CHAPTER 2

NEW PATIENTS

COMMENCING TREATMENT IN 2008

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Figure 2.1

Annual Intake of New Patients 2003 - 2008
(Number Per Million Population)

	2004	2005	2006	2007	2008
Queensland	399 (103)	465 (117)	497 (121)	463 (112)	508 (119)
New South Wales	559 (86)	722 (110)	771 (117)	755 (113)	792 (117)
Aust. Capital Territory	49 (94)	49 (102)	54 (100)	55 (101)	63 (113)
Victoria	462 (93)	526 (105)	568 (111)	541 (104)	527 (99)
Tasmania	29 (60)	38 (78)	51 (104)	55 (111)	52 (104)
South Australia	155 (101)	172 (112)	185 (118)	165 (104)	184 (115)
Northern Territory	81 (405)	85 (419)	76 (360)	76 (354)	89 (405)
Western Australia	215 (108)	237 (118)	235 (114)	256 (122)	261 (121)
Australia	**1949 (97)**	**2294 (113)**	**2437 (118)**	**2366 (113)**	**2476 (116)**
New Zealand	**460 (113)**	**460 (111)**	**499 (119)**	**466 (110)**	**492 (115)**

Intake of New Patients

There were 2476 new patients who commenced treatment for end-stage renal failure in Australia in 2008, a rate of 116 per million population per year.

This was an increase of 5% from 2007, after a 3% decrease last year, following a 6% increase in 2006.

In New Zealand, the number of new patients entering renal failure programs was 492, a rate of 115 per million of population. This was an increase of 6% from last year after a decrease of 7% in 2007.

Figure 2.2

Acceptance of New Patients 2003 - 2008
Age Specific Rates - Australia

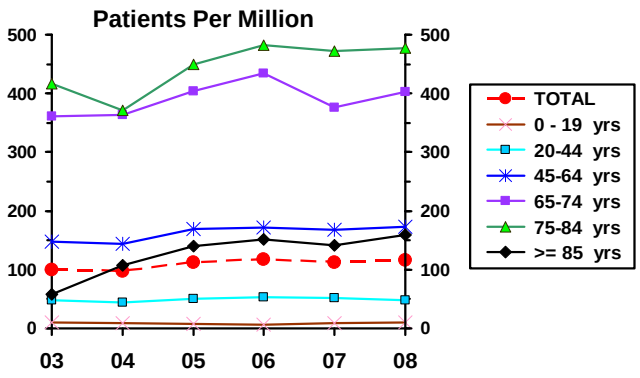
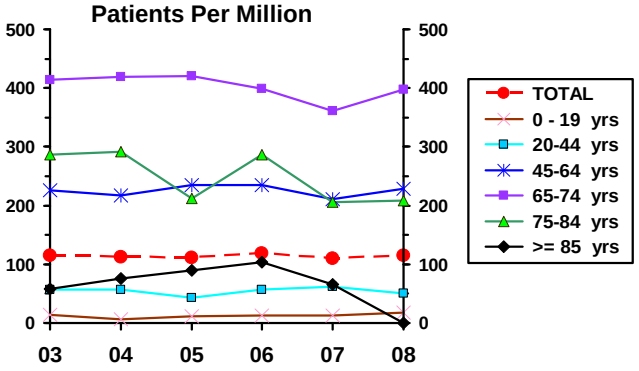


Figure 2.3

Acceptance of New Patients 2003 - 2008
Age Specific Rates - New Zealand



Age of New Patients

In Australia in 2008, all age groups, except the 20-44 year group, showed an increase in acceptance of new patients. The 0-19 year age group, increased from eight to ten per million (46 to 55 patients) and the ≥ 85 year age group, increased from 142 to 159 per million (49 to 58 patients).

The largest increases were in the groups 65-74 years, which rose from 376 to 403 per million (545 to 603 patients) and the 45-64 year group, which rose from 168 to 173 per million (879 to 930 patients) (Figure 2.2).

The only decrease was in the 20-44 year group from 52 to 48 per million (391 to 366 patients). The older age groups are examined in more detail in Figure 2.4.

The mean age of patients entering programs in Australia in 2008 was 60.4 years and the median 63.1 years (Figure 2.5).

In New Zealand, the mean age of patients entering was 55.5 years and the median 58.2 years (Figure 2.5).

The age specific rates of acceptance increased in three groups, the 0-19 year group from 12 to 18 per million (15 to 22 patients), the 45-64 year group from 211 to 229 per million (216 to 241 patients) and the 65-74 year group from 361 to 397 per million (103 to 116 patients).

The 75-84 year group remained similar to 2007 and there was a decrease in the 20-44 year group from 62 to 51 per million (91 to 75 patients). There were no patients in the ≥ 85 year groupfs, shown in Figure 2.3.

Within the older age groups in Australia, all age groups increased in numbers in 2008 except the 75-79 year group, which remained the same as last year, as shown in Figure 2.4.

In New Zealand there were increases in all age groups except those in the 80-84 year and ≥ 85 years age groups.

Rates of new patients aged ≥ 85 years increased in Australia from 142 to 159 per million (49 to 58 patients). There were no patients in this age group in New Zealand in 2008.

Rates in all age groups ≥ 70 years were higher in Australia than in New Zealand.

Figure 2.4

Acceptance of Elderly New Patients 2004 - 2008
(Number Per Million Population)

Country	Age Groups	2004	2005	2006	2007	2008
Australia	60-64 years	186 (206)	239 (253)	255 (258)	270 (254)	273 (242)
	65-69 years	254 (341)	262 (339)	280 (359)	249 (309)	292 (351)
	70-74 years	244 (390)	304 (485)	332 (528)	296 (460)	311 (469)
	75-79 years	244 (445)	266 (481)	300 (543)	277 (503)	277 (504)
	80-84 years	103 (267)	163 (406)	162 (400)	179 (432)	187 (442)
	>=85 years	32 (107)	44 (140)	49 (152)	49 (142)	58 (159)
	Total	**1063 (303)**	**1278 (354)**	**1378 (375)**	**1320 (345)**	**1398 (353)**
New Zealand	60-64 years	67 (377)	69 (378)	61 (327)	57 (289)	64 (302)
	65-69 years	59 (422)	63 (429)	61 (392)	56 (343)	65 (392)
	70-74 years	50 (416)	49 (409)	49 (408)	47 (384)	51 (405)
	75-79 years	38 (376)	28 (275)	29 (280)	28 (268)	30 (287)
	80-84 years	12 (170)	9 (124)	22 (297)	9 (119)	8 (103)
	>=85 years	4 (75)	5 (90)	6 (103)	4 (66)	0 (0)
	Total	**230 (347)**	**223 (328)**	**228 (327)**	**201 (279)**	**218 (291)**

STATE OF ORIGIN OF NEW PATIENTS

The 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 2008 in all States except Victoria and Tasmania (Figure 2.6).The highest acceptance rates were in the Northern Territory (405 per million) and Western Australia (121 per million) and the lowest in Tasmania (104 per million) and Victoria (99 per million) (Figure 2.1). Age specific rates for each State are shown in Figure 2.7.

Figure 2.5

Age and Gender of New Patients 1-Jan-2008 to 31-Dec-2008
(n = Number of Patients)

Age Groups Years	QLD (n=508)		NSW (n=792)		ACT (n=63)		VIC (n=527)		TAS (n=52)		SA (n=184)		NT (n=89)		WA (n=261)		AUST (n=2476)		NZ (n=492)	
	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
00-04	0	1	2	1	0	0	2	3	0	0	0	0	0	0	0	0	**4**	**5**	**0**	**4**
05-14	2	2	2	7	0	0	3	2	0	0	0	0	0	0	0	0	**7**	**11**	**4**	**4**
15-24	5	8	7	10	1	0	4	6	1	1	2	3	2	2	3	4	**25**	**34**	**11**	**12**
25-34	13	20	15	14	0	0	11	21	0	1	3	3	3	3	7	10	**52**	**72**	**8**	**10**
35-44	19	21	24	32	3	2	13	30	2	1	4	12	12	8	13	15	**90**	**121**	**18**	**26**
45-54	29	42	64	81	3	4	26	52	5	5	9	17	18	10	14	25	**168**	**236**	**44**	**64**
55-64	39	57	47	96	7	10	36	95	6	7	21	23	12	12	23	35	**191**	**335**	**65**	**68**
65-74	54	72	85	117	8	12	44	88	5	7	19	24	5	1	21	41	**241**	**362**	**40**	**76**
75-84	46	57	65	104	4	8	32	56	4	6	16	25	1	0	15	25	**183**	**281**	**11**	**27**
>=85	6	15	4	15	1	0	0	3	0	1	0	3	0	0	2	8	**13**	**45**	**0**	**0**
Total	**213**	**295**	**315**	**477**	**27**	**36**	**171**	**356**	**23**	**29**	**74**	**110**	**53**	**36**	**98**	**163**	**974**	**1502**	**201**	**291**
Mean	61.0	61.4	60.6	62.2	62.0	65.2	58.3	59.6	59.7	63.2	62.2	61.8	49.9	48.2	58.5	60.9	**59.6**	**61.0**	**54.8**	**56.0**
All	61.2		61.5		63.8		59.1		61.6		62.0		49.2		60.0		**60.4**		**55.5**	
Median (yrs)	64.5		64.4		66.1		62.3		64.4		64.1		49.8		62.7		**63.1**		**58.2**	
Range	1.7 - 94.5		1.1 - 90.2		18.6 - 87.7		2 days - 88.4		17.5 - 86.8		16.5 - 89.1		17.3 - 75.9		18.7 - 89.2		**2 days - 94.5**		**0.25 -82.3**	

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.

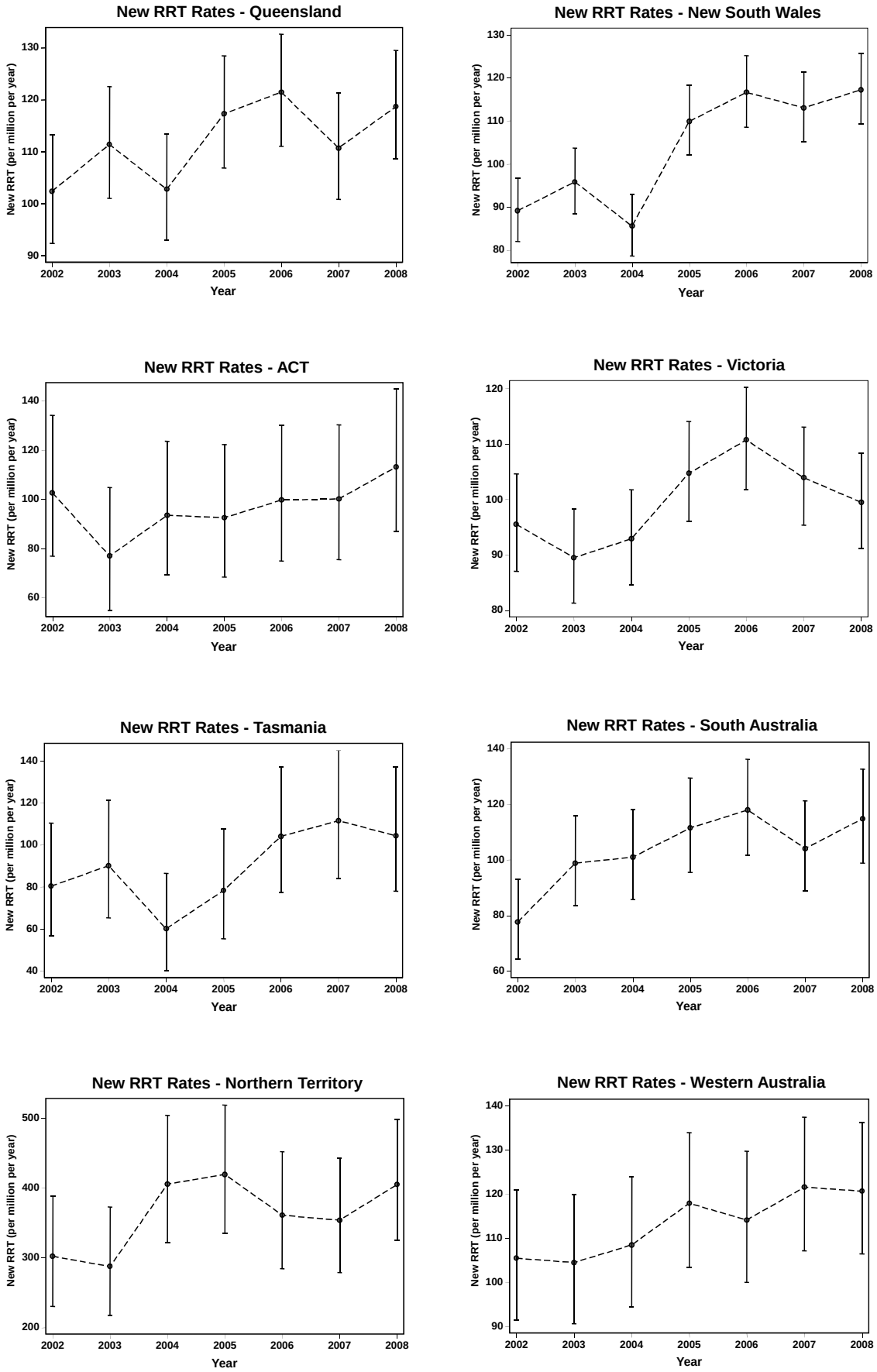
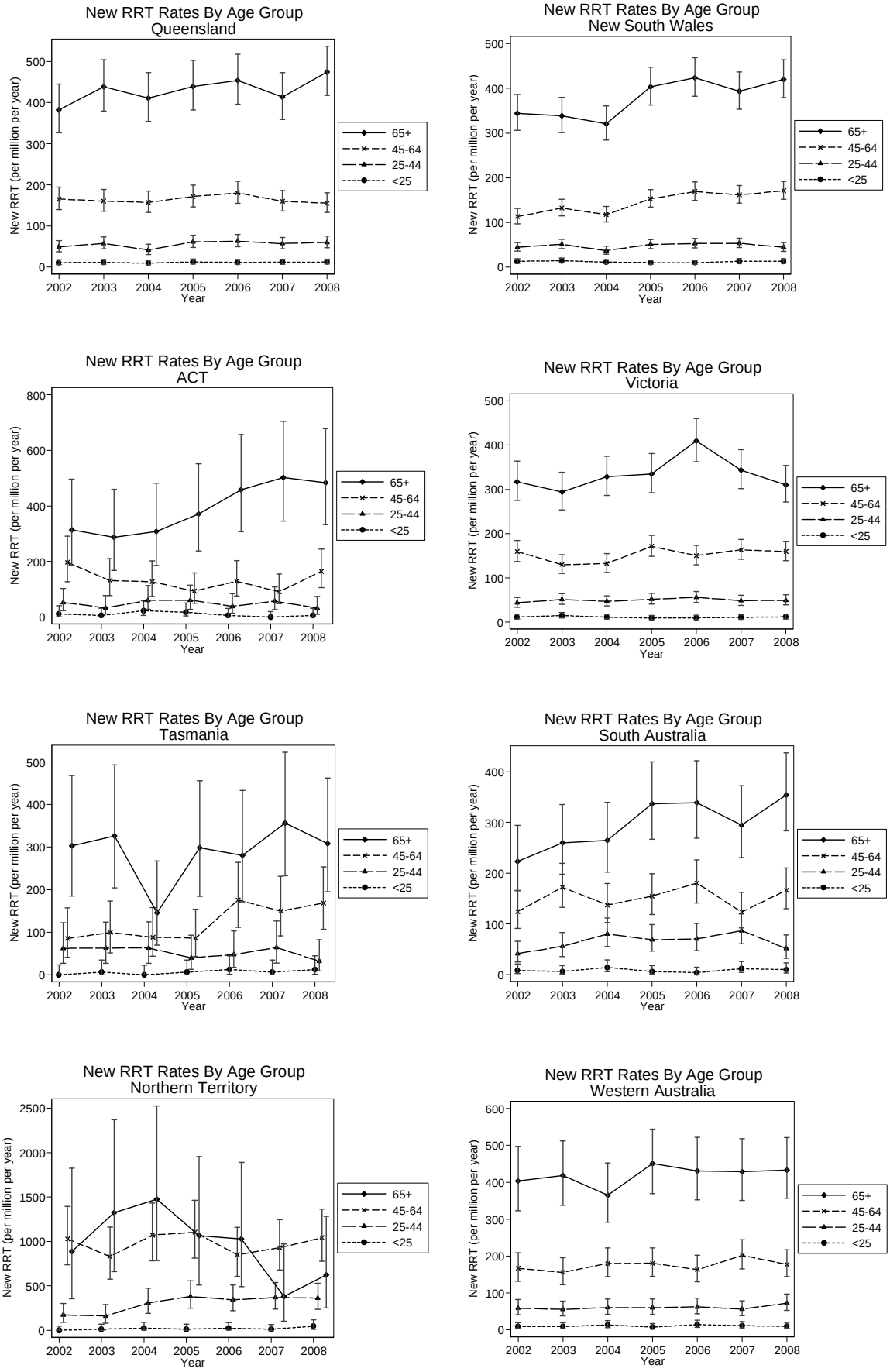


Figure 2.7

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



LATE REFERRAL

There were 22% (24% in 2007) of all new patients in Australia and 23% (21% in 2007) 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 rate was 11% in South Australia ranging to 29% 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. Late referral rates were particularly high in the ≥ 85 year age group.

Figure 2.8

Late Referral of New Patients 2008

Number of Patients (% Patients)

Primary Renal Disease	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ
YES										
Analgesic	3 (2%)	5 (3%)	0 (0%)	2 (2%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	**10 (2%)**	**0 (0%)**
Diabetes-I Insulin	3 (2%)	2 (1%)	1 (6%)	4 (3%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	**10 (2%)**	**4 (3%)**
Diabetes-II Insulin Req	16 (13%)	29 (16%)	1 (6%)	18 (15%)	2 (29%)	3 (15%)	2 (13%)	9 (14%)	**80 (15%)**	**32 (29%)**
Diabetes-II Non-Insulin	15 (12%)	18 (10%)	4 (22%)	10 (8%)	0 (0%)	3 (15%)	4 (27%)	9 (14%)	**63 (12%)**	**13 (12%)**
Glomerulonephritis	22 (18%)	42 (23%)	4 (22%)	20 (17%)	3 (43%)	4 (20%)	2 (13%)	19 (31%)	**116 (21%)**	**24 (21%)**
Hypertension	24 (20%)	32 (18%)	0 (0%)	16 (13%)	1 (14%)	5 (25%)	4 (27%)	11 (18%)	**93 (17%)**	**7 (6%)**
Miscellaneous	13 (11%)	20 (11%)	4 (22%)	21 (18%)	1 (14%)	4 (20%)	0 (0%)	9 (14%)	**72 (13%)**	**21 (19%)**
Polycystic	5 (4%)	8 (4%)	0 (0%)	5 (4%)	0 (0%)	0 (0%)	0 (0%)	2 (3%)	**20 (4%)**	**1 (1%)**
Reflux	4 (3%)	5 (3%)	0 (0%)	5 (4%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	**14 (2%)**	**1 (1%)**
Uncertain	16 (13%)	18 (10%)	4 (22%)	19 (16%)	0 (0%)	1 (5%)	3 (20%)	3 (5%)	**64 (12%)**	**9 (8%)**
Sub Total	**121 (24%)**	**179 (23%)**	**18 (29%)**	**120 (23%)**	**7 (13%)**	**20 (11%)**	**15 (17%)**	**62 (24%)**	**542 (22%)**	**112 (23%)**
NO										
Analgesic	12 (3%)	19 (3%)	1 (2%)	3 (<1%)	0 (0%)	1 (1%)	0 (0%)	2 (1%)	**38 (2%)**	**2 (1%)**
Diabetes-I insulin	18 (5%)	17 (3%)	0 (0%)	19 (5%)	1 (2%)	9 (5%)	0 (0%)	5 (3%)	**69 (4%)**	**12 (3%)**
Diabetes-II Insulin Req	55 (14%)	122 (20%)	6 (13%)	72 (18%)	7 (16%)	41 (25%)	11 (15%)	40 (20%)	**354 (18%)**	**99 (26%)**
Diabetes-II Non-insulin	51 (13%)	74 (12%)	4 (9%)	48 (12%)	5 (11%)	14 (9%)	35 (47%)	34 (17%)	**265 (14%)**	**64 (17%)**
Glomerulonephritis	71 (18%)	139 (23%)	9 (20%)	106 (26%)	10 (22%)	36 (22%)	11 (15%)	54 (27%)	**436 (23%)**	**74 (19%)**
Hypertension	58 (15%)	91 (15%)	13 (29%)	46 (11%)	8 (18%)	16 (10%)	4 (5%)	27 (14%)	**263 (14%)**	**39 (10%)**
Miscellaneous	31 (8%)	63 (10%)	4 (9%)	40 (10%)	4 (9%)	17 (10%)	8 (11%)	16 (8%)	**183 (9%)**	**41 (11%)**
Polycystic	31 (8%)	49 (8%)	3 (7%)	27 (7%)	5 (11%)	7 (4%)	1 (1%)	14 (7%)	**137 (7%)**	**21 (6%)**
Reflux	10 (3%)	17 (3%)	2 (4%)	18 (4%)	2 (4%)	8 (5%)	2 (3%)	2 (1%)	**61 (3%)**	**13 (3%)**
Uncertain	50 (13%)	22 (4%)	3 (7%)	28 (7%)	3 (7%)	15 (9%)	2 (3%)	5 (3%)	**128 (7%)**	**15 (4%)**
Sub Total	**387 (76%)**	**613 (77%)**	**45 (71%)**	**407 (77%)**	**45 (87%)**	**164 (89%)**	**74 (83%)**	**199 (76%)**	**1934 (78%)**	**380 (77%)**
Total (100%)	**508**	**792**	**63**	**527**	**52**	**184**	**89**	**261**	**2476**	**492**

Figure 2.9

Late Referral - All Modes of Treatment Including Pre-emptive Transplants
New Patients 1-Jan-2004 to 31-Dec-2008

Country	Age Groups						Total
	0-19	20-44	45-64	65-74	75-84	>=85	
Australia							
Yes	65 (29%)	493 (27%)	953 (23%)	653 (23%)	519 (24%)	78 (34%)	**2761 (24%)**
No	162 (71%)	1355 (73%)	3280 (77%)	2171 (77%)	1639 (76%)	154 (66%)	**8761 (76%)**
Total (100%)	**227**	**1848**	**4233**	**2824**	**2158**	**232**	**11,522**
New Zealand							
Yes	31 (42%)	109 (27%)	230 (20%)	92 (17%)	45 (21%)	3 (16%)	**510 (21%)**
No	43 (58%)	288 (73%)	894 (80%)	458 (83%)	168 (78%)	16 (84%)	**1867 (79%)**
Total (100%)	**74**	**397**	**1124**	**550**	**213**	**19**	**2377**

Figure 2.10

Late Referral - All Modes of Treatment
Including Pre-emptive Transplants 2004 to 2008

Country	Years				
	2004	2005	2006	2007	2008
Australia					
Yes	542 (28%)	556 (24%)	559 (23%)	562 (24%)	542 (22%)
No	1407 (72%)	1738 (76%)	1878 (77%)	1804 (76%)	1934 (78%)
Total (100%)	**1949**	**2294**	**2437**	**2366**	**2476**
New Zealand					
Yes	96 (21%)	97 (22%)	109 (22%)	96 (21%)	112 (23%)
No	364 (79%)	363 (78%)	390 (78%)	370 (79%)	380 (77%)
Total (100%)	**460**	**460**	**499**	**466**	**492**

Figure 2.11

Late Referral - All Modes of Treatment
Including Pre-emptive Transplants
By Race 2004 to 2008

Country	Race					
	Asian	Aboriginal / TSI	Caucasoid	Maori	Pacific People	Other
Australia						
Yes	227 (25%)	360 (32%)	2051 (23%)	21 (30%)	63 (33%)	39 (28%)
No	688 (75%)	748 (68%)	7050 (77%)	48 (70%)	127 (67%)	100 (72%)
Total (100%)	**915**	**1108**	**9101**	**69**	**190**	**139**
New Zealand						
Yes	20 (13%)	-	199 (18%)	204 (27%)	86 (23%)	1 (17%)
No	129 (87%)	-	901 (82%)	541 (73%)	291 (77%)	5 (83%)
Total (100%)	**149**	**-**	**1100**	**745**	**377**	**6**

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 as a primary renal disease continues to be more common in New Zealand.

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

Figure 2.12

Co-morbid Conditions at Entry to Program 2008

Number of Patients (% Patients)

Country		Chronic Lung Disease	Coronary Artery Disease	Peripheral Vascular Disease	Cerebro-Vascular Disease	Smoking		Diabetes (Including Diabetic Nephropathy)	
Australia n=2476	Yes	306 (12%)	808 (33%)	484 (20%)	284 (11%)	Current	306 (12%)	Type I	85 (3%)
	Suspected	109 (5%)	154 (6%)	186 (7%)	93 (4%)	Former	965 (39%)	II Ins Req	494 (20%)
	No	2061 (83%)	1514 (61%)	1806 (73%)	2099 (85%)	Never	1205 (49%)	II Non Ins	507 (20%)
								No	1390 (56%)
New Zealand n=492	Yes	51 (10%)	124 (25%)	71 (15%)	48 (10%)	Current	77 (16%)	Type I	17 (3%)
	Suspected	27 (5%)	40 (8%)	35 (7%)	12 (2%)	Former	168 (34%)	II Ins Req	138 (28%)
	No	414 (84%)	328 (67%)	386 (78%)	432 (88%)	Never	247 (50%)	II Non Ins	96 (20%)
								No	241 (49%)

Figure 2.13

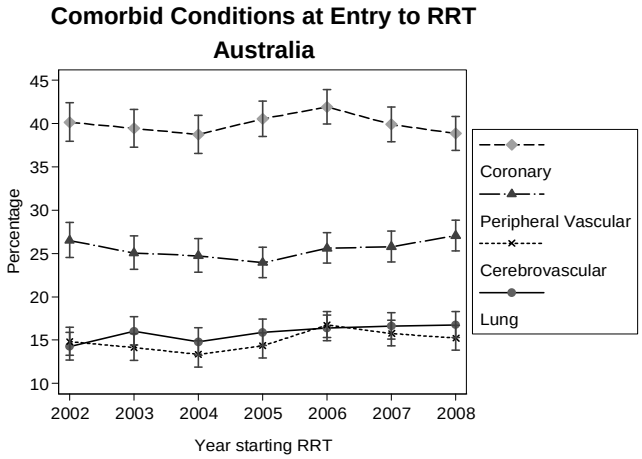


Figure 2.14

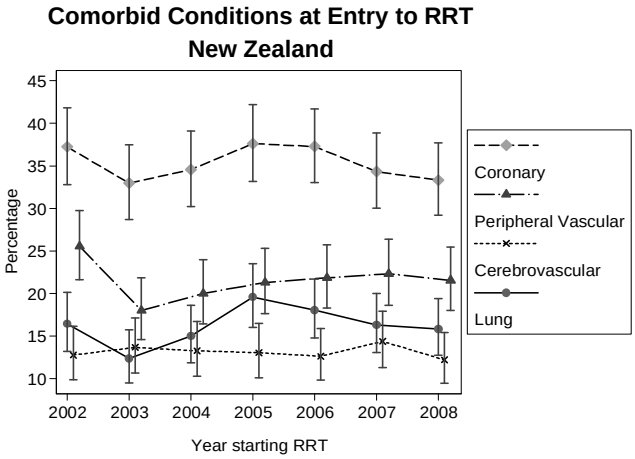


Figure 2.15

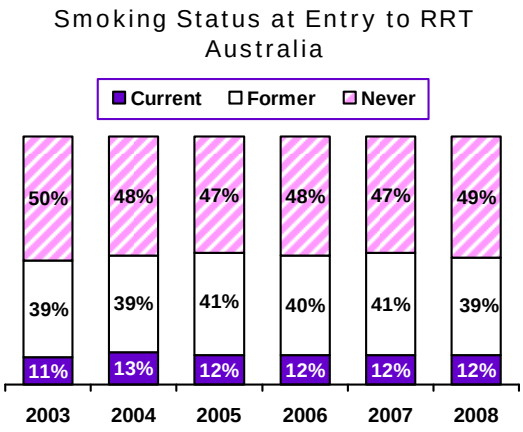


Figure 2.16

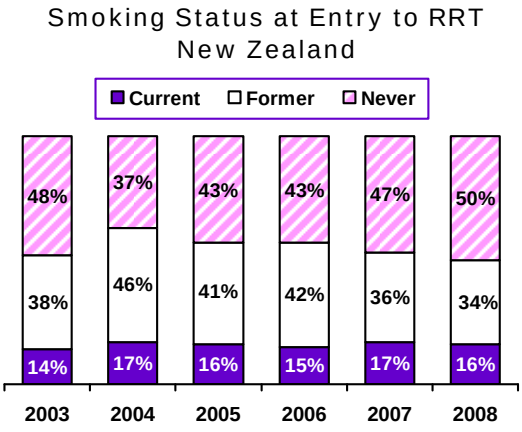


Figure 2.17

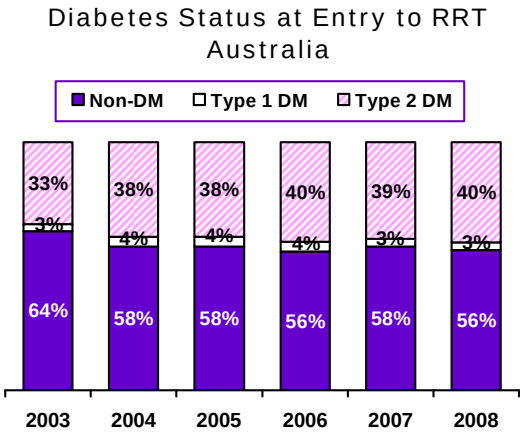
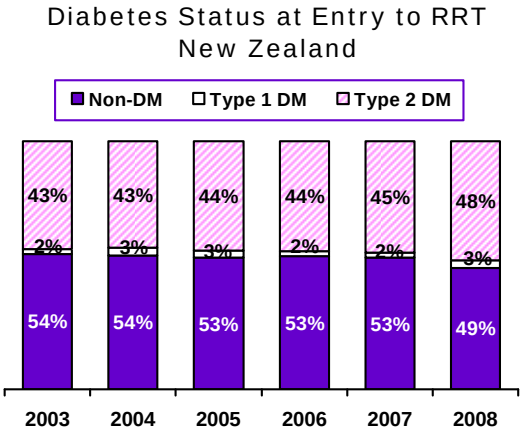


Figure 2.18



PRIMARY RENAL DISEASE OF NEW PATIENTS

AUSTRALIA

Diabetic nephropathy (34% of all new patients), continues for the fifth year in succession as the most common cause of primary renal disease (Figure 2.19).

Diabetes Type II (non-insulin and insulin requiring) represented 91% of diabetic nephropathy.

Glomerulonephritis (22%) was the next most common cause of ESRD, followed by hypertension (15%), polycystic kidney disease (6%), reflux nephropathy (3%) and analgesic nephropathy (2%). The number of **analgesic nephropathy** patients rose slightly from 44 to 48 patients in 2008.

IgA mesangioproliferative GN (25% of all GN) was the most common histologically proven form of glomerulonephritis (33% of biopsy proven glomerulonephritis), followed by **focal sclerosing GN, including primary and secondary focal sclerosing** (15%) (Figure 2.20).

Amongst the **miscellaneous diseases** causing end stage renal failure, there were 33 cases of multiple myeloma, 26 interstitial nephritis, 20 lithium toxicity, 17 amyloid, eight cortical necrosis, eight haemolytic uraemic syndrome and three due to calcineurin inhibitor nephrotoxicity (Figure 2.21).

A renal biopsy based diagnosis was reported in 29% of cases: glomerulonephritis 73%, reflux 21%, hypertension 20%, analgesic nephropathy and diabetes (types I and II) both 15% and polycystic kidney disease 8% (Figure 2.22).

NEW ZEALAND

Diabetic nephropathy (46%) was the most common cause of ESRD followed by glomerulonephritis (20%) and hypertension (9%).

Diabetes Type II (non-insulin and insulin requiring) represented 93% of diabetic nephropathy.

IgA mesangioproliferative GN (16%) and **focal sclerosing GN**, **including primary and secondary focal sclerosing** (11%) represented 33% of biopsy proven glomerulonephritis (Figure 2.20).

Biopsy rates (28%) were slightly lower than those in Australia (29%) in 2008, although rates in both countries fell from 31% and 33% respectively in 2007.

Figure 2.19

Causes of ESRD 2005 - 2008
Number of Patients (% Patients)

Disease	2005	2006	2007	2008
Australia				
Glomerulonephritis	540 (24%)	551 (23%)	581 (25%)	552 (22%)
Analgesic Nephropathy	69 (3%)	54 (2%)	44 (2%)	48 (2%)
Polycystic Kidney	174 (7%)	151 (6%)	142 (6%)	157 (6%)
Reflux Nephropathy	66 (3%)	93 (4%)	69 (3%)	75 (3%)
Hypertension	331 (14%)	360 (15%)	380 (16%)	356 (15%)
Diabetic Nephropathy	724 (32%)	797 (33%)	736 (31%)	841 (34%)
Miscellaneous	255 (11%)	299 (12%)	261 (11%)	255 (10%)
Uncertain Diagnosis	135 (6%)	132 (5%)	158 (6%)	192 (8%)
Total (100%)	**2294**	**2437**	**2366**	**2476**
New Zealand				
Glomerulonephritis	100 (22%)	106 (21%)	114 (24%)	98 (20%)
Analgesic Nephropathy	1 (<1%)	1 (<1%)	3 (1%)	2 (<1%)
Polycystic Kidney	33 (7%)	36 (7%)	29 (6%)	22 (4%)
Reflux Nephropathy	11 (2%)	14 (3%)	10 (2%)	14 (3%)
Hypertension	51 (11%)	59 (12%)	50 (11%)	46 (9%)
Diabetic Nephropathy	194 (42%)	211 (42%)	191 (41%)	224 (46%)
Miscellaneous	48 (11%)	38 (8%)	54 (12%)	62 (13%)
Uncertain Diagnosis	22 (5%)	34 (7%)	15 (3%)	24 (5%)
Total (100%)	**460**	**499**	**466**	**492**

Figure 2.20

Types of Glomerulonephritis
1-Jan-2008 to 31-Dec-2008
Number (% of all GN)

	Australia	New Zealand
Presumed GN - No Biopsy performed	147 (27%)	19 (20%)
Focal Sclerosing	42 (8%)	4 (4%)
Primary Focal Sclerosing	28 (5%)	6 (6%)
Secondary Focal Sclerosing	10 (2%)	1 (1%)
MCGN - Type I	13 (2%)	6 (6%)
MCGN - Type II	6 (1%)	-
Membranous GN	26 (5%)	4 (4%)
Rapidly Progressive GN	8 (1%)	2 (2%)
Mesangioproliferative IgA +	142 (26%)	15 (16%)
Mesangioproliferative IgA -	6 (1%)	1 (1%)
Mesangioproliferative No I.F. Studies	3 (<1%)	-
Focal & Segmental Proliferative GN	23 (4%)	3 (3%)
Advanced GN (end-stage type)	13 (2%)	8 (8%)
Goodpasture's Syndrome	9 (1%)	2 (2%)
Systemic Lupus	18 (3%)	9 (9%)
Henoch-Schonlein Purpura	3 (<1%)	3 (3%)
Wegener's Granulomatosis	8 (1%)	2 (2%)
Microscopic Polyarteritis	14 (3%)	2 (2%0
Scleroderma	2 (<1%)	-
GN Other	16 (3%)	6 (6%)
Familial GN (including Alports)	9 (2%)	1 (1%)
Anti GBM (no haemoptysis)	4 (<1%)	3 (3%)
GN (with systemic disease)	2 (<1%)	1 (1%)
Total	**552**	**98**

Figure 2.21

Miscellaneous Causes of ESRD 1-Jan-2008 to 31-Dec-2008

Renal Disease	Aust (255)	NZ (62)	Renal Disease	Aust (255)	NZ (62)
Interstitial Nephritis	26	7	Obstructive Nephropathy	18	5
Lithium Toxicity	20	4	Bladder Neck Obstruction	4	-
Loss of a Single Kidney	5	-	Ureteric Obstructive Nephropathy	4	-
Hepato-Renal Syndrome	4	-	Posterior Urethral Valves	3	2
Calcineurin Inhibitor Toxicity	3	5	Pelvi-Ureteric Junction Obstruction	2	-
Lead Nephropathy	2	1	Lower Urinary Tract Abnormalities	3	1
Sarcoidosis	2	-	Congenital Hypospadius (1)		
Aminoglycoside Induced	-	1	Juvenile Nephronophthisis (3)		
Birt-Hogg-Dube Syndrome	1	-	Megaureter	1	-
Cardiac Medication Related	1	-	Neuropathic Bladder	1	-
Digoxin Toxicity	1	-	Non-obstructed Dilated Bladder-Ureters	1	-
Fanconi Syndrome	-	1	Small Kidney-Urethral Stenosis	-	1
Fibromyolipomatosis	1	-	Spina Bifida or Myelomeningocoele	1	-
Gentamicin Toxicity	1	-			
Hypoxia at Birth-Hypoplastic Lungs	1	-	Congenital Renal Hypoplasia and Dysplasia	18	1
Jeune's Syndrome	1	-	Amyloid	17	1
Laurence-Moon-Bardet-Biedl Syndrome	1	-	Light Chain Nephropathy (Benign)	4	-
Nephrocalcinosis	1	-	Congenital Nephrotic Syndrome	2	-
Protein C Deficiency	-	1	Bilateral Hydronephrosis	1	-
Radio-Contrast Nephropathy	1	-	Congenital (R) Renal Agenesis	1	-
Renal Tuberculosis	1	-	Renal Agenesis-(R) Ectopic Kidney	1	-
Rhabdomyolysis-Single Kidney	1	-			
Severe Cardiac Failure	1	-	Multiple Myeloma	33	13
Sjogren's Syndrome	1	-	Transitional Cell Carcinoma	8	-
			Renal Cell Carcinoma	6	4
Calculi	18	3	Carboplatin Nephrotoxicity	2	
Medullary Cystic	6	-	Cysplatin Induced Nephrotoxicity	1	-
Oxalosis	2	1	Post Bone Marrow Transplant	1	-
Gout	1	1	(R) PUJ Obstruction-(L) Renal Cell	1	-
Hyperoxaluria	-	1	Waldenstrom's Macroglobulinaemia	1	-
Medullary Sponge Kidney	1	-			
Cortical Necrosis	8	7			
Haemolytic Uraemic Syndrome	8	1			

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). Biopsy rates in New Zealand are lower, particularly for diabetic nephropathy (Figure 2.25).

Figure 2.22

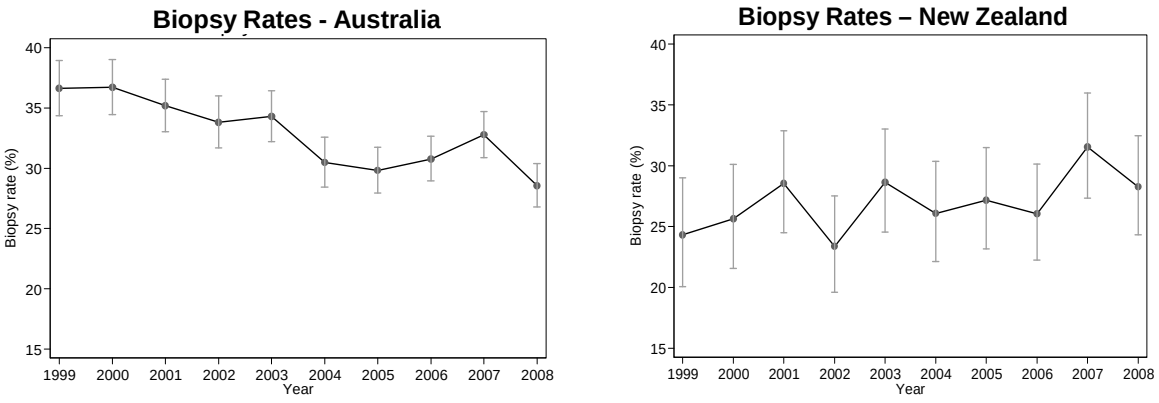


Figure 2.23

Biopsy of New Patients 2008

Biopsy	Primary Renal Disease	Qld	NSW	ACT	Vic	Tas	SA	NT	WA	Aust	NZ
Yes	Analgesic	3	4	0	0	0	0	**0**	0	**7**	**1**
	Diabetes-I Insulin Dependent	3	4	0	3	0	3	**0**	0	**13**	**2**
	Diabetes-II Insulin Requiring	10	17	0	9	1	5	1	2	**45**	**11**
	Diabetes-II Non-Insulin	9	14	3	11	1	2	1	0	**41**	**7**
	Glomerulonephritis	77	134	9	98	12	32	4	36	**402**	**79**
	Hypertension	15	20	3	21	2	4	3	3	**71**	**6**
	Miscellaneous	16	29	2	23	3	6	2	5	**86**	**31**
	Polycystic	2	4	0	3	1	1	0	1	**12**	**0**
	Reflux	2	8	0	1	1	4	0	0	**16**	**0**
	Uncertain	3	4	2	2	1	0	0	2	**14**	**2**
	Sub Total	**140**	**238**	**19**	**171**	**22**	**57**	**11**	**49**	**707**	**139**
No	Analgesic	12	20	1	5	0	1	0	2	**41**	**1**
	Diabetes-I Insulin Dependent	18	15	1	20	1	6	0	5	**66**	**14**
	Diabetes-II Insulin Requiring	61	134	7	81	8	39	12	47	**389**	**120**
	Diabetes-II Non-insulin	57	78	5	47	4	15	38	43	**287**	**70**
	Glomerulonephritis	16	47	4	28	1	8	9	37	**150**	**19**
	Hypertension	67	103	10	41	7	17	5	35	**285**	**40**
	Miscellaneous	28	54	6	38	2	15	6	20	**169**	**31**
	Polycystic	34	53	3	29	4	6	1	15	**145**	**22**
	Reflux	12	14	2	22	1	4	2	2	**59**	**14**
	Uncertain	63	36	5	45	2	16	5	6	**178**	**22**
	Sub Total	**368**	**554**	**44**	**356**	**30**	**128**	**78**	**212**	**1769**	**353**
	Total	**508**	**792**	**63**	**527**	**52**	**184**	**89**	**261**	**2476**	**492**

Fifteen per cent of all patients with diabetic nephropathy in Australia (1008/6637) and 7% (157/2143) 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