



CHAPTER 2

NEW PATIENTS

(Commencing treatment in 2012)

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Figure 2.1

Annual Intake of New Patients 2008 - 2012 (Number Per Million Population)					
	2008	2009	2010	2011	2012
Queensland	534 (125)	490 (112)	451 (102)	451 (101)	467 (103)
New South Wales	814 (120)	766 (112)	722 (104)	780 (111)	786 (111)
Aust. Capital Territory	61 (109)	41 (73)	53 (92)	53 (91)	64 (108)
Victoria	539 (102)	549 (102)	575 (105)	602 (109)	628 (112)
Tasmania	54 (108)	58 (115)	47 (92)	52 (102)	47 (91)
South Australia	185 (116)	207 (128)	180 (110)	183 (112)	202 (123)
Northern Territory	90 (407)	72 (317)	65 (282)	83 (359)	98 (422)
Western Australia	274 (126)	248 (110)	237 (103)	292 (124)	242 (100)
Australia	2551 (119)	2431 (112)	2330 (106)	2496 (112)	2534 (112)
New Zealand	497 (116)	584 (135)	515 (118)	485 (110)	513 (116)

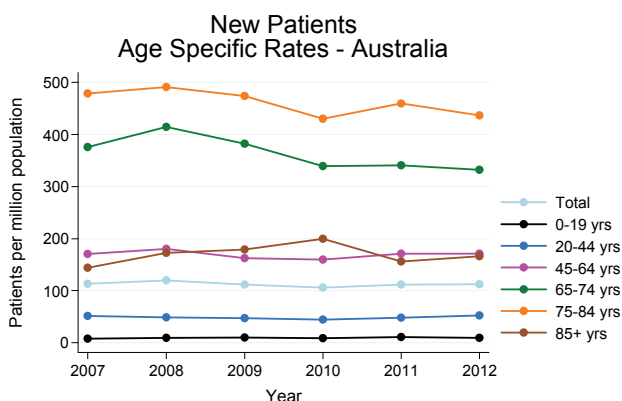
INTAKE OF NEW PATIENTS

There were 2534 patients who commenced treatment for end-stage renal failure in Australia in 2012, a rate of 112 per million population.

Incidence rates have stabilised over the past 5 years.

In New Zealand, the number of new patients commencing renal replacement treatment was 513, a rate of 116 per million of population. This rate has been essentially stable since 2007.

Figure 2.2



AGE OF NEW PATIENTS

In Australia in 2012, all age groups under 85 showed stable or decreased rates for acceptance of new patients compared with 2011 (Figure 2.2). The 85+ age group showed an increase compared with 2011.

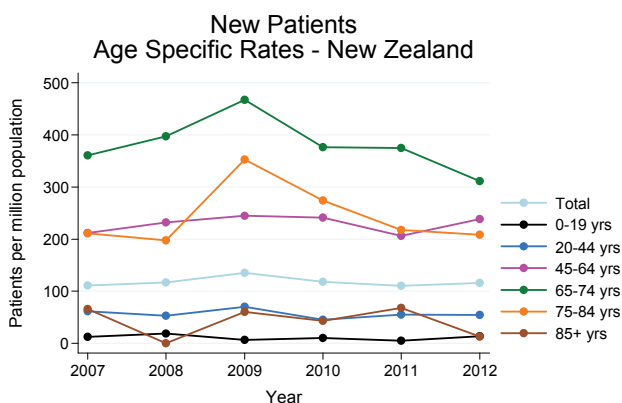
The largest decrease was in the 75-79 year group, from 536 to 447 per million (Figure 2.4).

The mean age of patients entering programs in Australia in 2012 was 60 years and the median 62 years (Figure 2.5).

In New Zealand, the mean age of patients entering was 56 years and the median 58 years (Figure 2.5).

The youngest age starting renal replacement therapy in Australia was under 1 year of age and the oldest patient was 99 years old.

Figure 2.3



In New Zealand, the youngest was 2 years of age and the oldest was 85 years old.

Within the older age groups in Australia, only the 65-69 and 75-79 year age groups decreased in numbers in 2012 (Figure 2.4).

In New Zealand there were decreases in the 65-69, 70-74, 80-84 and ≥85 age groups in 2012.

Rates in most age groups ≥70 years were higher in Australia than in New Zealand, particularly for those 75 years or older.

Figure 2.4						
Acceptance of Elderly New Patients 2008 - 2012 (Number Per Million Population)						
Country	Age Groups	2008	2009	2010	2011	2012
Australia	60-64 years	289 (257)	271 (232)	279 (231)	289 (233)	314 (246)
	65-69 years	302 (364)	288 (333)	255 (281)	292 (307)	289 (289)
	70-74 years	316 (478)	303 (446)	290 (414)	278 (387)	288 (390)
	75-79 years	285 (517)	296 (537)	271 (491)	299 (536)	252 (447)
	80-84 years	194 (458)	169 (392)	155 (353)	161 (363)	190 (423)
	>=85 years	61 (172)	66 (179)	77 (200)	63 (156)	70 (166)
	Total	1447 (367)	1393 (343)	1327 (317)	1382 (320)	1403 (316)
New Zealand	60-64 years	65 (307)	72 (325)	93 (404)	61 (257)	82 (346)
	65-69 years	65 (392)	75 (437)	70 (397)	75 (416)	62 (325)
	70-74 years	51 (405)	66 (507)	48 (350)	47 (324)	45 (295)
	75-79 years	29 (277)	49 (468)	33 (314)	22 (208)	27 (249)
	80-84 years	7 (90)	16 (202)	18 (223)	19 (230)	13 (155)
	>=85 years	0 (0)	4 (60)	3 (43)	5 (68)	1 (13)
	Total	217 (290)	282 (364)	265 (331)	229 (278)	230 (271)

STATE OF ORIGIN OF NEW PATIENTS

The age at start of dialysis varied little between States (Figure 2.5) except in the Northern Territory. The highest acceptance rates were in the Northern Territory (410 per million) (Figure 2.6).

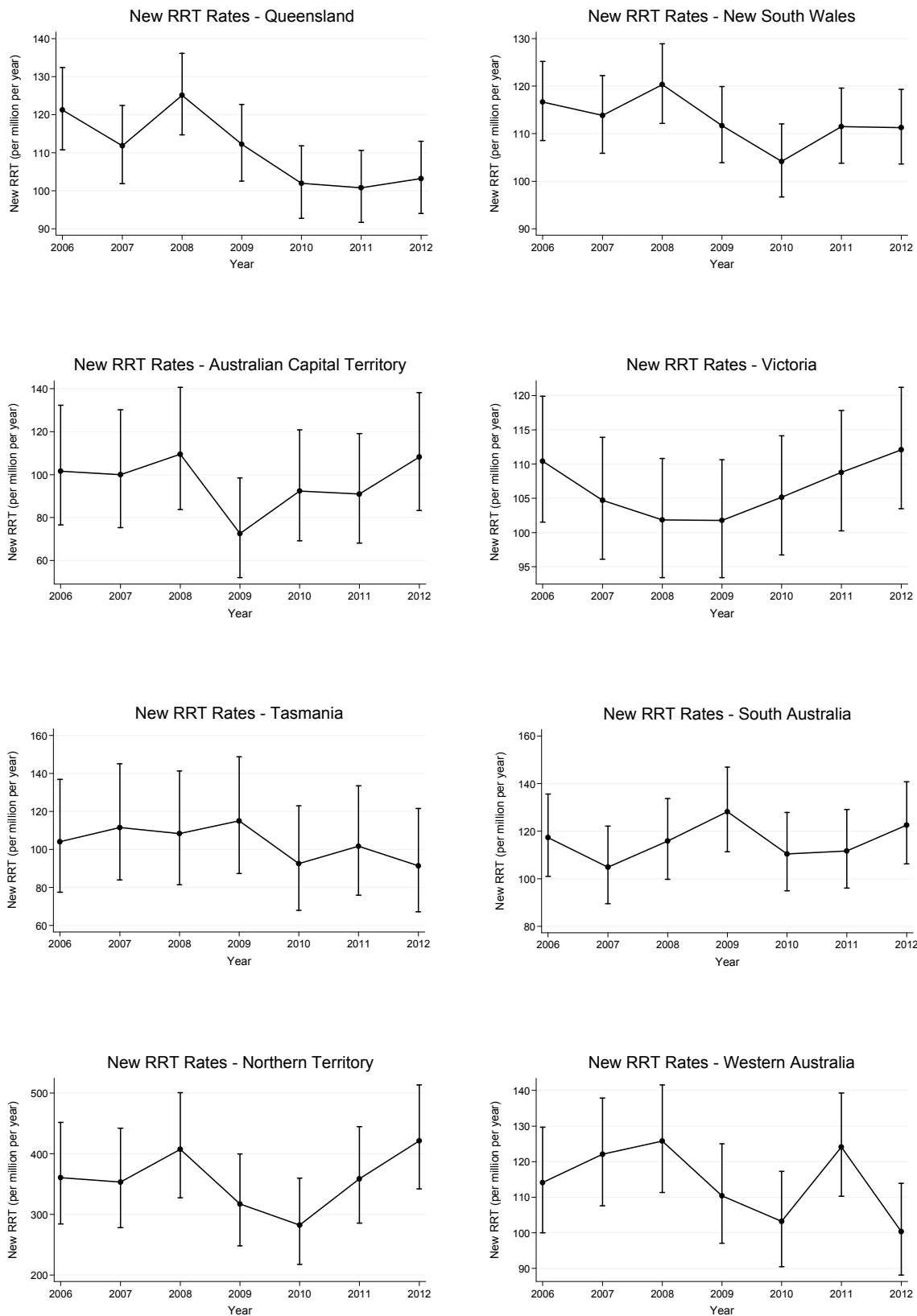
Figure 2.5																				
Age and Gender of New Patients 1-Jan-2012 to 31-Dec-2012 Number of Patients																				
Age Groups Years	QLD (n=467)		NSW (n=786)		ACT (n=64)		VIC (n=628)		TAS (n=47)		SA (n=202)		NT (n=98)		WA (n=242)		AUST (n=2534)		NZ (n=513)	
	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
00-04	1	0	1	4	0	0	2	3	0	0	0	2	0	0	0	0	4	9	0	1
05-14	3	4	7	6	0	0	1	3	0	0	0	0	0	0	0	1	11	14	3	5
15-24	10	7	3	15	0	0	4	9	0	0	2	1	0	0	2	3	21	35	11	10
25-34	13	15	17	25	3	1	15	10	1	0	5	6	4	6	5	9	63	72	5	18
35-44	13	35	20	38	2	5	24	32	2	2	12	17	13	7	3	19	89	155	15	30
45-54	32	35	44	74	1	4	30	56	1	5	14	22	21	11	17	29	160	236	40	67
55-64	53	70	70	98	4	10	56	89	4	4	12	31	12	14	19	30	230	346	51	109
65-74	34	58	88	103	6	10	61	110	6	8	13	25	3	2	17	33	228	349	38	69
75-84	24	41	49	102	5	13	31	81	3	10	14	24	1	2	9	33	136	306	13	27
>=85	5	14	5	17	0	0	3	8	1	0	0	2	0	2	6	7	20	50	1	0
Total	188	279	304	482	21	43	227	401	18	29	72	130	54	44	78	164	962	1572	177	336
Mean age	56.9	59.8	60.4	60.3	61.6	64.5	59.3	61.9	64.4	67.4	57.7	59.5	49.4	53.6	60.7	60.1	58.7	60.6	55.3	56.3
Mean age		58.6		60.3		63.5		61		66.2		58.9		51.3		60.3		59.9		55.9
Median age		61.3		63.6		65.4		63.8		70.8		59.5		51		61.1		62.3		58.3
Age range		0.6 - 92.1		0.7 - 98.1		32.4 - 84.6		0.3 - 89		33.7 - 85.5		0.3 - 90.1		27.1 - 99.7		5.9 - 89.9		0.3 - 99.7		2.3 - 85.4
Min.in.days		220		263		11813		96		12316		123		9896		2140				831



INCIDENCE RATES FOR NEW RRT PATIENTS BY STATE

Figure 2.6

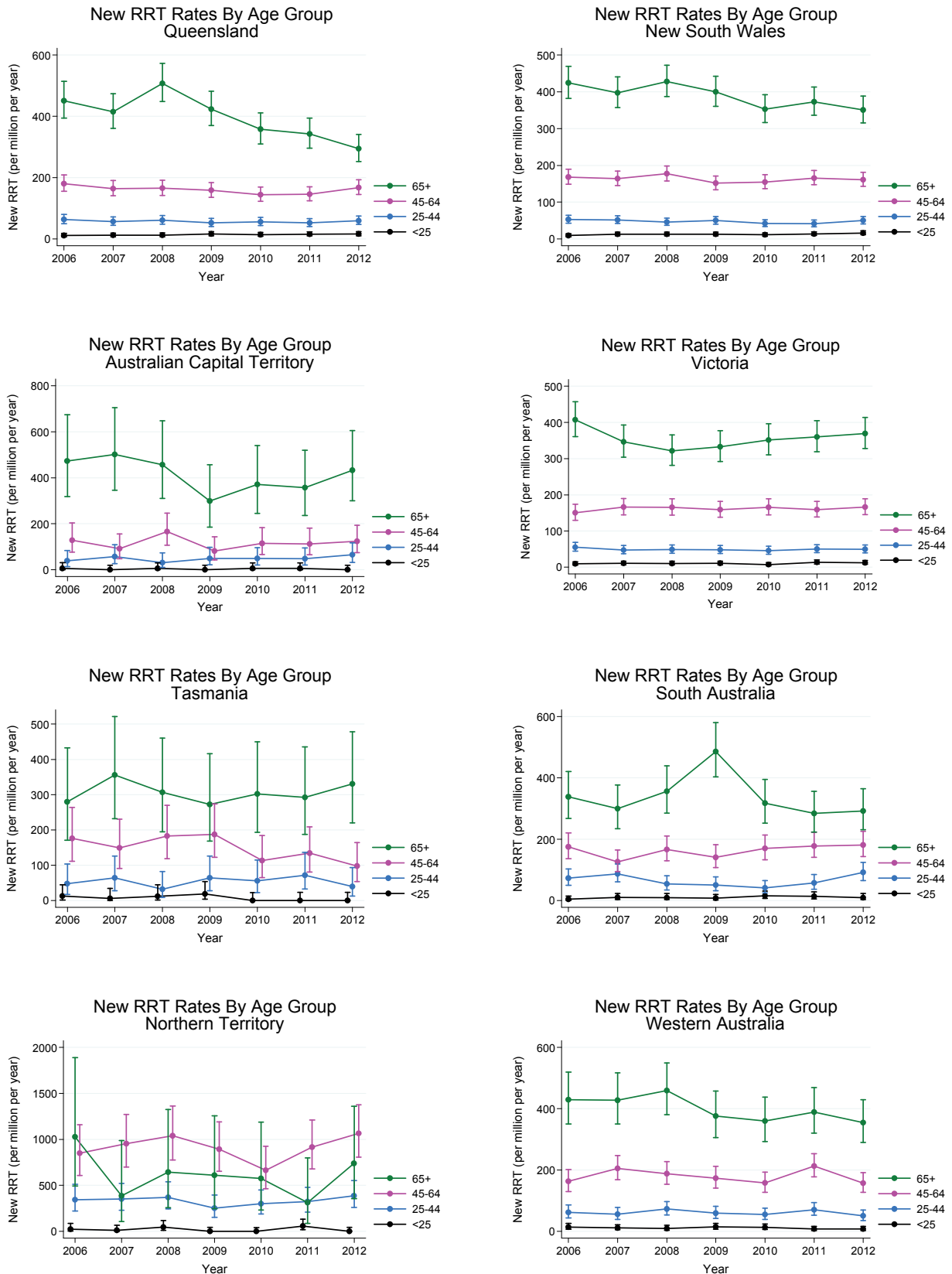
Incidence rates (95% confidence intervals) for new RRT patients by State. Note the Y axis scales for each State are different. ACT population data includes the adjacent area of NSW (served by Canberra).



INCIDENCE RATES FOR NEW RRT PATIENTS BY AGE GROUPS

Figure 2.7

Incidence rates (95% confidence intervals) for new RRT patients by state and age groups. Note the Y axis scales for each state are different. ACT population data includes the adjacent area of NSW (served by Canberra).





LATE REFERRAL

In total 21% of all new patients in Australia and 15% in New Zealand were referred “late” to nephrological care, i.e. less than three months before first treatment (Figure 2.8). There is some variation with age, and patterns differ between Australia and New Zealand (Figure 2.9). Late referral rates have been essentially stable for a number of years (Figure 2.10).

Among the states/territories, the lowest rate was 2% in the Tasmania ranging to 35% in Northern Territory. Variation with racial origin is shown in Figure 2.11. Higher rates are seen among ATSI, Pacific People and Maori's.

Figure 2.8

Late Referral of New Patients										
Number of Patients (% Patients)										
Primary Renal Disease	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ
LATE REFERRAL										
Analgesic	2	2	0	2	0	0	0	0	6	3
Type 1 diabetes	2	9	0	5	0	1	0	3	20	1
Type 2 diabetes	27	42	4	32	0	7	25	13	150	24
Glomerulonephritis	19	39	3	30	0	5	2	14	112	17
Hypertension	16	21	4	15	0	2	4	9	71	10
Miscellaneous	26	49	1	33	1	4	1	8	123	16
Polycystic	2	6	0	1	0	2	0	0	11	2
Reflux	3	3	1	0	0	0	0	4	11	1
Uncertain	6	14	1	10	0	2	2	4	39	5
Subtotals	103 (22%)	185 (24%)	14 (22%)	128 (20%)	1 (2%)	23 (11%)	34 (35%)	55 (23%)	543 (21%)	79 (15%)
NOT LATE REFERRAL										
Analgesic	8	15	0	2	0	4	0	0	29	1
Type 1 diabetes	23	31	3	21	2	10	2	5	97	11
Type 2 diabetes	93	172	16	174	11	51	39	62	618	209
Glomerulonephritis	58	88	8	107	9	44	3	39	356	86
Hypertension	45	71	8	48	5	16	3	28	224	37
Miscellaneous	64	100	5	63	8	21	2	13	276	38
Polycystic	25	29	3	31	5	13	2	4	112	24
Reflux	11	18	1	15	2	4	1	3	55	7
Uncertain	24	32	5	24	4	12	3	5	109	10
Subtotals	351 (75%)	556 (71%)	49 (77%)	485 (77%)	46 (98%)	175 (87%)	55 (56%)	159 (66%)	1876 (74%)	423 (82%)
MISSING / UNKNOWN										
Subtotals	13 (3%)	45 (6%)	1 (2%)	15 (2%)	0 (0%)	4 (2%)	9 (9%)	28 (12%)	115 (5%)	11 (2%)
Total (100%)	467	786	64	628	47	202	98	242	2534	513

NOTE; Diabetes Type 2 non insulin requiring and Diabetes Type 2 requiring insulin are now combined

Figure 2.9

**Late Referral - All Modes of Treatment Including Pre-emptive Transplants
New Patients 1-Jan-2008 to 31-Dec-2012**

Country	Age Groups										Total
	0-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	>=85	
Australia											
Not late referral	42 (72%)	75 (71%)	175 (63%)	421 (72%)	854 (75%)	1512 (78%)	2157 (79%)	2280 (79%)	1773 (78%)	235 (70%)	9524 (77%)
Late referral	7 (12%)	21 (20%)	99 (35%)	149 (26%)	270 (24%)	401 (21%)	549 (20%)	602 (21%)	484 (21%)	100 (30%)	2682 (22%)
Unknown / Undefined	9 (16%)	10 (9%)	6 (2%)	12 (2%)	13 (1%)	28 (1%)	22 (1%)	19 (1%)	15 (1%)	2 (1%)	136 (1%)
Total	58	106	280	582	1137	1941	2728	2901	2272	337	12342
New Zealand											
Not late referral	6 (55%)	11 (52%)	48 (60%)	86 (76%)	190 (75%)	437 (79%)	611 (86%)	510 (84%)	193 (83%)	12 (92%)	2104 (81%)
Late referral	4 (36%)	10 (48%)	31 (39%)	27 (24%)	61 (24%)	115 (21%)	95 (13%)	91 (15%)	40 (17%)	1 (8%)	475 (18%)
Unknown / Undefined	1 (9%)	0 (0%)	1 (1%)	0 (0%)	1 (0%)	3 (1%)	6 (1%)	3 (0%)	0 (0%)	0 (0%)	15 (1%)
Total	11	21	80	113	252	555	712	604	233	13	2594

Figure 2.10

**Late Referral - All Modes of Treatment
Including Pre-emptive Transplants 2008 to 2012**

Country	Years				
	2008	2009	2010	2011	2012
Australia					
Not late referral	1996 (78%)	1921 (79%)	1806 (78%)	1925 (77%)	1876 (74%)
Late referral	554 (22%)	508 (21%)	518 (22%)	559 (22%)	543 (21%)
Missing / Undefined	1 (0%)	2 (0%)	6 (0%)	12 (0%)	115 (5%)
Total	2551	2431	2330	2496	2534
New Zealand					
Not late referral	385 (77%)	486 (83%)	431 (84%)	379 (78%)	423 (82%)
Late referral	111 (22%)	97 (17%)	83 (16%)	105 (22%)	79 (15%)
Missing / Undefined	1 (0%)	1 (0%)	1 (0%)	1 (0%)	11 (2%)
Total	497	584	515	485	513

Notes: Late referral is not defined by px less than 90 days old in the 2012 figures.

Figure 2.11

**Late Referral - All Modes of Treatment
Including Pre-emptive Transplants
By Race 2008 to 2012**

Country	Race					
	Asian	Aboriginal/ TSI	Caucasian	Maori	Pacific People	Other
Australia						
Not Late Referred	852 (76%)	853 (73%)	7392 (78%)	85 (71%)	161 (72%)	181 (66%)
Late Referred	257 (23%)	296 (25%)	1975 (21%)	31 (26%)	61 (27%)	62 (22%)
Missing/undefined	7 (1%)	14 (1%)	77 (1%)	3 (3%)	2 (1%)	33 (12%)
Total	1116	1163	9444	119	224	276
New Zealand						
Not Late Referred	177 (85%)	-	901 (83%)	611 (78%)	396 (81%)	19 (83%)
Late Referred	32 (15%)	-	184 (17%)	168 (21%)	89 (18%)	2 (9%)
Missing/undefined	0 (0%)	-	6 (1%)	6 (1%)	1 (0%)	2 (9%)
Total	209	-	1091	785	486	23

Notes: Maori and Pacific Peoples who were resident and commenced treatment in Australia are also shown.



CO-MORBID CONDITIONS

Co-morbid conditions at entry to RRT are shown in Figures 2.12 - 2.18. In Australia, the proportion of people with reported coronary artery disease, chronic lung disease and peripheral vascular disease at the onset of dialysis has decreased (Figure 2.13). See Appendix II and III for further analyses of co-morbid conditions.

Figure 2.12

Co-morbid Conditions at Entry to Program 2012
Number of Patients (% Patients)

Country		Chronic Lung Disease	Coronary Artery Disease	Peripheral Vascular Disease	Cerebro-Vascular Disease	Smoking	Diabetes (Including Diabetic Nephropathy)
Australia n=2534	Yes	306 (12%)	768 (30%)	409 (16%)	264 (10%)	Current 297 (12%)	Type 1 141 (6%)
	Suspected	95 (4%)	164 (6%)	150 (6%)	77 (3%)	Former 1055 (42%)	Type 2 1049 (41%)
	No	2133 (84%)	1602 (63%)	1975 (78%)	2193 (87%)	Never 1091 (43%)	No 1344 (53%)
	Unknown	0 (0%)	0 (0%)	0 (0%)	0 (0%)	Unknown 91 (4%)	Unknown 0 (0%)
New Zealand n=513	Yes	65 (13%)	118 (23%)	68 (13%)	58 (11%)	Current 77 (15%)	Type 1 16 (3%)
	Suspected	9 (2%)	31 (6%)	18 (4%)	18 (4%)	Former 195 (38%)	Type 2 276 (54%)
	No	439 (86%)	364 (71%)	427 (83%)	437 (85%)	Never 232 (45%)	No 221 (43%)
	Unknown	0 (0%)	0 (0%)	0 (0%)	0 (0%)	Unknown 9 (2%)	Unknown 0 (0%)

Figure 2.13 Comorbid Conditions at Entry to RRT Australia

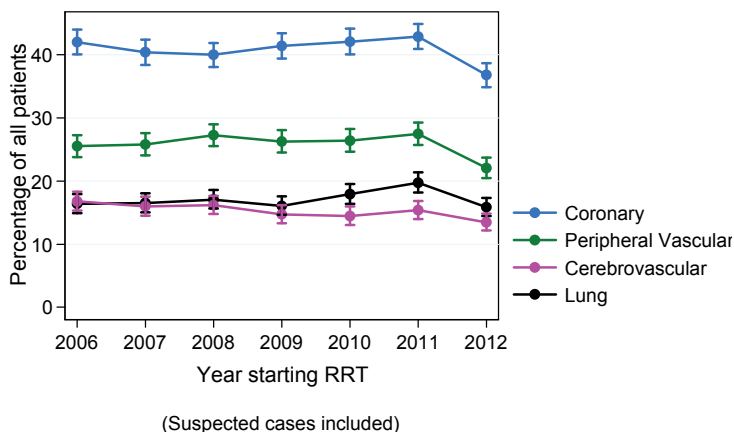
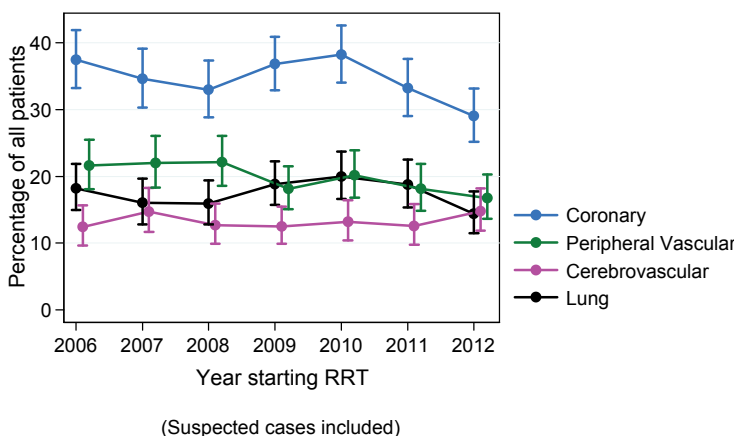


Figure 2.14 Comorbid Conditions at Entry to RRT New Zealand



SMOKING STATUS AT ENTRY

Figure 2.15

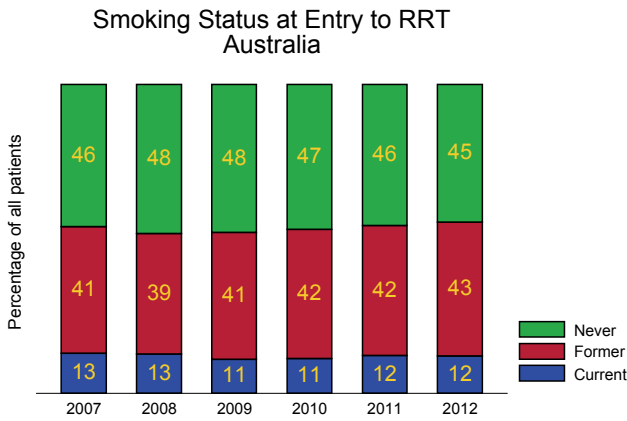
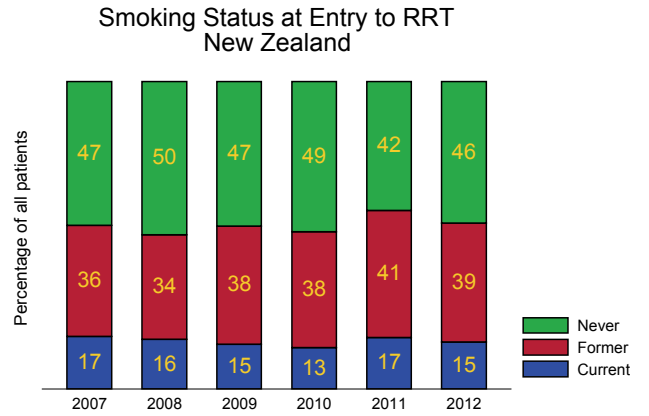


Figure 2.16



DIABETES STATUS AT ENTRY

Figure 2.17

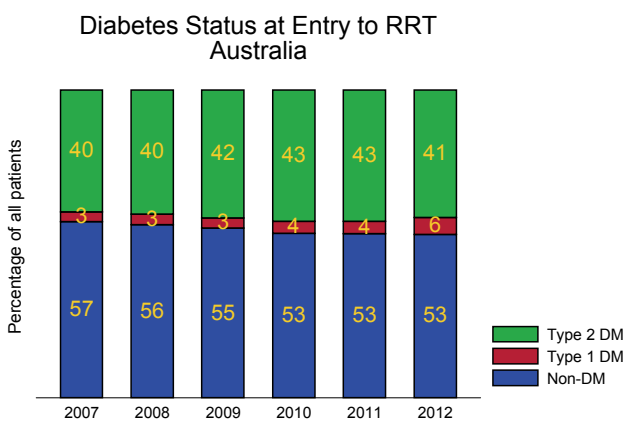
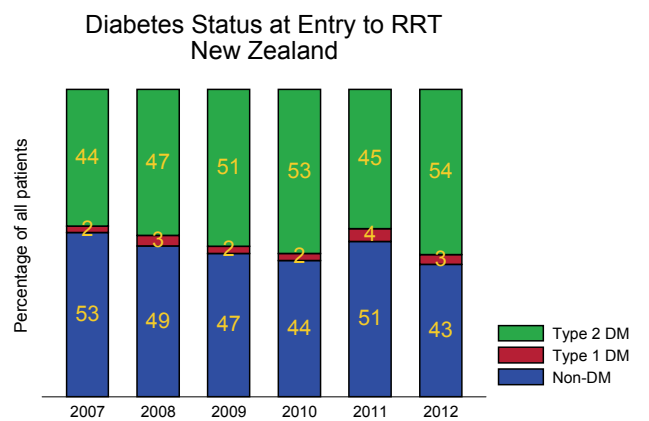


Figure 2.18





PRIMARY RENAL DISEASE OF NEW PATIENTS

The coding of primary renal disease in ANZDATA has remained unchanged for many years. During that time, a number of new disease entities have emerged, and the understanding of others considerably evolved. To better reflect this, a project is underway to review and modify the categories used to report primary renal disease in future reports. It is likely the introduction of these codes will be staged over several years.

AUSTRALIA

Diabetic nephropathy (36% of all new patients), continued as the most common primary renal disease (Figure 2.19).

Glomerulonephritis (19%) was the next most common primary disease, followed by hypertension (12%), polycystic kidney disease (5%) and reflux nephropathy (3%).

IgA + mesangioproliferative GN (29% of all GN) was the most common histologically proven form of glomerulonephritis (Figure 2.20).

Miscellaneous diseases causing end stage renal failure are tabulated in Figure 2.21.

A renal biopsy was performed in 73% of patients with glomerulonephritis and 13% of patients with type 2 diabetes (Figure 2.22).

NEW ZEALAND

Diabetic nephropathy (49%) was the most common cause of ESRD followed by glomerulonephritis (20%) and hypertension (11%).

IgA nephropathy and focal sclerosis are the most common forms of GN in New Zealand (causing end-stage kidney disease).

Figure 2.19

Causes of ESRD 2009 - 2012				
Number of Patients (% Patients)				
Disease	2009	2010	2011	2012
Australia				
Glomerulonephritis	591 (24%)	499 (21%)	566 (23%)	490 (19%)
Analgesic Nephropathy	42 (2%)	37 (2%)	32 (1%)	35 (1%)
Polycystic Kidney Disease	177 (7%)	167 (7%)	143 (6%)	132 (5%)
Reflux	80 (3%)	60 (3%)	56 (2%)	66 (3%)
Hypertension	346 (14%)	320 (14%)	360 (14%)	303 (12%)
Diabetic Nephropathy	782 (32%)	827 (35%)	886 (35%)	913 (36%)
Miscellaneous	268 (11%)	290 (12%)	316 (13%)	440 (17%)
Uncertain diagnosis	145 (6%)	130 (6%)	137 (5%)	155 (6%)
Australia Total	2431	2330	2496	2534
New Zealand				
Glomerulonephritis	125 (21%)	111 (22%)	114 (24%)	105 (20%)
Analgesic Nephropathy	2 (0%)	2 (0%)	5 (1%)	4 (1%)
Polycystic Kidney Disease	34 (6%)	18 (3%)	28 (6%)	27 (5%)
Reflux	9 (2%)	8 (2%)	9 (2%)	8 (2%)
Hypertension	62 (11%)	58 (11%)	51 (11%)	48 (9%)
Diabetic Nephropathy	279 (48%)	260 (50%)	204 (42%)	249 (49%)
Miscellaneous	54 (9%)	41 (8%)	53 (11%)	57 (11%)
Uncertain diagnosis	19 (3%)	17 (3%)	21 (4%)	15 (3%)
NZ Total	584	515	485	513

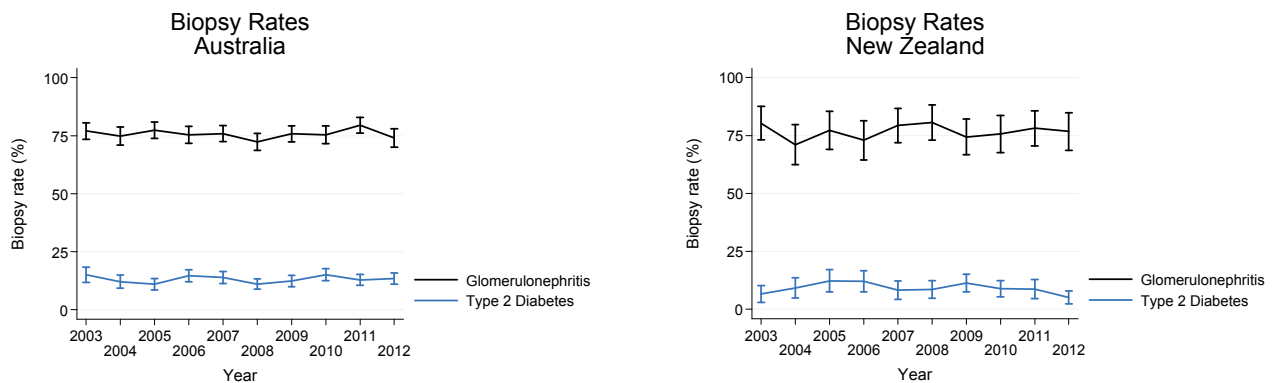
Figure 2.20

Types of Glomerulonephritis		
1-Jan-2012 to 31-Dec-2012		
Number (% of all GN)		
	Australia	New Zealand
Advanced GN (unclassified=end stage)	10 (2%)	3 (3%)
Extra and intra capillary GN (rapidly progressive)	5 (1%)	3 (3%)
Familial GN (including alports)	6 (1%)	2 (2%)
Focal and segmental proliferative GN	17 (3%)	1 (1%)
Focal sclerosing GN (including hyalinosis)	25 (5%)	6 (6%)
GN other (specify)	18 (4%)	4 (4%)
GN with systemic disease (specify)	7 (1%)	0 (0%)
Goodpastures with linear IgG and lung haemorrhage	10 (2%)	0 (0%)
Henoch-schonlein purpura	2 (0%)	0 (0%)
Membranous GN	23 (5%)	5 (5%)
Mesangial proliferative (IgA+)	144 (29%)	18 (17%)
Mesangial proliferative (IgA-)	7 (1%)	2 (2%)
Mesangial proliferative (no if studies)	4 (1%)	1 (1%)
Mesangiocapillary GN (dense deposit disease)	2 (0%)	0 (0%)
Mesangiocapillary GN (double contour)	10 (2%)	3 (3%)
Microscopic polyarteritis	6 (1%)	5 (5%)
Presumed GN (no biopsy)	122 (25%)	23 (22%)
Primary focal sclerosing GN/focal glomerular sclerosis	27 (6%)	20 (19%)
Proliferative GN with linear IgG and no lung haemorrhage	1 (0%)	3 (3%)
S.L.E.	18 (4%)	4 (4%)
Scleroderma	4 (1%)	0 (0%)
Secondary focal sclerosing GN	7 (1%)	0 (0%)
Wegeners granulomatosis	15 (3%)	2 (2%)
Total	490	105

Figure 2.21
Miscellaneous Causes of ESRD 1-Jan-2012 to 31-Dec-2012

Renal Disease	Aust (440)	NZ (57)	Renal Disease	Aust (440)	NZ (57)
LEAD NEPHROPATHY	1	0	MEDULLARY CYSTIC DISEASE	2	1
INTERSTITIAL NEPHRITIS	32	2	CALCULI	13	1
LOSS OF SINGLE KIDNEY (TRAUMA-SURGERY)	4	0	HAEMOLYTIC URAEMIC SYNDROME	8	1
OXALOSIS	1	0	CORTICAL NECROSIS	2	0
CYSTINOSIS	1	0	AMYLOID DISEASE	13	3
LITHIUM TOXICITY	20	2	PARAPROTEINAEMIA	28	3
POST PARTUM NEPHROPATHY	1	1	(INCLUDING MULTIPLE MYELOMA)		2
SARCOIDOSIS	4	0	LIGHT CHAIN NEPHROPATHY	3	
CALCINEURIN INHIBITOR TOXICITY	7	3	(NON MALIGNANT)		2
PYELONEPHRITIS	3	1	RENAL CELL CARCINOMA (GRAWITZ)	13	0
GOUT	2	0	TRANSITIONAL CELL CARCINOMA	3	
CONGENITAL RENAL HYPOPLASIA AND DYSPLASIA	11	2	URINARY TRACT		
MEGAURETER	2	0	REPORTED INCORRECTLY *	156	15
POSTERIOR URETHRAL VALVES	2	2	UNKNOWN/NOT REPORTED	60	12
NEUROPATHIC BLADDER	3	0			
SPINA BIFIDA OR MYELOMENINGOCELE	4	2			
BLADDER NECK OBSTRUCTION (INCL. PROSTATOMEGALY)	6	0			
OTHER LOWER URINARY TRACT ABNORMALITIES (WITH 2ND.REFLUX)	1	0			
URETERIC OBSTRUCTIVE NEPHROPATHY	10	0			
OBSTRUCTIVE NEPHROPATHY	24	2			

* Queries outstanding on 2012 new patient reporting of primary renal disease at time of data lock

Figure 2.22




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