

# Chapter 4: All Patients Receiving Renal Replacement Therapy in the United Kingdom in 2005

Ken Farrington, Raman Rao, Retha Steenkamp, David Ansell and Terry Feest

## Summary

- Summary data are provided for the whole UK.
- There were 41,776 adult patients alive on RRT in the UK at the end of 2005, a prevalence for adults of 694 pmp. Addition of the 748 children under age 18 on RRT gives a total prevalence of 706 pmp.
- The more detailed analysis includes data on 37,534 patients from 65 of the 70 units which returned detailed data to the Registry: all in Northern Ireland, Scotland, and Wales, and 45 of the 50 units in England.
- The annual increase in prevalence in the 38 renal units participating in the Registry since 2000 was 5.0%.
- There is substantial variation in the crude Local Authority area prevalence from 299 pmp to 1,275 pmp.
- In general, areas with large ethnic minority populations had high standardised prevalence ratios (SPR). Nevertheless several Local Authority areas in South Wales (Methyr Tydfil, Swansea, and Rhondda/Cynon/Taff) had a higher SPR than would be predicted from the local ethnic mix. Another group in North West England (Bury, Rochdale, Oldham and Salford), had a lower SPR than expected from the local ethnic mix.
- The median age of prevalent patients on RRT was 56.6 years, that of patients on HD 64.5 years, PD 59.2 years and transplanted patients 49.7 years.
- The median vintage of the whole RRT population was 5.1 years: that of transplanted patients was 9.8 years, HD patients 2.8 years and PD patients 2.1 years.
- The maximal prevalence rate (SPR) occurred in men (2,270 pmp) in the 75–79 year age band and women (1,144 pmp) in the 65–74 year age band.
- Of RRT patients in the UK, 45% had a transplant, 41.7% were on centre-based haemodialysis and 12% on peritoneal dialysis. The proportion of patients on home haemodialysis remained very small (1.2%) in spite of the recent NICE guidelines.
- The haemodialysis population is continuing to expand, mainly through growth in the proportion of patients undergoing dialysis in satellite units. The peritoneal dialysis population is continuing to contract in spite of the small but progressive rise in automated PD.
- The most common identifiable diagnosis in those under 65 was glomerulonephritis (18.0%) and in those over 65 it was diabetes (13.4%).
- One year survival rates of prevalent patients in the different centres contributing to the UK Renal Registry are presented. The centres agreed to remove anonymity.
- There is no evidence of any significant differences in survival of prevalent patients between UK centres.
- The one-year survival of prevalent dialysis patients increased significantly from 1998 to 2004 in England (83.3% to 87.1%  $p=0.0001$  for linear trend), Scotland (84.0% to 87.0%  $p=0.023$  for linear trend) and Wales (83.4% to 86.1%  $p=0.027$  for linear trend). The test for non-linearity in this trend (indicating that there has been a large increase which is now tailing off) was significant for England and Wales.

## Introduction

The prevalence data presented are from the whole UK. In 2005, the UK Renal Registry received complete returns from all 5 units in Wales, all 5 units in Northern Ireland and 90% of the units in England. Data from all 10 units in Scotland were obtained from the Scottish Renal Registry. In addition summary data were obtained separately from the 5 remaining English units not currently returning to the Registry, to enable accurate calculation of prevalence and modality used.

Extrapolation from Registry data to derive other information relating to the whole UK was still necessary and these results must still be viewed with a little caution, although estimates become more reliable as coverage increases. The proportion of the population aged over 65 years was similar in the fully covered population (defined below, based on Local Authority (LA) areas whose population was thought to be fully covered by participating units) compared with the general population of England and Wales. The proportion from ethnic minority groups was lower in the fully covered

population at 8.1% compared with 9.0% in the total population, because some areas not reporting to the Registry have catchments with high ethnic minority populations.

For comparisons between renal units and between local areas fully covered by the Renal Registry, the data from the Registry are fully valid. Data on children and young adults can be found in Chapter 13.

### All adult patients receiving Renal Replacement Therapy in the UK, 31/12/2005

There were 41,776 adult patients receiving RRT in the UK at the end of 2005, giving a total population prevalence for adults of 694 pmp (Table 4.1). Addition of the 748 children under age 18 on RRT (Chapter 13) gives a total prevalence of 706 pmp.

In those renal units continuously reporting for the last 6 years there was an average rise in prevalence from year to year of between 4.2% and 6.5%.

**Table 4.1: Prevalence of renal replacement therapy in adults in the UK, 31/12/2005**

	England	Wales	Scotland	N. Ireland	UK
Centres contributing to RR (65)	30,343	2,075	3,810	1,306	37,534
All UK centres (65 + 5 = 70)	34,585	2,075	3,810	1,306	<b>41,776</b>
Total population from mid-2005 estimates from ONS web site (millions)	50.4	3.0	5.1	1.7	60.2
Prevalence pmp	686	701	748	757	694
Confidence intervals	679–693	671–732	724–772	716–798	687–700

## Prevalent patients by renal unit on 31/12/2005

For 2005, detailed data on prevalent patients were returned from 45 of the 50 renal units in England, all 5 units in Wales, all 5 units in Northern Ireland and all 10 units in Scotland, a total of 37,534 patients. The number of prevalent patients in each renal unit and the distribution of their treatment modalities are shown in Table 4.2.

There is a wide variation in the number of prevalent patients in each unit and in the distribution of these patients in the different treatment modality categories. This is due to many factors including geography, local population density, age distribution, ethnic composition and social deprivation index of that population. Local facilities and preferences also play a role in determining the modality distribution. Some of these will be discussed later in the chapter. However another major factor is whether or

**Table 4.2: Distribution of prevalent patients and modalities 31/12/2005**

	Unit	HD	PD	Dialysis	Transplant	RRT	
<b>England</b>	B Heart	334	43	377	164	541	
	B QEH*	716	143	859	659	1,518	
	Basldn	112	31	143	26	169	
	Bradfd	168	44	212	155	367	
	Brightn	297	90	387	231	618	
	Bristol*	434	71	505	660	1,165	
	Camb*	286	79	365	454	819	
	Carlis	78	21	99	86	185	
	Carsh	478	170	648	354	1,002	
	Chelms	88	37	125	9	134	
	Covnt*	277	65	342	296	638	
	Derby	201	71	272	5	277	
	Dorset	125	74	199	182	381	
	Dudley	119	54	173	85	258	
	Exeter	243	94	337	246	583	
	Glouc	144	37	181	101	282	
	Hull	298	68	366	222	588	
	Ipswi	110	68	178	111	289	
	<i>Kent &amp; Canterbury</i>		<i>194</i>	<i>191</i>	<i>385</i>	<i>184</i>	<i>569</i>
	<i>L St George's*</i>		<i>187</i>	<i>50</i>	<i>237</i>	<i>307</i>	<i>544</i>
	L Barts*	497	219	716	621	1,337	
	L Guys*	404	87	491	734	1,225	
	L H&CX	574	147	721	416	1,137	
	L Kings	294	79	373	263	636	
	L RFree*	550	149	699	647	1,346	
	<i>L St Mary's*</i>		<i>613</i>	<i>0</i>	<i>613</i>	<i>536</i>	<i>1,149</i>
	Leeds*	472	128	600	741	1,341	
	Leic*	543	227	770	660	1,430	
	Livrpl*	456	91	547	814	1,361	
	ManWst	237	141	378	253	631	
	<i>Man RI*</i>		<i>333</i>	<i>167</i>	<i>500</i>	<i>920</i>	<i>1,420</i>
	Middlbr	237	23	260	313	573	
	Newc*	232	47	279	588	867	
	Norwch	232	49	281	128	409	
	Nottm*	323	143	466	428	894	
	Oxford*	389	119	508	688	1,196	
	Plymth*	122	38	160	209	369	
	Ports*	342	104	446	639	1,085	

Table 4.2: (continued)

	Unit	HD	PD	Dialysis	Transplant	RRT
<b>England</b>	Prestn	333	112	445	327	772
	Redng	185	105	290	119	409
	Sheff*	549	158	707	459	1,166
	Shrew	124	51	175	61	236
	Stevng	318	53	371	196	567
	Sthend	119	21	140	41	181
	<i>Stoke</i>	<i>233</i>	<i>99</i>	<i>332</i>	<i>228</i>	<i>560</i>
	Sund	153	15	168	110	278
	Truro	141	40	181	88	269
	Wirral	161	31	192	–	192
	Wolve	290	57	347	93	440
	York	93	26	119	63	182
	<b>Wales</b>	Bangor	73	27	100	1
Cardff*		417	137	554	718	1,272
Clwyd		64	12	76	7	83
Swanse		267	79	346	127	473
Wrexm		102	44	146	–	146
<b>Scotland</b>	Abrdn	179	48	227	190	417
	Airdrie	145	26	171	–	171
	D&Gall	49	13	62	7	69
	Dundee	148	50	198	161	359
	Dunfn	97	26	123	27	150
	Edinb*	237	61	298	372	670
	GlasRI	321	25	346	4	350
	GlasWI*	262	79	341	902	1,243
	Inverns	86	41	127	73	200
	Klmarnk	104	51	155	26	181
	<b>Northern Ireland</b>	Antrim	106	21	127	62
Belfast*		315	68	383	366	749
Newry		90	15	105	50	155
Tyrone		104	6	110	59	169
Ulster		41	1	42	2	44
<b>Eng</b>		<b>14,438</b>	<b>4,227</b>	<b>18,665</b>	<b>15,920</b>	<b>34,585</b>
<b>NI</b>	<b>656</b>	<b>111</b>	<b>767</b>	<b>539</b>	<b>1,306</b>	
<b>Sct</b>	<b>1,628</b>	<b>420</b>	<b>2,048</b>	<b>1,762</b>	<b>3,810</b>	
<b>Wls</b>	<b>923</b>	<b>299</b>	<b>1,222</b>	<b>853</b>	<b>2,075</b>	
<b>UK</b>	<b>17,645</b>	<b>5,057</b>	<b>22,702</b>	<b>19,074</b>	<b>41,776</b>	

Units in italics provided summary data only.

\* – transplant centres. Those prefixed with “L” are London units.

The numbers of patients calculated for each country quoted above (by adding the patient numbers in each renal unit) differ marginally from those quoted elsewhere when patients are allocated to areas by their individual post codes, as some units treat patients from across national boundaries.

not the renal unit is also a transplant centre. The 23 renal units which are also transplant centres tend to have a higher proportion of transplant patients under follow up compared with the other 42 units, but are also the larger dialysis units. The transplant/dialysis ratio is markedly higher in transplant centres than in other renal units (1.17 vs 0.46:  $p < 0.001$ ). The

wide variability of this ratio both in transplanting (0.58–2.65) and non-transplanting (0.01–1.2) renal units suggests considerable variation in policies for follow up of transplanted patients; some transplant centres continue to follow up the patients they transplant for other renal units, others transfer them back to their parent unit but at variable times post transplant and

some renal units do not follow up any transplant patients.

## Changes in prevalence 2000–2005

The total number of prevalent patients in all 65 centres contributing to the Registry in 2005 is 41,776. The increase from 2004 to 2005 in the 59 centres with data in both years was 4.6%, which is entirely consistent with 2000–2005 analysis. For individual centres, the changes in total numbers are shown in Table 4.3. There were wide variations between centres with respect to change in prevalent patient numbers between 2004 and 2005, ranging from an 18.6% increase (Clwyd) to a 5.5% decrease (Airdrie).

In some units (Wrexham, Hammersmith and Charing Cross, Leicester and Oxford) changes in the prevalent population are partly due to changes in catchment areas. This explanation is confirmed by the fact that the prevalence changes for the local authority areas served by these units have been consistent with national trends.

The growth in prevalent patient numbers in the UK since 1982 is shown in Figure 4.1.

The total percentage increase in number of prevalent patients in the 38 renal units who have returned data continuously from 2000 to 2005 was 27.8%. The rate of increase was similar in England (27.6%), Scotland (28.6%) and Wales (27.9%) and fairly uniform over the time span, varying between 4.2 and 6.5% per year (Table 4.4).

**Table 4.3: Number of patients on RRT in each participating centre 2003–2005**

Centre	31/12/2003	31/12/2004	31/12/2005	% change 2004–2005
Abrdn	349	388	417	7.5
Airdrie	172	181	171	–5.5
Antrim			189	
B Heart	487	497	541	8.9
B QEH		1,420	1,518	6.9
Bangor	96	94	101	7.4
Basldn	164	161	169	5.0
Belfast			749	
Bradfd	309	326	367	12.6
Brightn		592	618	4.4
Bristol	1,051	1,093	1,165	6.6
Camb	722	767	819	6.8
Cardff	1,154	1,225	1,272	3.8
Carlis	170	181	185	2.2
Carsh	885	956	1,002	4.8
Chelms		138	134	–2.9
Clwyd	64	70	83	18.6
Covnt	576	604	638	5.6
D&Gall	79	61	69	13.1
Derby	260	276	277	0.4
Dorset	352	369	381	3.3
Dudley	242	255	258	1.2
Dundee	299	321	359	11.8
Dunfn	127	136	150	10.3
Edinb	616	649	670	3.2
Exeter	520	575	583	1.4
GlasRI	325	330	350	6.1
GlasWI	1,165	1,192	1,243	4.3
Glouc	244	260	282	8.5

Table 4.3: (continued)

Centre	31/12/2003	31/12/2004	31/12/2005	% change 2004–2005
Hull	514	553	588	6.3
Inverns	160	179	200	11.7
Ipswi	240	280	289	3.2
Klmarnk	167	159	181	13.8
L Barts		1,297	1,337	3.1
L Guys	1,183	1,216	1,225	0.7
L H&CX	1,090	1,145	1,143	-0.2
L Kings	575	598	636	6.4
L RFree			1,346	
Leeds	1,228	1,299	1,341	3.2
Leic	1,119	1,271	1,430	12.5
Livrpl	1,251	1,295	1,361	5.1
ManWst	532	564	631	11.9
Middlbr	549	577	573	-0.7
Newc	804	809	867	7.2
Newry			155	
Norwch		360	409	13.6
Nottm	808	832	894	7.5
Oxford	1,397	1,200	1,196	-0.3
Plymth	346	351	369	5.1
Ports	1,030	1,051	1,085	3.2
Prestn	733	770	772	0.3
Redng	227	376	409	8.8
Sheff	1,084	1,149	1,166	1.5
Shrew		226	236	4.4
Stevng	561	544	567	4.2
Sthend	166	180	181	0.6
Sund	237	268	278	3.7
Swanse	419	454	473	4.2
Truro	230	277	269	-2.9
Tyrone			169	
Ulster			44	
Wirral	157	185	192	3.8
Wolve	399	424	440	3.8
Wrexm	202	188	146	-22.3
York	185	169	182	7.7
<b>Eng</b>	<b>22,621</b>	<b>27,731</b>	<b>30,343</b>	<b>9.4</b>
<b>NI</b>			<b>1,306</b>	
<b>Sct</b>	<b>3,459</b>	<b>3,596</b>	<b>3,810</b>	<b>6.0</b>
<b>Wls</b>	<b>1,935</b>	<b>2,031</b>	<b>2,075</b>	<b>2.2</b>
<b>Total</b>	<b>28,015</b>	<b>33,358</b>	<b>37,534</b>	<b>12.5</b>

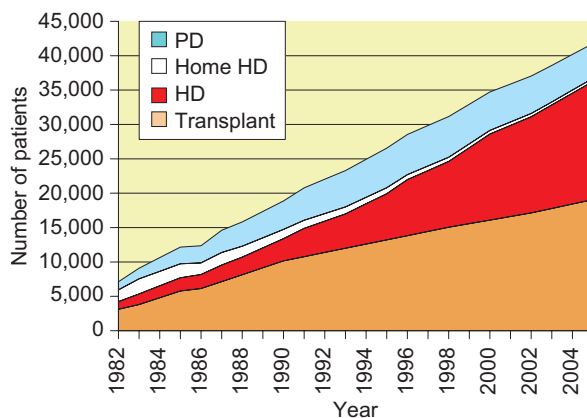


Figure 4.1: Growth in prevalent patients, by modality, 1982–2005

Table 4.4: Prevalent patient numbers in renal units reporting continuously 2000–2005

Centre	31/12/00	31/12/01	31/12/02	31/12/03	31/12/04	31/12/05	% change 2000–2005
Abrdn	311	327	354	349	388	417	34.1
Airdrie	104	148	171	172	181	171	64.4
B Heart	421	451	444	487	497	541	28.5
Bristol	911	950	992	1,051	1,093	1,165	27.9
Cardff	1,029	1,055	1,087	1,154	1,225	1,272	23.6
Carlisle	156	159	161	170	181	185	18.6
Carsh	667	693	784	885	956	1,002	50.2
Covnt	513	545	564	576	604	638	24.4
D&Gall	55	72	73	79	61	69	25.5
Derby	124	162		260	276	277	123.4
Dudley	248	239	231	242	255	258	4.0
Dundee	238	248	288	299	321	359	50.8
Dunfn	90	112	119	127	136	150	66.7
Edinb	549	574	596	616	649	670	22.0
Exeter	416	446	508	520	575	583	40.1
GlasRI	332	320	321	325	330	350	5.4
GlasWI	1,048	1,090	1,110	1,165	1,192	1,243	18.6
Glouc	235	195	211	244	260	282	20.0
Hull	425	452	506	514	553	588	38.4
Inverns	96	124	147	160	179	200	108.3
Klmarnk	139	146	157	167	159	181	30.2
L Guys	1,124	1,144	1,180	1,183	1,216	1,225	9.0
Leeds	1,175	1,172	1,195	1,228	1,299	1,341	14.1
Leic	975	1,030	1,078	1,119	1,271	1,430	46.7
Middlbr	420	429	519	549	577	573	36.4
Nottm	761	818	788	808	832	894	17.5
Oxford	1,240	1,315	1,358	1,397	1,200	1,196	-3.5
Plymth	407	393	386	346	351	369	-9.3
Prestn	474	520	587	733	770	772	62.9
Redng	177	204	198	227	376	409	131.1
Sheff	863	941	1,020	1,084	1,149	1,166	35.1
Stevng	450	451	524	561	544	567	26.0
Sthend	141	143	149	166	180	181	28.4
Sund	227	217	235	237	268	278	22.5
Swanse	228	384	384	419	454	473	107.5



Table 4.4: (continued)

Centre	31/12/00	31/12/01	31/12/02	31/12/03	31/12/04	31/12/05	% change 2000–2005
Wolve	319	337	366	399	424	440	37.9
Wrexm	222	203	202	202	188	146	–34.2
York	97	130	160	185	169	182	87.6
<b>Eng</b>	<b>12,966</b>	<b>13,536</b>	<b>14,144</b>	<b>15,171</b>	<b>15,876</b>	<b>16,542</b>	<b>27.6</b>
<b>Scot</b>	<b>2,962</b>	<b>3,161</b>	<b>3,336</b>	<b>3,459</b>	<b>3,596</b>	<b>3,810</b>	<b>28.6</b>
<b>Wls</b>	<b>1,479</b>	<b>1,642</b>	<b>1,673</b>	<b>1,775</b>	<b>1,867</b>	<b>1,891</b>	<b>27.9</b>
<b>Total</b>	<b>17,407</b>	<b>18,339</b>	<b>19,153</b>	<b>20,405</b>	<b>21,339</b>	<b>22,243</b>	<b>27.8</b>

The figures for Leicester, Reading and Oxford are misleading as there has been a redistribution of catchment areas related to these units.

## Local Authority prevalence

The prevalence of RRT and standardised prevalence ratios in those Local Authorities with complete coverage in 2005 are shown in Table 4.5.

### Standardised prevalence ratios

#### Methods

The methods of calculating the standardised rate ratio are described in detail in Appendix D ([www.renalreg.org](http://www.renalreg.org)). In summary, age and gender specific prevalences were first calculated using the available registry data on the number of prevalent patients for the covered area in England, Wales, Scotland and Northern Ireland and the data on the age and gender breakdown of the population of each Local Authority area obtained from the 2001 census data from the Office of National Statistics (ONS). These age and gender prevalences were then used to calculate the expected prevalence for each LA area. The age and gender standardised ratio is therefore equal to (observed prevalence)/(expected prevalence).

A ratio of 1 indicates that the LA area's prevalence was as expected if the age/gender rates found in the total covered population applied to the LA area's population structure; a level above 1 indicates that the observed prevalence is greater than expected given the LA area's population structure; if the lower confidence limit was above 1 this is statistically significant at the 5% level. The converse applies to standardised prevalence rate ratios under one.

Prevalence estimates of RRT in relatively small populations such as those covered by individual Primary Care Trusts incur wide

confidence intervals for any observed frequency. To enable assessment of whether an observed prevalence rate differs significantly from the national average, Figures 4.2 and 4.3 have been included. For any size of population (X axis), the upper and lower 95% confidence limits (dotted lines) around the national average prevalence can be read from the Y axis. Any observed prevalence for renal failure outside these limits is significantly different from the national average. Thus for a population of 50,000, an observed prevalence outside the limits of 470 to 930 pmp is significantly different, whilst for a population of 500,000 the limits are 625 to 770 pmp.

#### Results

There were substantial variations in the crude LA area prevalence from 299 (Bury) to 1,275 pmp (Carrickfergus). As discussed above, local authorities with small populations have wide confidence limits for standardised prevalence rate (SPR), such that the interpretation of an individual year may be difficult. Nevertheless the annual standardised prevalence rate is inherently more stable than the annual standardised acceptance.

Geographical considerations and ethnicity are the major factors underlying the variation in SPR. There were 33 local authority areas with a significantly low SPR, 123 with a normal SPR and 51 with a significantly high SPR. The geographical distribution of these is summarised in Table 4.6. The North West ( $p < 0.0001$ ) and the South East of England ( $p = 0.03$ ) had a significantly higher proportion of areas with a low SPR, whilst in London, Wales, Scotland and Northern Ireland, the proportion was



**Table 4.5: Prevalence of RRT and standardised prevalence ratios in local authorities with complete coverage by the Registry**

Region	Local Authority	Total Pop	2001 O/E	2002 O/E	2003 O/E	2004 OE	2005			pmp	ALL O/E	% non- White	
							O/E	LCL	UCL				
NE England	Darlington	97,838	0.64	0.78	0.83	0.88	<b>0.89</b>	0.70	1.15	<b>623</b>	0.81	2.1	
	Durham	493,469	0.49	0.84	0.83	0.89	<b>0.95</b>	0.85	1.06	<b>671</b>	0.80	1.0	
	Hartlepool	88,610	0.73	0.81	0.88	0.97	<b>0.92</b>	0.71	1.20	<b>632</b>	0.86	1.2	
	Middlesbrough	134,855	0.86	1.02	1.08	1.02	<b>1.01</b>	0.82	1.25	<b>653</b>	1.00	6.3	
	Redcar/Cleveland	139,132	0.67	0.89	0.90	0.97	<b>0.97</b>	0.79	1.18	<b>683</b>	0.88	1.1	
	Stockton	178,408	0.52	0.69	0.74	0.82	<b>0.87</b>	0.71	1.05	<b>583</b>	0.73	2.8	
	Gateshead	191,151		0.94	0.92	0.94	<b>0.97</b>	0.82	1.15	<b>685</b>	0.94	1.6	
	Newcastle	259,536		0.87	0.84	0.84	<b>0.93</b>	0.79	1.08	<b>605</b>	0.87	6.9	
	N Tyneside	191,658		0.86	0.88	0.90	<b>0.97</b>	0.82	1.15	<b>694</b>	0.90	1.9	
	Northumberland	307,190		0.80	0.82	0.87	<b>0.88</b>	0.77	1.01	<b>648</b>	0.84	1.0	
	S Tyneside	152,785		0.73	0.77	0.83	<b>0.90</b>	0.74	1.10	<b>635</b>	0.81	2.7	
Sunderland	280,807	0.62	0.86	0.92	0.95	<b>0.96</b>	0.83	1.11	<b>652</b>	0.86	1.9		
NW England	Cheshire											1.6	
	Halton	118,209	0.67	0.72	0.87	0.94	<b>0.99</b>	0.80	1.24	<b>651</b>	0.84	1.2	
	Knowsley	150,459	0.96	1.01	1.10	1.12	<b>1.12</b>	0.93	1.35	<b>724</b>	1.06	1.6	
	Liverpool	439,471	0.98	0.99	1.01	1.06	<b>1.08</b>	0.97	1.21	<b>699</b>	1.02	5.7	
	<i>Sefton</i>	<i>282,958</i>	<i>0.51</i>	<i>0.75</i>	<i>0.78</i>	<i>0.77</i>	<b>0.84</b>	<i>0.72</i>	<i>0.97</i>	<b>597</b>	<i>0.73</i>	<i>1.6</i>	
	<i>St. Helens</i>	<i>176,843</i>	<i>0.60</i>	<i>0.73</i>	<i>0.73</i>	<i>0.72</i>	<b>0.80</b>	<i>0.66</i>	<i>0.98</i>	<b>554</b>	<i>0.72</i>	<i>1.2</i>	
	<i>Warrington</i>	<i>191,080</i>	<i>0.59</i>	<i>0.69</i>	<i>0.80</i>	<i>0.84</i>	<b>0.82</b>	<i>0.68</i>	<i>0.99</i>	<b>555</b>	<i>0.75</i>	<i>2.1</i>	
	Wirral	312,293	0.52	0.92	0.96	0.98	<b>1.00</b>	0.88	1.14	<b>704</b>	0.88	1.7	
	Blackburn/Darwen	137,470	0.48	0.59	0.81	0.97	<b>1.08</b>	0.88	1.32	<b>655</b>	0.78	22.1	
	<i>Blackpool</i>	<i>142,283</i>	<i>0.41</i>	<i>0.47</i>	<i>0.59</i>	<i>0.61</i>	<b>0.67</b>	<i>0.53</i>	<i>0.85</i>	<b>492</b>	<i>0.55</i>	<i>1.6</i>	
	<i>Cumbria</i>	<i>487,607</i>	<i>0.58</i>	<i>0.62</i>	<i>0.68</i>	<i>0.71</i>	<b>0.75</b>	<i>0.67</i>	<i>0.85</i>	<b>552</b>	<i>0.67</i>	<i>0.7</i>	
	<i>Lancashire</i>	<i>1,134,975</i>	<i>0.41</i>	<i>0.44</i>	<i>0.59</i>	<i>0.70</i>	<b>0.76</b>	<i>0.70</i>	<i>0.82</i>	<b>524</b>	<i>0.58</i>	<i>5.3</i>	
	<i>Bolton</i>	<i>261,037</i>			<i>0.65</i>	<i>0.66</i>	<b>0.79</b>	<i>0.67</i>	<i>0.93</i>	<b>521</b>	<i>0.70</i>	<i>11.0</i>	
	<i>Bury</i>	<i>180,607</i>			<i>0.29</i>	<i>0.35</i>	<b>0.45</b>	<i>0.34</i>	<i>0.58</i>	<b>299</b>	<i>0.36</i>	<i>6.1</i>	
	Manchester												19.0
	<i>Oldham</i>	<i>217,276</i>			<i>0.43</i>	<i>0.47</i>	<b>0.49</b>	<i>0.39</i>	<i>0.62</i>	<b>318</b>	<i>0.46</i>	<i>13.9</i>	
	<i>Rochdale</i>	<i>205,357</i>			<i>0.44</i>	<i>0.47</i>	<b>0.48</b>	<i>0.38</i>	<i>0.61</i>	<b>312</b>	<i>0.47</i>	<i>11.4</i>	
	<i>Salford</i>	<i>216,105</i>			<i>0.60</i>	<i>0.56</i>	<b>0.61</b>	<i>0.50</i>	<i>0.75</i>	<b>407</b>	<i>0.59</i>	<i>3.9</i>	
	Stockport												4.3
	Tameside												5.4
Trafford												8.4	
<i>Wigan</i>	<i>301,415</i>			<i>0.53</i>	<i>0.59</i>	<b>0.65</b>	<i>0.55</i>	<i>0.77</i>	<b>445</b>	<i>0.59</i>	<i>1.3</i>		
Yorkshire & Humber	<i>East Riding</i>	<i>314,113</i>	<i>0.65</i>	<i>0.72</i>	<i>0.76</i>	<i>0.79</i>	<b>0.85</b>	<i>0.74</i>	<i>0.98</i>	<b>630</b>	<i>0.76</i>	<i>1.2</i>	
	Hull	243,588	0.87	0.90	0.90	0.99	<b>1.06</b>	0.91	1.23	<b>681</b>	0.94	2.3	
	NE Lincolnshire	157,981	0.64	0.79	0.84	0.96	<b>1.02</b>	0.85	1.24	<b>696</b>	0.85	1.4	
	N Lincolnshire	152,848	0.79	0.85	0.85	0.87	<b>0.86</b>	0.71	1.06	<b>615</b>	0.84	2.5	
	<i>N Yorkshire</i>	<i>569,660</i>	<i>0.60</i>	<i>0.69</i>	<i>0.72</i>	<i>0.78</i>	<b>0.82</b>	<i>0.73</i>	<i>0.91</i>	<b>595</b>	<i>0.72</i>	<i>1.1</i>	
	York	181,096	0.77	0.79	0.88	0.86	<b>0.89</b>	0.74	1.07	<b>613</b>	0.84	2.2	
	Barnsley	218,063	0.91	1.01	1.07	1.14	<b>1.11</b>	0.95	1.29	<b>770</b>	1.05	0.9	
	Doncaster	286,865	0.76	0.86	0.97	0.99	<b>0.98</b>	0.85	1.12	<b>676</b>	0.91	2.3	
	<b>Rotherham</b>	<b>248,175</b>	<b>0.96</b>	<b>1.01</b>	<b>1.06</b>	<b>1.15</b>	<b>1.16</b>	<b>1.01</b>	<b>1.33</b>	<b>794</b>	<b>1.07</b>	<b>3.1</b>	
	Sheffield	513,234	0.80	0.89	0.92	1.01	<b>1.04</b>	0.94	1.15	<b>696</b>	0.93	8.8	
	<b>Bradford</b>	<b>467,664</b>	<b>0.96</b>	<b>1.06</b>	<b>1.17</b>	<b>1.23</b>	<b>1.31</b>	<b>1.19</b>	<b>1.45</b>	<b>823</b>	<b>1.15</b>	<b>21.7</b>	
	Calderdale	192,405	0.84	0.91	1.01	1.05	<b>1.09</b>	0.92	1.29	<b>738</b>	0.98	7.0	
	<b>Kirklees</b>	<b>388,567</b>	<b>0.92</b>	<b>1.00</b>	<b>1.09</b>	<b>1.13</b>	<b>1.17</b>	<b>1.05</b>	<b>1.31</b>	<b>767</b>	<b>1.06</b>	<b>14.4</b>	
	Leeds	715,403	0.87	0.89	0.91	0.94	<b>1.02</b>	0.93	1.11	<b>661</b>	0.92	8.2	
Wakefield	315,172	0.76	0.76	0.78	0.82	<b>0.87</b>	0.75	1.00	<b>593</b>	0.80	2.3		

Table 4.5: (continued)

Region	Local Authority	Total Pop	2001 O/E	2002 O/E	2003 O/E	2004 OE	2005			pmp	ALL O/E	% non- White
							O/E	LCL	UCL			
East Midlands	<b>Leicester</b>	<b>279,920</b>	<b>1.45</b>	<b>1.57</b>	<b>1.63</b>	<b>1.71</b>	<b>1.80</b>	<b>1.60</b>	<b>2.01</b>	<b>1,075</b>	<b>1.63</b>	<b>36.1</b>
	Leicestershire	609,578	0.79	0.81	0.85	0.91	<b>0.93</b>	0.84	1.03	<b>650</b>	0.86	5.3
	Northamptonshire	629,676	0.79	0.82	0.83	0.69	<b>0.92</b>	0.83	1.01	<b>613</b>	0.81	4.9
	Rutland	34,563	0.61	0.69	0.81	0.85	<b>0.93</b>	0.62	1.40	<b>665</b>	0.78	1.9
	Derby	221,709			1.08	1.15	<b>1.16</b>	1.00	1.35	<b>767</b>	1.13	12.6
	<i>Derbyshire</i>	<i>734,585</i>	<i>0.64</i>	<i>0.54</i>	<i>0.76</i>	<i>0.77</i>	<b>0.80</b>	<i>0.73</i>	<i>0.88</i>	<b>570</b>	<i>0.70</i>	<i>1.5</i>
	<i>Lincolnshire</i>	<i>646,644</i>	<i>0.69</i>	<i>0.71</i>	<i>0.71</i>	<i>0.77</i>	<b>0.83</b>	<i>0.75</i>	<i>0.92</i>	<b>615</b>	<i>0.74</i>	<i>1.3</i>
	<b>Nottingham</b>	<b>266,988</b>	<b>1.30</b>	<b>1.19</b>	<b>1.17</b>	<b>1.21</b>	<b>1.25</b>	<b>1.09</b>	<b>1.43</b>	<b>760</b>	<b>1.22</b>	<b>15.1</b>
	Nottinghamshire	748,508	0.84	0.85	0.88	0.93	<b>0.99</b>	0.91	1.08	<b>703</b>	0.90	2.6
West Midlands	<b>Birmingham</b>	<b>977,085</b>				<b>1.55</b>	<b>1.67</b>	<b>1.57</b>	<b>1.77</b>	<b>1,023</b>	<b>1.61</b>	<b>29.6</b>
	Dudley	305,153	0.67	0.64	0.68	0.90	<b>0.94</b>	0.82	1.08	<b>665</b>	0.76	6.3
	<b>Sandwell</b>	<b>282,904</b>				<b>1.33</b>	<b>1.40</b>	<b>1.25</b>	<b>1.58</b>	<b>937</b>	<b>1.37</b>	<b>20.3</b>
	Solihull	199,515	0.66	0.64	0.75	0.95	<b>0.98</b>	0.83	1.16	<b>697</b>	0.80	5.4
	<b>Walsall</b>	<b>253,498</b>	<b>0.63</b>	<b>0.72</b>	<b>0.72</b>	<b>1.18</b>	<b>1.25</b>	<b>1.10</b>	<b>1.43</b>	<b>852</b>	<b>0.90</b>	<b>13.6</b>
	<b>Wolverhampton</b>	<b>236,582</b>	<b>0.98</b>	<b>1.01</b>	<b>1.11</b>	<b>1.26</b>	<b>1.33</b>	<b>1.16</b>	<b>1.52</b>	<b>896</b>	<b>1.14</b>	<b>22.2</b>
	<b>Coventry</b>	<b>300,849</b>	<b>1.12</b>	<b>1.13</b>	<b>1.20</b>	<b>1.20</b>	<b>1.20</b>	<b>1.05</b>	<b>1.36</b>	<b>768</b>	<b>1.17</b>	<b>16.0</b>
	Herefordshire	174,871				0.81	<b>0.87</b>	0.72	1.04	<b>646</b>	0.84	0.9
	Warwickshire	505,858	0.87	0.91	0.92	1.03	<b>1.08</b>	0.98	1.19	<b>765</b>	0.96	4.4
	<i>Worcestershire</i>	<i>542,105</i>				<i>0.80</i>	<b>0.86</b>	<i>0.77</i>	<i>0.96</i>	<b>612</b>	<i>0.83</i>	<i>2.5</i>
	Shropshire	283,173				0.80	<b>0.89</b>	0.77	1.03	<b>650</b>	0.85	1.2
	Staffordshire											2.4
	Stoke-on-Trent											5.2
	Telford/Wrekin	158,325				0.86	<b>0.85</b>	0.69	1.05	<b>543</b>	0.85	5.2
East of England	Bedfordshire	381,572	0.71	0.78	0.81	0.86	<b>0.90</b>	0.80	1.03	<b>605</b>	0.81	6.7
	<i>Hertfordshire</i>	<i>1,033,978</i>	<i>0.42</i>	<i>0.51</i>	<i>0.53</i>	<i>0.55</i>	<b>0.74</b>	<i>0.68</i>	<i>0.80</i>	<b>496</b>	<i>0.55</i>	<i>6.3</i>
	<b>Luton</b>	<b>184,373</b>	<b>0.89</b>	<b>0.95</b>	<b>1.06</b>	<b>1.09</b>	<b>1.29</b>	<b>1.10</b>	<b>1.52</b>	<b>781</b>	<b>1.06</b>	<b>28.1</b>
	<i>Essex</i>	<i>1,310,837</i>				<i>0.76</i>	<b>0.81</b>	<i>0.75</i>	<i>0.87</i>	<b>566</b>	<i>0.78</i>	<i>2.9</i>
	Southend	160,259	0.66	0.76	0.85	0.95	<b>1.01</b>	0.84	1.22	<b>705</b>	0.85	4.2
	Thurrock	143,128				0.86	<b>1.01</b>	0.82	1.24	<b>643</b>	0.93	4.7
	Cambridgeshire	552,659	0.64	0.73	0.76	0.82	<b>0.92</b>	0.83	1.02	<b>622</b>	0.77	4.1
	Norfolk	796,728				0.79	<b>0.85</b>	0.78	0.93	<b>639</b>	0.82	1.5
	Peterborough	156,061	0.62	0.75	0.86	0.95	<b>1.01</b>	0.84	1.23	<b>654</b>	0.84	10.3
<i>Suffolk</i>	<i>668,555</i>				<i>0.70</i>	<b>0.75</b>	<i>0.68</i>	<i>0.84</i>	<b>541</b>	<i>0.73</i>	<i>2.8</i>	
London	Barnet	314,561					<b>1.12</b>	0.98	1.27	<b>709</b>	1.12	26.0
	Camden	198,020					<b>1.08</b>	0.91	1.29	<b>641</b>	1.08	26.8
	<b>Enfield</b>	<b>273,559</b>					<b>1.49</b>	<b>1.32</b>	<b>1.68</b>	<b>943</b>	<b>1.49</b>	<b>22.9</b>
	<b>Haringey</b>	<b>216,505</b>					<b>1.68</b>	<b>1.46</b>	<b>1.92</b>	<b>956</b>	<b>1.68</b>	<b>34.4</b>
	<b>Islington</b>	<b>175,797</b>					<b>1.36</b>	<b>1.15</b>	<b>1.60</b>	<b>796</b>	<b>1.36</b>	<b>24.6</b>
	Barking/Dagenham	163,942				0.92	<b>1.02</b>	0.84	1.23	<b>622</b>	0.97	14.8
	City of London											15.4
	<b>Hackney</b>	<b>202,824</b>				<b>1.15</b>	<b>1.53</b>	<b>1.32</b>	<b>1.78</b>	<b>838</b>	<b>1.34</b>	<b>40.6</b>
	Havering											4.8
	<b>Newham</b>	<b>243,889</b>				<b>1.34</b>	<b>1.58</b>	<b>1.37</b>	<b>1.81</b>	<b>824</b>	<b>1.46</b>	<b>60.6</b>
	<b>Redbridge</b>	<b>238,634</b>				<b>1.12</b>	<b>1.31</b>	<b>1.14</b>	<b>1.50</b>	<b>834</b>	<b>1.21</b>	<b>36.5</b>
	<b>Tower Hamlets</b>	<b>196,105</b>				<b>1.16</b>	<b>1.28</b>	<b>1.07</b>	<b>1.51</b>	<b>668</b>	<b>1.22</b>	<b>48.6</b>
	Waltham Forest											35.5
	Brent											54.7
	<b>Ealing</b>	<b>300,948</b>		<b>1.29</b>	<b>1.31</b>	<b>1.41</b>	<b>1.49</b>	<b>1.32</b>	<b>1.68</b>	<b>907</b>	<b>1.37</b>	<b>41.3</b>
	<b>H/smith/Fulham</b>	<b>165,244</b>		<b>1.27</b>	<b>1.35</b>	<b>1.45</b>	<b>1.40</b>	<b>1.18</b>	<b>1.65</b>	<b>823</b>	<b>1.37</b>	<b>22.2</b>
	Harrow											41.2
Hillingdon	243,006				0.85	<b>1.01</b>	0.86	1.18	<b>642</b>	0.93	20.9	
<b>Hounslow</b>	<b>212,342</b>				<b>1.60</b>	<b>1.63</b>	<b>1.42</b>	<b>1.86</b>	<b>984</b>	<b>1.61</b>	<b>35.1</b>	
Kensington/C/lsea											21.4	

Table 4.5: (continued)

Region	Local Authority	Total Pop	2001 O/E	2002 O/E	2003 O/E	2004 OE	2005			pmp	ALL O/E	% non- White	
							O/E	LCL	UCL				
London (continued)	Westminster											26.8	
	Bexley	218,307	0.61	1.00	1.05	1.04	<b>1.09</b>	0.93	1.27	<b>733</b>	0.96	8.6	
	Bromley	295,532	0.57	0.80	0.83	0.86	<b>0.92</b>	0.80	1.06	<b>636</b>	0.80	8.4	
	Greenwich	214,404		0.90	0.91	0.87	<b>1.14</b>	0.97	1.33	<b>686</b>	0.96	22.9	
	<b>Lambeth</b>	<b>266,169</b>	<b>0.72</b>	<b>1.17</b>	<b>1.23</b>	<b>1.31</b>	<b>1.39</b>	<b>1.21</b>	<b>1.59</b>	<b>778</b>	<b>1.16</b>	<b>37.6</b>	
	<b>Lewisham</b>	<b>248,923</b>	<b>1.04</b>	<b>1.43</b>	<b>1.44</b>	<b>1.59</b>	<b>1.74</b>	<b>1.53</b>	<b>1.96</b>	<b>1,012</b>	<b>1.45</b>	<b>34.1</b>	
	<b>Southwark</b>	<b>244,866</b>		<b>1.45</b>	<b>1.53</b>	<b>1.57</b>	<b>1.73</b>	<b>1.53</b>	<b>1.96</b>	<b>992</b>	<b>1.57</b>	<b>37.0</b>	
	<b>Croydon</b>	<b>330,588</b>	<b>0.70</b>	<b>0.88</b>	<b>1.00</b>	<b>1.09</b>	<b>1.21</b>	<b>1.07</b>	<b>1.37</b>	<b>762</b>	<b>0.97</b>	<b>29.8</b>	
	Kingston												15.5
	Merton												25.0
	Richmond												9.0
Sutton												10.8	
Wandsworth												22.0	
SE England	<i>Hampshire</i>	<i>1,240,102</i>	<i>0.62</i>	<i>0.64</i>	<i>0.69</i>	<i>0.72</i>	<b>0.75</b>	<i>0.69</i>	<i>0.81</i>	<b>522</b>	<i>0.68</i>	2.2	
	<i>Isle of Wight</i>	<i>132,731</i>	<i>0.54</i>	<i>0.59</i>	<i>0.65</i>	<i>0.66</i>	<b>0.65</b>	<i>0.51</i>	<i>0.82</i>	<b>497</b>	<i>0.62</i>	1.3	
	Portsmouth	186,700	0.98	1.01	1.03	1.06	<b>1.07</b>	0.90	1.28	<b>686</b>	1.03	5.3	
	Southampton	217,444	0.71	0.76	0.80	0.85	<b>0.88</b>	0.73	1.05	<b>547</b>	0.80	7.6	
	Kent											3.1	
	Medway											5.4	
	<i>Brighton/Hove</i>	<i>247,817</i>				<i>0.77</i>	<b>0.80</b>	<i>0.67</i>	<i>0.95</i>	<b>529</b>	<i>0.78</i>	5.7	
	<i>E Sussex</i>	<i>492,326</i>				<i>0.79</i>	<b>0.81</b>	<i>0.72</i>	<i>0.90</i>	<b>607</b>	<i>0.80</i>	2.3	
	<i>Surrey</i>	<i>1,059,017</i>				<i>0.71</i>	<b>0.76</b>	<i>0.70</i>	<i>0.83</i>	<b>533</b>	<i>0.74</i>	5.0	
	<i>W Sussex</i>	<i>753,612</i>				<i>0.71</i>	<b>0.75</b>	<i>0.68</i>	<i>0.83</i>	<b>545</b>	<i>0.73</i>	3.4	
	Bracknell Forest	109,616				0.85	<b>0.83</b>	0.64	1.08	<b>511</b>	0.84	4.9	
Buckinghamshire	479,026	0.79	0.85	0.88	0.91	<b>0.95</b>	0.85	1.06	<b>647</b>	0.88	7.9		
Milton Keynes	207,057	0.80	0.82	0.93	0.99	<b>1.04</b>	0.88	1.24	<b>633</b>	0.92	9.3		
Oxfordshire	605,489	0.90	0.92	1.00	1.02	<b>1.04</b>	0.94	1.14	<b>687</b>	0.98	4.9		
Reading	143,096	0.97	1.04	1.11	1.13	<b>1.08</b>	0.88	1.33	<b>657</b>	1.06	13.2		
<b>Slough</b>	<b>119,064</b>	<b>0.89</b>	<b>1.36</b>	<b>1.48</b>	<b>1.55</b>	<b>1.66</b>	<b>1.39</b>	<b>1.99</b>	<b>991</b>	<b>1.39</b>	<b>36.3</b>		
West Berkshire	144,485	0.77	0.75	0.82	0.95	<b>0.94</b>	0.77	1.16	<b>630</b>	0.85	2.6		
Windsor/Maidenhd												7.6	
Wokingham	150,231	0.71	0.72	0.80	0.85	<b>0.90</b>	0.73	1.11	<b>592</b>	0.80	6.1		
SW England	Bath/NE Somerset	169,040	0.60	0.60	0.64	0.79	<b>0.88</b>	0.72	1.06	<b>615</b>	0.70	2.8	
	<b>Bristol</b>	<b>380,616</b>	<b>1.11</b>	<b>1.17</b>	<b>1.25</b>	<b>1.28</b>	<b>1.33</b>	<b>1.19</b>	<b>1.48</b>	<b>846</b>	<b>1.23</b>	<b>8.2</b>	
	Gloucestershire	564,559	0.69	0.74	0.79	0.85	<b>0.91</b>	0.82	1.01	<b>643</b>	0.80	2.8	
	N Somerset	188,564	0.84	0.87	0.99	1.07	<b>1.06</b>	0.90	1.24	<b>785</b>	0.97	1.4	
	S Gloucestershire	245,641	0.89	0.99	0.99	1.04	<b>1.09</b>	0.94	1.26	<b>741</b>	1.00	2.4	
	Swindon	180,051	0.74	0.75	0.78	0.91	<b>0.90</b>	0.74	1.09	<b>589</b>	0.81	4.8	
	<i>Wiltshire</i>	<i>432,972</i>	<i>0.61</i>	<i>0.62</i>	<i>0.63</i>	<i>0.63</i>	<b>0.71</b>	<i>0.62</i>	<i>0.81</i>	<b>494</b>	<i>0.64</i>	1.6	
	<i>Bournemouth</i>	<i>163,444</i>				<i>0.73</i>	<b>0.69</b>	<i>0.55</i>	<i>0.86</i>	<b>489</b>	<i>0.71</i>	3.3	
	<i>Dorset</i>	<i>390,980</i>				<i>0.77</i>	<b>0.82</b>	<i>0.72</i>	<i>0.93</i>	<b>642</b>	<i>0.79</i>	1.3	
	<i>Poole</i>	<i>138,288</i>				<i>0.79</i>	<b>0.87</b>	<i>0.70</i>	<i>1.07</i>	<b>636</b>	<i>0.83</i>	1.8	
	<i>Somerset</i>	<i>498,095</i>	<i>0.69</i>	<i>0.78</i>	<i>0.81</i>	<i>0.84</i>	<b>0.88</b>	<i>0.79</i>	<i>0.98</i>	<b>644</b>	<i>0.80</i>	1.2	
	<i>Cornwall/Scilly</i>	<i>501,267</i>	<i>0.79</i>	<i>0.87</i>	<i>0.93</i>	<i>1.06</i>	<b>1.05</b>	<i>0.95</i>	<i>1.15</i>	<b>792</b>	<i>0.94</i>	1.0	
	<i>Devon</i>	<i>704,491</i>	<i>0.66</i>	<i>0.72</i>	<i>0.76</i>	<i>0.82</i>	<b>0.85</b>	<i>0.77</i>	<i>0.93</i>	<b>639</b>	<i>0.76</i>	1.1	
	Plymouth	240,722	1.02	1.02	1.03	1.00	<b>1.02</b>	0.87	1.18	<b>681</b>	1.02	1.6	
	Torbay	129,706	0.75	0.77	0.81	0.97	<b>0.97</b>	0.80	1.19	<b>740</b>	0.86	1.2	

Table 4.5: (continued)

Region	Local Authority	Total Pop	2001 O/E	2002 O/E	2003 O/E	2004 OE	2005			pmp	ALL O/E	% non- White
							O/E	LCL	UCL			
Wales	<b>Cardiff</b>	<b>305,353</b>	<b>1.04</b>	<b>1.09</b>	<b>1.15</b>	<b>1.23</b>	<b>1.24</b>	<b>1.10</b>	<b>1.41</b>	<b>776</b>	<b>1.15</b>	<b>8.4</b>
	<b>Merthyr Tydfil</b>	<b>55,979</b>	<b>1.05</b>	<b>1.08</b>	<b>1.26</b>	<b>1.50</b>	<b>1.55</b>	<b>1.20</b>	<b>2.00</b>	<b>1,054</b>	<b>1.29</b>	<b>1.0</b>
	<b>Rhondda/Cynon/Taff</b>	<b>231,947</b>	<b>1.09</b>	<b>1.13</b>	<b>1.08</b>	<b>1.24</b>	<b>1.29</b>	<b>1.12</b>	<b>1.48</b>	<b>875</b>	<b>1.17</b>	<b>1.2</b>
	Vale of Glamorgan	119,292	0.82	0.87	0.93	1.06	<b>0.99</b>	0.80	1.23	<b>687</b>	0.93	2.2
	Carmarthenshire	172,842	0.93	0.89	0.99	1.05	<b>1.11</b>	0.94	1.30	<b>816</b>	0.99	0.9
	Ceredigion	74,941	0.66	0.77	0.76	0.88	<b>0.88</b>	0.67	1.17	<b>641</b>	0.79	1.4
	Pembrokeshire	114,131	0.72	0.65	0.79	0.82	<b>0.95</b>	0.76	1.18	<b>701</b>	0.79	0.9
	Powys	126,353	0.38	0.39	0.40	0.80	<b>0.91</b>	0.74	1.12	<b>689</b>	0.57	0.9
	Blaenau Gwent	70,064	1.03	1.14	1.07	1.07	<b>1.18</b>	0.91	1.53	<b>814</b>	1.10	0.8
	Caerphilly	169,519	0.94	1.04	1.01	1.05	<b>1.12</b>	0.94	1.33	<b>755</b>	1.03	0.9
	Monmouthshire	84,885	0.98	1.07	1.06	1.12	<b>1.20</b>	0.96	1.51	<b>884</b>	1.09	1.1
	Newport	137,012	0.94	1.02	1.15	1.16	<b>1.20</b>	0.99	1.44	<b>803</b>	1.09	4.8
	Torfaen	90,949	1.03	1.05	1.11	1.13	<b>1.16</b>	0.92	1.46	<b>803</b>	1.09	0.9
	Bridgend	128,645	0.84	0.88	0.99	1.08	<b>1.16</b>	0.96	1.40	<b>808</b>	0.99	1.4
	Neath/Port Talbot	134,468	0.96	0.89	1.04	1.12	<b>1.15</b>	0.95	1.38	<b>825</b>	1.03	1.1
	<b>Swansea</b>	<b>223,300</b>	<b>1.10</b>	<b>1.06</b>	<b>1.18</b>	<b>1.26</b>	<b>1.30</b>	<b>1.13</b>	<b>1.49</b>	<b>918</b>	<b>1.18</b>	<b>2.2</b>
	Conwy	109,596		0.79	0.83	0.87	<b>0.83</b>	0.66	1.06	<b>639</b>	0.83	1.1
	Denbighshire	93,065	0.34	0.75	0.82	0.88	<b>1.03</b>	0.81	1.30	<b>752</b>	0.77	1.2
	Flintshire	148,594		0.94	0.98	1.02	<b>1.06</b>	0.88	1.28	<b>727</b>	1.00	0.8
	Gwynedd	116,843		0.99	1.09	1.02	<b>1.05</b>	0.85	1.30	<b>753</b>	1.04	1.2
Anglesey	66,829		0.75	0.85	0.87	<b>1.05</b>	0.80	1.38	<b>778</b>	0.88	0.7	
Wrexham	128,476	1.17	1.14	1.21	1.21	<b>1.21</b>	1.00	1.46	<b>833</b>	1.19	1.1	
Scotland	<b>Aberdeen City</b>	<b>212,125</b>	<b>0.88</b>	<b>0.94</b>	<b>0.96</b>	<b>1.14</b>	<b>1.19</b>	<b>1.02</b>	<b>1.38</b>	<b>797</b>	<b>1.02</b>	
	Aberdeenshire	226,871	0.85	0.88	0.86	0.90	<b>0.99</b>	0.85	1.16	<b>683</b>	0.90	
	<b>Angus</b>	<b>108,400</b>	<b>0.88</b>	<b>1.13</b>	<b>1.05</b>	<b>1.19</b>	<b>1.24</b>	<b>1.02</b>	<b>1.51</b>	<b>904</b>	<b>1.10</b>	
	Argyll & Bute	91,306	0.84	0.83	0.84	0.89	<b>0.86</b>	0.66	1.11	<b>635</b>	0.85	
	Scottish Borders	106,764	0.60	0.69	0.67	0.75	<b>0.83</b>	0.65	1.06	<b>618</b>	0.71	
	Clackmannanshire	48,077	0.40	0.55	0.77	0.80	<b>0.92</b>	0.64	1.31	<b>624</b>	0.69	
	Dunbartonshire	93,378	0.87	0.84	0.78	0.82	<b>0.82</b>	0.63	1.08	<b>557</b>	0.83	
	Dumfries/Galloway	147,765	0.97	0.97	1.04	0.97	<b>1.05</b>	0.88	1.26	<b>792</b>	1.00	
	<b>Dundee City</b>	<b>145,663</b>	<b>0.97</b>	<b>1.07</b>	<b>1.18</b>	<b>1.24</b>	<b>1.40</b>	<b>1.19</b>	<b>1.66</b>	<b>968</b>	<b>1.17</b>	
	E Ayrshire	120,235	0.86	0.86	0.87	0.87	<b>0.99</b>	0.80	1.23	<b>690</b>	0.89	
	E Dunbartonshire	108,243	0.96	0.99	1.12	1.08	<b>1.06</b>	0.85	1.31	<b>739</b>	1.04	
	E Lothian	90,088	0.93	0.96	0.93	0.99	<b>0.97</b>	0.76	1.25	<b>688</b>	0.96	
	E Renfrewshire	89,311	0.86	0.85	0.93	0.96	<b>1.08</b>	0.85	1.37	<b>739</b>	0.94	
	Edinburgh	448,624	0.88	0.87	0.91	0.97	<b>0.99</b>	0.88	1.11	<b>653</b>	0.92	
	Falkirk	145,191	0.92	0.89	0.92	0.91	<b>1.00</b>	0.82	1.22	<b>689</b>	0.93	
	Fife	349,429	0.78	0.86	0.86	0.91	<b>1.01</b>	0.89	1.15	<b>701</b>	0.89	
	<b>Glasgow</b>	<b>577,869</b>	<b>1.16</b>	<b>1.21</b>	<b>1.26</b>	<b>1.26</b>	<b>1.31</b>	<b>1.20</b>	<b>1.43</b>	<b>857</b>	<b>1.24</b>	
	<b>Highland</b>	<b>208,914</b>	<b>0.78</b>	<b>0.89</b>	<b>0.97</b>	<b>1.09</b>	<b>1.25</b>	<b>1.09</b>	<b>1.45</b>	<b>905</b>	<b>1.00</b>	
	<b>Inverclyde</b>	<b>84,203</b>	<b>1.14</b>	<b>1.18</b>	<b>1.18</b>	<b>1.19</b>	<b>1.28</b>	<b>1.02</b>	<b>1.60</b>	<b>891</b>	<b>1.19</b>	
	Midlothian	80,941	0.88	0.90	1.01	1.11	<b>1.13</b>	0.88	1.45	<b>778</b>	1.01	
Moray	86,940	0.86	0.91	0.89	0.96	<b>1.14</b>	0.90	1.44	<b>794</b>	0.95		
<b>N Ayrshire</b>	<b>135,817</b>	<b>0.98</b>	<b>1.06</b>	<b>1.10</b>	<b>1.19</b>	<b>1.23</b>	<b>1.02</b>	<b>1.47</b>	<b>854</b>	<b>1.11</b>		
N Lanarkshire	321,067	1.01	1.08	1.12	1.13	<b>1.13</b>	1.00	1.28	<b>748</b>	1.09		
Orkney Isles	19,245	0.57	0.86	1.00	1.07	<b>1.22</b>	0.76	1.96	<b>883</b>	0.94		
Perth/Kinross	134,949	0.75	0.84	0.93	0.98	<b>0.99</b>	0.81	1.21	<b>726</b>	0.90		
Renfrewshire	172,867	0.91	1.04	1.07	1.10	<b>1.18</b>	1.00	1.39	<b>816</b>	1.06		
Shetland Isles	21,988	0.61	0.61	0.61	0.74	<b>0.61</b>	0.32	1.17	<b>409</b>	0.64		
S Ayrshire	112,097	0.83	0.85	0.96	0.90	<b>1.02</b>	0.82	1.26	<b>758</b>	0.91		
S Lanarkshire	302,216	1.02	1.06	1.08	1.11	<b>1.08</b>	0.95	1.23	<b>741</b>	1.07		
Stirling	86,212	0.76	0.76	0.80	0.80	<b>0.81</b>	0.61	1.08	<b>557</b>	0.79		
West Lothian	158,714	0.95	0.96	0.99	0.98	<b>1.07</b>	0.88	1.29	<b>680</b>	0.99		
<i>Eilean Siar</i>	<i>26,502</i>	<i>0.50</i>	<i>0.55</i>	<i>0.55</i>	<i>0.75</i>	<b>0.50</b>	<i>0.27</i>	<i>0.93</i>	<b>377</b>	<i>0.57</i>		

Table 4.5: (continued)

Region	Local Authority	Total Pop	2001 O/E	2002 O/E	2003 O/E	2004 OE	2005			pmp	ALL O/E	% non- White
							O/E	LCL	UCL			
N Ireland	<b>Antrim</b>	<b>48,366</b>					<b>1.45</b>	<b>1.07</b>	<b>1.96</b>	<b>868</b>	<b>1.45</b>	
	<b>Ards</b>	<b>73,244</b>					<b>1.29</b>	<b>1.01</b>	<b>1.66</b>	<b>860</b>	<b>1.29</b>	
	<b>Armagh</b>	<b>54,262</b>					<b>1.47</b>	<b>1.11</b>	<b>1.95</b>	<b>885</b>	<b>1.47</b>	
	Ballymena	58,610					<i>1.17</i>	<i>0.87</i>	<i>1.57</i>	<b>768</b>	<i>1.17</i>	
	Ballymoney	26,895					<b>0.89</b>	<i>0.54</i>	<i>1.47</i>	<b>558</b>	<i>0.89</i>	
	Banbridge	41,389					<b>1.05</b>	<i>0.72</i>	<i>1.54</i>	<b>652</b>	<i>1.05</i>	
	<b>Belfast</b>	<b>277,391</b>					<b>1.17</b>	<b>1.02</b>	<b>1.34</b>	<b>721</b>	<b>1.17</b>	
	<b>Carrickfergus</b>	<b>37,658</b>					<b>2.00</b>	<b>1.51</b>	<b>2.66</b>	<b>1,275</b>	<b>2.00</b>	
	<b>Castlereagh</b>	<b>66,488</b>					<b>1.58</b>	<b>1.25</b>	<b>1.99</b>	<b>1,068</b>	<b>1.58</b>	
	Coleraine	56,314					<b>1.03</b>	<i>0.74</i>	<i>1.42</i>	<b>657</b>	<i>1.03</i>	
	Cookstown	32,581					<b>0.84</b>	<i>0.51</i>	<i>1.37</i>	<b>491</b>	<i>0.84</i>	
	<b>Craigavon</b>	<b>80,671</b>					<b>1.30</b>	<b>1.01</b>	<b>1.66</b>	<b>793</b>	<b>1.30</b>	
	<b>Derry</b>	<b>105,066</b>					<b>1.30</b>	<b>1.04</b>	<b>1.63</b>	<b>714</b>	<b>1.30</b>	
	Down	63,828					<b>1.18</b>	<i>0.89</i>	<i>1.58</i>	<b>721</b>	<i>1.18</i>	
	Dungannon	47,735					<b>0.85</b>	<i>0.57</i>	<i>1.26</i>	<b>503</b>	<i>0.85</i>	
	Fermanagh	57,527					<b>0.99</b>	<i>0.72</i>	<i>1.38</i>	<b>626</b>	<i>0.99</i>	
	<b>Larne</b>	<b>30,833</b>					<b>1.79</b>	<b>1.30</b>	<b>2.47</b>	<b>1,200</b>	<b>1.79</b>	
	Limavady	32,422					<b>1.03</b>	<i>0.66</i>	<i>1.62</i>	<b>586</b>	<i>1.03</i>	
	Lisburn	108,694					<b>1.22</b>	<i>0.98</i>	<i>1.52</i>	<b>736</b>	<i>1.22</i>	
	<b>Magherafelt</b>	<b>39,778</b>					<b>1.57</b>	<b>1.13</b>	<b>2.17</b>	<b>905</b>	<b>1.57</b>	
	Moyle	15,932					<b>0.87</b>	<i>0.45</i>	<i>1.68</i>	<b>565</b>	<i>0.87</i>	
	<b>Newry/Mourne</b>	<b>87,058</b>					<b>1.42</b>	<b>1.13</b>	<b>1.79</b>	<b>827</b>	<b>1.42</b>	
	Newtownabbey	79,996					<b>1.16</b>	<i>0.90</i>	<i>1.49</i>	<b>750</b>	<i>1.16</i>	
North Down	76,323					<b>1.05</b>	<i>0.81</i>	<i>1.37</i>	<b>721</b>	<i>1.05</i>		
Omagh	47,953					<b>1.36</b>	<i>0.99</i>	<i>1.87</i>	<b>792</b>	<i>1.36</i>		
Strabane	38,246					<b>1.20</b>	<i>0.82</i>	<i>1.75</i>	<b>706</b>	<i>1.20</i>		
England	42,396,371	0.47	0.57	0.63	0.88	<b>0.97</b>			<b>660</b>	<i>0.87</i>		
Scotland	5,062,011											
Wales	2,903,083	0.77	0.94	1.00	1.08	<b>1.13</b>			<b>791</b>	<i>1.02</i>		
N Ireland	1,685,260					<b>1.24</b>			<b>765</b>			
<b>Total</b>	<b>52,046,725</b>	<b>0.52</b>	<b>0.61</b>	<b>0.67</b>	<b>0.88</b>	<b>1.00</b>			<b>680</b>	<b>0.90</b>		

Areas with significantly high prevalence ratios in 2005 are shown highlighted and bold, those with significantly low prevalence ratios are highlighted and italic.

O/E = Standardised acceptance rate ratio.

% non White = sum of % South Asian and African-Caribbean from 2001 Census.

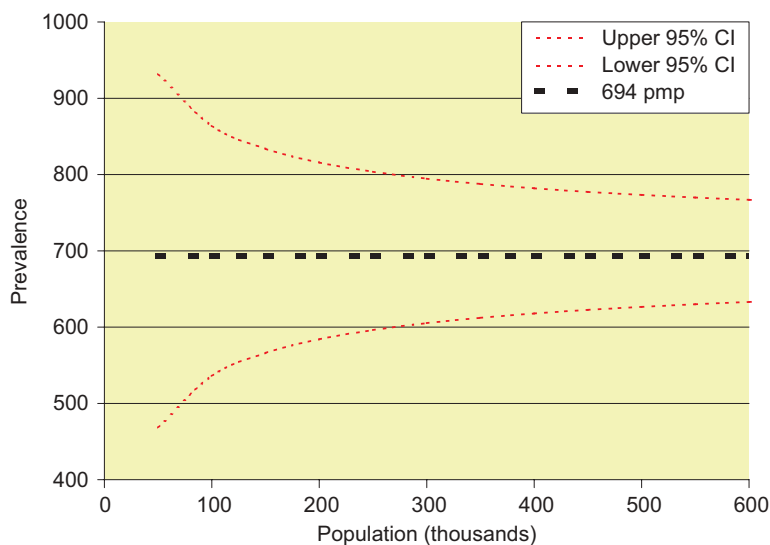


Figure 4.2: 95% confidence limits for prevalence of 694 pmp for population sizes 50,000–600,000

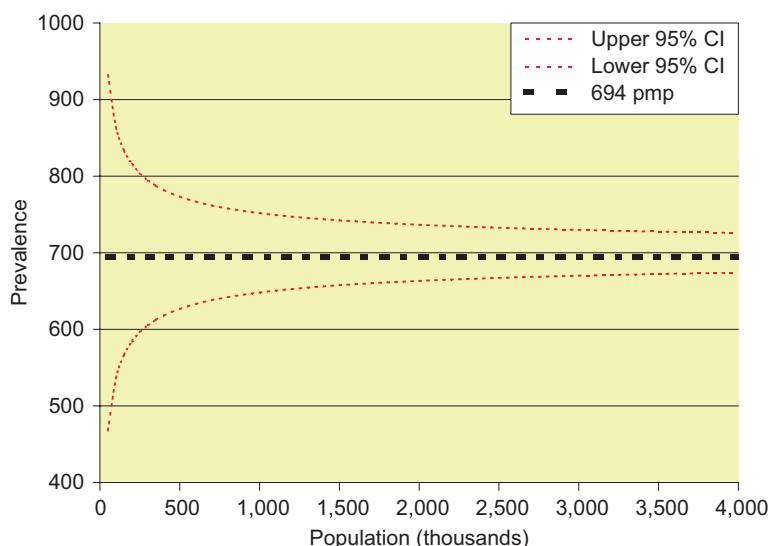


Figure 4.3: 95% confidence limits for prevalence of 694 pmp for population sizes 50,000–4 million

Table 4.6: Summary regional distribution of local authority areas with significantly low, normal, or significantly high values of SPR and mean % non-White

Region	Prevalence group			Total	Mean % Non-White
	Low	Normal	High		
North East England	0	12	0	12	2.5
North West England	12	5	0	17	5.4
Yorkshire & Humber	2	10	3	15	5.3
East Midlands	2	5	2	9	9.0
West Midlands	1	6	5	12	10.6
East of England	4	5	1	10	7.2
London	0	7	14	21	30.2
South East England	6	9	1	16	7.4
South West England	5	9	1	15	2.4
Wales	0	17	5	22	1.6
Scotland	1	23	8	32	n/a
Northern Ireland	0	15	11	26	n/a
<b>All Regions</b>	<b>33</b>	<b>123</b>	<b>51</b>	<b>207</b>	

significantly lower ( $p=0.03$  in all cases). Conversely, London ( $p < 0.0001$ ) and Northern Ireland ( $p=0.048$ ) had a significantly higher proportion of areas with a high SPR, whilst in the North East ( $p=0.04$ ) and the North West of England ( $p=0.008$ ), the proportion was significantly lower. Although overall areas with a high SPR had significantly higher ethnic minority populations than areas with significantly low or normal SPRs ( $p < 0.0001$ ) (Figure 4.4), in some areas such as South Wales, ethnicity does not seem to be a major factor.

The relationship between the ethnic composition of a LA area and its SPR is further demonstrated in Figure 4.5, which shows the

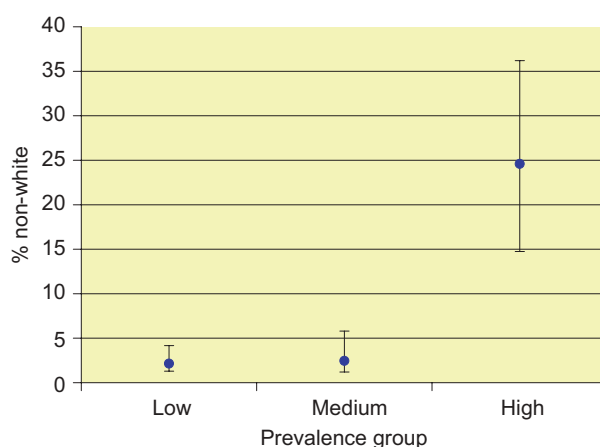
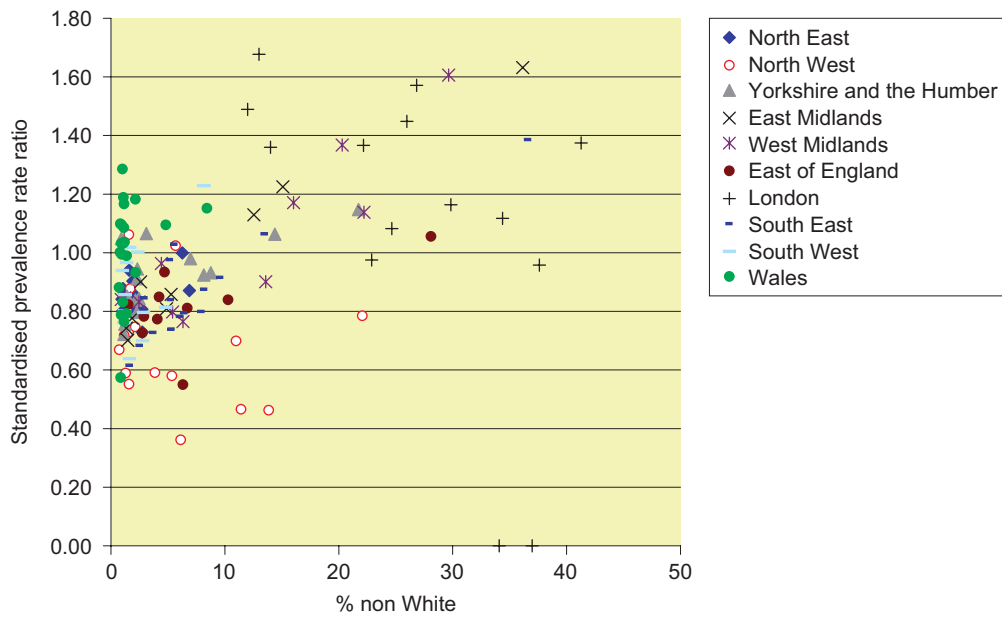


Figure 4.4: Percentage non-Whites in areas with significantly low, normal and significantly high SPR values (mean and quartiles)



**Figure 4.5: Plot of ethnicity and standardised prevalence ratio for all local authorities with available data**

Data from outlying local authorities are plotted with reference to Table 4.5

relationship between ethnicity and SPR for all local authorities with available data. A small group of local authority areas in Wales have a higher SPR than might be predicted from the local ethnic mix. These are Methyr Tydfil, Swansea and Rhondda/Cynon/Taff. Another small group of local authority areas in the North West of England, have a lower SPR than might be expected by the local ethnic mix. These are Bury, Rochdale, Oldham and Salford. It is unlikely that social deprivation alone can account for these disparities. Further investigation would be of interest. Tower Hamlets appears to have an inappropriately low SPR for what is the second highest proportion of non-Whites in the Registry.

### Vintage of prevalent patients

Table 4.7 shows the median vintage (years since starting renal replacement therapy) of prevalent RRT patients in 2005. Median vintage of the

**Table 4.7: Median vintage of prevalent RRT patients on 31/12/05**

Modality	N	Median time treated (years)
Haemodialysis	16,085	2.8
Peritoneal dialysis	4,550	2.1
Transplant	16,899	9.8
All RRT	37,534	5.1

whole RRT population was 5.1 years. Patients with functioning transplants had survived a median 9.8 years on RRT whilst the median vintage of HD and PD patients was much less (2.8 and 2.1 years respectively). The dialysis population is of course much older and would be expected to have shorter survival. This is not a substantial change from the 2004 data.

### Age of prevalent patients

The median age of prevalent patients on RRT was 56.6 years (Table 4.8). The age profile is markedly different in patients on dialysis than in transplanted patients. The median age of patients on HD (64.5 years) was higher than that of patients on PD (59.2 years) and substantially higher than that of transplanted patients (49.7 years). There were wide variations in median age between renal units for the whole RRT population (50.8 to 67.7 years). The major determinant of the median age of the prevalent RRT population is the ratio of the number of transplant and dialysis patients in that population ( $r = -0.764, p < 0.0001$ ).

The differing age distributions of transplant and dialysis patients are well illustrated in Figure 4.6, the maximum prevalence of dialysis patients being almost 2 decades later than transplant patients. In patients under the age of 65 years, 56.3% of prevalent RRT patients had



**Table 4.8: Median age by RRT modality**

Centre	Median age on HD	Median age on PD	Median age on transplant	Median age for all
Abrdn	65.3	51.5	50.1	55.7
Airdrie	63.8	46.7	n/a	61.6
Antrim	68.3	60.8	46.8	59.8
B Heart	66.2	61.9	49.6	61.4
B QEH	64.0	56.2	48.6	55.6
Bangor	68.6	63.2	43.3	67.7
Basldn	63.6	61.0	50.2	61.0
Belfast	66.0	49.7	48.0	55.3
Bradfd	67.5	53.4	47.0	56.1
Brightn	67.5	62.2	52.0	61.1
Bristol	69.6	59.7	50.9	58.0
Camb	63.6	59.8	48.4	54.3
Cardff	65.2	59.3	49.6	55.7
Carlisle	67.0	48.3	52.5	58.2
Carsh	63.4	55.2	51.5	57.9
Chelms	67.8	64.0	40.2	66.1
Clwyd	66.9	62.8	50.4	62.2
Covnt	63.9	60.1	47.5	55.1
D&Gall	67.9	67.5	44.2	66.8
Derby	65.7	63.6	38.8	64.7
Dorset	64.4	70.0	55.3	60.0
Dudley	62.0	60.0	55.5	58.7
Dundee	69.7	59.4	54.0	59.7
Dunfn	66.1	59.0	48.0	59.9
Edinb	62.6	55.2	51.0	54.9
Exeter	70.9	59.6	49.8	59.1
GlasRI	65.7	53.1	51.8	63.1
GlasWI	64.9	55.4	47.9	50.8
Glouc	70.7	60.7	52.4	63.0
Hull	65.8	53.2	49.9	57.2
Inverns	63.8	64.1	45.1	55.9
Ipswi	64.9	59.6	51.2	57.0
Klmarnk	66.9	54.9	47.1	59.0
L Barts	56.2	55.5	48.8	52.4
L Guys	62.4	59.8	48.8	52.1
L H&CX	62.9	56.1	53.1	58.3
L Kings	62.1	57.2	49.3	55.4
L RFree	61.4	59.2	47.9	53.9
Leeds	66.7	59.4	49.3	54.4
Leic	62.8	62.5	50.5	56.5
Livrpl	59.4	56.0	49.7	52.9
ManWst	58.6	55.5	46.4	52.6
Middlbr	63.7	52.3	50.1	55.6
Newc	62.2	56.3	51.6	54.5
Newry	67.7	56.3	53.4	62.2
Norwch	70.7	61.4	49.9	62.0
Nottm	65.8	58.0	47.5	55.1
Oxford	65.1	61.9	50.6	55.8
Plymth	68.9	62.1	49.6	58.7
Ports	63.9	59.2	50.0	55.3

Table 4.8: (continued)

Centre	Median age on HD	Median age on PD	Median age on transplant	Median age for all
Prestn	60.6	59.3	50.8	55.7
Redng	65.2	65.3	54.2	60.9
Sheff	62.6	61.3	49.2	57.0
Shrew	64.4	54.1	48.3	58.8
Stevng	64.5	60.1	51.6	58.9
Sthend	67.4	62.0	51.0	63.2
Sund	62.8	58.5	50.7	57.3
Swanse	67.0	63.9	53.6	62.2
Truro	72.9	61.6	54.5	64.7
Tyrone	65.7	58.2	46.9	59.3
Ulster	65.9	75.4	39.2	65.8
Wirral	65.8	62.8	–	65.7
Wolve	65.2	65.5	47.1	61.8
Wrexm	62.7	59.2	–	61.5
York	68.0	63.9	44.9	61.3
<b>Eng</b>	<b>64.2</b>	<b>59.4</b>	<b>49.9</b>	<b>56.6</b>
<b>NI</b>	<b>66.6</b>	<b>53.1</b>	<b>47.9</b>	<b>57.6</b>
<b>Sct</b>	<b>65.5</b>	<b>56.6</b>	<b>48.9</b>	<b>55.8</b>
<b>Wls</b>	<b>65.9</b>	<b>62.0</b>	<b>49.9</b>	<b>58.1</b>
<b>UK</b>	<b>64.5</b>	<b>59.2</b>	<b>49.7</b>	<b>56.6</b>

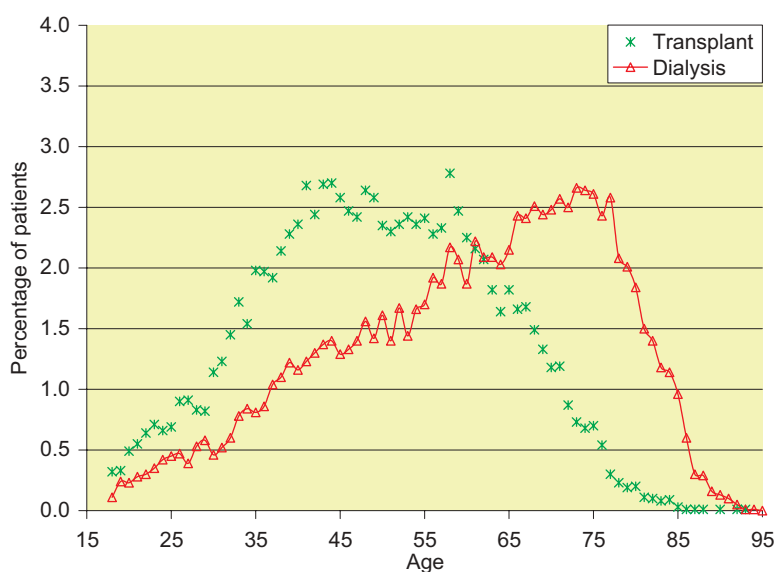


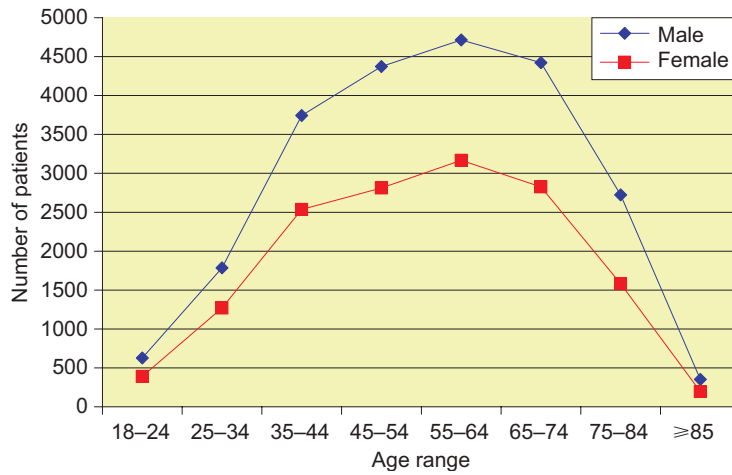
Figure 4.6: Age distribution of patients on RRT 31/12/2005

been transplanted with 43.7% on dialysis. The proportions were dramatically different in older patients, with 21.2% having been transplanted and 78.8% on dialysis.

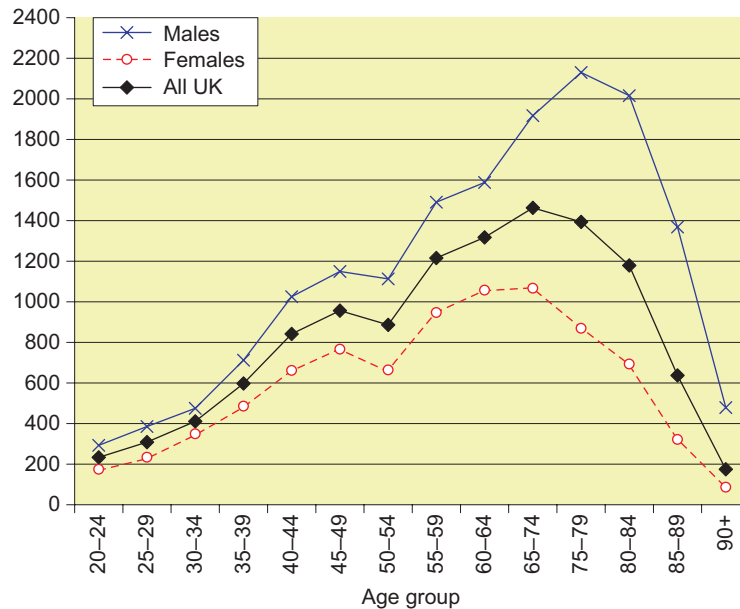
## Gender

In the UK there were more patients in the age range 55–65 years than in any other decade in both males and females (Figure 4.7). However

the “corrected” peak prevalence, expressed as SPR calculated from local authority populations covered by the Registry using 2001 Census data, occurred in the age band 65–74 (1,565 pmp) overall, but was different in men (peak 75–79 year age band; 2,270 pmp) from women (peak 65–74 year age band; 1,144 pmp; Figure 4.8). Furthermore the male:female ratio of prevalence increased markedly with age from 1.48 in the 25–34 age band to 4.46 in those greater than 85 years.



**Figure 4.7: Age profile of prevalent adult patients by gender, 31/12/2005**  
Excludes data on those aged <18, reported in Chapter 13



**Figure 4.8: Crude prevalence rate of RRT patients per million population by age and gender on 31/12/05**

## Ethnicity

Thirty-six of the 65 centres submitting data to the Registry provided ethnicity data that were at least 90% complete. The data for centres

with less than 50% returns for ethnicity are excluded from Table 4.9. Centres in Scotland are not required to report ethnicity to the Scottish Registry.

**Table 4.9: Ethnicity of prevalent patients by centre 2005**

Centre	% Complete	% White	% Black	% Asian	% Chinese	% Other
Ulster	100.0	100.0	0.0	0.0	0.0	0.0
Belfast	100.0	99.6	0.0	0.1	0.3	0.0
Glouc	100.0	98.9	1.1	0.0	0.0	0.0
Shrew	100.0	94.1	2.5	3.4	0.0	0.0
Dudley	100.0	89.5	2.3	7.8	0.4	0.0
Stevng	100.0	80.6	4.2	13.8	0.5	0.9
Redng	100.0	75.1	5.9	15.2	1.2	2.7
L H&CX	100.0	39.6	12.2	22.8	0.9	24.5
B QEH	99.8	69.2	9.5	19.5	0.9	0.9
Wolve	99.8	77.4	6.6	14.8	0.9	0.2
B Heart	99.4	69.5	7.1	21.2	0.6	1.7
Tyrone	99.4	100.0	0.0	0.0	0.0	0.0
Swanse	99.4	98.5	0.4	0.9	0.0	0.2
Newry	99.4	100.0	0.0	0.0	0.0	0.0
Newc	99.0	96.6	0.5	2.1	0.5	0.3
Ports	98.8	96.7	0.5	2.1	0.5	0.3
Dorset	98.7	96.5	0.3	0.5	1.3	1.3
Antrim	98.4	100.0	0.0	0.0	0.0	0.0
Carlis	98.4	99.5	0.0	0.5	0.0	0.0
Basldn	98.2	91.0	1.8	4.8	1.2	1.2
Nottm	97.7	89.0	4.7	5.6	0.0	0.7
Bristol	97.4	93.0	3.4	2.6	0.4	0.6
Ipswi	96.2	95.3	1.8	2.2	0.4	0.4
Sheff	95.5	92.8	1.7	3.8	0.7	1.0
L Barts	95.1	50.0	11.6	21.1	1.7	15.7
Dundee	95.0	99.1	0.0	0.3	0.3	0.3
Middlbr	94.1	96.1	0.0	3.2	0.7	0.0
Prestn	94.0	85.3	1.0	12.9	0.0	0.8
L Kings	93.7	58.6	27.5	12.2	1.7	0.0
ManWst	92.9	85.0	1.5	11.8	0.3	1.4
Sund	92.8	97.7	0.8	0.4	0.4	0.8
Leic	92.6	80.5	2.4	15.9	0.2	1.1
York	92.3	99.4	0.0	0.0	0.0	0.6
Livrpl	91.6	96.8	0.9	0.8	1.0	0.6
Bangor	90.1	98.9	1.1	0.0	0.0	0.0
Airdrie	90.1	99.4	0.0	0.6	0.0	0.0
Derby	88.8	90.2	2.0	5.3	0.8	1.6
Covnt	86.4	81.9	3.4	13.8	0.7	0.2
Plymth	84.8	95.8	2.2	0.3	1.0	0.6
Sthend	84.5	93.5	2.6	1.3	2.6	0.0
Camb	84.2	93.6	1.3	3.5	0.3	1.3
L Guys	83.3	72.6	22.7	3.4	1.2	0.0
L RFree	80.8	52.5	18.5	18.7	2.4	7.9
Abrdn	77.5	99.1	0.0	0.0	0.6	0.3
Bradfd	76.8	60.6	2.5	36.2	0.0	0.7
Wirral	71.9	96.4	1.4	0.0	0.0	2.2
Carsh	71.3	72.5	9.5	9.9	1.0	7.0
Leeds	69.4	83.0	3.8	12.6	0.0	0.6
Inverns	67.0	100.0	0.0	0.0	0.0	0.0
Exeter	66.4	98.4	0.8	0.3	0.3	0.3
Hull	62.4	98.1	0.3	0.3	0.5	0.8

**Table 4.9: (continued)**

Centre	% Complete	% White	% Black	% Asian	% Chinese	% Other
Truro	54.3	96.6	2.7	0.0	0.7	0.0
Oxford	47.8					
Dunfn	42.0					
Norwch	41.8					
Wrexm	38.4					
Chelms	36.6					
Cardff	32.5					
Brightn	31.9					
Clwyd	30.1					
D&Gall	14.5					
GlasWI	10.5					
GlasRI	9.4					
Edinb	9.0					
Klmarnk	3.3					
<b>Eng</b>	<b>86.2</b>	<b>80.9</b>	<b>5.9</b>	<b>9.6</b>	<b>0.7</b>	<b>2.9</b>
<b>NI</b>	<b>99.6</b>	<b>99.8</b>	<b>0.0</b>	<b>0.1</b>	<b>0.2</b>	<b>0.0</b>
<b>Scot</b>	<b>32.9</b>					
<b>Wls</b>	<b>50.9</b>	<b>97.5</b>	<b>0.9</b>	<b>1.2</b>	<b>0.2</b>	<b>0.2</b>
<b>UK</b>	<b>79.3</b>	<b>83.1</b>	<b>5.2</b>	<b>8.5</b>	<b>0.7</b>	<b>2.6</b>

## Primary renal disease

In the previous two years' reports, the statement by the table indicating that diagnosis code GN histologically not examined (EDTA code 10) had been included in the 'Uncertain' group for analysis, was incorrect. Approximately 1,000 patients had been incorrectly allocated to the glomerulonephritis category. Table 4.10 this year, has now been corrected. The previous years data has also been retrospectively analysed to this grouping and the data this year shows no change and is consistent with the reports prior to 2004.

The most common specific diagnosis overall remains glomerulonephritis, in contrast to the pattern in incident patients in whom diabetes predominates. This reflects different survival and different ages of the patients with these diagnoses.

There are age-related differences. The prevalence of the aetiology uncertain/glomerulonephritis – not biopsy proven category is much greater in those aged over 65 years (27.7% vs 19.8%). In addition, diabetes (13.4%) (not glomerulonephritis (9.9%)) was the most common specific diagnosis in those over 65

**Table 4.10: Primary renal disease in prevalent RRT patients by age and gender in 2005**

Primary diagnosis	% all patients	Inter unit range %	% age <65	% age ≥65	M:F ratio
Aetiology unc./glomer. NP*	22.3	0.52–81.25	19.8	27.7	1.6
Glomerulonephritis**	15.4	0.82–22.16	18.0	9.9	2.3
Pyelonephritis	12.5	0.52–19.31	14.3	8.8	1.1
Diabetes	12.1	0.30–23.58	11.5	13.4	1.6
Polycystic kidney	9.2	0.89–16.27	9.6	8.2	1.1
Hypertension	5.4	0.15–17.99	4.7	6.9	2.4
Renal vascular disease	3.7	0.52–17.42	1.3	8.8	1.9
Other	13.7	1.04–22.73	15.3	10.3	1.3
Not sent	5.7	0.08–95.77	5.5	6.0	1.5

\*Glomerulonephritis not proven

\*\*Glomerulonephritis biopsy proven

**Table 4.11: Transplant:dialysis ratios by age and primary renal disease in the prevalent RRT population 31/12/2005**

Primary diagnosis	Transplant:dialysis ratio	
	<65 years	≥65 years
Diabetes	0.61	0.08
Glomerulonephritis	1.67	0.52
Hypertension	1.04	0.32
Diagnosis missing	0.99	0.18
Other	1.31	0.26
Polycystic kidney disease	1.54	0.94
Pyelonephritis	1.92	0.33
Renal vascular disease	0.52	0.07
Uncertain	1.31	0.24

years. The male:female ratio was significantly greater than unity for most primary renal diseases, but only marginally for polycystic kidney disease and pyelonephritis. The ratio for polycystic kidney disease is similar to that in incident patients and the possible underlying reasons were discussed in Chapter 3. The ratio for pyelonephritis is markedly different in prevalent (1.1) and incident patients (1.7). This is a consistent finding and may indicate poorer survival on RRT of males with this diagnosis.

The distribution of patients between the modalities is also heavily influenced by primary renal diagnosis (Table 4.11). Patients with pyelonephritis, polycystic kidney disease and glomerulonephritis are much more likely to have been transplanted than patients with diabetes and those with renal vascular disease. The differences are even more marked in patients over the age of 65.

## Diabetes

The median age of all prevalent diabetic RRT patients (58.8 years) is slightly higher than that of non-diabetics (56.2 years), patients with Type 1 disease being considerably younger (52.8 years) than those with Type 2 disease (66.6 years) (Table 4.12). The RRT vintage of prevalent diabetics both Type 1 (3.3 years) and Type 2 (2.2 years) is significantly less than that of prevalent non-diabetics (5.8 years). Fewer prevalent diabetics than non-diabetics have transplants (26.9% vs 48.2%): 36.1% of patients with Type 1 disease and only 10.3% of those with Type 2 disease. The proportions are even lower in patients over the age of 65 (Table 4.13).

**Table 4.12: Type of diabetes, median age, gender ratio and treatment modality in prevalent RRT patients 31/12/2005**

	Type 1	Type 2	All diabetes	Non-diabetics
Number	2,924	1,629	4,553	30,830
M:F ratio	1.59	1.69	1.62	1.53
Median age on 31/12/05	52.8	66.6	58.8	56.2
Median age started ESRF	47.0	63.0	54.0	47.0
Median years on RRT	3.3	2.2	2.8	5.8
% HD	48.6	71.9	56.9	40.4
% PD	15.3	17.8	16.2	11.4
% transplant	36.1	10.3	26.9	48.2

**Table 4.13: Age relationships by type of diabetes and modality in prevalent RRT patients 31/12/2005**

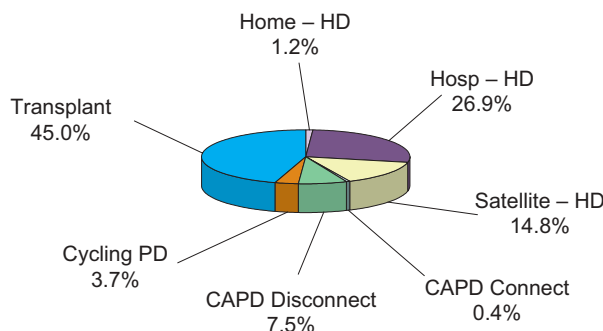
	Age less than 65			Age 65 or over		
	Type 1	Type 2	Non-diabetics	Type 1	Type 2	Non-diabetics
Total no	2,231	702	21,080	693	927	9,748
% HD	39.8	63.1	30.2	77.1	78.5	62.5
% PD	15.6	20.9	10.5	14.1	15.4	13.5
% transplant	44.6	16.0	59.3	8.8	6.0	24.0

## Modalities of treatment

The most common treatment modality is transplantation (45.0%), closely followed by the proportion on centre-based HD (41.7%) as shown in Figure 4.9. The proportion of patients on home HD remains very small (1.2% of RRT) in spite of the recent NICE guidelines.

Transplantation is the predominant treatment modality in patients less than 65 years old and haemodialysis in those 65 or older (Table 4.14). The proportions are similar in all of the UK countries except a small preference in favour of HD over PD in Northern Ireland, particularly in older patients.

Haemodialysis is increasingly prominent with increasing age at the expense of transplantation.



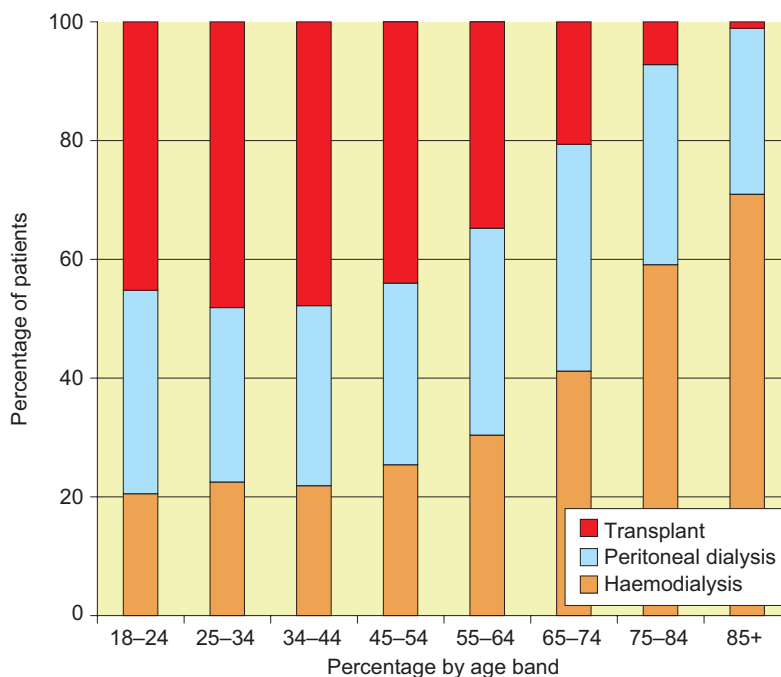
**Figure 4.9: Treatment modality in prevalent RRT patients 2005**

Note: In some centres local coding of RRT modality is such that the Registry could not differentiate between CAPD and cycling PD. In these centres all PD patients are included as CAPD disconnect. Thus the proportion of PD patients on cycling PD is a slight underestimate

The proportion of each age group treated by PD remains fairly stable across the whole age spectrum (Figure 4.10).

**Table 4.14: Treatment modalities by age in UK countries in 2005**

	<65 years			≥65 years		
	% HD	% PD	% Tx	% HD	% PD	% Tx
England	32.3	11.3	56.4	64.2	14.2	21.6
N Ireland	36.6	9.8	53.5	74.3	6.2	19.5
Scotland	30.8	11.4	57.8	68.5	10.3	21.2
Wales	33.0	13.2	53.8	65.7	16.6	17.6
<b>UK</b>	<b>32.3</b>	<b>11.4</b>	<b>56.3</b>	<b>65.1</b>	<b>13.7</b>	<b>21.2</b>



**Figure 4.10: Treatment modality distribution by age in prevalent RRT patients in 2005**



## Haemodialysis

The proportion of dialysis patients on HD in the UK was 78% and higher in those over 65 years old than in younger patients (83% vs 74%). The proportions varied widely between renal units but the same pattern of age distribution was maintained in all but five units (Dorset, Ulster, Inverness, Dumfries & Gallo-way and Wolverhampton, Figure 4.11). A slightly larger percentage of the male dialysis population (78.7%) were on HD than of the female dialysis population (76.7%:  $p < 0.001$ ).

The proportion receiving HD in satellite units varied. Twenty-nine units had no satellite haemodialysis whilst 12 units dialysed more than 50% of their haemodialysis patients in satellites (Figure 4.12). Satellite HD amounted to 34.5% of total HD activity. Twenty-one units had no home HD programme. In the 44 units which did offer home HD, the proportion of HD patients treated by this modality ranged from 0.6% to 11.1%. Overall only 2.7% were on home HD. Twelve units had home HD programmes amounting to more than 5% of total HD activity.

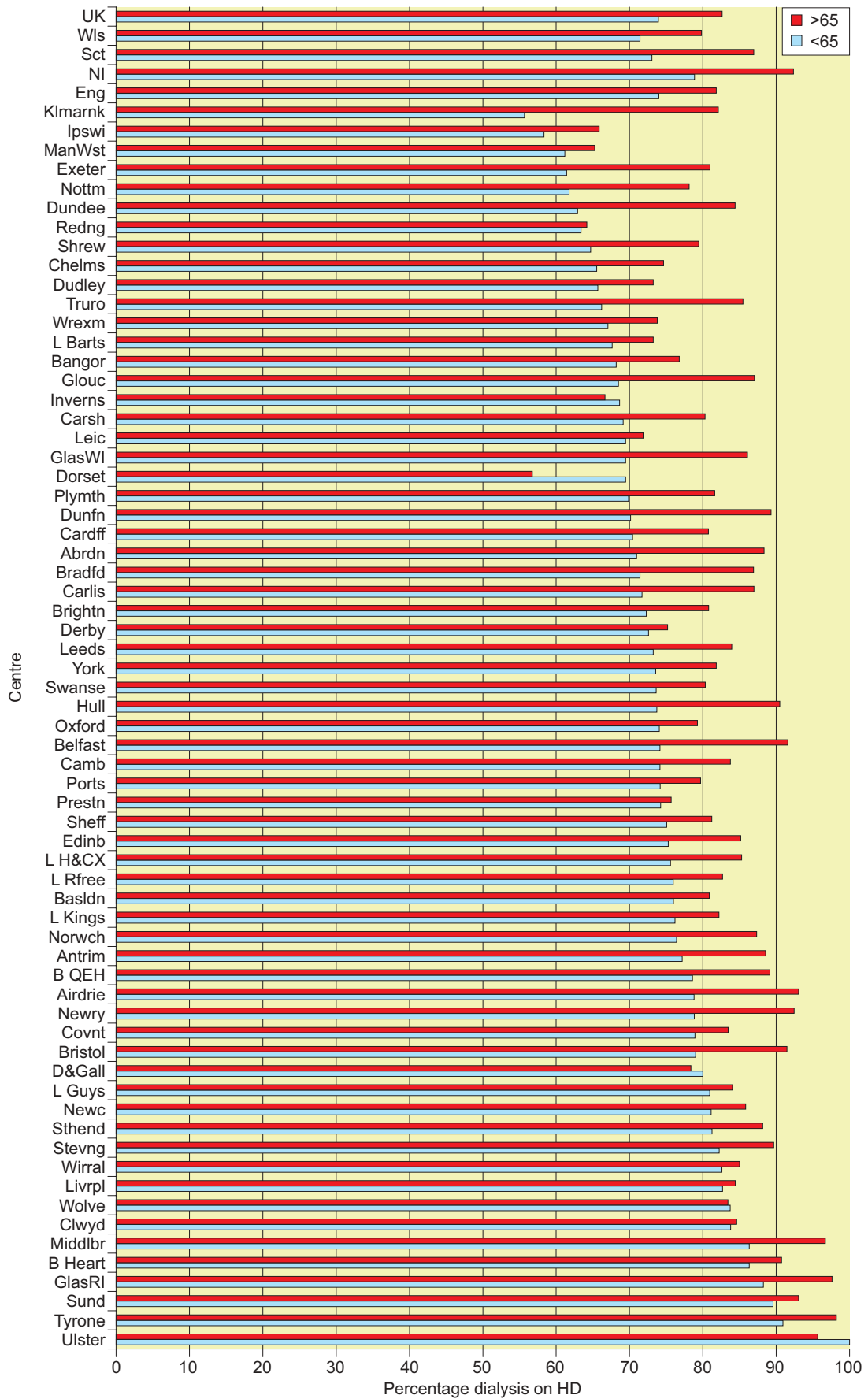


Figure 4.11: Proportion of older and younger prevalent dialysis patients on haemodialysis in each centre in 2005

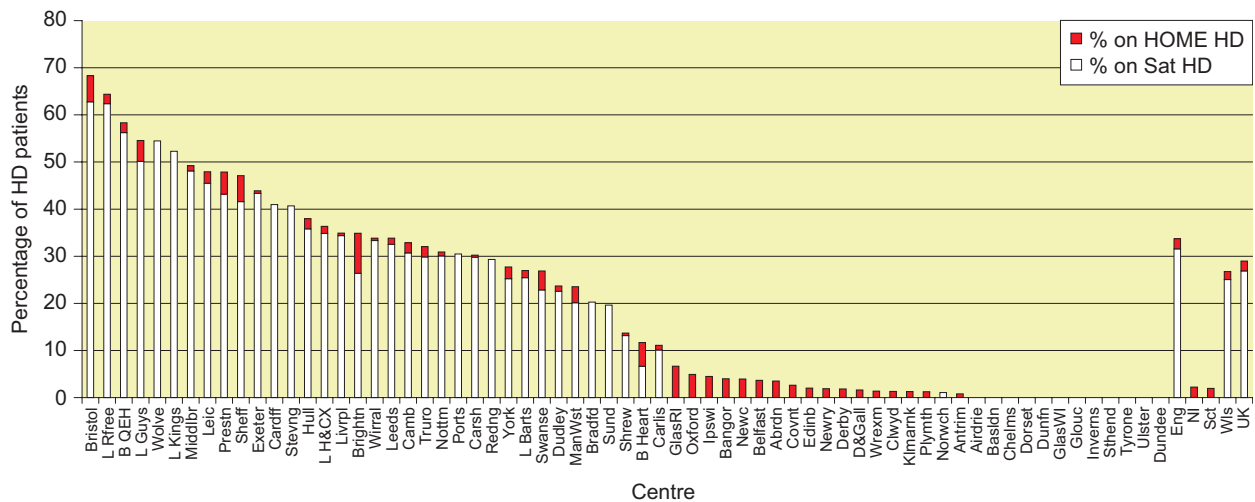


Figure 4.12: Percentage of prevalent HD patients treated at home and in satellite units in 2005

## Peritoneal dialysis

The proportion of prevalent dialysis patients on PD varies widely ranging from 2.4% (one patient) in Ulster to 38.2% in Ipswich (Figure 4.13). Overall 23.3% of the female dialysis population were on PD compared with 21.2% of the male dialysis population ( $p < 0.001$ ). The overall male to female ratio was 1.4 but there was marked variation between centres, the ratio varying from 0.6 to 5.0.

CAPD using disconnect systems remains the most common PD mode (62.0% of all patients on PD). The use of automated PD (APD) is continuing to increase and now comprises 32.2% of all PD treatments. However, the use of APD varies widely between units, ranging from 0–100% of all PD treatments (Figure 4.14). Treatment for 6 or more nights weekly is the norm, but many units use less frequent treatments on an occasional basis and one unit (Guys), exclusively. Use of connect systems remains very uncommon (3.6% of all treatments).

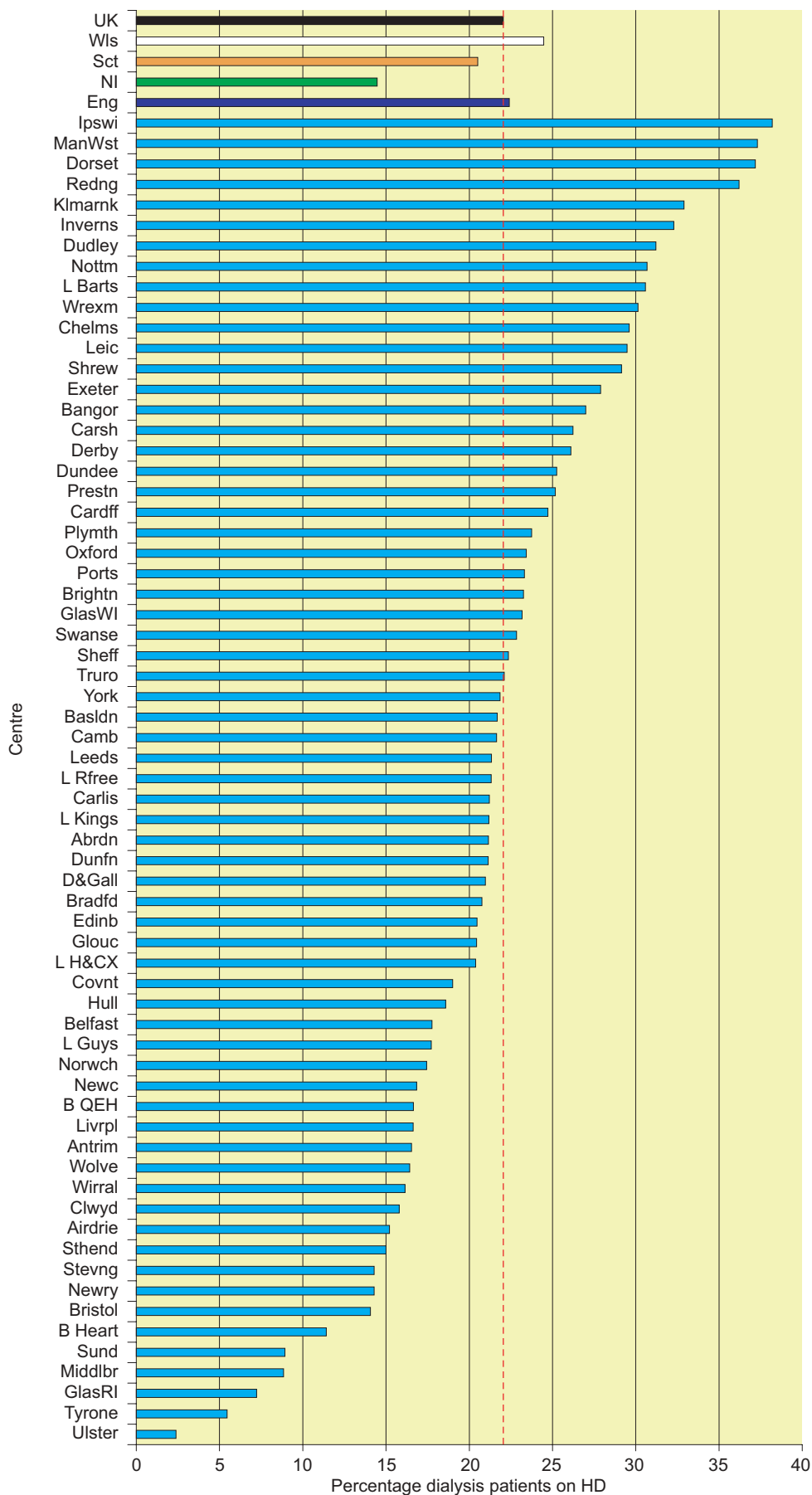


Figure 4.13: Proportion of prevalent dialysis patients on PD at each centre 2005

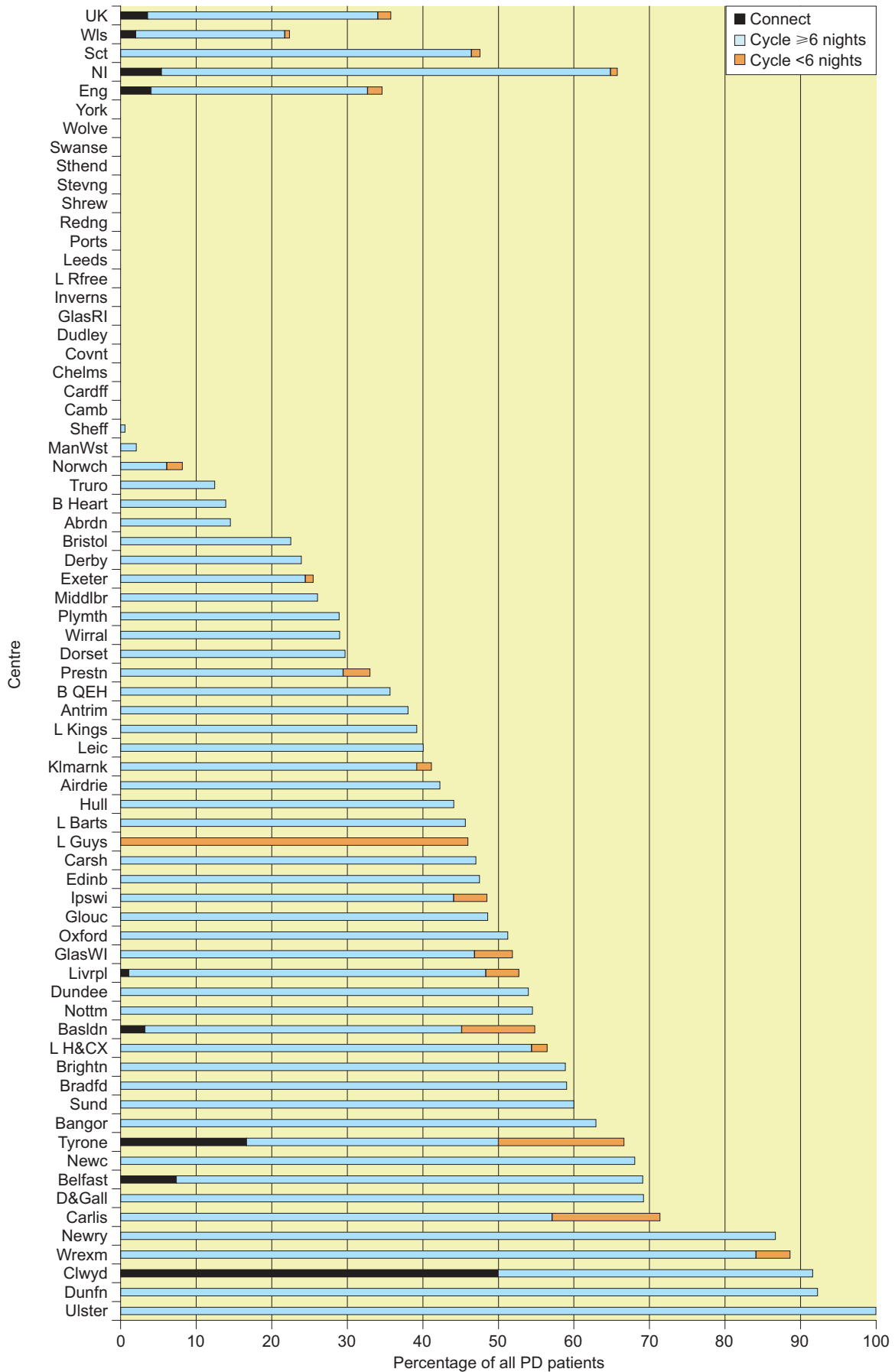
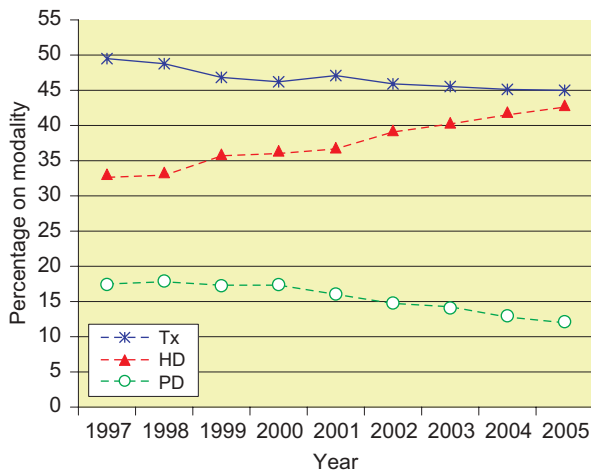


Figure 4.14: Use of connect and automated PD as a percentage of total PD in 2005

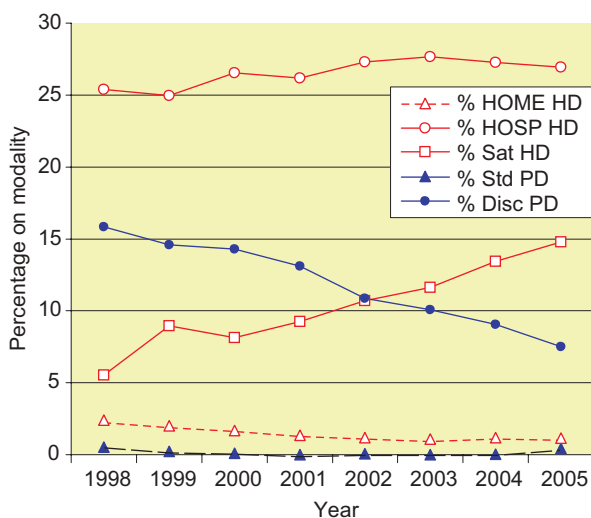


**Figure 4.15: Modality changes in prevalent RRT patients 1997–2005, England and Wales**

### Change in treatment modality 1997–2005

The pattern of modality usage in prevalent RRT patients is still continuing to change (Figure 4.15). The proportion of RRT patients on haemodialysis continues to increase at the expense of a decreasing proportion of peritoneal dialysis and transplant patients. It should be noted though that the figures from each year are not strictly comparable since the number of units contributing to the Registry has increased successively.

Within the dialysis population, the proportion of patients undergoing haemodialysis in traditional hospital based units has reached a



**Figure 4.16: Proportion of prevalent patients on different modalities of RRT 1997–2005, England and Wales**

plateau, whilst the proportion dialysing in satellite units continues to grow. There is a progressive fall in the proportion on disconnect CAPD. The proportion on automated PD continues its slow rise. The use of ‘standard’ or ‘connect’ CAPD has virtually disappeared. In spite of NICE guidance, the proportion on home haemodialysis remains very low and static.

The trends in change of proportions of patients on each modality of treatment since 1998 are shown in Figure 4.16.

### Survival of patients established on RRT

This section analyses the one year survival rates in the different centres contributing to the UK Renal Registry. This year, with the agreement of all UK clinical directors, centre anonymity has been removed. These are raw data that require very cautious interpretation if legitimate centre comparisons are to be attempted. The Registry can adjust for the effects of the different age distributions of the patients in different centres, but lacks sufficient data from participating centres to enable adjustment for co-morbidity and ethnic origin, which have been demonstrated to have a major impact on outcome. With this lack of information on case mix, it is difficult to interpret any apparent difference in survival between centres.

All patients who had been established on RRT for at least 90 days on 1 January 2005 were included in this analysis. The patients in the transplant cohort have all been established with a transplant for at least 6 months.

As discussed in previous reports, comparison of survival of prevalent dialysis patients between centres is complex. Survival of prevalent dialysis patients can be studied with or without censoring at transplant. When a patient is censored at transplantation, the patient is considered as alive up to the point of transplantation, but the patient’s status post-transplant is not considered. Therefore a death following transplantation is not taken into account in calculating the survival figure. It could induce differences between those renal units with a high transplant rate and those with a low

transplant rate, especially in younger patients where the transplant rate is highest. The differences are likely to be small due to the low post-transplantation mortality rate and the relatively small proportion of patients being transplanted in a given year compared to the whole dialysis population (usually less than 7% of the total dialysis population). To estimate the potential differences, the results for individual renal units were compared with and without censoring at transplant. The results are shown in Table 4.15. Overall there is a 0.5% increase in survival using the censored data. With such small differences only the censored results have been quoted throughout the rest of this chapter.

Another potential source of error in comparing survival of dialysis patients in different renal centres, especially younger patients, is the differing transplant rates between centres. Those with a high transplant rate have removed more of the fitter patients from dialysis and are left with a higher risk population on dialysis.

The one year death rate per 100 patient years is shown in Table 4.16 and one year survival of established prevalent RRT patients in Table 4.17.

In Figure 4.17 the survival of prevalent dialysis patients for each age band is shown.

**Table 4.15: One year Kaplan-Meier survival of dialysis patients with and without censoring at transplantation (adjusted for age = 60)**

Centre	Censoring at transplant			Not censoring at transplant		
	Adjusted 1 year survival	Lower 95% CI	Upper 95% CI	Adjusted 1 year survival	Lower 95% CI	Upper 95% CI
Abrdn	87.3	83.1	91.8	87.7	83.5	92.1
Airdrie	82.7	77.5	88.4	83.3	78.2	88.8
Antrim	84.1	78.6	89.9	84.7	79.4	90.3
B Heart	87.6	84.5	90.9	87.0	83.7	90.5
B QEH	88.9	86.9	91.0	88.3	86.2	90.5
Bangor	86.7	80.5	93.4	86.2	79.8	93.1
Basldn	90.3	85.5	95.2	90.9	86.3	95.7
Belfast	86.3	82.8	90.0	86.8	83.4	90.3
Bradfd	86.3	81.8	91.0	85.4	80.7	90.4
Brightn	84.4	81.0	87.8	83.8	80.4	87.4
Bristol	87.4	84.8	90.1	86.5	83.7	89.4
Camb	87.5	84.2	90.9	86.2	82.7	89.9
Cardff	84.4	81.5	87.4	82.8	79.7	86.0
Carlisle	85.8	79.3	93.0	85.7	79.0	92.9
Carsh	86.6	84.0	89.3	86.4	83.7	89.2
Chelms	82.6	76.6	89.0	81.9	75.7	88.6
Clwyd	83.4	75.0	92.8	80.2	71.2	90.4
Covnt	89.5	86.4	92.7	88.9	85.7	92.3
D&Gall	91.0	84.9	97.5	91.5	85.7	97.7
Derby	88.1	84.5	91.9	87.4	83.5	91.4
Dorset	89.9	86.0	94.0	89.2	85.1	93.6
Dudley	86.3	81.3	91.7	85.3	80.0	91.1
Dundee	87.8	83.6	92.3	88.3	84.2	92.6
Dunfn	90.9	86.1	95.9	91.2	86.6	96.1
Edinb	86.1	82.2	90.1	86.6	82.8	90.5
Exeter	84.4	80.9	88.0	83.4	79.7	87.2
GlasRI	87.4	84.1	90.8	88.0	84.9	91.3
GlasWI	87.8	84.4	91.3	88.3	85.0	91.6
Glouc	88.4	84.1	93.0	88.3	84.0	92.9
Hull	84.5	80.9	88.4	83.8	80.0	87.8
Inverns	87.2	81.7	93.1	87.6	82.3	93.3



Table 4.15: (continued)

Centre	Censoring at transplant			Not censoring at transplant		
	Adjusted 1 year survival	Lower 95% CI	Upper 95% CI	Adjusted 1 year survival	Lower 95% CI	Upper 95% CI
Ipswi	84.8	79.8	90.2	84.1	78.6	90.0
Klmarnk	84.7	79.0	90.8	85.2	79.7	91.1
L Barts	85.4	82.7	88.3	84.8	81.9	87.8
L Guys	89.5	86.8	92.2	89.1	86.3	91.9
L H&CX	87.2	84.8	89.6	86.5	84.1	89.1
L Kings	86.7	83.2	90.4	86.3	82.7	90.1
L RFree	90.1	87.9	92.4	90.0	87.8	92.4
Leeds	88.9	86.4	91.4	88.3	85.8	91.0
Leic	87.3	85.0	89.7	86.3	83.8	88.9
Livrpl	85.1	82.1	88.3	84.4	81.3	87.6
ManWst	83.5	79.7	87.6	82.9	78.9	87.1
Middlbr	85.9	82.0	90.0	85.1	81.0	89.4
Newc	87.3	83.5	91.2	86.1	82.1	90.3
Newry	85.7	79.5	92.4	86.1	80.1	92.6
Norwch	87.1	83.3	91.1	86.1	82.1	90.4
Nottm	85.3	82.1	88.5	84.5	81.2	87.9
Oxford	87.8	85.2	90.4	87.4	84.7	90.1
Plymth	87.3	82.7	92.2	86.3	81.4	91.5
Ports	86.2	83.0	89.5	85.4	82.1	88.9
Prestn	85.7	82.4	89.0	84.9	81.5	88.4
Redng	86.3	82.1	90.8	85.3	80.8	90.1
Sheff	87.0	84.5	89.5	86.6	84.1	89.2
Shrew	87.2	82.3	92.3	85.2	79.7	91.1
Stevng	88.8	86.2	91.6	88.5	85.8	91.3
Sthend	87.5	83.1	92.1	86.5	81.7	91.6
Sund	86.6	81.3	92.2	84.9	79.2	91.0
Swanse	89.7	86.7	92.7	89.2	86.1	92.4
Truro	85.7	81.5	90.1	85.6	81.4	90.1
Tyrone	88.7	83.3	94.4	89.1	83.9	94.6
Ulster	86.6	78.0	96.1	87.0	78.7	96.3
Wirral	89.0	84.6	93.5	88.3	83.8	93.1
Wolve	87.6	84.1	91.3	86.9	83.2	90.8
Wrexm	84.5	78.9	90.5	82.9	76.8	89.5
York	88.1	82.9	93.5	86.8	81.3	92.7
<b>Eng</b>	<b>87.1</b>	<b>86.5</b>	<b>87.7</b>	<b>86.5</b>	<b>85.9</b>	<b>87.1</b>
<b>NI</b>	<b>86.2</b>	<b>83.8</b>	<b>88.6</b>	<b>86.6</b>	<b>84.3</b>	<b>89.0</b>
<b>Sct</b>	<b>87.0</b>	<b>85.6</b>	<b>88.5</b>	<b>87.5</b>	<b>86.2</b>	<b>89.0</b>
<b>Wls</b>	<b>86.1</b>	<b>84.2</b>	<b>88.0</b>	<b>84.9</b>	<b>82.9</b>	<b>87.0</b>
<b>UK</b>	<b>87.0</b>	<b>86.5</b>	<b>87.5</b>	<b>86.5</b>	<b>85.9</b>	<b>87.1</b>

Table 4.16: One-year death rate per 100 patient years by country

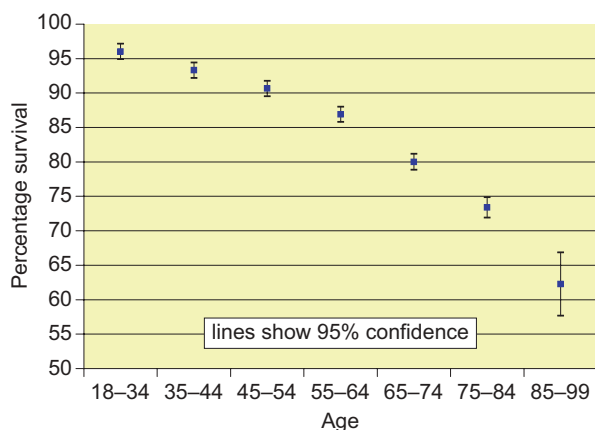
	England	Wales	Scotland	N Ireland	UK
Death rate	17.7	20.7	18.2	19.7	18.0
95% CI	17.0–18.4	17.9–23.8	16.2–20.5	16.2–23.6	17.3–18.6

**Table 4.17: One-year survival of established prevalent RRT patients in UK (unadjusted unless stated otherwise)**

Patient group	Patients	Deaths	KM survival	KM 95% CI
<b>Transplant patients 2005</b>				
Censored at dialysis	14,512	384	97.3	97.0–97.5
Not censored at dialysis	14,526	417	97.1	96.8–97.3
<b>Dialysis patients 2005</b>				
All 2005	17,894	2,881	83.7	83.2–84.3
All 2005 adjusted age = 60	17,894	2,881	86.5	86.0–87.1
<b>2 year survival – dialysis patients 2004</b>				
All 1/1/2004 (2 year)	15,448	3,664	74.6	73.9–75.3
<b>Dialysis patients 2005</b>				
All age <65	9,399	887	90.4	89.8–91.0
All age 65+	8,495	1,994	76.4	75.5–77.3
Non-diabetic <55	4,558	251	94.4	93.7–95.0
Non-diabetic 55–64	2,704	312	88.3	87.1–89.5
Non-diabetic 65–74	3,458	658	80.8	79.5–82.2
Non-diabetic 75+	3,255	899	72.2	70.7–73.8
Non-diabetic <65	7,262	563	92.1	91.5–92.7
Diabetic <65	1,586	267	82.9	81.1–84.8
Non-diabetic 65+	6,713	1,557	76.7	75.7–77.7
Diabetic 65+	1,301	303	76.6	74.3–78.9

KM = Kaplan-Meier survival

Cohorts of patients alive 1/1/2005 unless indicated otherwise

**Figure 4.17: One year survival of prevalent dialysis patients in different age groups – 2005**

### **One year survival of prevalent dialysis patients**

The one year survival of dialysis patients in each centre is shown in Table 4.15 and is illustrated in Figures 4.18 and 4.19, dividing the data into those patients aged <65 years and those 65 years and over. Figures 4.20 and 4.21 show the data as a funnel plot, with the dotted line showing the 2 standard deviation limit (95% CI) and the solid line the limits for 3

standard deviations (99.9% CI). With over 60 units included it would be expected by chance that 3 units would fall outside the 95% (1 in 20) confidence intervals, which is in fact the case. These figures do not therefore provide support for significant differences between units.

After adjusting for the difference in median age of patients at each centre (Figure 4.22) there was no significant difference in survival between England, Scotland, Wales and Northern Ireland ( $p=0.40$ ). No centres had adjusted one year survival significantly below the national mean. This is consistent with a previous Registry neural network analysis of survival in UK prevalent patients which indicates that the difference in survival between centres is related to differences in patient characteristics, rather than a true centre effect<sup>1</sup>.

### **One year survival of prevalent dialysis patients in England, Wales and Scotland from 1997–2005**

The one-year survival of prevalent dialysis patients (Table 4.18, Figure 4.23) increased significantly from 1997 to 2005 in England

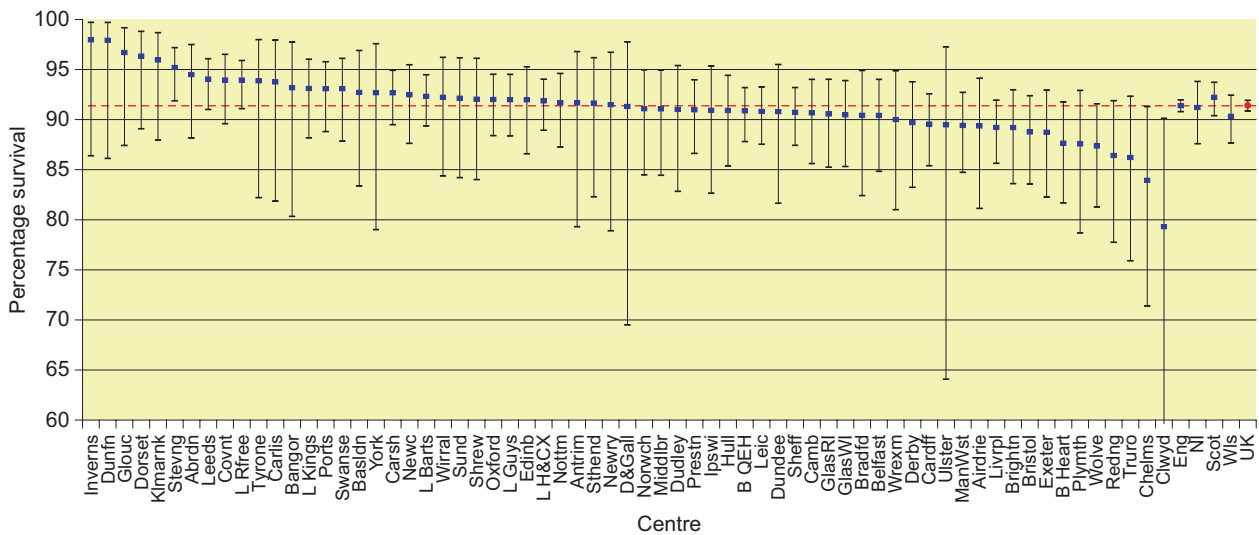


Figure 4.18: One year survival of prevalent dialysis patients aged under 65 in each centre

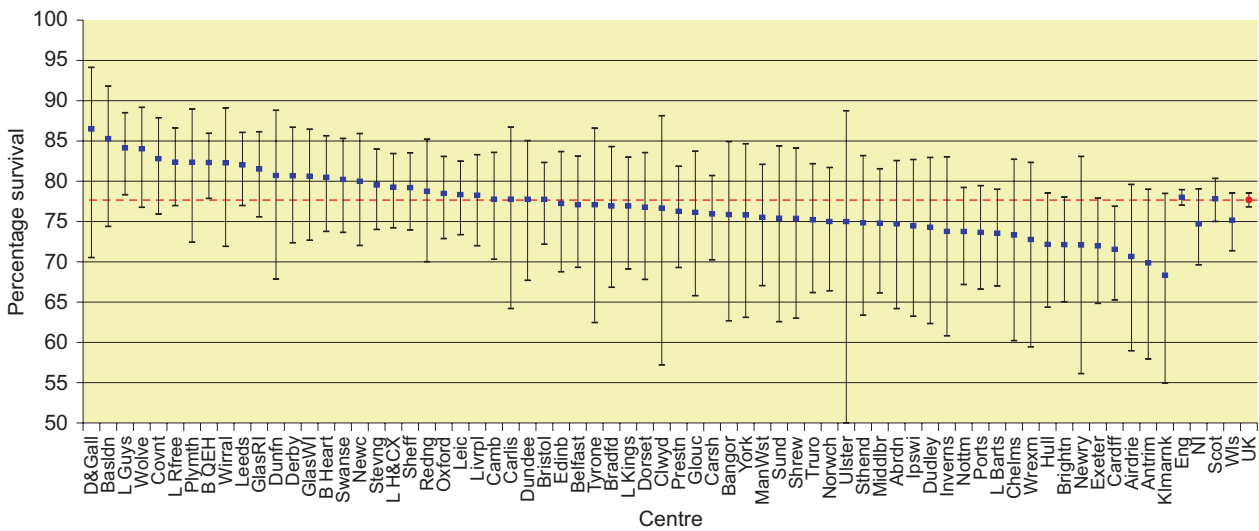


Figure 4.19: One year survival of prevalent dialysis patients aged 65 and over in each centre

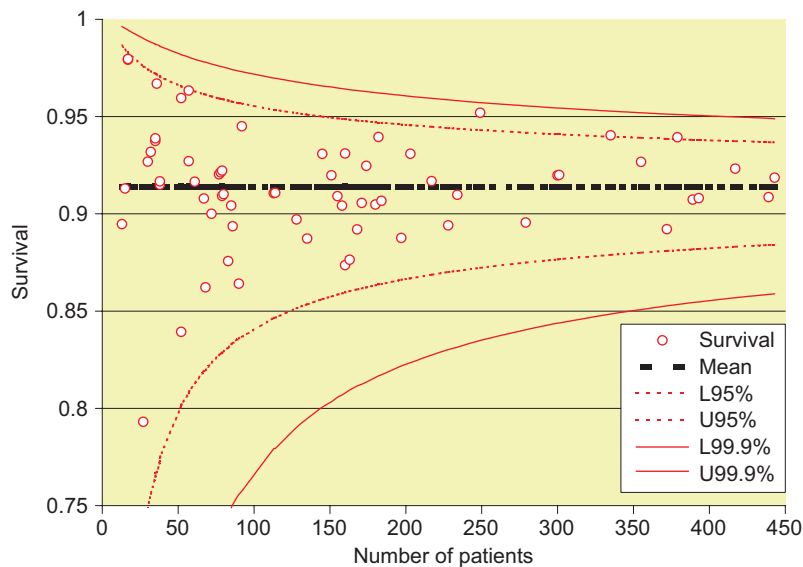


Figure 4.20: Funnel plot of 1 year survival of prevalent dialysis patients aged under 65 years

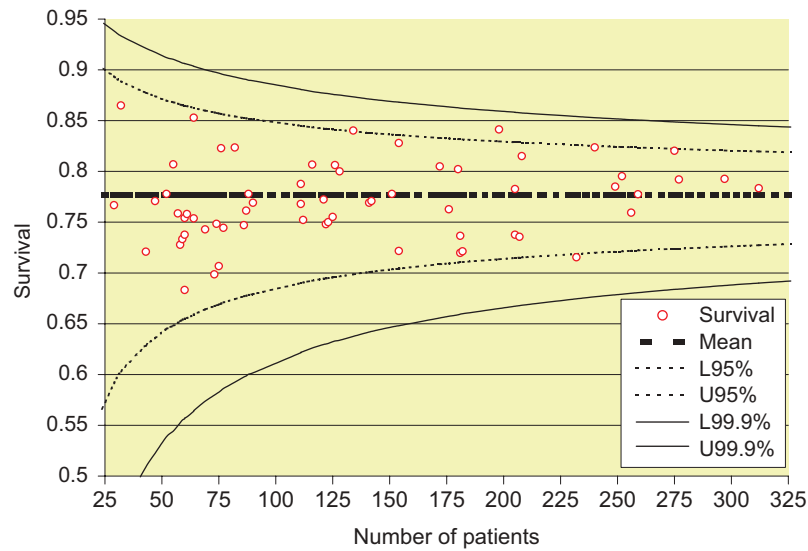


Figure 4.21: Funnel plot of 1 year survival of prevalent dialysis patients aged 65 and over

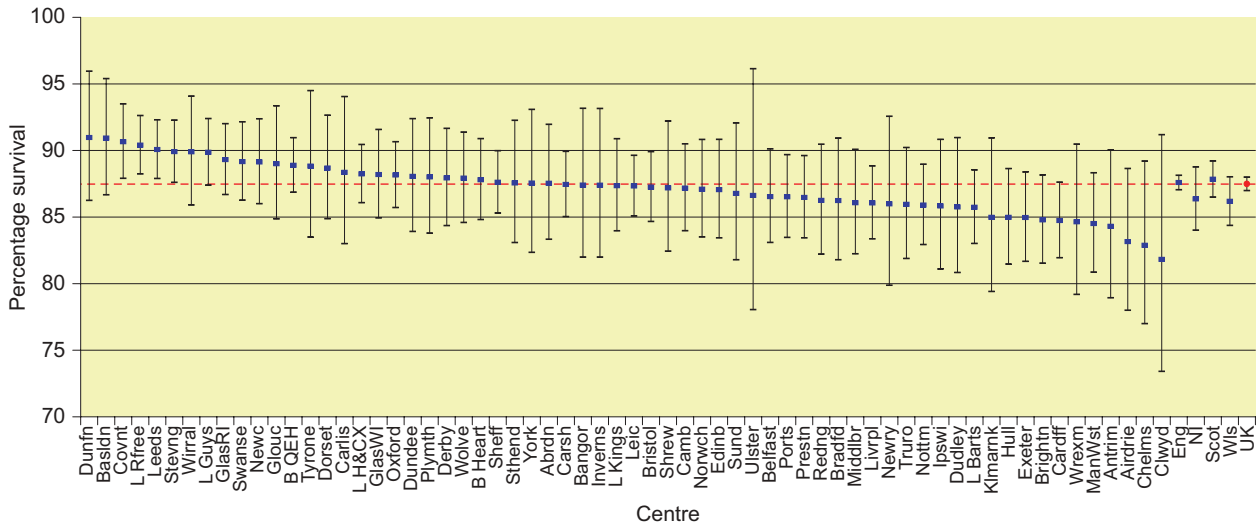
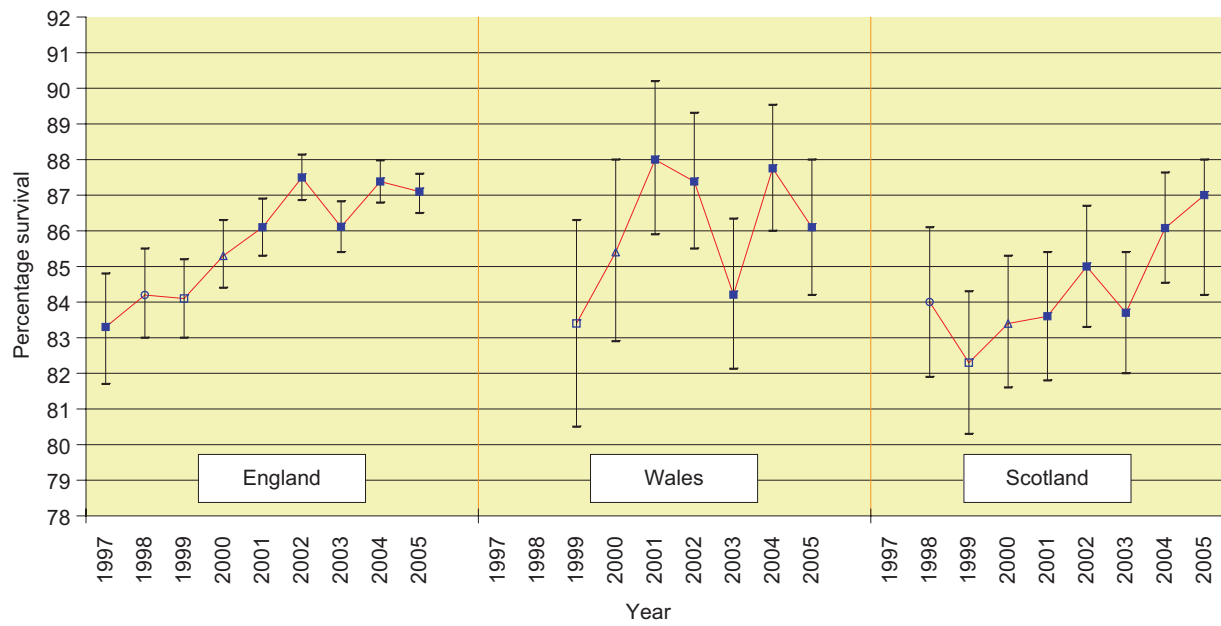


Figure 4.22: One year survival of prevalent dialysis patients in each centre adjusted to age 60

Table 4.18: Serial one year survival for dialysis patients in England, Wales and Scotland from 1997–2005 adjusted to age 60

	England		Wales		Scotland	
	1 year survival %	95% CI	1 year survival %	95% CI	1 year survival %	95% CI
1997	83.3	81.7–84.4	n/a	n/a	n/a	n/a
1998	84.2	83.0–85.5	n/a	n/a	84.0	81.9–86.1
1999	84.1	83.0–85.2	83.4	80.5–86.3	82.3	80.3–84.3
2000	85.3	84.4–86.3	85.4	82.9–88.0	83.4	81.6–85.3
2001	86.1	85.3–86.9	88.0	85.9–90.2	83.6	81.8–85.4
2002	87.5	86.8–88.1	87.4	85.5–89.3	85.0	83.3–86.7
2003	86.1	85.4–86.8	84.2	82.1–86.3	83.7	82.0–85.4
2004	87.4	86.8–88.0	87.8	86.0–89.5	86.1	84.5–87.6
2005	87.1	86.5–87.6	86.1	84.2–88.0	87.0	84.2–88.0



**Figure 4.23: Serial one year survival for dialysis patients in the UK from 1997–2005**

(83.3% to 87.1%  $p=0.0001$  for linear trend), Scotland 1998 to 2005 (84.0% to 87.0%  $p=0.023$  for linear trend) and Wales 1999 to 2005 (83.4% to 86.1%  $p=0.027$  for linear trend). The test for non-linearity in this trend (indicating that there has been a large increase which is now tailing off) was significant for England and Wales.

### References

1. Tangri N, Ansell D, Naimark D. Lack of a centre effect in UK renal units: application of an artificial neural network model. *Nephrol Dial Transplant.* 2006; 21(3):743–8.