

Chapter 5: All Patients Receiving Renal Replacement Therapy In 1999

Summary

Point prevalence.

On December 31st 1999 14772 patients receiving Renal Replacement Therapy from 35 renal units were enrolled in the Renal Registry. The number of patients in units with data for both 1998 and 1999, increased by 4.3% during 1999. For individual English and Welsh units, estimated dialysis prevalence varied from 491 to 198 pmp. In England and Wales, the average number of patients on RRT in each unit was 486; in Scotland, it was 260.

Prevalent age.

The median age for all patients on treatment on 31/12/99 was 54 years, unchanged from the previous year. The median age of patients on peritoneal dialysis remains lower than that of those on haemodialysis at 59 as against 62 years.

The median age for prevalent patients in Scotland was lower than in England & Wales. In the UK as a whole, 28.7% of patients were aged 65 or over and 9.4% were over the age of 75. The median age varied significantly between units with a range of 57 to 68 years.

Gender of RRT patients

61% of all patients on treatment were male: this preponderance occurs at all ages. Of the small number of patients aged over 85, 72% were male.

Ethnicity

Data on ethnicity for existing patients remains patchy, particularly since in Scotland and Wales, it is not health service policy to collect ethnicity data. From the available data, the median age of patients from the ethnic minority population starting RRT is lower than that of the white population, but prevalent ethnic minority patients are older (55.6 years compared with a median age of 54 for all prevalent patients). The gender ratio in the ethnic minority group was the same as for the white population, 62% being male. Although the main ethnic minority in the UK is of Indo-Asian origin, this higher median age of prevalent ethnic patients may indicate a similar higher survival rate to that shown in the USA for the black, when compared with the white, RRT population.

33% of prevalent ethnic minority dialysis patients were on PD. This is of interest since there have been reports of difficulties in establishing such patients on peritoneal dialysis..

Primary renal disease

The most common primary renal disease recorded for prevalent patients under 65 years old was glomerulonephritis. In as many as 30.7% of those over 65 it was not possible to give a diagnosis.

Diabetes

This accounted 16% in current incident patients, but just over 10% of all prevalent patients; and for 13% of patients on HD, 16% of those on PD and 16% of patients with a working transplant. Of those classified as Type I diabetics, 46% under 65 years old were on PD compared with 28% of Type 2 diabetics and 33% of the under 65 non-diabetics. In the over

65-year-old patients, use of PD was less common. Analysis suggests that the classification of diabetic patients as Type 1 and Type 2 is not uniform at present and this has some influence on the data.

Dialysis modality

In England & Wales 66% of dialysis patients were on haemodialysis compared with 73% in Scotland. Up to the age of 54 more patients are treated by transplantation than by dialysis. Haemodialysis is the predominant form of dialysis at all ages but especially in the older age groups. So few patients are now on “standard” CAPD that it should no longer be called “standard”. “Connect PD” may be a better term.

The percentage of patients on haemodialysis treated at home or in satellite units in England & Wales was 38% compared with 28% last year, while in Scotland it fell from 8% to 5%.

In England & Wales 66% of dialysis patients were on haemodialysis compared with 73% in Scotland.

Both England & Wales and Scotland show an increasing percentage of patients being treated with haemodialysis, with the steepest rise being since 1995. England & Wales still have a lower percentage of patients on haemodialysis than Scotland and this difference in service provision now exceeds that of 1995

Patient survival

The one-year survival of all patients established on renal replacement therapy for at least 90 days on 1/1/1999 was 83.7% for the UK; it was 84.8% for England and Wales but 78.8% for Scotland. These survival differences are present across the age spectrum and for 2-year survival also. There is a weak similar trend for transplant patients. The lower survival of Scottish patients on RRT may reflect the generally lower survival of the Scottish population itself, rather than any factor related to RRT.

Introduction

On December 31st 1999 14772 patients receiving Renal Replacement Therapy from 35 renal units were enrolled in the Renal Registry. This chapter describes their demographic details, diagnosis and treatment, and gives a detailed analysis of the 1-year and 2-year survival of patients who had been established for at least 3 months on RRT on 31/12/98 and 31/12/97 respectively.

Prevalence Rates

As noted in chapter 4, calculations of prevalence for England & Wales must be interpreted with caution as they are based on estimated catchment populations.

Summary figures are shown in table 5.1.

	England & Wales	Scotland	Estimated UK
No. of units	23	11	
No. of patients	11897	2875	31500*
Population (m)	22.5*	5.1	59.2
Patients (pmp)	528*	563	531*
Mean Pats/unit	486	260	

* = estimated figures

Table 5.1 Summary of adult patients registered and total population covered

Potential errors are larger when assessing individual centres where numbers are smaller and inaccuracies in estimating catchment populations and the possibilities of cross-boundary flow of patients may have significant effects. Transplantation presents further difficulties as some transplant centres follow patients longer than others before transferring care back to the parent renal unit, and catchment populations do not take this into account. For this reason comparisons between individual units are made only for dialysis therapy. Figure 5.1 therefore only includes dialysis patients: it demonstrates wide variations in dialysis prevalence between individual units from 419 pmp to 198 pmp. The estimated prevalence for individual renal units within Scotland has not been shown, as the population coverage for each unit was not available.

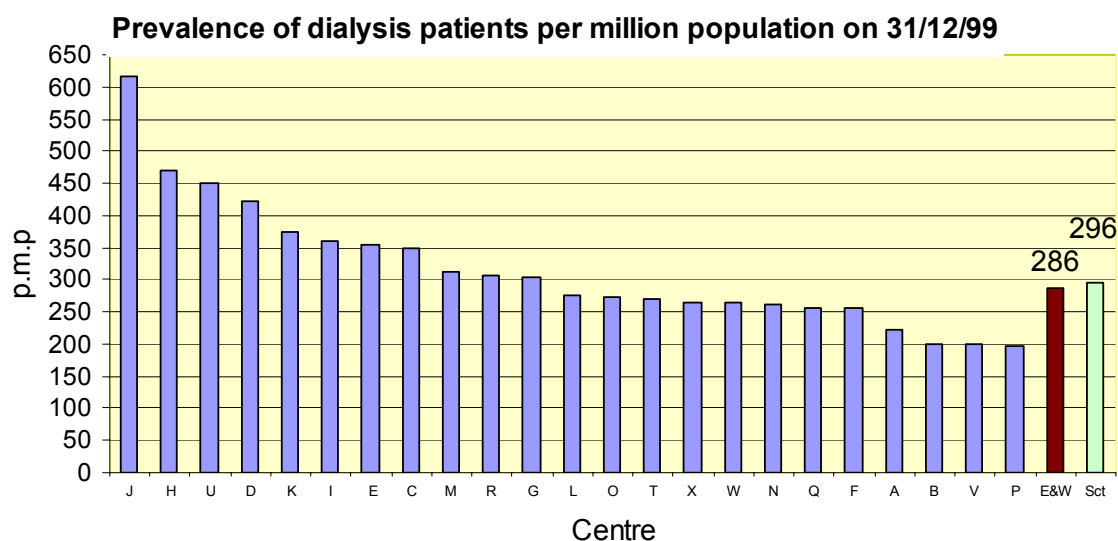


Figure 5.1 Estimated dialysis prevalence per million population by centre

Comparing centres in England & Wales where the Registry has data for 1998 and 1999 the prevalence rate has risen from 516 pmp to 528 pmp. It may be noted that the 1998 prevalence of 516 pmp is at variance from the reported prevalence of 528 in the 1999 Report. This is because an additional centre with a very low prevalence rate has contributed 1998 data since the Report was published.

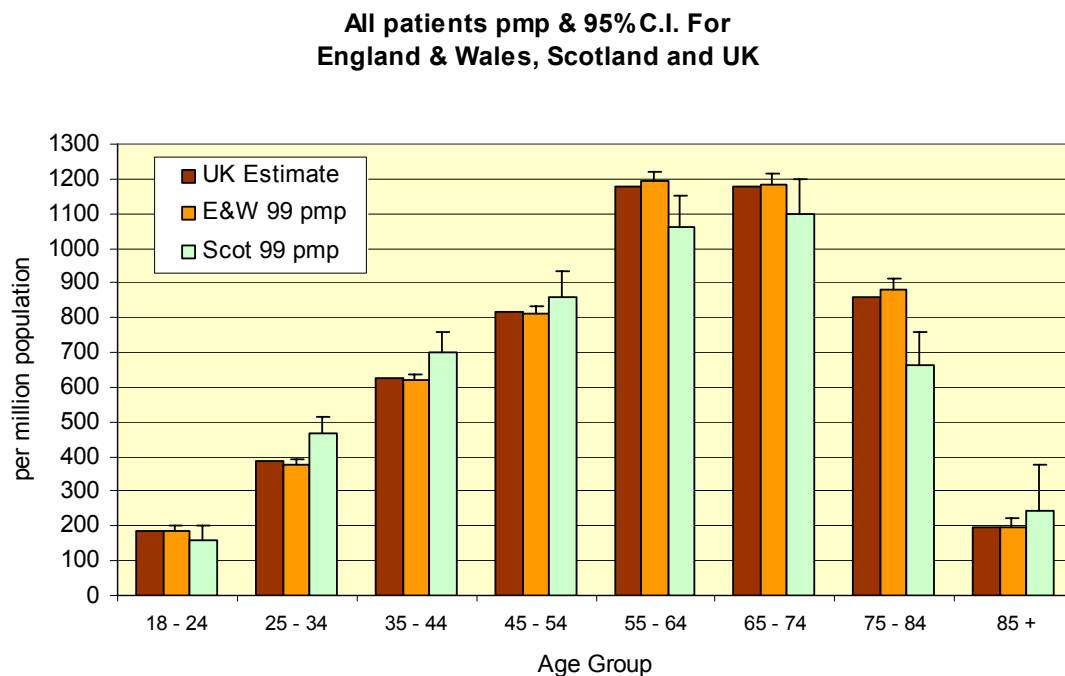
Age

The median age for all patients on treatment on 31/12/99 was 54 years (Table 5.2), which is unchanged from the previous year. The median age of patients on peritoneal dialysis remains lower than those on haemodialysis.

	Transplants	Peritoneal dialysis	Haemodialysis	All
England & Wales	49	59	62	54
Scotland	47	57	61	52
All	48	59	62	54

Table 5.2 Median age and treatment modality

The median age for prevalent patients in Scotland was lower than in England & Wales: this is also evident from the age profile of patients shown in Figures 5.1 and 5.2. In the UK, 28.7% of patients were aged 65 or over and 9.4% were over the age of 75.



The upper 95% confidence limits are shown.

Figure 5.2a Prevalence rates p.m.p. for RRT by age

Data produced by the Office for National Statistics and the General Register Office for Scotland have been used to generate an approximate prevalent age distribution (Figures 5.2a & b). For England & Wales, the main underlying assumption in the calculation is that the areas covered by the Registry have a similar age distribution to the overall population for England & Wales. An additional assumption is that the estimate of the Registry catchment population is a reasonable approximation. The UK estimate relies on the prevalence rate in the rest of the country being similar to that of the Registry. The latter assumption seems reasonable as in 1998 the Registry prevalence was 528 pmp for England & Wales (or 516 as recalculated in this report) compared with 527 pmp calculated by the 1998 national renal survey. The 95% confidence intervals are included.

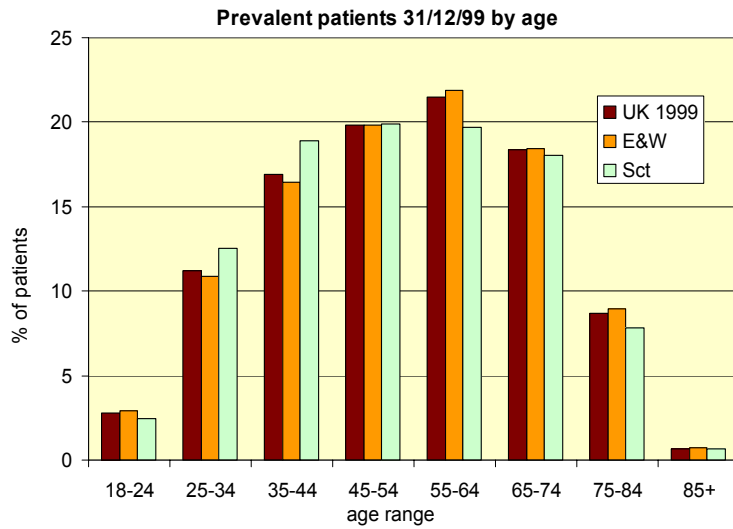


Figure 5.2b Age profile of prevalent patients

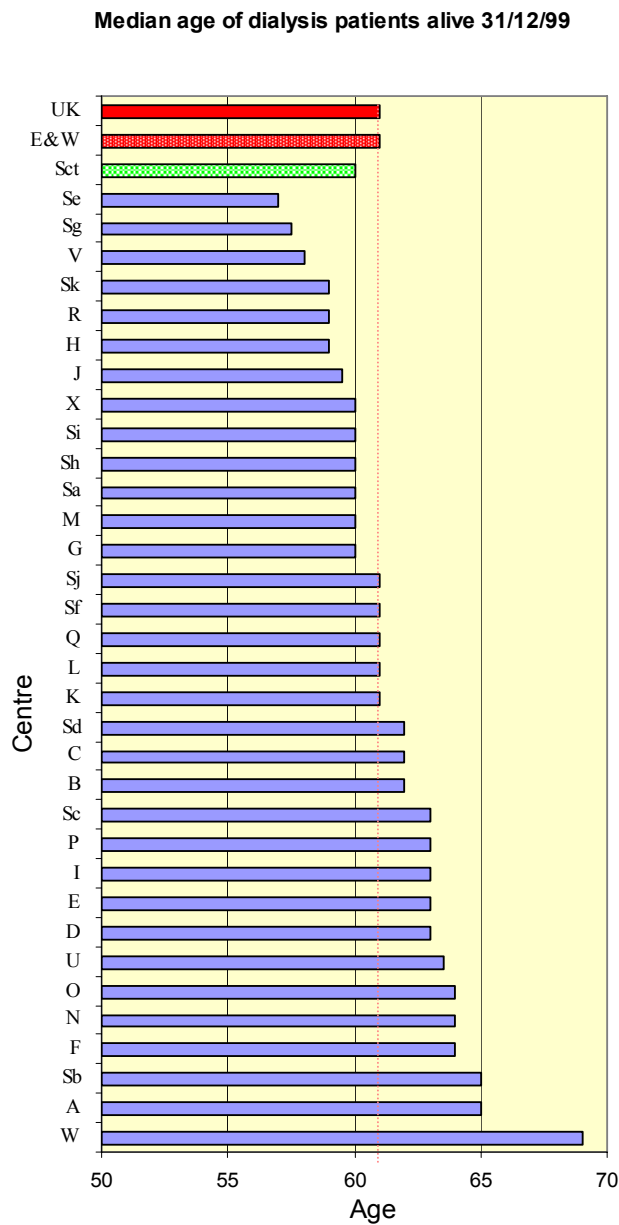


Figure 5.3 Median age of dialysis patients alive 31.12.99

Figure 5.3 demonstrates the wide variation in median age of dialysis patients in individual units. Possible reasons for this include differences in local populations, referral and acceptance policies, survival rates and available resources.

There was a significant difference of the median age within England & Wales (chi squared $p < 0.0001$) and also within Scotland (chi squared $p < 0.0001$).

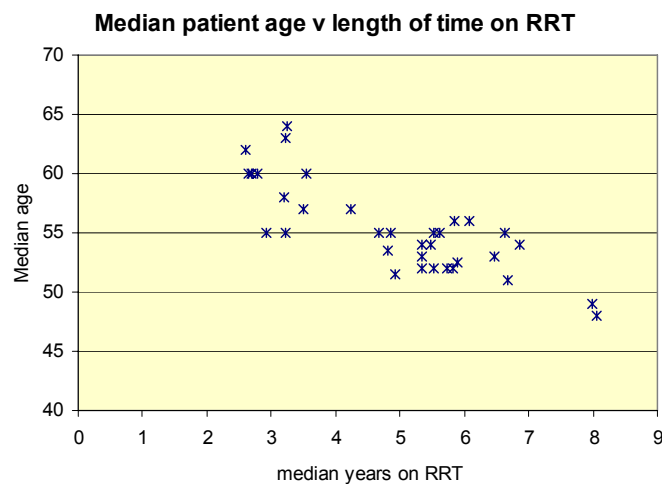


Figure 5.4 Median age at each centre and length of time on RRT in the UK

In figure 5.4, the median age of non-diabetic patients at each centre has been plotted against the median length of time on renal replacement therapy. The low median age and long median length of time on RRT is related to a large transplant population.

Gender

Overall 61% of all patients on treatment were male: the male preponderance occurs at all ages (Figure 5.5). In particular, of the 102 patients who were over 85 on 31.12.99, 72% were male compared with 62% in the previous year. While the numbers are small the high proportion of males in the older age groups occurs in spite of the greater proportion of women in the general population at that age.

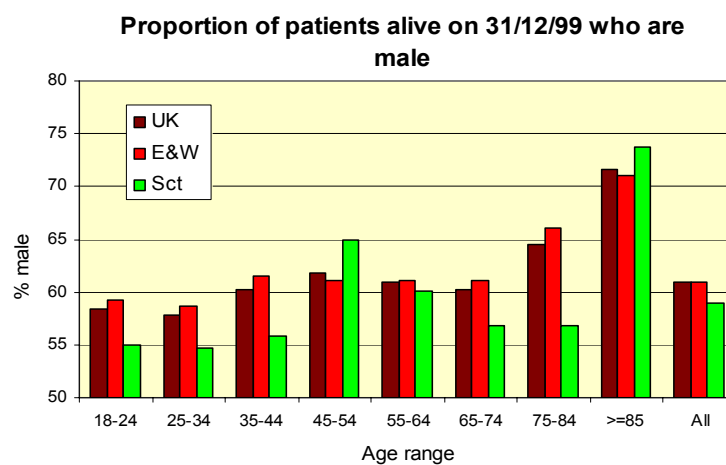


Figure 5.5 Percentage of male patients according to age

Ethnicity

With some exceptions (notably Exeter) few units managed to improve the data on ethnicity for existing patients. It is not currently a health service policy to collect ethnicity data in Scotland or Wales, so ethnicity data were not available from the Scottish or Welsh units. Of the English units, 7 provided little or no data at all while information was complete on at least 86% of patients in 14 units (Table 5.3).

	% with data complete	% White	% Black	% Asian	% Chinese	% Other
Sheffield	99.8	94.2	1.5	2.9	0.9	0.6
Birmingham Heartlands	99.2	74.9	4.6	19.0	0.8	0.8
Stourbridge	99.2	88.9	1.7	8.9	0.4	
Plymouth	98.7	98.2	0.5		0.5	0.8
Carshalton	98.5	71.0	4.5	4.3	0.6	19.6
Leeds, St James'	97.5	89.4	2.6	7.7		0.3
Sunderland	97.4	98.2	0.9		0.4	0.4
Exeter	96.4	99.8	0.2			
Coventry	95.3	80.9	3.0	15.5	0.6	
Bristol	94.7	93.0	3.1	1.8	1.2	0.9
Middlesbrough	92.1	95.3		3.4		1.3
Nottingham	89.6	89.0	4.7	5.8		0.5
Gloucester	88.2	100.0				
Leicester	86.4	80.7	2.4	13.8	0.2	2.9
Cardiff	14.8	97.9		2.1		
Carlisle	0					
Hull	0					
Oxford	0					
Preston	0					
Southend	0					
Stevenage	0					
Wolverhampton	0					
Wrexham	0					
England	66.0					

Table 5.3 Ethnicity

The median age of the ethnic minority patients was slightly older at 55.6 years compared with a median age of 54 over all patients. When compared with the younger median age of ethnic patients starting RRT this higher median age of prevalent ethnic patients may indicate a similar higher survival rate to that shown in the USA black RRT population when compared with the white population. The gender ratio in the ethnic minority group was the same as for the white population with 62% of patients male.

Within the ethnic minorities group 67% of dialysis patients were on HD which was similar to the percentage for non-ethnic population in England & Wales, although 78% of these were on hospital HD. The acceptance of PD is surprising as several units have reported difficulties in establishing patients on peritoneal dialysis particularly with most units having PD education programmes only available in English.

Primary Renal Disease

Details of primary renal disease, based on the original EDTA coding classification are shown in Table 5.4. Unlike incident patients, in those under 65 years old the single most common diagnosis was glomerulonephritis, followed by pyelonephritis (which includes outflow obstruction). In as many as 30.7% of those over 65 it was not possible to give a diagnosis. Missing data were much more common in patients over 65 with 10% missing compared with 3% in patients aged under 65. Diabetes accounted for just over 10% of patients in both age groups, a much lower proportion than the 16% in current incident patients.

Diagnosis	All patients	Inter unit range	Age < 65	Age ≥ 65	M : F Ratio
Aetiology uncertain *	23.5	13-29	21.6	30.7	1.7
Glomerulonephritis**	15.5	7-21	17.4	8.3	2.3
Pyelonephritis	15.2	7-21	16.2	10.7	1.0
Diabetes	10.1	7-18	10.1	10.5	1.5
Type I	7.3		8.5	4.0	
Type II	2.7		1.8	5.4	
Polycystic Kidney	3.2	7-13	10.6	4.9	2.1
Hypertension	5.2	2-14	5.2	5.6	2.6
Renal Vascular disease	9.4	1-10	1.7	9.6	1.1
Not sent	4.6	0-47	3.1	9.9	1.7
Other	13.3	4-19	14.1	9.9	1.3
All Patients Total	14072		10285	3787	

* - includes patients listed as "glomerulonephritis not biopsy proven".

** - biopsy proven.

Table 5.4 Primary renal disease in all patients, and according to age and gender

Centre J which has the highest incidence rate of renal replacement therapy in the UK at 194 pmp has 18% of all patients who are diabetic and 28% of all patients starting renal replacement therapy are diabetic.

Diabetes

Diabetes was recorded as the primary diagnosis in 10% of all prevalent patients, and in 13% of patients on HD, 16% of those on PD and 16% of patients with a working transplant. The median ages are shown in Table 5.5

England and Wales	Type 1	51.0
	Type 2	65.0
Scotland	Type 1	48.0
	Type 2	66.5

Table 5.5 Median age of prevalent diabetics

There was an apparent difference between England & Wales and Scotland in the percentage of diabetics with a transplant (Table 5.6). When type 1 and type 2 diabetics were grouped together these differences disappeared with 29% transplanted in E&W and 31% in Scotland. The apparent differences in treatment may be partly explained by variation in the categorisation of type of diabetes.

	% HD	% PD	% Transplanted
E&W diabetic type 1	36.7	29.9	33.4
E&W diabetic type 2	62.0	22.7	15.3
Sct diabetic type 1	34.8	22.9	42.4
Sct diabetic type 2	75.0	21.4	3.6

Table 5.6 Treatment according to type of diabetes and country

5.7 a	Type I	Type II	Non-Diabetics
Number	1084	405	12151
M : F ratio	1.5	1.7	1.55
Median Age on 31/12/99	50	66	54
Median Age started ESRF	46	63	46
Median years on treatment	2.6	2.0	5.5
% HD	36	65	34
% PD	29	22	15
% transplant	35	13	51

5.7 b	Type I	Type II	Non-diabetics	Type I	Type II	Non-diabetics
	< 65	< 65	< 65	≥ 65	≥ 65	≥ 65
Number	913	186	9186	171	219	3397
% HD	32	61	26	61	74	55
% PD	28	24	13	30	21	21
% transplant	40	22	61	9	5	24

Tables 5.7a and 5.7b Type of diabetes – age, sex ratio, treatment

Of those Type I diabetics on dialysis under 65, 46% are on PD compared with 33% of the under 65 non-diabetics and 28% in the Type 2 diabetics. In the over 65s use of PD was less common although still more common in the Type I diabetics at 33% compared with 28% in non-diabetics and 22% in Type 2 diabetics

Modalities of Treatment

In England & Wales 66% of dialysis patients were on haemodialysis compared with 73% in Scotland. The variation in patterns of treatment with age are shown in Figures 5.6 and Table 5.8. Up to the age of 54 more patients are treated by transplantation than by dialysis. Haemodialysis is the predominant form of dialysis at all ages but especially in the older age groups.

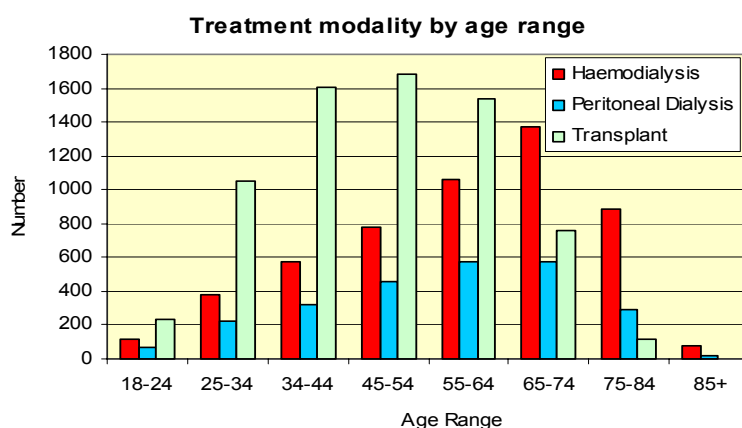


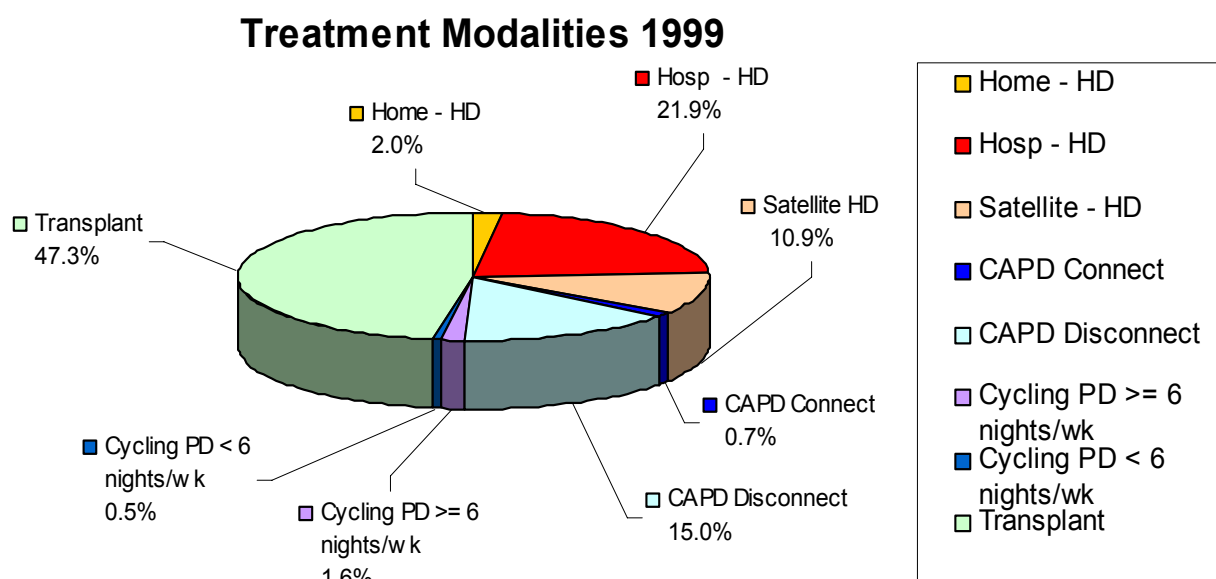
Figure 5.6 Patients in each modality according to age

	18-24	25-34	34-44	45-54	55-64	65-74	75-84	85+
Haemodialysis	27	23	23	27	33	51	69	78
Peritoneal Dialysis	16	14	13	16	18	21	23	21
Transplant	57	64	64	58	48	28	9	1

Table 5.8 Percentage modality according to age

The proportion of patients treated by the various types of dialysis is shown in Figure 5.7. So few patients are now on “standard” CAPD that it should no longer be called “standard”. “Connect PD” may be a better term.

Compared with the 1999 Report there has been an increase in the proportion of patients treated at satellite units (5.6% to 10.9%) and of patients treated by cycling PD (1.0% to 2.1%). The percentage of patients with a transplant fell from 49.9% to 47.3% during this



time.

Figure 5.7 Percentage of patients on each dialysis modality

Haemodialysis

The proportion of dialysis patients treated by haemodialysis as opposed to peritoneal dialysis varied widely from unit to unit and cannot be explained by age alone (Figure 5.8)

The percentage of patients on haemodialysis treated in satellite units in England & Wales was 31% compared with 17% in last years data, (Figure 5.9). Home haemodialysis fell from 7.5% to 5.7%. These data for 1999 include the four additional centres included in the Registry this year.

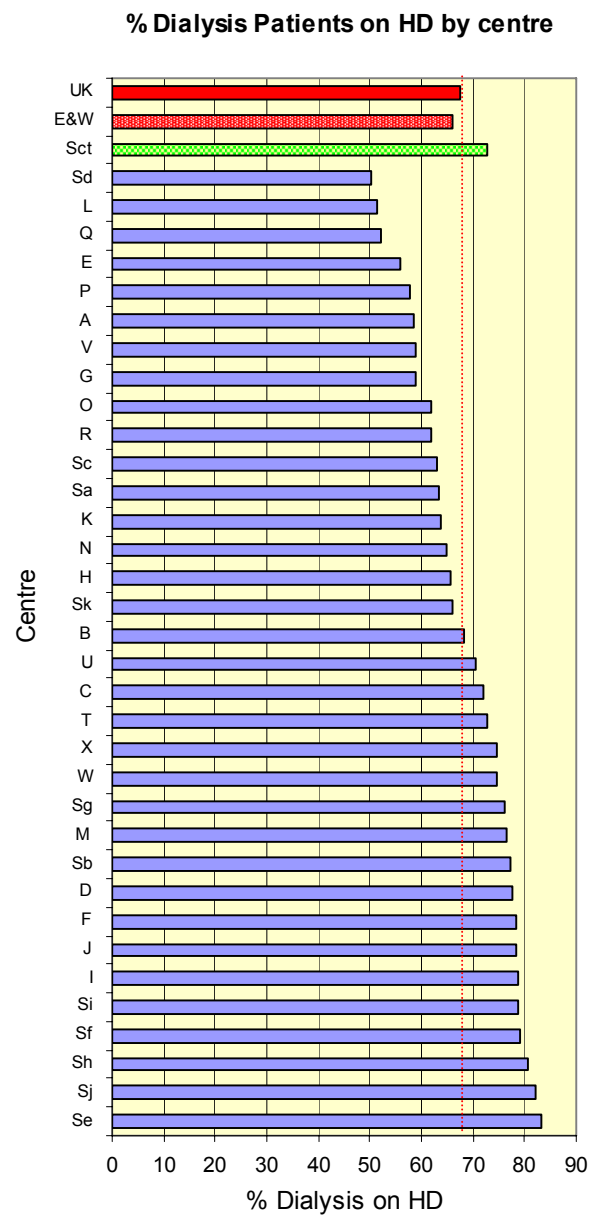
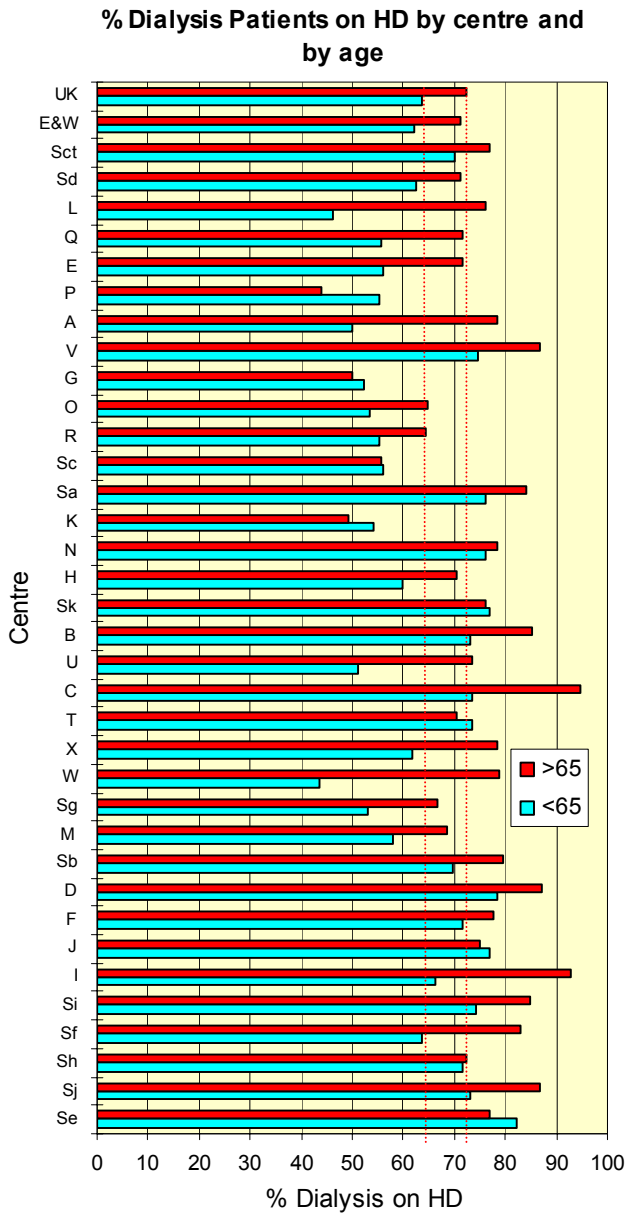


Figure 5.8 Proportion of patients treated by HD according to centre and age.

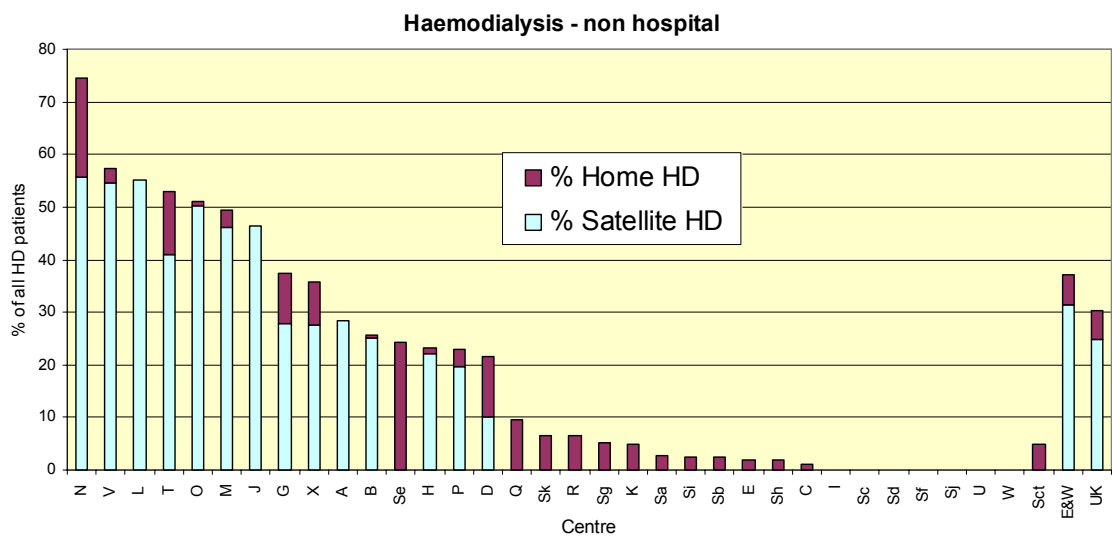


Figure 5.9 Percentage of haemodialysis patients treated at home and in satellite units

Peritoneal Dialysis

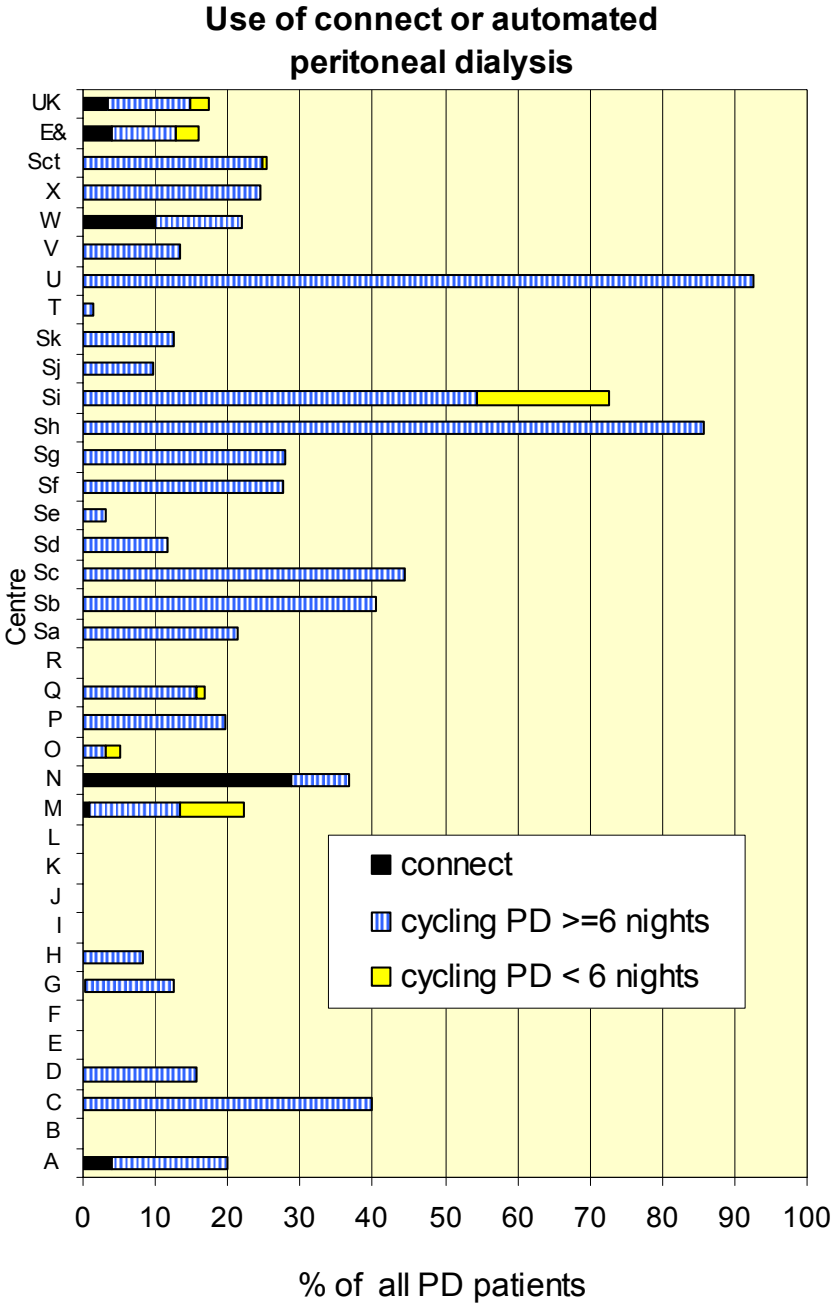


Figure 5.10 Use of connect and automated PD as percentage of total PD

The percentages of patients on each of the main types of peritoneal dialysis in individual units are shown in Figure 5.10. Connect PD was used by 29% of PD patients in one centre, by 10% in another and by less than 5% in another 2 centres. It was not used at all in the remaining centres, including all the Scottish units. Cycling PD was more widely used in Scotland than in England and Wales. There was a wide variation in the percentage of patients treated with one or other form of cycling PD; in 3 centres it was used for the majority of patients whereas 10 units had very few or none at all on this treatment.

A relatively high proportion of patients with a primary diagnosis of diabetes (38%) was treated by peritoneal dialysis as shown on Table 5.9. This may partly relate to the younger age of diabetic patients, as PD is more common in younger than older patients.

Diagnosis	% on PD
Diabetes	38
Aetiology uncertain *	34
Glomerulonephritis	33
Polycystic Kidney	27
Pyelonephritis	31
Hypertension	29
Renal Vascular disease	25
Other	30
Not sent	38

* = Includes patients listed as “glomerulonephritis not biopsy proven

Table 5.9 Proportion of patients on PD by diagnostic category.

Modality and gender

There were no differences in type of treatment according to gender (Table 5.10) except that of all dialysis patients 4.5% of males are on home haemodialysis compared with 2.5% of females.

		%HD	%PD	% Trans
Scotland	Male	38	14	49
	Female	39	15	46
England and Wales	Male	36	17	47
	Female	34	19	47
UK	Male	36	16	48
	Female	35	18	47

Table 5.10 Treatment modality and gender

Change in treatment modalities 1998 –1999

	% HD Home	% HD Hospital	% HD Satellite	% HD Total	% PD standard	% PD Disconnect	% PD cycling	% PD Total	% with Transplant
1 st qtr 1998	2.5	22.6	6.6	31.7	0.9	16.8	1.2	18.9	49.4
1 st qtr 1999	2.4	23.0	7.6	33.0	1.2	15.7	1.1	18.0	49.0
4 th qtr 1999	2.2	21.0	10.7	33.9	0.8	14.9	1.8	17.5	48.6

Table 5.11 Proportion of patients with different modalities of RRT 1999 and 1998

	HD	PD	Transplant
4 th qtr 1998	3508	1986	5268
4 th qtr 1999	3783	1989	5448

Table 5.12 Number of patients with different modalities of RRT 1998 and 1999 in same centres

Comparing only the 20 England & Wales centres where there were data for both 1998 and 1999, there was a 4.2% overall increase in percentage of patients. These data divided into a 3.4% increase in the number of transplant patients within 12 months. This compares with the 2.5% increase shown last year comparing a much smaller number of centres from 1997 – 1998.

Similarly there was a 5% overall increase in the total numbers of patients on dialysis over the 12 month period. This was almost totally due to an increase of 7.8% in the number of patients on haemodialysis with the total number of patients on peritoneal dialysis remaining static.

Long term trends

In England & Wales 66% of dialysis patients were on haemodialysis compared with 73% in Scotland.

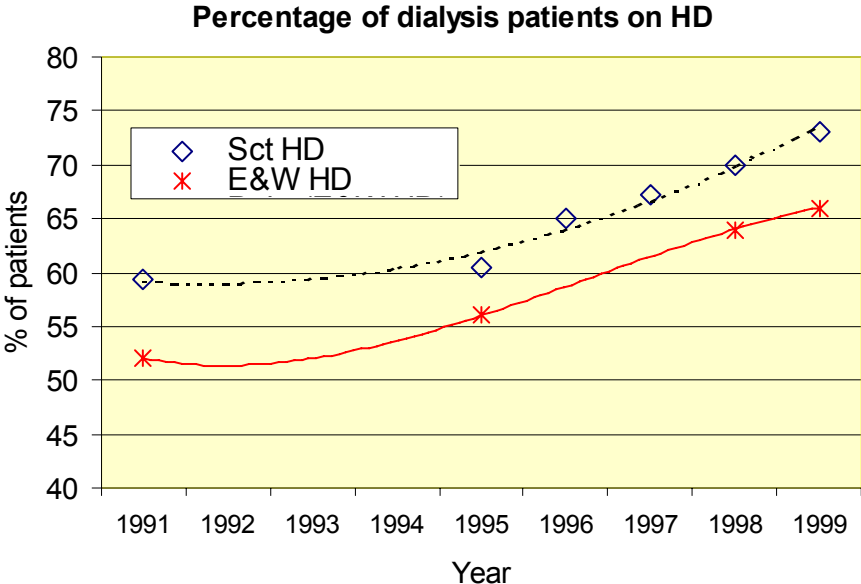


Figure 5.11 Percentage of dialysis patients on haemodialysis by year

Both England & Wales and Scotland show an increasing percentage of patients being treated with haemodialysis, with the steepest rise being since 1995. England & Wales still have a lower percentage of patients on haemodialysis than Scotland and this difference in provision of haemodialysis facilities now exceeds that in 1995. The England data for 1992 and 1995 were from the national review. As the Registry only covered 9 centres in 1997 these data for England have not been included.

Survival on renal replacement therapy

This section analyses the one-year survival of all patients established on renal replacement therapy for at least 90 days on 1/1/1999, and the two-year survival of similar patients alive on 1/1/1998.

	E&W 1998	E&W 1999	Scot 1999	UK 1999
No. of patients	4554	5622	1353	6975
No of deaths	706	820	272	1092
Death rate	17.8	16.7	23.2	18.0
(95% CI)	16.5 – 19.1	15.6 – 17.9	20.5 – 26.1	16.9 - 19.1
K-M 1 yr survival	83.8	84.8	78.8	83.7
(95% CI)	82.6 – 84.8	83.8 - 85.8	76.6 - 81.	82.8 - 84.6

Table 5.13a Survival during 1999 of dialysis patients alive on 1/1/1999

	Transplant censored at dialysis			Transplant including dialysis returns		
	E&W	Scot	UK	E&W	Scot	UK
No. of patients	5228	1259	6487	5228	1259	6487
No of deaths	138	35	173	149	38	187
Death rate	2.7	2.9	2.8	2.9	3.1	2.9
(95% CI)	2.3 - 3.2	2.0 - 4.0	2.4 - 3.2	2.5 - 3.4	2.2 - 4.2	2.6 - 3.3
K-M 1 yr survival	97.3	97.2	97.3	97.2	97.0	97.2
(95% CI)	96.9 - 97.8	96.3 - 98.0	96.9 - 97.8	96.7 - 97.8	96.3 - 97.7	96.7 - 97.6

Table 5.13b Survival during 1999 of transplant patients alive on 1/1/1999

Transplanted patients have a lower mortality than dialysis patients, but these patients are a selected younger fit population with a median age of 48 years compared with 55 years in the dialysis population. Comparing transplant patients with non-diabetic dialysis patients aged less than 55 (Table 5.16) there is still a lower mortality with a 97.3% v 94.2% survival during 1999. This will be partly related to selective transplantation of fitter patients with less comorbidity.

Scotland has a higher mortality of dialysis patients than England & Wales (Table 5.13a) even though the median ages of patients are similar (55 years England & Wales v 54 years Scotland). There is a weak similar trend for transplant patients. This was analysed further.

The analysis was repeated separately for dialysis patients aged under 65 on 1/1/1999 and for patients aged 65 or more on 1/1/1999 (Table 5.14). This also showed a difference in survival comparing England & Wales with Scotland in both groups. This may have been related to the percentage of diabetic patients so the analysis was repeated for the diabetic and non-diabetic patients (Table 5.15a & 5.15b). The England and Wales figures for 1999 were within the 95% confidence limits of the results from 1998, suggesting no overall change in survival.

	Dialysis aged less than 65			Dialysis aged 65 and over		
	E&W	Scot	UK	E&W	Scot	UK
No. of patients	3338	847	4185	2284	506	2790
No of deaths	298	106	404	522	166	688
Death rate	10.1	14.2	10.9	26.7	39.0	28.9
(95% CI)	9.0 - 11.3	11.6 - 17.2	9.9 - 12.0	24.5 - 29.1	33.3 - 45.5	26.8 - 31.2
K-M 1 yr survival	90.5	76.9	89.7	76.9	66.8	75.1
(95% CI)	89.5 - 91.5	75.0 – 78.8	88.8 - 90.6	75.2 - 78.6	65.1 - 68.5	73.5 - 76.7

Table 5.14 Survival during 1999 of dialysis patients alive on 1/1/1999 by age

	Diabetic < 65			Non-diabetic < 65c		
	E&W	Scot	UK	E&W	Scot	UK
No. of patients	479	108	587	2799	710	3509
No of deaths	85	19	104	211	83	294
Death rate 1999 (95% CI)	20.4 16.3–25.2	19.4 11.7–30.4	20.2 16.5–24.5	8.5 7.4–9.7	13.3 10.60–16.5	9.5 8.4–10.6
K-M 1 yr survival (95% CI) 1999	81.8 78.6–85.1	82.0 74.2–89.8	81.8 78.6–85.1	91.9 90.9–92.9	87.3 85.4–89.2	91.0 90.0–92.0
K-M 1 yr survival (95% CI) 1998	80.5 76.2–84.8			91.4 90.2–92.6		

Table 5.15a Survival of dialysis patients aged < 65

	Diabetic ≥ 65			Non-diabetic ≥ 65c		
	E&W	Scot	UK	E&W	Scot	UK
No. of patients	255	59	314	1923	437	2360
No of deaths	73	22	95	431	138	569
Death rate 1999 (95% CI)	35.4 27.8–44.6	48.2 30.2–73.1	37.8 30.5–46.2	26.1 23.7–28.6	37.0 31.1–43.7	28.1 25.8–30.5
K-M 1 yr survival (95% CI) 1999	70.9 65.2–76.6	62.3 49.6–75.0	69.3 64.1–74.6	77.4 75.4–79.4	68.0 63.5–72.5	75.7 73.9–77.5
K-M 1 yr survival (95% CI) 1998	74.5 67.9–81.			76.6 74.5–78.7		

Table 5.15b Survival during 1999 of dialysis patients aged ≥65

The survival of diabetic dialysis patients for all age groups was not significantly different for England & Wales compared with Scotland. There was a significant difference in survival for non-diabetic patients. This difference in mortality remained consistent when analysed by 10-year age band (Table 5.16).

	<55 non diabetic			55- 64 non diabetic		
	E&W	Scot	UK	E&W	Scot	UK
No. of patients	1853	488	2341	946	221	1167
No of deaths	100	41	141	111	42	153
Death rate (95% CI)	6.1 5.0–7.4	9.6 6.9–13.0	6.8 5.8–8.1	13.1 10.8–15.8	21.7 15.6–29.4	14.7 12.5–17.2
K-M 1 yr survival (95% CI)	94.2 93.1–95.3	90.7 87.9–93.5	93.4 92.4–94.5	87.7 85.6–89.8	80.2 74.7–85.7	86.3 84.3–88.3
	65 -74 non diabetic			≥75 non diabetic		
	E&W	Scot	UK	E&W	Scot	UK
No. of patients	1137	279	1416	784	158	944
No of deaths	235	77	312	196	61	257
Death rate (95% CI)	23.5 20.9–22.1	31.5 24.9–39.4	25.4 22.7–28.4	29.2 25.3–33.6	47.5 36.3–61.0	32.3 28.4–36.3
K-M 1 yr survival (95% CI)	79.1 76.1–82.2	71.9 66.4–77.3	77.7 75.7–79.7	75.0 70.8–79.2	64.6 55.6–73.6	72.7 69.8–75.6

Table 5.16 Survival during 1999 of non-diabetic dialysis patients by age

The general population of Scotland is known to have more ill health than England & Wales, reflected in a higher all cause mortality and particularly cardio-vascular disease mortality^{1,2}. The table below shows the all cause mortality rate per 1,000 population for the general population of England & Wales and Scotland in 1998. The data was supplied by the Office for National Statistics and the Register General Office of Scotland.

Age group	45-54	55-64	65-74	75-84	85+
Deaths per 1,000 E&W	3.3	9.0	25.7	64.5	160.9
Deaths per 1,000 Scotland	4.4	11.8	31.0	71.0	180.9
Excess mortality in Scotland	33.3	31.1	20.6	10.1	12.4

Table 5.17 Mortality in the general UK population

Thus the slightly higher dialysis mortality in Scotland reflects the increased mortality in the population from which the dialysis patients are drawn, and is unlikely to indicate anything about the quality of renal care. This analysis emphasises the need to consider the characteristics of the general population from which patients come when considering or comparing outcomes of treatment.

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