	1087	306
	Total	341	517	36	435	32	118	47	197	1723	411