

UK Renal Registry 18th Annual Report: Chapter 1 UK Renal Replacement Therapy Incidence in 2014: National and Centre-specific Analyses

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Key Words

Acceptance rates · Clinical Commissioning Group · Comorbidity · Diabetes · Dialysis · End stage renal disease · End stage renal failure · Established renal failure · Glomerulonephritis · Haemodialysis · Incidence · Peritoneal dialysis · Registries · Renal replacement therapy · Transplantation · Treatment modality

Summary

- The incidence rate in the UK increased from 109 per million population (pmp) in 2013 to 115 pmp in 2014 reflecting renal replacement therapy (RRT) initiation for 7,411 new patients.
- The increase in incidence rate from 2013 to 2014 was seen in England and Scotland (although rates in Scotland have fluctuated around this level since 2008) but not Wales and Northern Ireland.
- The median age of all incident patients was 64.8 years but this was highly dependant on ethnicity

(66.4 for White incident patients; 58.7 for non-White patients).

- Diabetic renal disease remained the single most common cause of renal failure (26.9%).
- By 90 days, 66.3% of patients were on haemodialysis, 19.1% on peritoneal dialysis, 9.7% had a functioning transplant and 4.8% had died or stopped treatment. By contrast, in 2007, at 90 days 67% were on HD, 21% PD and only 5% were transplanted.
- The percentage of patients still on RRT at 90 days who had a functioning transplant at 90 days varied between centres from 0% to 33% (between 7% and 33% for transplanting centres and between 0% and 21% for non-transplanting centres).
- The mean eGFR at the start of RRT was 8.6 ml/min/1.73 m² similar to the previous four years.
- Late presentation (<90 days) fell from 23.9% in 2006 to 17.8% in 2014.

Introduction

This chapter contains analyses of adult patients starting renal replacement therapy (RRT) in the UK in 2014. The methodology and results for these analyses are in three separate sections: geographical variations in incidence rates, the demographic and clinical characteristics of patients starting RRT and analyses of late presentation and delayed referral.

Definitions

The definition of incident patients is given in detail in appendix B: Definitions and Analysis Criteria (www.renalreg.org). In brief, it is all patients over 18 who commenced RRT in the UK in 2014 and who did not recover renal function within 90 days. Note that this does not include those with a failed renal transplant who returned to dialysis. There has been a change to the definition for this report. Previously if a person had a recovery lasting more than 90 days (which began more than 90 days after starting RRT) and then restarted RRT then they were counted as an incident patient twice. Under the new definition, they are only counted at their second/final start point. This change had only a small effect on the numbers of incident patients.

Differences may be seen in the 2009 to 2013 numbers now quoted when compared with previous publications because of retrospective updating of data in collaboration with renal centres, in particular for patients who were initially thought to have acute renal failure. Where applicable and possible, pre-emptive transplant patients were allocated to their work up centre rather than their transplant centre. However, this was not possible for all such patients and consequently some patients probably remain incorrectly allocated to the transplanting centre. The term established renal failure (ERF) as used within this chapter is synonymous with the terms end stage renal failure/disease (ESRF or ESRD).

UK Renal Registry coverage

The UK Renal Registry (UKRR) received individual patient level data from all 71 adult renal centres in the UK (five renal centres in Wales, five in Northern Ireland, nine in Scotland, 52 in England). Data from centres in Scotland were obtained from the Scottish Renal Registry. Data on children and young adults can be found in chapter 4: Demography of the UK Paediatric Renal Replacement Therapy population in 2014.

Renal Association Guidelines

Table 1.1 lists the relevant items from the Renal Association Guidelines on the Planning, Initiating and Withdrawal of Renal Replacement Therapy [1]. Many of the audit measures are not audited by the UKRR; mainly due to a high proportion of incomplete data or because, at the time, the relevant data item(s) was not within the specified UKRR dataset. Over time it is planned to work with the renal community to improve reporting across the range of these measures.

1. Geographical variation in incidence rates

Introduction

Over the years there have been wide variations in incidence rates between renal centres. Equity of access to RRT is an important aim but hard to assess as the need for RRT depends on many variables including medical, social and demographic factors such as underlying conditions, age, gender, social deprivation and ethnicity. Thus, comparison of crude incidence rates by geographical area can be misleading. This year's report again uses age and gender standardisation of Clinical Commissioning Group/Health Board (CCG/HB) rates as well as showing crude rates. It also gives the ethnic minority percentage for each area as this influences incidence rates.

Methods

CCG/HB level

Crude incidence rates per million population (pmp) and age/gender standardised incidence ratios were calculated as detailed in appendix D: Methodology used for Analyses (www.renalreg.org).

Centre level

For the methodology used to estimate catchment populations see appendix E: Methodology for Estimating Catchment Populations (www.renalreg.org).

Results

Overall

In 2014, the number of adult patients starting RRT in the UK was 7,411 equating to an incidence rate of 115 pmp (table 1.2), compared with 109 pmp in 2013. Wales remained the country with the highest incidence rate with Northern Ireland the lowest (119 vs. 93 pmp, figure 1.1). For England, incidence rates had been stable

Table 1.1. Summary of Renal Association audit measures relevant to RRT incidence

RA audit measure	Reported	Reason for non-inclusion/comment
Percentage of patients commencing RRT referred <3 months and <12 months before date of starting RRT	Yes	UKRR dataset allows reporting on time elapsed between date first seen and start of RRT
Percentage of incident RRT patients followed up for >3 months in dedicated pre-dialysis or low clearance clinic	No	Not in UKRR dataset
Proportion of incident patients on UK transplant waiting list at RRT initiation	No	Not in UKRR dataset
Proportion of incident RRT patients transplanted pre-emptively from living donors and cadaveric donors	Yes	
Mean eGFR at time of pre-emptive transplantation	No	Numbers with data will be small, the UKRR will consider doing a combined years analysis in future reports
Proportion of incident patients commencing peritoneal or home haemodialysis	Partly	See appendix F for proportion starting on PD and see table 1.12 for proportion on PD at 90 days. Not reported for home HD due to small numbers
Proportion of patients who have undergone a formal education programme prior to initiation of RRT	No	Not in UKRR dataset
Proportion of haemodialysis patients who report that they have been offered a choice of RRT modality	No	Not in UKRR dataset
Proportion of patients who have initiated dialysis in an unplanned fashion who have undergone formal education by three months	No	Not in UKRR dataset
Evidence of formal continuing education programme for patients on dialysis	No	Not in UKRR dataset
Proportion of incident patients known to nephrology services for three months or more prior to initiation (planned initiation).	Yes	
Proportion of planned initiations with established access or pre-emptive transplantation	Yes	See appendix F for proportion of incident patients having pre-emptive transplantation, and see chapter 11 for dialysis access
Inpatient/outpatient status of planned initiations	No	Not in UKRR dataset
Mean eGFR at start of renal replacement therapy	Partly	Reported but not at centre level due to poor data completeness

for the previous eight years but have now increased (from 111 pmp to 117 pmp from 2013 to 2014). There continued to be very marked gender differences in incidence rates which were 148 pmp (95% CI 143–152) in males and 83 pmp (95% CI 80–86) in females.

The denominators used for these rates were the entire population i.e. they include under 18 year olds. When incident patients aged under 18 were included in the numerator the UK rate was 117 pmp. The exclusion of under 18s in this chapter at least partly explains the

Table 1.2. Number of new adult patients starting RRT in the UK in 2014

	England	N Ireland	Scotland	Wales	UK
Number starting RRT	6,330	172	542	367	7,411
Total estimated population mid-2014 (millions) ^a	54.3	1.8	5.3	3.1	64.6
Incidence rate (pmp)	117	93	101 ^b	119	115
(95% CI)	(114–119)	(79–107)	(93–110)	(107–131)	(112–117)

^aData from the Office for National Statistics, National Records of Scotland and the Northern Ireland Statistics and Research Agency – based on the 2011 census

^bThe RRT incidence rate published in the Scottish Renal Registry report for the same period is slightly higher at 105 pmp. This is explained by slight differences in the definition of incident RRT patients between the two registries and the inclusion of under 18s in the Scottish Renal Registry analyses

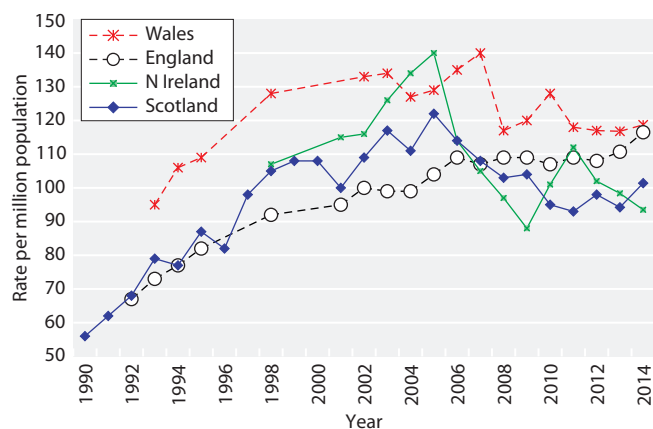


Fig. 1.1. RRT incidence rates in the countries of the UK 1990–2014

higher RRT incidence rate reported using the same data for the same period by the Scottish Renal Registry (105 pmp).

CCG/HB level

Table 1.3 shows incidence rates and standardised incidence ratios for CCG/HBs. There were wide variations between areas. From the analysis using all six years, out of a total of 237 areas, 47 areas had notably high ratios and 69 notably low. The standardised incidence ratios ranged from 0.61 to 2.37 (IQR 0.82, 1.08). The crude rates ranged from 71 pmp to 205 pmp (IQR 93 pmp, 117 pmp). As previously reported, urban areas with high percentages of non-White residents tended to have high incidence rates. Figure 1.2 shows the strong positive correlation between the standardised incidence ratio and the percentage of the CCG/HB population that was non-White.

Centre level

The number of new patients starting RRT at each renal centre from 2009 to 2014 is shown in table 1.4. The table also shows centre level incidence rates (per million population) for 2014. For most centres there was a lot of variability in the numbers of incident patients from one year to the next making it hard to see any underlying trend. Some centres have had an increase in new patients over time and others have fallen. The variation may reflect chance fluctuation, the introduction of new centres, changes in catchment populations or in completeness of reporting. Variation over time may also be due to changing incidence of established renal failure (increases in underlying disease prevalence, survival

from comorbid conditions and recognition of ERF), changes to treatment thresholds such as a greater emphasis on pre-emptive transplantation or the introduction of conservative care programmes. Analysis of CKD stage 5 patients not yet on RRT is required to explore some of these underlying mechanisms for centre level incidence rate changes.

There was an increase of 11.2% in new patients for England between 2009 and 2014. Across all four countries the change between 2009 and 2014 was an increase of 9.8%.

2. Demographics and clinical characteristics of patients starting RRT

Methods

Age, gender, primary renal disease, ethnic origin and treatment modality were examined for patients starting RRT. A mixture of old and new (2012) ERA-EDTA codes for primary diagnoses [2] were received from centres. The split was about 50:50 for 2014 incident patients. For those people without an old code, new codes (where available) were mapped back to old codes using the mapping available on the ERA-EDTA website. As recommended in the notes for users in the ERA-EDTA's PRD code list document this mapping is provided for guidance only and has not been validated; therefore care must be taken not to over interpret data from this mapping. The codes were grouped into the same eight categories as in previous reports, the details are given in appendix H: Ethnicity and ERA-EDTA Coding (www.renalreg.org).

Most centres electronically upload ethnicity coding to their renal information technology (IT) system from the hospital Patient Administration System (PAS). Ethnicity coding in these PAS systems is based on self-reported ethnicity. For the remaining centres, ethnicity coding is performed by clinical staff and recorded directly into the renal IT system (using a variety of coding systems). For all these analyses, data on ethnic origin were grouped into White, South Asian, Black, Chinese or Other. The details of regrouping of the PAS codes into the above ethnic categories are provided in appendix H: Ethnicity and ERA-EDTA Coding (www.renalreg.org). Chi-squared, Fisher's exact, ANOVA and Kruskal Wallis tests were used as appropriate.

Estimated glomerular filtration rate (eGFR) at the start of RRT was studied amongst patients with eGFR data within 14 days before the start of RRT. The eGFR was calculated using the abbreviated 4 variable MDRD study equation [3]. For the purpose of the eGFR calculation, patients who had missing ethnicity but a valid serum creatinine measurement were classed as White. The eGFR values were log transformed due to their skewed distribution.

Results

Incidence rates had plateaued in the nine years before this report but they have increased in 2014 (figure 1.3).

Table 1.3. Crude adult incidence rates (pmp) and age/gender standardised incidence ratios 2009–2014

CCG/HB – CCG in England, Health and Social Care Areas in Northern Ireland, Local Health Boards in Wales and Health Boards in Scotland

O/E – standardised incidence ratio

LCL – lower 95% confidence limit

UCL – upper 95% confidence limit

pmp – per million population

* – per year

Areas with notably low incidence ratios over six years are italicised in greyed areas, those with notably high incidence ratios over six years are bold in greyed areas – for the full methodology see appendix D

Confidence intervals are not given for the crude rates per million population but figures D1 and D2 in appendix D can be used to determine if a CCG/HB falls within the 95% confidence interval around the national average rate

Mid-2013 population data from the Office for National Statistics, National Records of Scotland and the Northern Ireland Statistics and Research Agency – based on the 2011 census

% non-White – percentage of the CCG/HB population that is non-White, from 2011 census

UK area	CCG/HB	Total population (2013)	2009 O/E	2010 O/E	2011 O/E	2012 O/E	2013 O/E	2014		2009–2014			% non-White	
								Crude rate O/E	pmp	Crude rate O/E	LCL	UCL		pmp*
Cheshire, Warrington and Wirral	<i>NHS Eastern Cheshire</i>	195,500	0.75	0.86	0.75	0.70	0.64	0.76	102	0.74	0.61	0.90	93	3.7
	<i>NHS South Cheshire</i>	177,200	0.70	0.71	0.74	0.59	1.14	0.99	124	0.82	0.67	0.99	95	2.9
	<i>NHS Vale Royal</i>	102,000	0.88	0.81	0.88	0.78	1.27	0.16	20	0.79	0.61	1.03	90	2.1
	<i>NHS Warrington</i>	205,100	1.01	0.61	0.46	0.86	0.70	1.00	117	0.78	0.64	0.94	85	4.1
	<i>NHS West Cheshire</i>	229,000	0.90	1.19	1.04	0.81	0.94	0.85	109	0.95	0.81	1.11	114	2.8
	<i>NHS Wirral</i>	320,300	0.82	0.90	0.95	0.59	1.00	0.67	84	0.82	0.71	0.95	96	3.0
Durham, Darlington and Tees	<i>NHS Darlington</i>	105,400	0.95	0.97	0.94	1.28	0.83	0.55	66	0.92	0.72	1.17	103	3.8
	<i>NHS Durham Dales, Easington and Sedgfield</i>	272,900	0.99	1.04	1.10	0.84	1.00	0.95	121	0.99	0.86	1.14	117	1.2
	<i>NHS Hartlepool and Stockton-on-Tees</i>	285,900	0.70	0.81	0.92	1.07	0.85	0.93	108	0.88	0.76	1.03	96	4.4
	<i>NHS North Durham</i>	243,100	0.52	0.49	0.55	1.28	0.64	0.54	66	0.67	0.56	0.81	76	2.5
	<i>NHS South Tees</i>	273,900	0.78	1.08	0.94	0.97	1.20	0.83	99	0.97	0.83	1.12	106	6.7
Greater Manchester	<i>NHS Bolton</i>	280,100	0.85	1.41	0.94	0.90	0.88	0.64	71	0.93	0.80	1.09	96	18.1
	<i>NHS Bury</i>	186,500	0.82	0.68	0.71	1.36	0.79	1.12	129	0.92	0.76	1.11	98	10.8
	NHS Central Manchester	182,200	1.81	2.09	1.12	1.71	2.21	2.34	170	1.88	1.60	2.22	129	48.0
	<i>NHS Heywood, Middleton & Rochdale</i>	212,100	1.14	0.78	1.22	1.26	1.18	1.26	137	1.14	0.97	1.34	116	18.3
	NHS North Manchester	170,700	1.68	0.93	1.49	1.50	1.46	1.46	123	1.42	1.19	1.71	112	30.8
	<i>NHS Oldham</i>	227,300	0.86	0.84	1.03	0.71	0.96	1.24	132	0.94	0.79	1.12	94	22.5
	<i>NHS Salford</i>	239,000	0.97	1.36	0.74	0.87	1.10	0.81	84	0.97	0.82	1.15	94	9.9
	<i>NHS South Manchester</i>	161,500	0.83	1.00	1.18	1.19	1.23	0.90	80	1.05	0.85	1.30	89	19.6
	<i>NHS Stockport</i>	285,000	0.53	0.93	0.87	0.65	0.51	0.89	109	0.73	0.62	0.86	84	7.9
	<i>NHS Tameside and Glossop</i>	253,700	0.87	0.93	0.97	0.59	1.08	0.86	99	0.88	0.75	1.04	95	8.2
Lancashire	<i>NHS Trafford</i>	230,200	1.09	1.29	0.50	1.15	1.12	0.84	96	1.00	0.85	1.17	106	14.5
	<i>NHS Wigan Borough</i>	319,700	0.58	0.74	1.01	0.77	0.72	0.87	103	0.78	0.67	0.91	87	2.7
	<i>NHS Blackburn with Darwen</i>	147,400	0.89	0.98	1.46	1.23	0.92	0.74	75	1.03	0.83	1.27	97	30.8
	<i>NHS Blackpool</i>	141,400	1.00	0.64	0.86	1.47	1.13	1.13	141	1.04	0.86	1.27	121	3.3
	<i>NHS Chorley and South Ribble</i>	169,500	1.30	0.55	0.96	0.74	1.29	0.88	106	0.96	0.79	1.16	107	2.9
	<i>NHS East Lancashire</i>	372,300	0.83	0.75	0.92	0.54	0.87	1.07	126	0.83	0.73	0.96	91	11.9
	<i>NHS Fylde & Wyre</i>	165,800	0.87	0.70	0.54	0.77	0.79	0.96	139	0.77	0.64	0.94	105	2.1
	<i>NHS Greater Preston</i>	201,700	0.68	0.55	0.53	1.00	0.84	0.88	99	0.75	0.61	0.92	79	14.7
	<i>NHS Lancashire North</i>	159,500	0.62	0.57	1.00	0.66	0.59	0.62	75	0.68	0.54	0.85	77	4.0
<i>NHS West Lancashire</i>	111,300	0.62	0.56	0.85	0.76	0.67	0.64	81	0.68	0.52	0.89	81	1.9	

Table 1.3. Continued

UK area	CCG/HB	Total population (2013)	2009 O/E	2010 O/E	2011 O/E	2012 O/E	2013 O/E	2014		2009–2014				% non-White
								O/E	Crude rate pmp	O/E	LCL	UCL	Crude rate pmp*	
Merseyside	NHS Halton	126,000	1.07	0.86	1.52	0.97	0.95	1.04	119	1.07	0.87	1.32	114	2.2
	NHS Knowsley	146,100	0.73	0.87	1.11	1.29	0.69	1.68	192	1.07	0.88	1.30	114	2.8
	NHS Liverpool	470,800	1.20	0.86	1.09	1.20	1.00	1.19	125	1.09	0.98	1.22	107	11.1
	NHS South Sefton	158,900	0.78	1.30	1.37	1.04	1.27	1.36	170	1.19	1.00	1.41	138	2.2
	NHS Southport and Formby	114,300	0.81	0.62	0.94	0.73	1.36	0.86	122	0.89	0.72	1.11	118	3.1
	<i>NHS St Helens</i>	<i>176,200</i>	<i>0.70</i>	<i>0.93</i>	<i>0.75</i>	<i>0.89</i>	<i>0.63</i>	<i>0.96</i>	<i>119</i>	<i>0.81</i>	<i>0.66</i>	<i>0.99</i>	<i>94</i>	<i>2.0</i>
Cumbria, Northumberland, Tyne and Wear	<i>NHS Cumbria</i>	<i>504,100</i>	<i>0.61</i>	<i>0.74</i>	<i>0.57</i>	<i>0.62</i>	<i>0.91</i>	<i>0.80</i>	<i>109</i>	<i>0.71</i>	<i>0.63</i>	<i>0.80</i>	<i>90</i>	<i>1.5</i>
	<i>NHS Gateshead</i>	<i>200,000</i>	<i>0.91</i>	<i>0.79</i>	<i>0.76</i>	<i>0.89</i>	<i>0.52</i>	<i>0.70</i>	<i>85</i>	<i>0.76</i>	<i>0.62</i>	<i>0.92</i>	<i>86</i>	<i>3.7</i>
	NHS Newcastle North and East	143,900	1.03	0.88	0.85	0.70	0.45	0.79	76	0.78	0.61	1.01	71	10.7
	NHS Newcastle West	142,900	0.88	0.67	0.86	0.86	0.91	1.13	119	0.89	0.71	1.12	87	18.3
	<i>NHS North Tyneside</i>	<i>202,200</i>	<i>0.89</i>	<i>0.91</i>	<i>0.66</i>	<i>0.88</i>	<i>0.94</i>	<i>0.65</i>	<i>79</i>	<i>0.82</i>	<i>0.68</i>	<i>0.99</i>	<i>93</i>	<i>3.4</i>
	<i>NHS Northumberland</i>	<i>315,800</i>	<i>0.62</i>	<i>0.61</i>	<i>0.82</i>	<i>0.76</i>	<i>0.62</i>	<i>0.89</i>	<i>120</i>	<i>0.72</i>	<i>0.62</i>	<i>0.84</i>	<i>91</i>	<i>1.6</i>
	NHS South Tyneside	148,500	1.32	0.74	1.07	0.53	0.75	0.60	74	0.83	0.67	1.03	95	4.1
	<i>NHS Sunderland</i>	<i>276,100</i>	<i>0.96</i>	<i>1.05</i>	<i>0.75</i>	<i>0.88</i>	<i>0.60</i>	<i>0.90</i>	<i>109</i>	<i>0.85</i>	<i>0.73</i>	<i>1.00</i>	<i>96</i>	<i>4.1</i>
North Yorkshire and Humber	<i>NHS East Riding of Yorkshire</i>	<i>314,600</i>	<i>0.93</i>	<i>0.69</i>	<i>0.72</i>	<i>0.72</i>	<i>0.46</i>	<i>0.73</i>	<i>102</i>	<i>0.71</i>	<i>0.61</i>	<i>0.82</i>	<i>92</i>	<i>1.9</i>
	NHS Hambleton, Richmondshire and Whitby	153,600	0.91	0.76	0.69	1.20	0.92	0.82	111	0.88	0.73	1.07	111	2.7
	NHS Harrogate and Rural District	158,200	1.02	0.66	0.96	0.95	0.51	1.07	139	0.86	0.71	1.05	104	3.7
	NHS Hull	257,600	1.02	0.95	0.76	0.76	0.93	1.00	105	0.90	0.76	1.07	89	5.9
	NHS North East Lincolnshire	159,800	0.85	0.70	1.35	0.67	0.82	0.98	119	0.90	0.74	1.10	101	2.6
	NHS North Lincolnshire	168,800	0.73	0.70	1.50	1.13	1.05	0.48	59	0.93	0.77	1.12	108	4.0
	<i>NHS Scarborough and Ryedale</i>	<i>110,100</i>	<i>0.94</i>	<i>0.59</i>	<i>0.57</i>	<i>0.92</i>	<i>0.69</i>	<i>0.78</i>	<i>109</i>	<i>0.75</i>	<i>0.59</i>	<i>0.96</i>	<i>97</i>	<i>2.5</i>
	<i>NHS Vale of York</i>	<i>349,100</i>	<i>0.65</i>	<i>0.69</i>	<i>1.08</i>	<i>0.92</i>	<i>0.77</i>	<i>0.83</i>	<i>100</i>	<i>0.82</i>	<i>0.72</i>	<i>0.95</i>	<i>93</i>	<i>4.0</i>
South Yorkshire and Bassetlaw	NHS Barnsley	235,800	0.89	1.19	0.81	1.03	1.04	1.30	157	1.05	0.90	1.22	117	2.1
	NHS Bassetlaw	113,700	0.68	0.93	0.82	1.04	1.23	0.89	114	0.93	0.75	1.17	111	2.6
	NHS Doncaster	303,600	1.04	0.94	1.06	0.81	1.14	1.33	158	1.06	0.93	1.21	117	4.7
	NHS Rotherham	258,700	0.95	1.12	0.70	0.83	0.74	0.83	101	0.86	0.73	1.01	97	6.4
	NHS Sheffield	560,100	1.30	1.04	0.99	1.22	0.95	0.95	102	1.07	0.97	1.19	107	16.3
West Yorkshire	<i>NHS Airedale, Wharfedale and Craven</i>	<i>158,500</i>	<i>1.04</i>	<i>0.56</i>	<i>0.49</i>	<i>0.65</i>	<i>0.84</i>	<i>1.15</i>	<i>145</i>	<i>0.79</i>	<i>0.64</i>	<i>0.98</i>	<i>94</i>	<i>11.1</i>
	NHS Bradford City	82,700	0.38	3.33	1.88	2.65	2.59	3.19	218	2.34	1.87	2.94	151	72.2
	NHS Bradford Districts	334,600	0.97	1.18	1.08	1.39	1.05	1.14	117	1.14	0.99	1.30	108	28.7
	<i>NHS Calderdale</i>	<i>206,400</i>	<i>0.97</i>	<i>0.52</i>	<i>0.59</i>	<i>0.77</i>	<i>1.05</i>	<i>0.63</i>	<i>73</i>	<i>0.76</i>	<i>0.62</i>	<i>0.92</i>	<i>82</i>	<i>10.3</i>
	NHS Greater Huddersfield	240,400	0.72	0.82	0.91	1.10	0.92	1.02	116	0.92	0.78	1.08	98	17.4
	<i>NHS Leeds North</i>	<i>199,900</i>	<i>0.74</i>	<i>0.66</i>	<i>0.82</i>	<i>0.77</i>	<i>0.84</i>	<i>0.88</i>	<i>105</i>	<i>0.79</i>	<i>0.65</i>	<i>0.95</i>	<i>88</i>	<i>17.4</i>
	<i>NHS Leeds South and East</i>	<i>241,000</i>	<i>0.63</i>	<i>0.73</i>	<i>0.93</i>	<i>0.75</i>	<i>0.94</i>	<i>0.98</i>	<i>100</i>	<i>0.83</i>	<i>0.69</i>	<i>1.00</i>	<i>79</i>	<i>18.3</i>
	<i>NHS Leeds West</i>	<i>320,500</i>	<i>0.93</i>	<i>0.60</i>	<i>0.58</i>	<i>0.72</i>	<i>1.13</i>	<i>0.69</i>	<i>69</i>	<i>0.78</i>	<i>0.66</i>	<i>0.92</i>	<i>72</i>	<i>10.8</i>
	NHS North Kirklees	187,900	1.42	1.06	1.24	0.48	1.46	0.85	90	1.08	0.91	1.29	108	25.3
	NHS Wakefield	329,700	0.59	0.89	0.88	1.09	0.85	0.99	118	0.88	0.77	1.02	99	4.6
Arden, Herefordshire and Worcestershire	NHS Coventry and Rugby	431,200	1.57	1.33	1.45	1.76	1.30	1.13	118	1.42	1.28	1.57	140	22.2
	NHS Herefordshire	186,100	1.14	0.72	0.82	0.90	0.80	0.79	107	0.86	0.72	1.03	108	1.8
	NHS Redditch and Bromsgrove	179,300	1.31	0.98	0.80	1.23	0.72	0.73	89	0.95	0.80	1.14	109	6.0
	<i>NHS South Warwickshire</i>	<i>259,200</i>	<i>0.80</i>	<i>0.75</i>	<i>1.02</i>	<i>0.65</i>	<i>0.57</i>	<i>0.85</i>	<i>108</i>	<i>0.77</i>	<i>0.66</i>	<i>0.91</i>	<i>92</i>	<i>7.0</i>
	<i>NHS South Worcestershire</i>	<i>294,500</i>	<i>0.86</i>	<i>0.67</i>	<i>0.71</i>	<i>0.84</i>	<i>0.77</i>	<i>0.91</i>	<i>119</i>	<i>0.80</i>	<i>0.68</i>	<i>0.92</i>	<i>97</i>	<i>3.7</i>
	NHS Warwickshire North	188,100	0.96	1.62	1.09	0.80	0.73	1.53	186	1.12	0.95	1.32	128	6.5
	NHS Wyre Forest	98,400	1.16	0.93	1.07	0.89	0.63	1.43	193	1.02	0.82	1.28	129	2.8

Table 1.3. Continued

UK area	CCG/HB	Total population (2013)	2009 O/E	2010 O/E	2011 O/E	2012 O/E	2013 O/E	2014		2009–2014				% non-White
								O/E	Crude rate pmp	O/E	LCL	UCL	Crude rate pmp*	
Birmingham and the Black Country	NHS Birmingham CrossCity	725,400	1.54	1.36	1.61	1.48	1.44	1.47	145	1.48	1.37	1.61	136	35.2
	NHS Birmingham South and Central	201,200	1.87	1.49	1.83	1.55	1.63	1.81	169	1.70	1.47	1.97	148	40.4
	NHS Dudley	314,400	1.39	0.81	0.84	1.20	1.20	0.90	111	1.06	0.93	1.20	121	10.0
	NHS Sandwell and West Birmingham	480,100	2.03	1.83	1.67	1.46	1.54	1.73	167	1.71	1.56	1.87	154	45.3
	NHS Solihull	208,900	1.35	0.99	0.67	1.00	0.89	0.88	110	0.96	0.82	1.14	112	10.9
	NHS Walsall	272,200	1.09	1.95	1.22	1.35	1.59	0.96	110	1.35	1.19	1.54	145	21.1
	NHS Wolverhampton	251,600	1.14	1.48	1.16	1.51	1.05	1.54	171	1.31	1.15	1.51	136	32.0
Derbyshire and Nottinghamshire	NHS Erewash	94,900	1.36	0.89	1.15	1.33	1.30	0.70	84	1.12	0.89	1.41	125	3.2
	NHS Hardwick	109,300	1.03	0.41	0.71	0.86	0.76	0.79	101	0.76	0.59	0.98	90	1.8
	NHS Mansfield & Ashfield	193,900	1.09	0.92	0.75	0.83	0.81	1.03	124	0.91	0.76	1.08	101	2.5
	NHS Newark & Sherwood	117,000	0.95	0.97	1.30	0.93	0.49	0.73	94	0.89	0.71	1.12	107	2.4
	NHS North Derbyshire	272,200	0.49	0.69	0.94	0.78	0.76	0.61	81	0.71	0.60	0.84	88	2.5
	NHS Nottingham City	310,800	1.29	1.59	1.11	1.23	1.27	1.28	116	1.29	1.13	1.48	109	28.5
	NHS Nottingham North & East	147,600	1.16	0.87	0.78	0.72	0.70	0.55	68	0.79	0.63	0.98	90	6.2
	NHS Nottingham West	111,200	1.11	0.97	0.55	1.09	1.21	0.86	108	0.96	0.77	1.21	112	7.3
	NHS Rushcliffe	112,800	0.78	0.95	1.15	0.38	1.04	0.42	53	0.78	0.61	1.00	92	6.9
NHS Southern Derbyshire	518,200	1.09	0.97	1.03	1.13	0.87	0.94	110	1.00	0.90	1.12	109	11.0	
East Anglia	NHS Cambridgeshire and Peterborough	855,000	1.07	0.78	0.91	0.67	1.06	0.79	90	0.88	0.80	0.96	93	9.5
	NHS Great Yarmouth & Waveney	213,800	0.86	1.07	1.15	0.96	0.94	0.79	108	0.96	0.82	1.12	122	2.7
	NHS Ipswich and East Suffolk	396,100	0.84	0.68	0.62	0.89	0.91	0.71	91	0.78	0.68	0.89	93	5.6
	NHS North Norfolk	168,500	0.47	0.78	0.51	0.76	0.82	0.85	131	0.70	0.58	0.85	100	1.5
	NHS Norwich	195,000	1.19	1.16	1.12	0.88	0.76	0.91	103	1.00	0.84	1.19	106	7.3
	NHS South Norfolk	237,400	0.59	0.67	0.96	0.82	0.96	0.72	97	0.79	0.67	0.93	98	2.6
	NHS West Norfolk	171,500	0.68	0.83	0.63	0.67	0.61	0.86	122	0.71	0.59	0.87	94	2.6
	NHS West Suffolk	223,800	0.87	0.85	0.70	0.89	0.83	0.61	76	0.79	0.66	0.94	92	4.6
Essex	NHS Basildon and Brentwood	252,800	0.90	0.88	1.03	1.25	0.89	1.02	119	0.99	0.85	1.16	108	7.1
	NHS Castle Point, Rayleigh and Rochford	172,500	0.57	0.87	0.75	0.69	1.17	0.73	99	0.80	0.66	0.97	100	3.0
	NHS Mid Essex	381,500	0.87	0.84	0.98	0.81	0.72	0.81	100	0.84	0.73	0.96	96	4.4
	NHS North East Essex	316,300	0.89	1.02	1.25	0.95	0.85	1.13	145	1.01	0.89	1.15	122	5.5
	NHS Southend	175,800	0.64	0.65	0.84	0.94	1.12	0.72	85	0.82	0.67	1.00	90	8.4
	NHS Thurrock	160,800	0.47	1.17	1.20	0.79	0.90	1.10	112	0.94	0.76	1.16	89	14.1
	NHS West Essex	293,200	0.83	0.62	0.72	1.19	1.03	1.10	130	0.92	0.79	1.07	101	8.2
Hertfordshire and the South Midlands	NHS Bedfordshire	425,900	0.85	0.87	0.73	0.97	1.01	0.96	110	0.90	0.79	1.02	97	11.2
	NHS Corby	64,200	1.31	1.34	1.13	0.80	0.62	1.04	109	1.04	0.76	1.42	101	4.5
	NHS East and North Hertfordshire	546,300	0.70	0.89	1.06	0.70	1.09	1.06	119	0.92	0.82	1.03	97	10.4
	NHS Herts Valleys	575,800	0.93	0.84	0.78	0.88	0.90	1.10	122	0.91	0.81	1.01	94	14.6
	NHS Luton	208,000	1.07	1.09	1.39	1.22	2.00	1.54	144	1.39	1.19	1.63	122	45.3
	NHS Milton Keynes	261,400	0.90	1.05	0.97	1.13	0.90	1.20	119	1.03	0.87	1.20	94	19.6
	NHS Nene	626,600	0.81	0.75	0.90	1.08	0.98	0.96	110	0.92	0.83	1.02	98	9.1
Leicestershire and Lincolnshire	NHS East Leicestershire and Rutland	321,900	0.54	0.71	0.72	0.98	0.90	0.78	99	0.77	0.67	0.90	92	9.8
	NHS Leicester City	333,800	1.51	1.72	1.80	1.62	1.72	1.21	111	1.59	1.42	1.79	136	49.5
	NHS Lincolnshire East	229,400	0.69	0.78	0.88	0.75	1.08	0.57	83	0.79	0.67	0.93	107	2.0
	NHS Lincolnshire West	229,600	0.59	0.64	0.74	0.42	0.79	0.57	70	0.63	0.51	0.76	71	3.0
	NHS South Lincolnshire	142,600	0.81	1.18	0.97	0.91	0.66	0.68	91	0.86	0.70	1.06	108	2.3
	NHS South West Lincolnshire	122,800	0.97	0.92	0.96	0.68	0.86	0.50	65	0.81	0.64	1.02	98	2.3
	NHS West Leicestershire	377,300	0.94	1.11	0.91	0.52	0.81	1.01	122	0.88	0.78	1.01	99	6.9

Table 1.3. Continued

UK area	CCG/HB	Total population (2013)	2009 O/E	2010 O/E	2011 O/E	2012 O/E	2013 O/E	2014		2009–2014				% non-White
								O/E	pmp	O/E	LCL	UCL	Crude rate pmp*	
Shropshire and Staffordshire	NHS Cannock Chase	133,600	0.48	1.12	1.15	0.81	1.18	0.75	90	0.91	0.73	1.13	102	2.4
	NHS East Staffordshire	124,600	0.66	1.51	0.95	0.72	1.13	0.87	104	0.97	0.78	1.21	108	9.0
	NHS North Staffordshire	214,400	1.12	0.69	1.10	0.59	0.88	1.01	131	0.90	0.76	1.06	108	3.5
	NHS Shropshire	308,600	0.69	0.92	0.97	0.76	1.02	0.89	120	0.88	0.76	1.01	110	2.0
	NHS South East Staffs and Seisdon and Peninsular	224,500	0.81	0.71	0.99	0.72	0.63	0.77	98	0.77	0.64	0.92	91	3.6
	NHS Stafford and Surrounds	151,700	1.10	1.13	0.82	0.92	0.90	0.85	112	0.95	0.78	1.15	116	4.7
	NHS Stoke on Trent	258,400	1.40	1.39	1.04	0.85	1.12	1.44	163	1.21	1.05	1.39	127	11.0
	NHS Telford & Wrekin	168,500	1.24	1.39	1.11	1.22	1.24	1.29	142	1.25	1.05	1.48	129	7.3
London	NHS Barking & Dagenham	194,400	1.42	1.39	1.67	2.06	1.62	2.11	175	1.72	1.47	2.01	134	41.7
	NHS Barnet	369,100	1.25	1.77	1.44	1.52	1.26	1.36	135	1.43	1.28	1.60	133	35.9
	NHS Camden	229,700	1.39	1.69	1.17	1.22	1.39	1.23	113	1.35	1.15	1.57	116	33.7
	NHS City and Hackney	265,000	1.90	1.63	1.77	2.13	1.93	2.30	177	1.95	1.71	2.22	142	44.6
	NHS Enfield	320,500	1.34	1.38	1.99	1.63	1.63	1.58	153	1.60	1.42	1.80	144	39.0
	NHS Haringey	263,400	1.01	1.48	1.76	2.37	2.31	1.73	148	1.78	1.57	2.03	144	39.5
	NHS Havering	242,100	0.70	0.36	1.19	1.06	0.81	0.95	112	0.85	0.72	1.00	93	12.3
	NHS Islington	215,700	1.50	1.54	1.59	2.13	1.55	1.16	97	1.57	1.35	1.83	124	31.8
	NHS Newham	318,200	2.13	2.37	2.27	2.05	2.30	2.51	185	2.27	2.03	2.55	158	71.0
	NHS Redbridge	288,300	1.77	1.53	1.39	2.18	2.05	1.51	142	1.74	1.54	1.96	153	57.5
	NHS Tower Hamlets	272,900	1.75	1.51	1.77	2.07	2.23	2.47	172	1.98	1.73	2.26	131	54.8
	NHS Waltham Forest	265,800	1.40	1.24	1.84	1.28	1.70	2.14	188	1.61	1.41	1.84	133	47.8
	NHS Brent	317,300	2.23	2.71	2.13	2.49	1.99	2.66	246	2.37	2.14	2.62	205	63.7
	NHS Central London (Westminster)	162,700	1.39	1.36	1.37	1.24	1.46	1.15	117	1.33	1.11	1.58	126	36.2
	NHS Ealing	342,500	2.34	2.02	1.92	2.27	1.66	1.84	172	2.00	1.81	2.22	176	51.0
	NHS Hammersmith and Fulham	178,700	1.32	1.57	1.44	1.51	1.00	1.47	129	1.38	1.16	1.65	114	31.9
	NHS Harrow	243,400	2.05	2.14	2.24	1.59	1.06	1.56	164	1.76	1.56	2.00	174	57.8
	NHS Hillingdon	286,800	1.24	1.51	1.49	1.52	1.45	1.03	101	1.37	1.20	1.56	126	39.4
	NHS Hounslow	262,400	1.62	1.85	1.87	1.77	2.07	1.32	122	1.75	1.54	1.98	151	48.6
	NHS West London (Kensington and Chelsea, Queen's Park and Paddington)	219,800	1.19	1.28	1.23	0.93	1.00	1.56	155	1.20	1.02	1.41	112	33.4
	NHS Bexley	236,700	1.30	1.37	1.20	0.86	1.04	1.03	114	1.13	0.97	1.32	117	18.1
	NHS Bromley	317,900	0.99	1.14	0.69	0.71	0.84	1.02	116	0.90	0.78	1.04	96	15.7
	NHS Croydon	372,800	1.64	1.44	1.27	2.02	1.97	1.90	188	1.71	1.54	1.90	158	44.9
	NHS Greenwich	264,000	1.36	2.12	1.07	1.25	2.47	1.29	114	1.59	1.39	1.82	131	37.5
	NHS Kingston	166,800	0.93	0.88	0.98	1.11	1.15	1.15	114	1.04	0.85	1.27	96	25.5
	NHS Lambeth	314,200	1.84	1.41	1.81	1.73	1.44	1.94	156	1.70	1.50	1.92	129	42.9
	NHS Lewisham	286,200	2.28	1.49	1.83	1.91	1.52	1.54	133	1.76	1.55	1.99	143	46.5
	NHS Merton	203,200	1.40	1.21	1.55	1.76	1.24	1.39	133	1.42	1.22	1.67	128	35.1
	NHS Richmond	191,400	0.81	0.89	0.70	0.80	0.99	0.79	84	0.83	0.68	1.02	82	14.0
NHS Southwark	298,500	1.53	1.89	2.04	1.82	2.32	1.94	157	1.93	1.71	2.17	147	45.8	
NHS Sutton	195,900	0.99	1.45	1.30	1.54	0.80	1.72	184	1.30	1.11	1.53	130	21.4	
NHS Wandsworth	310,500	1.99	1.50	1.23	1.35	0.96	1.58	132	1.44	1.25	1.64	113	28.6	
Bath, Gloucestershire, Swindon and Wiltshire	NHS Bath and North East Somerset	180,100	1.24	0.63	0.56	0.92	0.94	0.71	83	0.83	0.68	1.01	92	5.4
	NHS Gloucestershire	605,700	1.14	0.90	0.89	1.18	0.71	0.63	79	0.90	0.82	1.00	106	4.6
	NHS Swindon	219,300	1.07	1.04	1.15	1.23	0.93	1.18	128	1.10	0.93	1.29	111	10.0
	NHS Wiltshire	479,600	0.78	0.81	0.64	0.47	0.78	0.82	102	0.72	0.63	0.82	83	3.4

Table 1.3. Continued

UK area	CCG/HB	Total population (2013)	2009 O/E	2010 O/E	2011 O/E	2012 O/E	2013 O/E	2014		2009–2014				% non-White
								O/E	Crude rate pmp	O/E	LCL	UCL	Crude rate pmp*	
Bristol, North Somerset, Somerset and South Gloucestershire	NHS Bristol	437,500	1.26	1.50	1.42	1.22	1.36	1.09	105	1.30	1.17	1.46	118	16.0
	NHS North Somerset	206,100	0.97	0.99	0.88	1.03	1.04	1.06	141	1.00	0.85	1.17	123	2.7
	<i>NHS Somerset</i>	<i>538,100</i>	<i>1.07</i>	<i>1.08</i>	<i>0.85</i>	<i>0.68</i>	<i>0.56</i>	<i>0.85</i>	<i>113</i>	<i>0.84</i>	<i>0.76</i>	<i>0.94</i>	<i>105</i>	<i>2.0</i>
	<i>NHS South Gloucestershire</i>	<i>269,100</i>	<i>0.66</i>	<i>1.09</i>	<i>0.61</i>	<i>0.81</i>	<i>1.16</i>	<i>0.69</i>	<i>82</i>	<i>0.84</i>	<i>0.71</i>	<i>0.98</i>	<i>92</i>	<i>5.0</i>
Devon, Cornwall and Isles of Scilly	<i>NHS Kernow</i>	<i>543,600</i>	<i>1.07</i>	<i>0.90</i>	<i>0.81</i>	<i>0.95</i>	<i>0.84</i>	<i>0.81</i>	<i>110</i>	<i>0.89</i>	<i>0.81</i>	<i>0.99</i>	<i>113</i>	<i>1.8</i>
	NHS North, East, West Devon	874,300	1.06	1.00	0.92	1.00	0.83	0.90	117	0.95	0.88	1.03	115	3.0
	NHS South Devon and Torbay	275,000	0.87	1.27	0.89	1.11	1.00	0.84	120	0.99	0.87	1.13	132	2.1
Kent and Medway	NHS Ashford	121,700	0.93	0.95	0.84	1.29	1.11	0.98	115	1.02	0.82	1.26	111	6.3
	NHS Canterbury and Coastal	202,400	1.08	0.96	0.84	0.57	0.94	1.18	143	0.93	0.78	1.11	105	5.9
	NHS Dartford, Gravesham and Swanley	251,900	1.15	0.98	0.87	0.98	1.47	0.94	107	1.07	0.92	1.24	113	13.0
	NHS Medway	271,100	0.91	0.74	0.90	0.78	1.12	0.97	103	0.91	0.77	1.06	90	10.4
	NHS South Kent Coast	203,600	0.70	0.92	1.02	0.61	0.79	1.08	142	0.86	0.72	1.02	105	4.5
	NHS Swale	109,600	1.30	1.06	0.60	1.36	0.83	1.10	128	1.04	0.83	1.31	112	3.8
	NHS Thanet	136,800	1.19	1.47	0.86	1.04	1.62	0.97	124	1.19	0.99	1.42	143	4.5
	<i>NHS West Kent</i>	<i>467,500</i>	<i>0.81</i>	<i>0.71</i>	<i>0.86</i>	<i>0.60</i>	<i>0.70</i>	<i>0.93</i>	<i>111</i>	<i>0.77</i>	<i>0.68</i>	<i>0.87</i>	<i>86</i>	<i>4.9</i>
Surrey and Sussex	NHS Brighton & Hove	278,100	1.10	0.84	0.93	1.16	0.79	1.15	115	1.00	0.85	1.17	93	10.9
	<i>NHS Coastal West Sussex</i>	<i>480,200</i>	<i>0.69</i>	<i>0.50</i>	<i>0.65</i>	<i>0.79</i>	<i>0.79</i>	<i>0.98</i>	<i>137</i>	<i>0.74</i>	<i>0.66</i>	<i>0.83</i>	<i>96</i>	<i>3.8</i>
	NHS Crawley	109,000	1.42	1.97	0.50	0.80	1.07	1.30	128	1.17	0.93	1.48	109	20.1
	NHS East Surrey	177,900	0.69	1.31	0.74	1.26	0.92	0.83	96	0.95	0.79	1.15	103	8.3
	<i>NHS Eastbourne, Hailsham and Seaford</i>	<i>183,500</i>	<i>0.51</i>	<i>0.61</i>	<i>0.84</i>	<i>1.05</i>	<i>1.19</i>	<i>0.74</i>	<i>104</i>	<i>0.82</i>	<i>0.69</i>	<i>0.99</i>	<i>108</i>	<i>4.4</i>
	<i>NHS Guildford and Waverley</i>	<i>207,800</i>	<i>1.00</i>	<i>0.69</i>	<i>0.71</i>	<i>1.16</i>	<i>0.52</i>	<i>0.78</i>	<i>91</i>	<i>0.81</i>	<i>0.67</i>	<i>0.98</i>	<i>88</i>	<i>7.2</i>
	<i>NHS Hastings & Rother</i>	<i>181,800</i>	<i>0.62</i>	<i>0.76</i>	<i>0.96</i>	<i>0.78</i>	<i>1.22</i>	<i>0.64</i>	<i>88</i>	<i>0.83</i>	<i>0.69</i>	<i>1.00</i>	<i>106</i>	<i>4.6</i>
	<i>NHS High Weald Lewes Havens</i>	<i>169,100</i>	<i>0.74</i>	<i>0.65</i>	<i>0.68</i>	<i>0.91</i>	<i>0.61</i>	<i>0.98</i>	<i>130</i>	<i>0.77</i>	<i>0.63</i>	<i>0.94</i>	<i>95</i>	<i>3.1</i>
	<i>NHS Horsham and Mid Sussex</i>	<i>225,300</i>	<i>0.76</i>	<i>0.74</i>	<i>0.80</i>	<i>0.51</i>	<i>0.77</i>	<i>0.84</i>	<i>102</i>	<i>0.74</i>	<i>0.61</i>	<i>0.89</i>	<i>84</i>	<i>4.9</i>
	NHS North West Surrey	340,200	0.83	1.14	1.29	0.90	0.93	1.22	141	1.05	0.93	1.20	114	12.5
	NHS Surrey Downs	284,700	1.09	0.96	0.96	0.86	1.04	0.96	119	0.98	0.85	1.13	113	9.1
<i>NHS Surrey Heath</i>	<i>94,400</i>	<i>1.16</i>	<i>0.79</i>	<i>0.77</i>	<i>0.76</i>	<i>0.46</i>	<i>0.44</i>	<i>53</i>	<i>0.72</i>	<i>0.54</i>	<i>0.97</i>	<i>81</i>	<i>9.3</i>	
Thames Valley	<i>NHS Aylesbury Vale</i>	<i>199,500</i>	<i>0.57</i>	<i>0.98</i>	<i>1.04</i>	<i>0.75</i>	<i>0.68</i>	<i>0.78</i>	<i>90</i>	<i>0.80</i>	<i>0.66</i>	<i>0.97</i>	<i>86</i>	<i>9.7</i>
	NHS Bracknell and Ascot	134,400	0.77	1.03	0.76	0.38	1.18	0.98	104	0.85	0.67	1.08	84	9.5
	<i>NHS Chiltern</i>	<i>319,400</i>	<i>1.15</i>	<i>0.68</i>	<i>0.68</i>	<i>0.73</i>	<i>0.96</i>	<i>0.78</i>	<i>94</i>	<i>0.83</i>	<i>0.72</i>	<i>0.96</i>	<i>93</i>	<i>15.8</i>
	NHS Newbury and District	105,700	1.09	0.65	0.63	0.71	1.13	0.91	104	0.86	0.66	1.11	91	4.4
	<i>NHS North & West Reading</i>	<i>99,900</i>	<i>0.28</i>	<i>0.29</i>	<i>0.94</i>	<i>0.93</i>	<i>0.63</i>	<i>1.03</i>	<i>120</i>	<i>0.69</i>	<i>0.52</i>	<i>0.93</i>	<i>75</i>	<i>10.4</i>
	NHS Oxfordshire	652,300	1.01	0.90	1.01	0.98	0.88	0.84	95	0.94	0.85	1.04	99	9.3
	NHS Slough	143,000	1.88	2.03	2.22	1.77	1.81	1.73	147	1.90	1.60	2.26	151	54.3
	NHS South Reading	109,000	1.31	1.34	1.17	1.18	2.41	1.65	138	1.52	1.21	1.89	119	30.5
	NHS Windsor, Ascot and Maidenhead	139,900	1.17	0.92	1.23	0.61	1.32	1.20	136	1.08	0.88	1.32	114	14.7
	NHS Wokingham	157,900	0.78	0.80	1.32	0.47	0.81	0.77	89	0.82	0.66	1.02	89	11.6
Wessex	<i>NHS Dorset</i>	<i>754,500</i>	<i>0.63</i>	<i>0.61</i>	<i>0.72</i>	<i>0.71</i>	<i>0.71</i>	<i>0.71</i>	<i>97</i>	<i>0.68</i>	<i>0.62</i>	<i>0.76</i>	<i>87</i>	<i>4.0</i>
	NHS Fareham and Gosport	197,100	1.10	1.13	0.79	0.78	1.01	1.08	137	0.98	0.83	1.16	116	3.4
	<i>NHS Isle of Wight</i>	<i>138,400</i>	<i>0.11</i>	<i>0.63</i>	<i>0.77</i>	<i>0.87</i>	<i>1.28</i>	<i>0.86</i>	<i>123</i>	<i>0.76</i>	<i>0.61</i>	<i>0.94</i>	<i>101</i>	<i>2.7</i>
	NHS North East Hampshire and Farnham	207,500	0.90	0.87	0.84	1.16	1.17	0.90	101	0.97	0.82	1.16	102	9.7
	<i>NHS North Hampshire</i>	<i>217,800</i>	<i>0.53</i>	<i>0.72</i>	<i>0.70</i>	<i>0.47</i>	<i>0.71</i>	<i>1.00</i>	<i>115</i>	<i>0.69</i>	<i>0.57</i>	<i>0.84</i>	<i>74</i>	<i>6.4</i>
	NHS Portsmouth	207,500	0.64	0.54	1.30	1.10	1.12	0.92	92	0.94	0.78	1.14	88	11.6

Table 1.3. Continued

UK area	CCG/HB	Total population (2013)	2009 O/E	2010 O/E	2011 O/E	2012 O/E	2013 O/E	2014		2009–2014				% non-White
								O/E	Crude rate pmp	O/E	LCL	UCL	Crude rate pmp*	
Wessex cont.	NHS South Eastern Hampshire	209,900	1.04	1.06	0.75	0.63	0.96	1.09	143	0.92	0.78	1.09	113	3.1
	NHS Southampton	242,100	0.80	1.24	1.15	0.88	0.63	0.99	95	0.95	0.79	1.13	85	14.1
	NHS West Hampshire	548,000	0.66	0.47	0.67	0.62	0.66	0.75	99	0.64	0.57	0.72	78	3.9
Wales	Betsi Cadwaladr University	692,000	0.96	0.98	0.82	1.00	0.90	1.06	137	0.95	0.87	1.04	115	2.5
	Powys Teaching	132,700	1.04	0.71	1.26	1.25	0.72	0.58	83	0.92	0.76	1.12	123	1.6
	Hywel Dda	383,900	0.77	1.12	1.23	0.89	1.07	1.13	151	1.04	0.93	1.16	129	2.2
	Abertawe Bro Morgannwg University	520,700	1.53	1.51	1.17	1.43	1.05	0.74	90	1.23	1.12	1.35	139	3.9
	Cwm Taf	295,100	1.26	1.00	1.44	0.90	1.12	1.12	132	1.14	1.00	1.30	125	2.6
	Aneurin Bevan	579,100	0.96	1.30	1.20	1.17	1.04	1.17	142	1.14	1.04	1.25	128	3.9
	Cardiff and Vale University	478,900	1.15	1.31	1.01	1.01	1.11	0.91	96	1.08	0.97	1.21	106	12.2
Scotland	Ayrshire and Arran	372,200	0.89	1.12	0.82	0.94	0.98	0.83	107	0.93	0.82	1.05	112	1.2
	Borders	113,900	0.91	1.07	0.55	0.55	0.47	0.57	79	0.68	0.53	0.88	88	1.3
	Dumfries and Galloway	150,300	1.09	0.59	0.57	1.02	0.45	1.14	160	0.81	0.67	0.99	106	1.2
	Fife	366,900	1.22	1.25	1.16	0.86	1.01	0.95	117	1.07	0.95	1.21	123	2.4
	Forth Valley	299,700	0.98	1.04	0.82	0.84	1.00	0.92	110	0.93	0.81	1.08	104	2.2
	Grampian	579,200	0.85	0.85	0.82	0.83	0.91	0.76	88	0.84	0.75	0.93	91	4.0
	Greater Glasgow and Clyde	1,137,900	1.03	0.90	1.09	1.12	0.91	0.95	107	1.00	0.93	1.08	105	7.3
	Highland	321,000	0.73	0.64	0.51	0.61	0.67	0.54	72	0.61	0.52	0.72	76	1.3
	Lanarkshire	652,600	0.82	0.94	0.83	1.07	0.94	0.90	106	0.92	0.83	1.01	100	2.0
	Lothian	849,700	0.83	0.62	0.72	0.75	0.60	0.76	84	0.71	0.64	0.79	74	5.6
	Orkney	21,600	1.14	0.39	0.00	1.86	0.73	0.00	0	0.68	0.38	1.22	85	0.7
	Shetland	23,200	0.78	0.40	0.77	0.00	0.75	1.06	129	0.63	0.34	1.18	72	1.5
	Tayside	412,200	1.26	1.02	1.18	0.67	0.86	0.93	116	0.98	0.87	1.10	115	3.2
Western Isles	27,400	0.87	1.48	0.00	0.00	1.11	1.58	219	0.85	0.53	1.34	109	0.9	
Northern Ireland	Belfast	349,600	0.78	1.31	1.06	1.65	1.15	0.82	86	1.12	0.99	1.28	110	3.2
	Northern	466,700	0.83	1.09	1.24	1.13	1.04	1.01	111	1.05	0.94	1.18	109	1.2
	Southern	365,700	0.77	1.03	1.29	0.81	0.85	0.76	77	0.92	0.79	1.05	87	1.2
	South Eastern	350,800	0.66	0.71	0.93	0.78	0.92	0.73	83	0.79	0.68	0.92	84	1.3
	Western	296,900	1.25	0.87	0.99	0.59	0.99	1.07	111	0.96	0.82	1.12	93	1.0

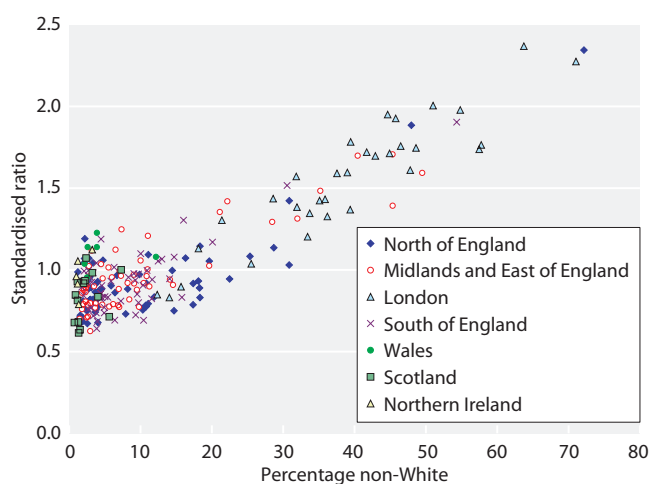


Fig. 1.2. Age/gender standardised incidence ratio (2009–2014) by percentage non-White

Figure 1.4 shows RRT incidence rates for 2014 by age group and gender. For both men and women, the peak rate was in the 75–79 age group. Showing numbers starting RRT (rather than rates); figure 1.5 shows that the 65–74 age group contained the most incident patients for both HD and PD.

Age

In 2014, the median age of patients starting renal replacement therapy was 64.8 years (table 1.5) and this has changed little over the last seven years. Per modality, the median age at start was 67.1 years for patients starting on HD, 61.4 for patients starting on PD and 49.9 for those having a pre-emptive transplant (table 1.6). For those starting on PD the median age at start increased by 1.7 years from the 59.7 years seen for those starting in

Table 1.4. Number of patients starting RRT by renal centre 2009–2014

Centre	Year						Catchment population (millions)	2014 crude rate pmp ^a	(95% CI)
	2009	2010	2011	2012	2013	2014			
England									
B Heart	99	94	113	101	99	98	0.74	133	(106–159)
B QEH	253	196	213	213	200	242	1.70	142	(124–160)
Basldn	28	35	44	53	33	46	0.42	111	(79–143)
Bradfd	56	66	60	70	63	83	0.65	127	(100–155)
Brightn	116	105	119	133	139	147	1.30	113	(95–132)
Bristol	156	168	141	148	173	148	1.44	103	(86–119)
Camb	134	105	122	123	136	127	1.16	110	(91–129)
Carlis	28	22	27	19	42	38	0.32	118	(81–156)
Carsh	202	216	207	244	229	273	1.91	143	(126–160)
Chelms	51	45	48	46	46	52	0.51	102	(74–130)
Colchr	23	32	44	29	29	38	0.30	127	(87–167)
Covnt	114	113	111	114	91	125	0.89	140	(116–165)
Derby	78	79	75	80	74	75	0.70	107	(83–131)
Donc	40	45	42	41	60	54	0.41	132	(97–167)
Dorset	73	72	79	73	72	76	0.86	88	(68–108)
Dudley	67	43	43	56	51	41	0.44	93	(64–121)
Exeter	144	139	112	135	100	139	1.09	128	(106–149)
Glouc	79	61	58	76	53	51	0.59	87	(63–111)
Hull	98	86	109	95	91	98	1.02	96	(77–115)
Ipswi	38	33	29	44	40	33	0.40	83	(54–111)
Kent	126	131	121	115	146	151	1.22	123	(104–143)
L Barts	236	200	250	268	286	310	1.83	169	(151–188)
L Guys	172	142	121	128	133	159	1.08	147	(124–170)
L Kings	125	144	138	124	167	148	1.17	126	(106–147)
L Rfree	169	203	220	235	226	229	1.52	151	(131–170)
L St.G	110	85	72	94	84	91	0.80	114	(91–137)
L West	356	364	364	354	302	357	2.40	149	(133–164)
Leeds	146	125	155	154	184	169	1.67	101	(86–116)
Leic	226	243	266	235	289	254	2.44	104	(91–117)
Liv Ain	38	48	58	63	65	67	0.48	138	(105–172)
Liv Roy	109	98	111	104	95	137	1.00	137	(114–160)
M RI	145	159	154	161	200	190	1.53	124	(106–142)
Middlbr	96	100	101	120	111	103	1.00	103	(83–122)
Newc	97	91	98	103	92	107	1.12	95	(77–114)
Norwch	71	85	86	75	77	79	0.79	100	(78–123)
Nottm	131	116	114	100	113	111	1.09	102	(83–121)
Oxford	174	164	177	170	166	189	1.69	112	(96–128)
Plymth	57	56	60	55	64	53	0.47	113	(82–143)
Ports	147	147	187	159	195	225	2.02	111	(97–126)
Prestn	145	122	139	146	150	153	1.49	102	(86–119)
Redng	94	89	103	73	117	107	0.91	118	(95–140)
Salford ^b	125	145	131	134	114	146	1.49	98	(82–114)
Sheff	148	141	135	156	136	151	1.37	110	(93–128)
Shrew	48	57	61	58	59	65	0.50	130	(98–161)
Stevng	98	105	110	109	156	152	1.20	126	(106–146)
Sthend	23	27	29	26	42	30	0.32	95	(61–129)
Stoke	108	95	91	74	105	112	0.89	126	(103–149)
Sund	64	54	57	71	51	63	0.62	102	(77–127)
Truro	58	46	39	49	44	39	0.41	94	(65–124)
Wirral	63	60	60	44	66	56	0.57	98	(72–124)
Wolve	65	106	77	87	91	79	0.67	118	(92–144)
York	43	38	51	53	36	64	0.49	130	(98–162)

Table 1.4. Continued

Centre	Year						Catchment population (millions)	2014 crude rate pmp ^a	(95% CI)
	2009	2010	2011	2012	2013	2014			
N Ireland									
Antrim	22	38	29	25	29	35	0.29	119	(79–158)
Belfast	59	70	68	93	72	63	0.64	99	(74–123)
Newry	19	21	36	17	23	19	0.26	73	(40–105)
Ulster	13	20	36	28	30	20	0.27	75	(42–108)
West NI	37	27	35	22	30	35	0.35	99	(67–132)
Scotland									
Abrdn	55	51	50	53	58	53	0.60	88	(65–112)
Airdrie	47	56	48	60	52	52	0.55	94	(69–120)
D & Gall	17	10	10	18	9	21	0.15	141	(81–202)
Dundee	68	50	59	38	42	49	0.46	106	(76–135)
Edinb	96	69	76	80	72	89	0.96	92	(73–111)
Glasgw	172	153	177	184	174	182	1.62	112	(96–128)
Inverns	20	27	12	16	21	22	0.27	81	(47–116)
Klmarnk	39	43	33	40	40	36	0.36	100	(67–132)
Krkldy	33	45	43	30	38	38	0.32	120	(82–158)
Wales									
Bangor	30	26	20	21	24	22	0.22	101	(59–143)
Cardff	175	182	186	170	171	168	1.42	118	(100–136)
Clwyd	25	21	17	22	17	29	0.19	153	(97–209)
Swanse	113	134	118	117	110	106	0.89	120	(97–143)
Wrexm	19	25	26	34	38	42	0.24	175	(122–228)
							% change since 2009		
England	5,690	5,541	5,732	5,790	5,983	6,330	11.2		
N Ireland	150	176	204	185	184	172	14.7		
Scotland	547	504	508	519	506	542	– 0.9		
Wales	362	388	367	364	360	367	1.4		
UK	6,749	6,609	6,811	6,858	7,033	7,411	9.8		

^apmp – per million population

^bSubsequent to closing the 2014 database one centre reported a notable variation to the numbers returned for 2014. Tables 1.2 and 1.4 (but not the remainder of this chapter) reflect this revision (Salford (+6))

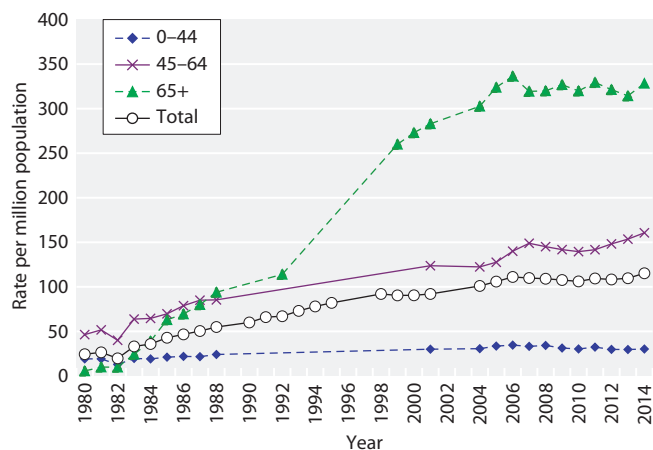


Fig. 1.3. RRT incidence rates between 1980 and 2014

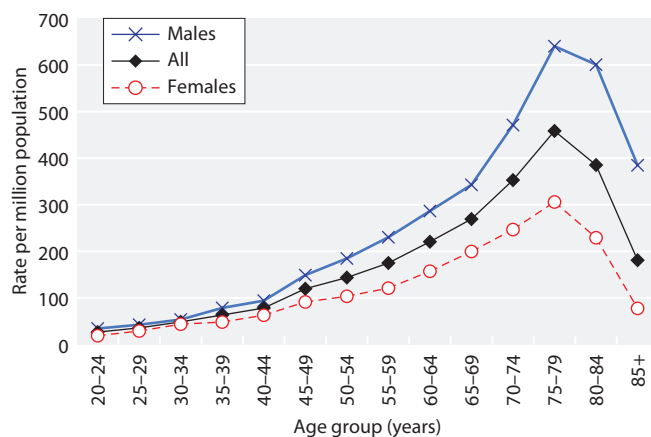


Fig. 1.4. RRT incidence rates in 2014 by age and gender

Table 1.5. Median, inter-quartile range and 90% range of the age of patients starting renal replacement therapy in 2014 by country

Country	Median	IQR	90% range
England	64.8	(51.4–74.8)	(31.7–84.1)
N Ireland	67.1	(53.0–77.4)	(31.7–83.8)
Scotland	62.1	(49.0–71.7)	(30.0–81.8)
Wales	68.2	(57.2–76.5)	(38.0–83.7)
UK	64.8	(51.4–74.9)	(31.7–84.0)

2013. The median age at start of non-White patients increased from 57.0 years for 2013 starters to 58.7 but was still considerably lower than that for White patients (66.4 years) reflecting CKD differences and the younger age distribution of ethnic minority populations in general compared with the White population (in the 2011 census

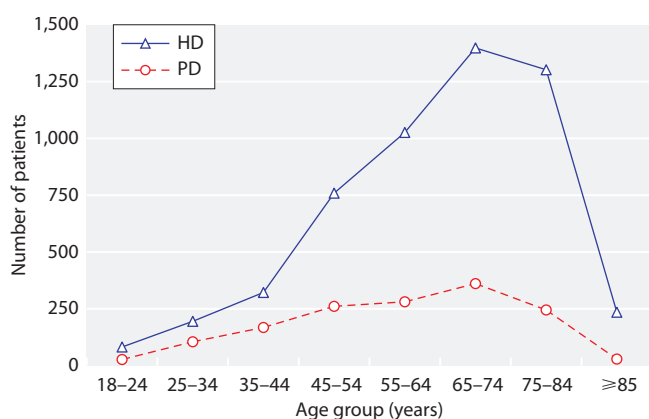


Fig. 1.5. Number of incident dialysis patients in 2014, by age group and initial dialysis modality

Table 1.6. Median, inter-quartile range and 90% range of the age of patients starting renal replacement therapy in 2014 by initial treatment modality

Treatment	Median	IQR	90% range
HD	67.1	(54.7–76.3)	(34.7–84.6)
PD	61.4	(48.0–71.9)	(30.1–82.3)
Transplant	49.9	(40.3–59.7)	(24.6–70.3)

data for England and Wales 5.3% of ethnic minorities were over 65 years old compared to 18.3% of Whites) [4]. The median age of new patients with diabetes was similar to the overall median and has not varied greatly over the last six years.

There were large differences between centres in the median age of incident patients (figure 1.6) reflecting differences in the age and ethnic structure of the catchment populations and also, particularly in smaller centres, chance fluctuations. The median age of patients starting treatment at transplant centres was 63.5 years (IQR 50.0, 74.0) and at non-transplanting centres 66.0 years (IQR 52.7, 75.5).

There has been recent interest in the access of older patients to RRT and this has again been explored this year. Averaged over 2009–2014, crude CCG/HB incidence rates in the over 75 years age group varied from 89 per million age related population (pmarp) in Borders to 1,036 pmarp in NHS Brent (IQR 254 pmarp, 401 pmarp). The wide range of treatment rates suggests that there was geographical variation in the prevalence of comorbid and predisposing renal conditions as well as

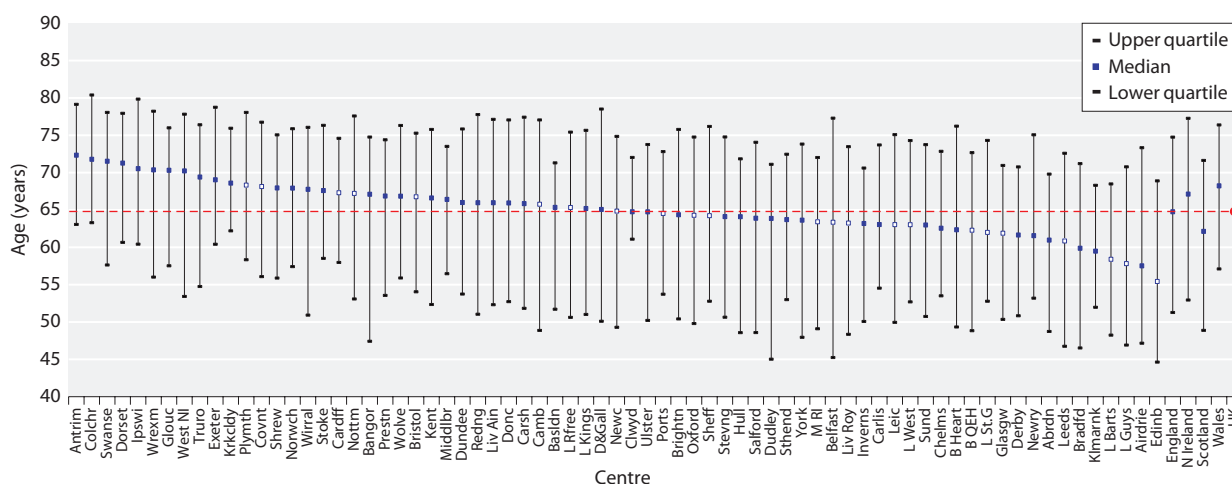


Fig. 1.6. Median age of incident RRT patients by centre in 2014
White points indicate transplant centres

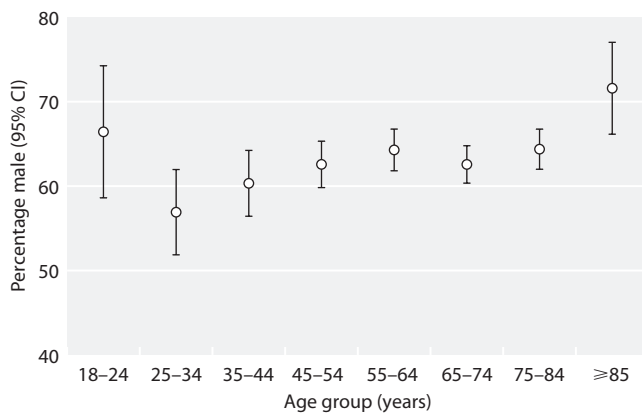


Fig. 1.7. Percentage of patients starting RRT in 2014 who were male, by age group

uncertainty within the renal community about the suitability of older patients for dialysis. The variation in rates between CCG/HBs seen in the over 75s was much greater than the variation seen in the overall analysis although some of this difference is likely to be due to the smaller numbers included in the over 75 analysis.

Gender

As before and as widely reported by all registries there continued to be more men than women starting RRT in every age group (figure 1.7). The overall breakdown was 63.2% male, 36.8% female equating to a M:F ratio of 1.72.

Ethnicity

As in previous reports, Scotland is not included in this section as completeness of ethnicity data was low. Across centres in England, Wales and Northern Ireland the average completeness was 94.8% – similar to the 95.2% seen last year. For 2013 starters, completeness was 80% or more for all but one centre (Carshalton), for 2014 starters, completeness for Carshalton improved to 87.9%. However, completeness has fallen below 80% for six centres; Chelmsford (71.2%), Colchester (78.9%), Ipswich (0%), Norwich (77.2), Oxford (76.2) and Southend (63.3%). Completeness was 80% or more for all the other centres (table 1.7) and was over 90% for 51 of the 62 centres. Eight centres reported that 100% of patients (with ethnicity data) were White whilst some London centres reported that over 50% of patients with data were non-White.

Primary renal diagnosis

The breakdown of primary renal diagnosis (PRD) by centre is shown in table 1.8. The information was missing for 10.9% of patients. Fifty-one centres provided data on over 90% of incident patients and 29 of these centres had 100% completeness. These numbers are lower than the 58 and 36 centres respectively that were at these levels for 2013. There was only a small amount of missing data for Wales, Northern Ireland and Scotland, whilst England had 12.6% missing (up from 11.0% for 2013 and 7.4% for 2012). The overall percentage missing was up on 2013 and 2012 (10.9% from 9.5% from 6.3%) and was similar

Table 1.7. Percentage of incident RRT patients (2014) in different ethnic groups by centre

Centre	% data not available	N with data	Percentage in each ethnic group				
			White	South Asian	Black	Chinese	Other
England							
B Heart	0.0	98	64.3	29.6	6.1		
B QEH	0.0	242	65.3	22.3	9.5		2.9
Basldn	4.3	44	88.6	2.3	4.5		4.5
Bradfd	1.2	82	59.8	37.8	2.4		
Brightn	6.8	137	91.2	3.7	0.7	0.7	3.7
Bristol	0.0	148	95.3	2.0	2.0		0.7
Camb	13.4	110	94.5	3.6		1.8	
Carlis	0.0	38	100.0				
Carsh	12.1	240	70.0	11.7	9.6	1.7	7.1
Chelms	28.8	37	91.9		5.4	2.7	
Colchr	21.1	30	93.3	6.7			
Covnt	1.6	123	79.7	17.9	2.4		
Derby	1.3	74	81.1	13.5	4.1		1.4
Donc	0.0	54	96.3	1.9	1.9		
Dorset	0.0	76	98.7	1.3			
Dudley	4.9	39	82.1	10.3	2.6	2.6	2.6

Table 1.7. Continued

Centre	% data not available	N with data	Percentage in each ethnic group				
			White	South Asian	Black	Chinese	Other
Exeter	2.2	136	98.5	0.7			0.7
Glouc	0.0	51	94.1	5.9			
Hull	0.0	98	100.0				
Ipswi	100.0	0					
Kent	5.3	143	93.7	1.4	0.7	1.4	2.8
L Barts	0.6	308	36.4	29.9	32.5	0.3	1.0
L Guys	6.3	149	54.4	8.7	30.9		6.0
L Kings	0.0	148	54.1	10.1	34.5	0.7	0.7
L Rfree	5.2	217	54.4	21.7	17.1	1.4	5.5
L St.G	13.2	79	45.6	19.0	22.8	3.8	8.9
L West	0.3	356	44.4	33.1	18.0	2.0	2.5
Leeds	0.0	169	81.7	13.6	3.6		1.2
Leic	6.3	238	79.4	13.4	3.8	1.3	2.1
Liv Ain	1.5	66	98.5				1.5
Liv Roy	5.8	129	89.9	3.9	1.6	1.6	3.1
M RI	6.8	177	72.3	11.3	13.0	1.7	1.7
Middlbr	0.0	103	99.0	1.0			
Newc	0.0	107	87.9	6.5	1.9	2.8	0.9
Norwch	22.8	61	98.4	1.6			
Nottm	0.0	111	83.8	11.7	3.6		0.9
Oxford	23.8	144	83.3	7.6	2.8	0.7	5.6
Plymth	0.0	53	96.2				3.8
Ports	15.1	191	93.7	3.7	2.1		0.5
Prestn	0.7	152	87.5	10.5	2.0		
Redng	6.5	100	75.0	19.0	3.0	2.0	1.0
Salford	0.7	139	79.1	16.5	1.4		2.9
Sheff	3.3	146	88.4	5.5	3.4	1.4	1.4
Shrew	1.5	64	95.3	1.6	1.6	1.6	
Stevng	9.9	137	80.3	10.2	8.8		0.7
Sthend	36.7	19	84.2	5.3	10.5		
Stoke	2.7	109	89.9	5.5	2.8		1.8
Sund	0.0	63	96.8	3.2			
Truro	0.0	39	100.0				
Wirral	1.8	55	96.4	1.8		1.8	
Wolve	0.0	79	69.6	21.5	8.9		
York	6.3	60	100.0				
N Ireland							
Antrim	0.0	35	100.0				
Belfast	0.0	63	98.4	1.6			
Newry	0.0	19	100.0				
Ulster	0.0	20	95.0		5.0		
West NI	2.9	34	100.0				
Wales							
Bangor	0.0	22	95.5	4.5			
Cardff	0.0	168	96.4	2.4		0.6	0.6
Clwyd	10.3	26	92.3	7.7			
Swanse	0.0	106	100.0				
Wrexm	0.0	42	95.2		2.4		2.4
England	5.6	5,968	77.0	12.2	8.0	0.7	2.0
N Ireland	0.6	171	98.8	0.6	0.6		
Wales	0.8	364	97.0	1.9	0.3	0.3	0.5
E, W & NI	5.2	6,503	78.7	11.3	7.4	0.7	1.8

Blank cells – no reported patients

Table 1.8. Distribution of primary renal diagnosis by centre in the 2014 incident RRT cohort

Centre	% data not available	N with data	Percentage							
			Uncertain aetiology	Diabetes	Glomerulo-nephritis	Hyper-tension	Other	Polycystic kidney	Pyelo-nephritis	Renal vascular disease
England										
B Heart	16.3	82	9.8	42.7	14.6	2.4	20.7	4.9	2.4	2.4
B QEH	0.4	241	24.1	21.6	12.5	5.0	18.3	5.4	4.2	9.1
Basldn	0.0	46	4.4	32.6	19.6	2.2	4.4	4.4	15.2	17.4
Bradfd	0.0	83	21.7	31.3	13.3	6.0	10.8	3.6	6.0	7.2
Brightn	0.0	147	21.1	23.8	15.0	6.1	18.4	6.1	4.8	4.8
Bristol	14.9	126	11.9	27.0	15.1	4.0	18.3	12.7	6.4	4.8
Camb ^a	23.6	97	65.0							
Carlis	0.0	38	5.3	21.1	18.4	13.2	15.8	2.6	2.6	21.1
Carsh ^b	76.2	65								
Chelms	0.0	52	9.6	40.4	15.4	3.9	25.0	0.0	5.8	0.0
Colchr ^a	18.4	31	61.3							
Covnt	12.0	110	12.7	19.1	19.1	17.3	10.9	4.6	5.5	10.9
Derby	1.3	74	4.1	28.4	21.6	2.7	25.7	2.7	10.8	4.1
Donc	0.0	54	25.9	24.1	18.5	7.4	16.7	3.7	3.7	0.0
Dorset	0.0	76	5.3	31.6	7.9	9.2	15.8	9.2	5.3	15.8
Dudley	12.2	36	36.1	22.2	13.9	2.8	13.9	5.6	0.0	5.6
Exeter	2.9	135	14.1	17.8	14.8	8.9	20.7	3.7	5.2	14.8
Glouc	3.9	49	34.7	20.4	10.2	2.0	16.3	6.1	4.1	6.1
Hull	1.0	97	23.7	18.6	15.5	5.2	21.7	4.1	7.2	4.1
Ipswi ^a	0.0	33	78.8							
Kent	3.3	146	22.6	25.3	17.1	7.5	11.6	6.2	3.4	6.2
L Barts	17.4	256	12.9	35.6	9.4	9.8	18.0	3.1	7.8	3.5
L Guys ^b	35.2	103								
L Kings	0.0	148	13.5	39.2	6.8	18.9	12.8	2.0	4.1	2.7
L Rfree	3.9	220	8.2	31.4	9.6	9.6	25.0	4.6	5.5	6.4
L St.G	24.2	69	20.3	30.4	17.4	7.3	11.6	7.3	4.4	1.5
L West	0.0	357	10.1	37.5	9.8	2.8	22.1	8.7	5.3	3.6
Leeds	0.0	169	8.9	22.5	20.1	7.7	17.2	8.3	10.7	4.7
Leic	22.1	198	23.7	22.2	13.1	6.6	12.6	7.1	8.6	6.1
Liv Ain	0.0	67	9.0	17.9	7.5	9.0	22.4	3.0	13.4	17.9
Liv Roy	0.0	117	2.6	21.4	17.1	21.4	23.1	6.0	6.8	1.7
M RI ^b	40.5	113								
Middlbr	1.0	102	19.6	27.5	12.8	8.8	16.7	4.9	6.9	2.9
Newc	0.0	107	13.1	28.0	10.3	4.7	15.9	10.3	7.5	10.3
Norwch	6.3	74	25.7	24.3	14.9	1.4	10.8	12.2	5.4	5.4
Nottm	0.0	111	22.5	27.9	9.0	0.9	22.5	5.4	6.3	5.4
Oxford	2.7	184	12.5	29.9	18.5	6.0	17.9	7.6	4.9	2.7
Plymth ^b	67.9	17								
Ports	13.3	195	7.2	30.3	13.3	6.2	18.0	9.2	5.6	10.3
Prestn	0.7	152	15.8	23.7	15.8	11.8	19.1	5.9	5.3	2.6
Redng	0.9	106	23.6	25.5	11.3	2.8	17.0	6.6	6.6	6.6
Salford	1.4	138	10.9	37.7	9.4	10.9	13.8	9.4	5.1	2.9
Sheff	0.7	150	14.7	22.0	18.0	6.0	10.7	12.0	7.3	9.3
Shrew	9.2	59	32.2	17.0	6.8	5.1	27.1	5.1	1.7	5.1
Stevng	19.7	122	24.6	22.1	13.1	1.6	26.2	4.9	3.3	4.1
Sthend	0.0	30	23.3	33.3	6.7	6.7	13.3	6.7	6.7	3.3
Stoke ^b	42.9	64								
Sund	3.2	61	3.3	19.7	19.7	13.1	21.3	9.8	4.9	8.2
Truro	5.1	37	16.2	29.7	21.6	2.7	18.9	5.4	0.0	5.4
Wirral ^b	26.8	41								
Wolve	12.7	69	14.5	10.1	11.6	4.4	53.6	0.0	4.4	1.5
York	1.6	63	7.9	22.2	11.1	7.9	27.0	9.5	11.1	3.2

Table 1.8. Continued

Centre	% data not available	N with data	Percentage							
			Uncertain aetiology	Diabetes	Glomerulo-nephritis	Hyper-tension	Other	Polycystic kidney	Pyelo-nephritis	Renal vascular disease
N Ireland										
Antrim	0.0	35	34.3	17.1	8.6	0.0	25.7	8.6	2.9	2.9
Belfast	4.8	60	15.0	21.7	8.3	5.0	21.7	15.0	8.3	5.0
Newry	0.0	19	21.1	26.3	5.3	0.0	21.1	5.3	10.5	10.5
Ulster	0.0	20	30.0	35.0	10.0	0.0	10.0	10.0	0.0	5.0
West NI	0.0	35	11.4	22.9	8.6	25.7	14.3	5.7	8.6	2.9
Scotland										
Abrdn	0.0	53	3.8	35.9	20.8	5.7	18.9	1.9	7.6	5.7
Airdrie	0.0	52	7.7	26.9	19.2	3.9	13.5	9.6	13.5	5.8
D & Gall	0.0	21	0.0	33.3	9.5	28.6	19.1	0.0	0.0	9.5
Dundee	0.0	49	10.2	32.7	8.2	14.3	18.4	10.2	2.0	4.1
Edinb	0.0	89	9.0	28.1	19.1	1.1	28.1	9.0	2.3	3.4
Glasgw	0.0	182	8.2	30.2	14.8	1.1	19.8	12.1	5.0	8.8
Inverns	0.0	22	18.2	18.2	18.2	0.0	13.6	18.2	4.6	9.1
Klmarnk	0.0	36	8.3	36.1	8.3	0.0	22.2	11.1	0.0	13.9
Krkldy	0.0	38	26.3	21.1	10.5	0.0	15.8	7.9	2.6	15.8
Wales										
Bangor	18.2	18	38.9	22.2	16.7	0.0	5.6	11.1	0.0	5.6
Cardff	0.6	167	20.4	25.2	17.4	0.0	15.6	7.8	6.6	7.2
Clwyd	20.7	23	26.1	30.4	17.4	8.7	8.7	0.0	8.7	0.0
Swanse	0.0	106	4.7	29.3	19.8	0.9	13.2	4.7	7.6	19.8
Wrexm	2.4	41	7.3	24.4	7.3	7.3	17.1	12.2	9.8	14.6
England	12.6	5,517	16.2	26.7	13.2	7.1	18.6	6.4	5.8	6.0
N Ireland	1.7	169	20.7	23.1	8.3	7.1	19.5	10.1	6.5	4.7
Scotland	0.0	542	9.4	29.7	15.1	3.9	19.9	9.6	4.6	7.8
Wales	3.3	355	15.5	26.5	16.9	1.7	14.1	7.0	7.0	11.3
UK	10.9	6,583	15.7	26.9	13.4	6.5	18.5	6.8	5.8	6.4
.....										
Min			0.0	10.1	5.3	0.0	4.4	0.0	0.0	0.0
Max			38.9^c	42.7	21.6	28.6	27.1	12.7	15.2	21.1

The percentage in each category has been calculated after excluding those patients with data not available

^aFor those centres judged to have high % uncertain aetiology, the percentages in the other diagnostic categories have not been calculated and these centres have not been included in the country and UK averages or the min/max values

^bFor those centres with >25% missing primary diagnoses, the percentages in the diagnostic categories are not shown

^cMaximum not including the centres with very high values

in under and over 65 year olds (10.7% and 11.1% respectively). Six centres had missing PRD for more than 25% of incident patients and for these centres the percentages in the diagnostic categories are not shown in table 1.8.

The UKRR continues to be concerned about centres with apparently very high data completeness for PRD but also very high rates of ‘uncertain’ diagnoses (EDTA code 00: Chronic renal failure; aetiology uncertain). It is accepted that there will inevitably be a number of patients with uncertain aetiology and that the proportion of these patients will vary between clinicians and centres as the definitions of e.g. renal vascular disease and hypertensive

renal disease remain relatively subjective. Many of the new ERA-EDTA PRD codes allow clinicians to indicate the basis for the diagnosis of the renal disease (e.g. based on histology or not). Adoption of these new codes should therefore reduce the coding of PRD as uncertain. There was again a lot of variability between centres but, as in previous years, a small number of centres had far higher percentages with ‘uncertain’ diagnosis than other centres. This year, there were three centres with diagnosis ‘uncertain’ for over 45% of their incident patients – Cambridge (65%), Colchester (61%) and Ipswich (79%). As the numbers with the specific

PRDs are likely to be falsely low in these centres, the breakdown into these categories has not been shown in table 1.8 or been used in the country and UK averages. These centres have also been excluded where PRD is used to stratify analyses.

As in previous years, there was a lot of variability between centres in the percentages with the specific diagnoses (partly due to the reasons mentioned above). For example, the percentage with diabetes as PRD varied from about 10% to almost 43% of incident patients.

The overall UK distribution of PRDs is shown in table 1.9. Diabetic nephropathy was the most common renal diagnosis in both the under and over 65 year age groups, accounting for 27% of all (non-missing) incident diagnoses. Glomerulonephritis and autosomal dominant polycystic kidney disease (ADPKD) made up much higher proportions of the younger than the older incident cohorts (18% vs. 9% and 10% vs. 4% respectively), whilst patients with renal vascular disease comprised a much higher percentage of the older rather than the younger patients (11% vs. 2%). Uncertainty about the underlying diagnosis was also much more likely in the older rather than the younger cohort (19% vs. 12%).

For all primary renal diagnoses except ADPKD and 'Other', the male to female ratio was 1.4 or greater. This gender difference may relate to factors such as smoking, hypertension, atheroma and renal vascular disease, which are more common in males and may influence the rate of progression of renal failure.

Table 1.10 shows the incidence rates for each PRD per million population for the 2014 cohort. As there were some missing data, the rates for at least some of the diagnoses will be underestimates.

Table 1.9. Percentage distribution of primary renal diagnosis by age in the 2014 incident RRT cohort

Diagnosis	Percentage with diagnosis		
	Age <65	Age ≥65	All patients
Diabetes	29.1	24.6	26.9
Glomerulonephritis	17.7	9.0	13.4
Pyelonephritis	5.1	6.5	5.8
Hypertension	4.9	8.3	6.5
Polycystic kidney	9.5	4.0	6.8
Renal vascular disease	2.3	10.6	6.4
Other	19.0	17.8	18.5
Uncertain aetiology	12.4	19.2	15.7

Percentages calculated after excluding those patients with data not available

First established treatment modality

In 2014, the first treatment recorded, irrespective of any later change, was haemodialysis in 71.8% of patients, peritoneal dialysis in 20.0% and pre-emptive transplant in 8.2%. The previous year on year fall seen prior to six years ago in the proportion of patients starting on PD levelled off during the last six years (table 1.11). The percentage having a pre-emptive transplant has continued to rise (up by 44% from 2009). Table F.1.3 in appendix F: Additional Data Tables for 2014 New and Existing Patients gives the treatment breakdown at start of RRT by centre.

Many patients undergo a brief period of HD before switches to other modalities are, or can be, considered. Therefore, the established modality at 90 days is more representative of the elective first modality and this modality was used for the remainder of this section. For

Table 1.10. Primary renal diagnosis RRT incidence rates (2014) per million population (unadjusted)

Diagnosis	England	N Ireland	Scotland	Wales	UK
Diabetes	27.4	21.2	30.1	30.4	27.6
Glomerulonephritis	13.5	7.6	15.3	19.4	13.8
Pyelonephritis	5.9	6.0	4.7	8.1	5.9
Hypertension	7.3	6.5	3.9	1.9	6.7
Polycystic kidney	6.6	9.2	9.7	8.1	7.0
Renal vascular disease	6.1	4.3	7.9	12.9	6.5
Other	19.0	17.9	20.2	16.2	19.0
Uncertain aetiology	16.7	19.0	9.5	17.8	16.2
Data not available	14.8	1.6	0.0	3.9	12.6
All	117	93	101	119	115

The overall rates per country may be slightly different to those in table 1.2 as those centres whose PRD data has not been used have been excluded from both the numerator and the denominator here

Table 1.11. Treatment at start and at 90 days by year of start

Start	HD (%)	PD (%)	Transplant (%)
Day 0 treatment			
2009	76.3	18.0	5.7
2010	74.5	18.6	6.9
2011	72.7	20.4	6.9
2012	72.9	19.6	7.6
2013	72.0	19.4	8.7
2014	71.8	20.0	8.2
Day 90 treatment			
Oct 2008 to end Sept 2009	73.9	19.2	7.0
Oct 2009 to end Sept 2010	72.6	19.4	8.0
Oct 2010 to end Sept 2011	70.7	20.6	8.7
Oct 2011 to end Sept 2012	70.7	20.2	9.1
Oct 2012 to end Sept 2013	69.8	20.0	10.1
Oct 2013 to end Sept 2014	69.7	20.1	10.2

these analyses, the incident cohort from 1st October 2013 to 30th September 2014 was used so that follow up to 90 days was possible for all patients. By 90 days, 4.6% of incident patients had died and a further 0.2% had stopped treatment, leaving 95.1% of the original cohort still on RRT. Table 1.12 shows the percentages on each treatment modality at 90 days both as percentages of all of those starting RRT and then of those still on treatment at 90 days. Expressed as percentages of the whole incident cohort, 66.3% were on HD at 90 days, 19.1% were on PD and 9.7% had received a transplant. Expressed as percentages of those still receiving RRT at 90 days, 69.7% were on HD, 20.1% on PD and 10.2% had received a transplant.

Figure 1.8 shows the modality breakdown with the HD patients further subdivided. Of those still on RRT at 90 days, 41% were treated with hospital HD, 29% with satellite HD, and only 0.6% were receiving home HD at this early stage. The 0.6% on home HD consisted of 43 patients across 16 centres. This was an increase from the 0.2%

Table 1.12. RRT modality at 90 days by centre (incident cohort 1/10/2013 to 30/09/2014)

Centre	N	Status at 90 days of all patients who started RRT (%)					Status at 90 days of only those patients still on RRT (%)		
		HD	PD	Tx	Recovered/ discontinued	Died	HD	PD	Tx
England									
B Heart	117	77.8	12.8	5.1	0.0	4.3	81.3	13.4	5.4
B QEH	234	70.5	17.5	7.7	0.4	3.9	73.7	18.3	8.0
Basldn	35	74.3	17.1	0.0	2.9	5.7	81.3	18.8	0.0
Bradfd	75	77.3	5.3	13.3	0.0	4.0	80.6	5.6	13.9
Brightn	137	67.9	21.9	5.8	0.0	4.4	71.0	22.9	6.1
Bristol	139	62.6	16.6	15.1	0.7	5.0	66.4	17.6	16.0
Camb	131	59.5	12.2	24.4	0.0	3.8	61.9	12.7	25.4
Carlis	41	48.8	39.0	9.8	0.0	2.4	50.0	40.0	10.0
Carsh	267	66.7	18.7	5.6	0.8	8.2	73.3	20.6	6.2
Chelms	55	76.4	23.6	0.0	0.0	0.0	76.4	23.6	0.0
Colchr	36	91.7	0.0	2.8	0.0	5.6	97.1	0.0	2.9
Covnt	122	51.6	32.0	9.0	0.0	7.4	55.8	34.5	9.7
Derby	61	55.7	39.3	3.3	0.0	1.6	56.7	40.0	3.3
Donc	54	72.2	24.1	0.0	0.0	3.7	75.0	25.0	0.0
Dorset	80	65.0	30.0	5.0	0.0	0.0	65.0	30.0	5.0
Dudley	52	59.6	40.4	0.0	0.0	0.0	59.6	40.4	0.0
Exeter	131	70.2	22.9	3.1	0.8	3.1	73.0	23.8	3.2
Glouc	62	64.5	32.3	1.6	1.6	0.0	65.6	32.8	1.6
Hull	96	59.4	26.0	10.4	0.0	4.2	62.0	27.2	10.9
Ipswi	36	61.1	33.3	2.8	0.0	2.8	62.9	34.3	2.9
Kent	147	68.0	21.1	8.8	0.0	2.0	69.4	21.5	9.0
L Barts	298	63.4	26.5	6.4	0.3	3.4	65.9	27.5	6.6
L Guys	153	70.6	7.8	19.6	0.7	1.3	72.0	8.0	20.0
L Kings	157	65.0	26.8	5.7	0.0	2.6	66.7	27.5	5.9
L Rfree	231	55.8	29.0	10.0	0.0	5.2	58.9	30.6	10.5
L St.G	90	68.9	16.7	11.1	1.1	2.2	71.3	17.2	11.5
L West	337	81.9	6.5	9.8	0.0	1.8	83.4	6.7	10.0

Table 1.12. Continued

Centre	N	Status at 90 days of all patients who started RRT (%)					Status at 90 days of only those patients still on RRT (%)		
		HD	PD	Tx	Recovered/ discontinued	Died	HD	PD	Tx
Leeds	164	54.9	9.8	28.1	0.0	7.3	59.2	10.5	30.3
Leic	268	63.4	17.2	12.7	0.0	6.7	68.0	18.4	13.6
Liv Ain	59	54.2	25.4	5.1	0.0	15.3	64.0	30.0	6.0
Liv Roy	129	50.4	20.9	19.4	0.0	9.3	55.6	23.1	21.4
M RI	189	51.9	21.7	20.6	0.0	5.8	55.1	23.0	21.9
Middlbr	100	73.0	6.0	16.0	0.0	5.0	76.8	6.3	16.8
Newc	101	66.3	21.8	6.9	0.0	5.0	69.8	22.9	7.3
Norwch	81	80.3	8.6	3.7	1.2	6.2	86.7	9.3	4.0
Nottm	104	51.0	26.9	15.4	1.0	5.8	54.6	28.9	16.5
Oxford	180	58.3	23.3	15.0	0.0	3.3	60.3	24.1	15.5
Plymth	58	55.2	17.2	12.1	1.7	13.8	65.3	20.4	14.3
Ports	226	69.5	14.2	14.6	0.0	1.8	70.7	14.4	14.9
Prestn	141	72.3	17.0	7.8	0.0	2.8	74.5	17.5	8.0
Redng	103	53.4	32.0	4.9	0.0	9.7	59.1	35.5	5.4
Salford	127	66.1	22.8	3.2	0.0	7.9	71.8	24.8	3.4
Sheff	145	77.2	11.0	7.6	0.0	4.1	80.6	11.5	7.9
Shrew	66	59.1	28.8	4.6	1.5	6.1	63.9	31.2	4.9
Stevng	148	73.7	12.2	8.1	0.0	6.1	78.4	13.0	8.6
Sthend	32	59.4	31.3	0.0	0.0	9.4	65.5	34.5	0.0
Stoke	102	69.6	25.5	2.0	0.0	2.9	71.7	26.3	2.0
Sund	67	85.1	10.5	4.5	0.0	0.0	85.1	10.5	4.5
Truro	39	59.0	20.5	12.8	0.0	7.7	63.9	22.2	13.9
Wirral	58	56.9	20.7	6.9	0.0	15.5	67.4	24.5	8.2
Wolve	78	61.5	29.5	3.9	0.0	5.1	64.9	31.1	4.1
York	51	47.1	27.5	19.6	0.0	5.9	50.0	29.2	20.8
N Ireland									
Antrim	30	90.0	3.3	6.7	0.0	0.0	90.0	3.3	6.7
Belfast	59	54.2	8.5	30.5	3.4	3.4	58.2	9.1	32.7
Newry	17	70.6	17.7	0.0	0.0	11.8	80.0	20.0	0.0
Ulster	21	76.2	19.1	0.0	0.0	4.8	80.0	20.0	0.0
West NI	26	73.1	19.2	3.9	0.0	3.9	76.0	20.0	4.0
Scotland									
Abrdn	55	72.7	25.5	0.0	0.0	1.8	74.1	25.9	0.0
Airdrie	58	87.9	6.9	1.7	0.0	3.5	91.1	7.1	1.8
D & Gall	20	40.0	55.0	0.0	0.0	5.0	42.1	57.9	0.0
Dundee	46	73.9	19.6	6.5	0.0	0.0	73.9	19.6	6.5
Edinb	91	72.5	8.8	13.2	0.0	5.5	76.7	9.3	14.0
Glasgw	178	70.8	9.6	16.3	0.0	3.4	73.3	9.9	16.9
Inverns	19	63.2	26.3	10.5	0.0	0.0	63.2	26.3	10.5
Klmarnk	38	68.4	26.3	0.0	0.0	5.3	72.2	27.8	0.0
Krkldy	36	75.0	13.9	0.0	0.0	11.1	84.4	15.6	0.0
Wales									
Bangor	21	71.4	23.8	0.0	0.0	4.8	75.0	25.0	0.0
Cardff	166	66.9	17.5	9.0	0.0	6.6	71.6	18.7	9.7
Clwyd	32	68.8	18.8	6.3	0.0	6.3	73.3	20.0	6.7
Swanse	111	75.7	16.2	4.5	0.0	3.6	78.5	16.8	4.7
Wrexm	32	71.9	21.9	3.1	3.1	0.0	74.2	22.6	3.2
England	6,190	65.4	19.7	9.9	0.2	4.7	68.8	20.8	10.4
N Ireland	153	69.3	11.8	13.7	1.3	3.9	73.1	12.4	14.5
Scotland	541	72.1	15.3	8.7	0.0	3.9	75.0	16.0	9.0
Wales	362	70.4	18.0	6.4	0.3	5.0	74.3	19.0	6.7
UK	7,246	66.3	19.1	9.7	0.2	4.6	69.7	20.1	10.2

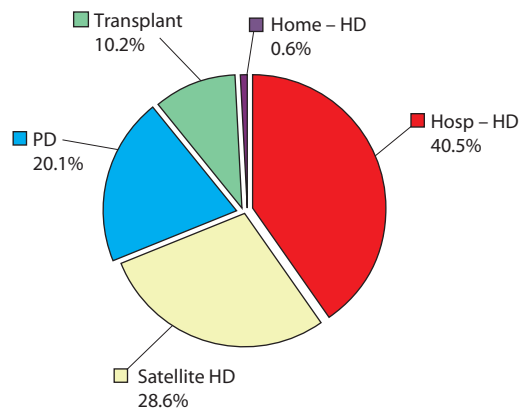


Fig. 1.8. RRT modality at 90 days (incident cohort 1/10/2013 to 30/09/2014)

(13 patients across seven centres) seen for 2013. Chapter 2: UK Renal Replacement Therapy Prevalence in 2014 shows that 4.3% of all dialysis patients were receiving home HD.

The percentage of incident patients who had died by 90 days varied considerably between centres (0% to 16%). The ongoing observation that in some centres no patients

die by 90 days is difficult to explain clinically. Differences in the definition of whether patients have acute or chronic renal failure and when they then report patients to the UKRR (with a period of time between start of RRT and reporting to the UKRR in which they have by definition survived – immortal time bias) may be a factor in this apparent variation along with possible differences in clinical practice.

The percentage of patients still on RRT at 90 days who had a functioning transplant at 90 days varied between centres from 0% to 33% (between 7% and 33% for transplanting centres and between 0% and 21% for non-transplanting centres). The mean percentage of the incident cohort with a functioning transplant at 90 days was greater in transplanting compared to non-transplanting centres (13.3% vs. 6.4%). One possible reason could be that some patients transplanted pre-emptively were attributed to the incident cohort of the transplanting centre rather than that of the referring centre.

Table 1.13 gives the HD/PD breakdown for those incident patients on dialysis at 90 days. The breakdown

Table 1.13. Modality split of patients on dialysis at 90 days (incident cohort 1/10/2013 to 30/09/2014)

Centre	N	Age <65 (%)		Age ≥65 (%)		All patients (%)	
		HD	PD	HD	PD	HD	PD
England							
B Heart	106	80.0	20.0	92.2	7.8	85.8	14.2
B QEH	206	74.4	25.6	88.9	11.1	80.1	19.9
Basldn	32	88.2	11.8	73.3	26.7	81.3	18.8
Bradfd	62	92.5	7.5	95.5	4.5	93.5	6.5
Brightn	123	73.7	26.3	77.3	22.7	75.6	24.4
Bristol	110	76.6	23.4	81.0	19.0	79.1	20.9
Camb	94	88.2	11.8	80.0	20.0	83.0	17.0
Carlis	36	52.9	47.1	57.9	42.1	55.6	44.4
Carsh	228	71.8	28.2	83.9	16.1	78.1	21.9
Chelms	55	69.7	30.3	86.4	13.6	76.4	23.6
Colchr	33	100.0	0.0	100.0	0.0	100.0	0.0
Covnt	102	54.5	45.5	67.2	32.8	61.8	38.2
Derby	58	40.6	59.4	80.8	19.2	58.6	41.4
Donc	52	71.4	28.6	79.2	20.8	75.0	25.0
Dorset	76	66.7	33.3	69.4	30.6	68.4	31.6
Dudley	52	50.0	50.0	69.2	30.8	59.6	40.4
Exeter	122	65.7	34.3	79.3	20.7	75.4	24.6
Glouc	60	50.0	50.0	76.3	23.7	66.7	33.3
Hull	82	66.7	33.3	71.7	28.3	69.5	30.5
Ipswi	34	75.0	25.0	61.5	38.5	64.7	35.3
Kent	131	70.2	29.8	79.8	20.2	76.3	23.7
L Barts	268	70.4	29.6	70.7	29.3	70.5	29.5
L Guys	120	90.1	9.9	89.8	10.2	90.0	10.0
L Kings	144	69.6	30.4	72.3	27.7	70.8	29.2
L Rfree	196	60.6	39.4	70.6	29.4	65.8	34.2
L St.G	77	82.6	17.4	77.4	22.6	80.5	19.5

Table 1.13. Continued

Centre	N	Age <65 (%)		Age ≥65 (%)		All patients (%)	
		HD	PD	HD	PD	HD	PD
L West	298	94.1	5.9	91.0	9.0	92.6	7.4
Leeds	106	80.3	19.7	91.1	8.9	84.9	15.1
Leic	216	75.7	24.3	81.7	18.3	78.7	21.3
Liv Ain	47	58.3	41.7	78.3	21.7	68.1	31.9
Liv Roy	92	68.2	31.8	72.9	27.1	70.7	29.3
M RI	139	62.7	37.3	79.7	20.3	70.5	29.5
Middlbr	79	84.0	16.0	96.3	3.7	92.4	7.6
Newc	89	72.3	27.7	78.6	21.4	75.3	24.7
Norwch	72	79.2	20.8	95.8	4.2	90.3	9.7
Nottm	81	40.5	59.5	86.4	13.6	65.4	34.6
Oxford	147	63.6	36.4	77.8	22.2	71.4	28.6
Plymth	42	76.5	23.5	76.0	24.0	76.2	23.8
Ports	189	78.6	21.4	86.7	13.3	83.1	16.9
Prestn	126	79.4	20.6	82.5	17.5	81.0	19.0
Redng	88	55.0	45.0	68.8	31.3	62.5	37.5
Salford	113	72.4	27.6	76.4	23.6	74.3	25.7
Sheff	128	85.5	14.5	89.0	11.0	87.5	12.5
Shrew	58	53.6	46.4	80.0	20.0	67.2	32.8
Stevng	127	77.4	22.6	93.8	6.2	85.8	14.2
Sthend	29	73.3	26.7	57.1	42.9	65.5	34.5
Stoke	97	56.8	43.2	83.3	16.7	73.2	26.8
Sund	64	81.8	18.2	96.8	3.2	89.1	10.9
Truro	31	61.5	38.5	83.3	16.7	74.2	25.8
Wirral	45	58.3	41.7	90.5	9.5	73.3	26.7
Wolve	71	60.0	40.0	73.2	26.8	67.6	32.4
York	38	50.0	50.0	72.7	27.3	63.2	36.8
N Ireland							
Antrim	28	100.0	0.0	95.0	5.0	96.4	3.6
Belfast	37	72.7	27.3	92.3	7.7	86.5	13.5
Newry	15	75.0	25.0	85.7	14.3	80.0	20.0
Ulster	20	63.6	36.4	100.0	0.0	80.0	20.0
West NI	24	88.9	11.1	73.3	26.7	79.2	20.8
Scotland							
Abrdn	54	61.3	38.7	91.3	8.7	74.1	25.9
Airdrie	55	93.9	6.1	90.9	9.1	92.7	7.3
D & Gall	19	44.4	55.6	40.0	60.0	42.1	57.9
Dundee	43	81.0	19.0	77.3	22.7	79.1	20.9
Edinb	74	91.5	8.5	85.2	14.8	89.2	10.8
Glasgw	143	87.5	12.5	88.6	11.4	88.1	11.9
Inverns	17	70.0	30.0	71.4	28.6	70.6	29.4
Klmarnk	36	70.0	30.0	75.0	25.0	72.2	27.8
Krkldy	32	62.5	37.5	91.7	8.3	84.4	15.6
Wales							
Bangor	20	57.1	42.9	84.6	15.4	75.0	25.0
Cardff	140	71.0	29.0	85.9	14.1	79.3	20.7
Clwyd	28	78.6	21.4	78.6	21.4	78.6	21.4
Swanse	102	73.0	27.0	87.7	12.3	82.4	17.6
Wrexm	30	55.6	44.4	85.7	14.3	76.7	23.3
England	5,271	72.4	27.6	81.0	19.0	76.8	23.2
N Ireland	124	78.7	21.3	89.6	10.4	85.5	14.5
Scotland	473	80.7	19.3	84.3	15.7	82.5	17.5
Wales	320	70.5	29.5	85.9	14.1	79.7	20.3
UK	6,188	73.1	26.9	81.8	18.2	77.6	22.4

is given by age group and overall. The percentage on PD at 90 days was about 50% higher in patients aged under 65 years than in older patients (26.9 vs. 18.2). This difference was somewhat smaller than the difference for 2013 (a 65% difference – 27.8% vs. 17.1%). In both age groups there was a lot of variability between centres in the percentage on PD.

The median age at start for those on HD at 90 days was 67.0 years compared with 61.3 years for PD. There were thirteen centres where the percentage of patients treated with PD was the same as or higher in the over 65s than the under 65s (a higher number than the eight centres for 2013, 10 centres for 2012 and 11 centres for 2011). This reflects the increasing use of assisted PD programmes – a feature of note and one that is valued by the patients and their families.

Modality change over time

Table 1.14 gives the breakdown of status/treatment modality at four subsequent time points by initial treatment type for patients starting RRT in 2009. Fifty-four percent of patients who started on HD had died within five years of starting. This compared to 35% and 6% for those starting on PD or transplant respectively. Of those patients starting on PD, 90% were on PD at 90 days but this percentage dropped sharply at the later time points. In contrast, 90% of patients starting with a transplant were also transplant patients at the five year time point.

Table 1.14. Initial and subsequent modalities for patients starting RRT in 2009

First treatment	N	Later modality	Percentage			
			90 days	1 year	3 years	5 years
HD	5,151	HD	88.8	73.0	47.4	29.0
		PD	2.4	3.0	1.6	0.6
		Transplant	0.8	3.4	10.8	15.1
		Recovered/discontinued	0.3	0.9	1.0	0.9
		Died	7.7	19.7	39.1	54.4
PD	1,212	HD	6.2	14.2	19.7	15.8
		PD	89.9	67.2	28.8	11.6
		Transplant	2.0	10.6	29.2	37.3
		Recovered/discontinued	0.1	0.2	0.4	0.2
		Died	1.8	7.7	21.9	35.1
Transplant	386	HD	0.5	0.8	2.6	3.9
		PD	0.5	0.8	0.5	0.5
		Transplant	98.7	97.4	93.0	89.9
		Died	0.3	1.0	3.9	5.7

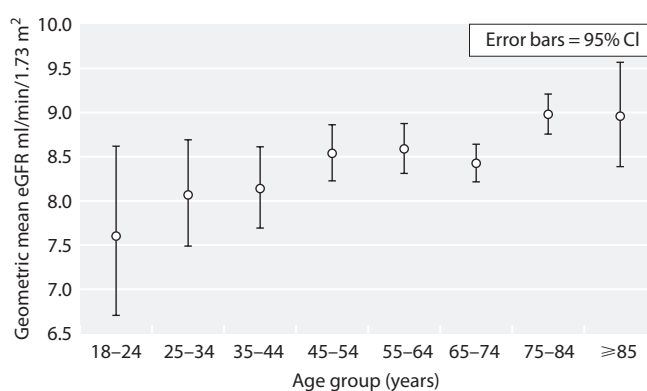


Fig. 1.9. Geometric mean eGFR at start of RRT (2014) by age group

Renal function at the time of starting RRT

The mean eGFR at initiation of RRT in 2014 was 8.6 ml/min/1.73 m². This is shown by age group in figure 1.9.

Figure 1.10 shows serial data from centres reporting annually to the UKRR since 2005. For the six years before 2011 there was higher average eGFR at start of RRT for PD than HD patients but, on average, the values were more similar between treatments for 2011 to 2014.

Some caution should be applied to the analyses of eGFR at the start of RRT as data were only available for less than half of the incident patients (approximately 3,000 for 2014) and almost half of these came from

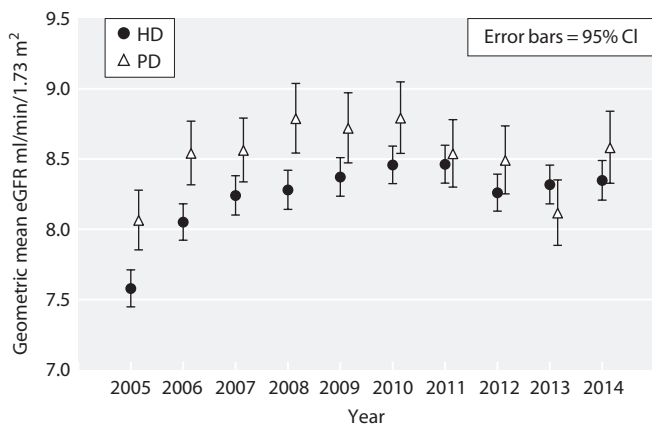


Fig. 1.10. eGFR on starting RRT 2005 to 2014, PD and HD (restricted to centres reporting since 2005)

only 10 centres. Three-quarters of the values came from 21 centres. Further caution should be applied as a review of pre-RRT biochemistry in nine renal centres revealed that up to 18% of patients may have had an incorrect date of starting RRT allocated and thus, the eGFR used for analysis may have been taken whilst they were already receiving RRT. For details see the 12th Annual Report chapter 13: The UK Renal Registry Advanced CKD Study 2009 [5]. From 2016, the UKRR hopes to address this and related timeline anomalies by prospectively capturing data on patients attending renal centres from eGFR 30 ml/min/1.73 m² and by more frequent data downloads.

3. Late presentation and delayed referral of incident patients

Introduction

Late presentation to a nephrologist is regarded as a negative aspect in renal care. It can be defined in a number of ways as it has a range of possible causes. There are many patients with chronic kidney disease who are regularly monitored in primary or secondary care and whose referral to nephrology services is delayed (delayed or late referral). In contrast, other patients present late to medical services due to no particular deficiency in the service; those with either such slowly progressive disease as to have remained asymptomatic for many years or the opposite – those with rapidly progressive CKD. The main analyses presented here do not differentiate between these groups and include any patient first seen by renal services within 90 days of

starting RRT as ‘late presentation’. One analysis attempts to capture ‘late referrals’: it shows the percentage presenting within 90 days of starting RRT after excluding an acute renal disease group.

Methods

Date first seen by a nephrologist has not been collected from the Scottish Renal Registry and so Scottish centres were excluded from these analyses. Data were included for incident patients in English, Welsh or Northern Irish centres in the years 2013 to 2014. This two year cohort was used for most of the analyses in order to make the late presentation percentages more reliably estimated and to allow these to be shown for subgroups of patients. The date first seen in a renal centre and the date of starting RRT were used to define the late presenting cohort. A small amount of data was excluded because of actual or potential inconsistencies. Patients who had recovered function and then restarted RRT ($n = 116$) have been included elsewhere in this chapter and will be included in the late presentation analyses in future years. By definition these patients will be known to a nephrologist for more than 90 days. Only data from those centres with 75% or more completeness for the relevant year were used. Data were excluded if 10% or more of the patients were reported to have started RRT on the same date as the first presentation. This was because investigation has shown that this is likely due to misunderstanding on the part of the renal centres resulting in incorrect recording of data. After these exclusions, data on 9,987 patients were available for analysis. Presentation times of 90 days or more before start were defined as early presentation and times of less than 90 days were defined as late presentation.

Estimated glomerular filtration rate (eGFR) at the start of RRT was studied amongst patients with eGFR data within 14 days before the start of RRT. The eGFR was calculated using the abbreviated 4 variable MDRD study equation [3]. For the purpose of the eGFR calculation, patients who had missing ethnicity but a valid serum creatinine measurement were classed as White. The eGFR values were log transformed due to their skewed distribution.

A mixture of old and new (2012) ERA-EDTA codes for primary diagnoses were received from centres. For those people without an old code, new codes (where available) were mapped back to old codes using the mapping available on the ERA-EDTA website. As recommended in the notes for users in the ERA-EDTA’s PRD code list document this mapping is provided for guidance only and has not been validated; therefore care must be taken not to over interpret data from this mapping. New codes were received for about 20% of incident patients for 2013 and for about 50% of incident patients for 2014. These codes were grouped into the same eight categories as in previous reports, the details are given in appendix H: Ethnicity and ERA-EDTA Coding (www.renalreg.org).

The ‘acute’ group was made up of those people with conditions likely to present with rapidly deteriorating renal function: crescentic (extracapillary) glomerulonephritis (type I, II, III), nephropathy (interstitial) due to cis-platinum, renal vascular disease due to malignant hypertension, renal vascular disease due to polyarteritis, Wegener’s granulomatosis, cryoglobulinemic glomerulonephritis, myelomatosis/light chain deposit disease, Goodpasture’s syndrome,

systemic sclerosis (scleroderma), haemolytic ureaemic syndrome, multi-system disease – other, tubular necrosis (irreversible) or cortical necrosis, Balkan nephropathy, kidney tumour(s), and traumatic or surgical loss of kidney(s).

Results

Data completeness

Table 1.15 shows the percentage completeness of data for 2013 and 2014. The overall average completeness fell to about 81% in 2014 with four centres dropping below the inclusion criteria (75%).

Late presentation by centre

Figure 1.11 shows that late presentation varied between centres from 5% to 34% in patients starting RRT in 2013 to 2014. The overall rate of late presentation was 18.0% and was 13.3% once those people with diseases likely to present acutely were excluded. Table 1.16 shows the overall percentage presenting late for the combined 2013/2014 incident cohort, the percentages presenting late amongst those patients defined as not having an ‘acute diagnosis’ and the percentages amongst non-diabetics (as PRD).

Table 1.15. Percentage completeness of time of presentation data (2013 and 2014 incident RRT patients) by centre

Centre	N		Percentage completeness		Centre	N		Percentage completeness	
	2013	2014	2013	2014		2013	2014	2013	2014
England					Norwich	77	79	*	*
B Heart	99	97	95.0	92.8	Nottm	111	109	97.3	97.3
B QEH	196	239	99.0	97.9	Oxford	165	186	96.4	97.9
Basldn	33	46	100.0	95.7	Plymth	64	52	68.8	26.9
Bradfd	62	82	100.0	100.0	Ports	192	222	86.5	59.5
Brightn	135	144	98.5	98.6	Prestn	148	151	99.3	97.4
Bristol	173	145	54.3	95.2	Redng	117	106	99.2	97.2
Camb	136	127	89.0	68.5	Salford	114	139	3.5	0.7
Carlis	41	38	100.0	92.1	Sheff	131	149	99.2	98.7
Carsh	228	273	70.6	41.4	Shrew	59	64	100.0	98.4
Chelms	46	52	100.0	98.1	Stevng	156	152	99.4	94.1
Colchr	29	38	100.0	44.7	Sthend	42	30	100.0	100.0
Covnt	90	125	97.8	84.8	Stoke	104	111	78.9	90.1
Derby	74	74	98.7	97.3	Sund	51	63	94.1	100.0
Donc	60	54	91.7	98.2	Truro	44	39	100.0	97.4
Dorset	72	76	100.0	98.7	Wirral	65	56	98.5	96.4
Dudley	51	41	100.0	95.1	Wolve	90	79	98.9	92.4
Exeter	100	136	98.0	91.9	York	36	64	*	*
Glouc	52	51	96.2	66.7	N Ireland				
Hull	88	96	97.7	*	Antrim	29	35	96.6	97.1
Ipswi	40	33	92.5	90.9	Belfast	72	62	95.8	91.9
Kent	145	149	100.0	100.0	Newry	23	19	100.0	94.7
L Barts	285	310	1.8	28.7	Ulster	29	19	100.0	94.7
L Guys	130	157	53.1	81.5	West NI	30	33	100.0	97.0
L Kings	166	148	98.8	100.0	Wales				
L Rfree	226	229	98.7	96.1	Bangor	24	22	95.8	90.9
L St.G	84	91	51.2	24.2	Cardff	169	165	97.6	95.8
L West	301	354	99.0	98.6	Clwyd	17	29	82.4	*
Leeds	180	168	98.3	99.4	Swanse	103	104	100.0	100.0
Leic	288	254	96.9	98.0	Wrexm	38	42	97.4	97.6
Liv Ain	65	66	96.9	98.5	England	5,933	6,277	84.3	80.0
Liv Roy	90	135	100.0	97.8	N Ireland	183	168	97.4	94.4
M RI	199	189	98.5	43.4	Wales	351	362	97.3	92.2
Middlbr	111	103	99.1	98.1	E, W & NI	6,467	6,807	85.5	81.1
Newc	92	106	97.8	98.1					

*data not shown as >10% of patients reported as starting RRT on the same date as first presentation

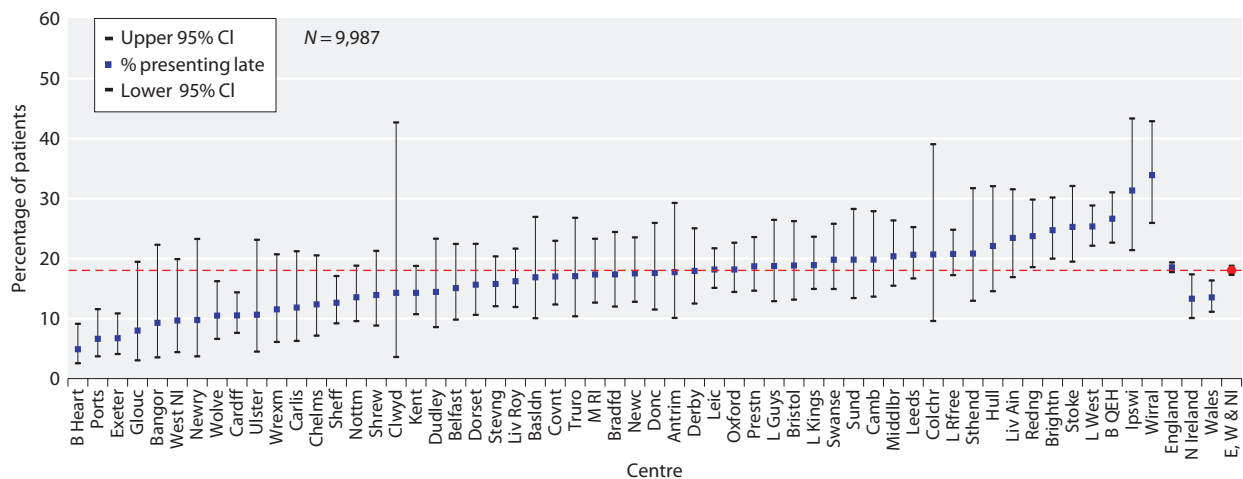


Fig. 1.11. Percentage presenting late (2013/2014)

Considerable differences exist between centres in late presentation rates. One centre (Birmingham Heartlands) attained a late presentation rate below 5% for the first time ever across the UK. Five centres (Birmingham QEH, Ipswich, London Royal Free, Stoke, Wirral) reported that over 40% of their incident patients were only seen within a year of commencement of RRT.

These differences have implications for their regions and referral pathways.

Late presentation in 2014 and the trend over time

There has been a steady decline nationally in the proportion of patients presenting late to renal services, with some centres achieving <10% late presentation

Table 1.16. Percentage of patients presenting to a nephrologist less than 90 days before RRT initiation and percentage presenting less than a year before initiation (2013/2014 incident patients) by centre

Centre	N with data	Percentage presenting <90 days before start				Percentage presenting <1 year before start ^b	
		Overall	(95% CI)	Non-acute ^a	Non-diab PRD	(95% CI)	
England							
B Heart	184	4.9	(2.6–9.1)	4.7	6.5	9.2 (5.8–14.4)	
B QEH	428	26.6	(22.7–31.0)	22.8	27.2	44.2 (39.5–48.9)	
Basldn	77	16.9	(10.1–26.9)	15.8	22.6	32.5 (23.0–43.7)	
Bradfd	144	17.4	(12.0–24.4)	11.4	22.9	30.6 (23.6–38.6)	
Brightn	275	24.7	(20.0–30.2)	20.0	28.3	35.6 (30.2–41.5)	
Bristol	138	18.8	(13.2–26.2)	8.2	22.1	27.5 (20.7–35.6)	
Camb	121	19.8	(13.7–27.9)			33.1 (25.3–41.9)	
Carlis	76	11.8	(6.3–21.2)	10.6	10.9	19.7 (12.3–30.2)	
Chelms	97	12.4	(7.2–20.5)	10.0	17.9	26.8 (18.9–36.5)	
Colchr	29	20.7	(9.6–39.1)			34.5 (19.7–53.1)	
Covnt	194	17.0	(12.4–23.0)	9.9	21.0	32.0 (25.8–38.8)	
Derby	145	17.9	(12.5–25.0)	12.1	22.3	29.0 (22.2–36.9)	
Donc	108	17.6	(11.5–25.9)	15.2	20.2	25.0 (17.7–34.0)	
Dorset	147	15.7	(10.6–22.5)	14.7	17.9	24.5 (18.2–32.1)	
Dudley	90	14.4	(8.6–23.3)	8.8	16.9	21.1 (13.9–30.8)	
Exeter	223	6.7	(4.1–10.9)	4.5	8.1	24.2 (19.0–30.3)	
Glouc	50	8.0	(3.0–19.5)	6.3	7.7	14.0 (6.8–26.6)	
Hull	86	22.1	(14.6–32.1)	14.5	23.9	36.1 (26.6–46.7)	
Ipswi	67	31.3	(21.4–43.3)			61.2 (49.1–72.1)	
Kent	294	14.3	(10.7–18.8)	11.6	17.7	26.5 (21.8–31.9)	
L Guys	128	18.8	(12.9–26.5)			30.5 (23.1–39.0)	

Table 1.16. Continued

Centre	N with data	Percentage presenting <90 days before start				Percentage presenting <1 year before start ^b	
		Overall	(95% CI)	Non-acute ^a	Non-diab PRD	(95% CI)	
L Kings	312	18.9	(14.9–23.6)	15.6	24.7	30.5	(25.6–35.8)
L Rfree	443	20.8	(17.2–24.8)	17.5	24.8	40.4	(35.9–45.1)
L West	647	25.4	(22.1–28.8)	20.7	29.5	38.2	(34.5–42.0)
Leeds	344	20.6	(16.7–25.2)	14.7	23.3	30.8	(26.2–35.9)
Leic	528	18.2	(15.1–21.7)	12.7	20.9	32.0	(28.2–36.1)
Liv Ain	128	23.4	(16.9–31.5)	17.1	28.7	32.0	(24.5–40.6)
Liv Roy	222	16.2	(11.9–21.7)	11.9	18.4	28.4	(22.8–34.7)
M RI	196	17.4	(12.7–23.3)	13.4	20.9	38.8	(32.2–45.8)
Middlbr	211	20.4	(15.5–26.4)	14.4	22.5	32.2	(26.3–38.8)
Newc	194	17.5	(12.8–23.5)	8.3	22.8	26.8	(21.0–33.5)
Nottm	214	13.6	(9.6–18.8)	11.7	17.8	23.8	(18.6–30.0)
Oxford	341	18.2	(14.4–22.6)	12.0	23.9	29.3	(24.7–34.4)
Ports	166	6.6	(3.7–11.6)	2.8	7.0	13.9	(9.4–20.0)
Prestn	294	18.7	(14.7–23.6)	13.7	22.6	28.2	(23.4–33.7)
Redng	219	23.7	(18.6–29.8)	17.4	29.8	33.8	(27.8–40.3)
Sheff	277	12.6	(9.2–17.1)	9.0	14.4	24.9	(20.2–30.3)
Shrew	122	13.9	(8.8–21.3)	11.2	15.8	34.4	(26.6–43.3)
Stevng	298	15.8	(12.1–20.4)	11.7	18.9	22.2	(17.8–27.2)
Sthend	72	20.8	(13.0–31.7)	17.7	24.6	34.7	(24.7–46.4)
Stoke	182	25.3	(19.5–32.1)			48.4	(41.2–55.6)
Sund	111	19.8	(13.4–28.3)	11.8	22.6	29.7	(22.0–38.9)
Truro	82	17.1	(10.4–26.8)	12.2	22.0	35.4	(25.8–46.3)
Wirral	118	33.9	(25.9–42.9)	30.0	31.1	53.4	(44.4–62.2)
Wolve	162	10.5	(6.6–16.2)	8.1	11.3	22.8	(17.0–29.9)
N Ireland							
Antrim	62	17.7	(10.1–29.3)	11.1	22.0	30.7	(20.5–43.1)
Belfast	126	15.1	(9.8–22.4)	9.1	17.0	27.0	(20.0–35.4)
Newry	41	9.8	(3.7–23.3)	5.3	12.9	19.5	(10.1–34.4)
Ulster	47	10.6	(4.5–23.1)	10.6	12.1	25.5	(15.1–39.8)
West NI	62	9.7	(4.4–19.9)	5.6	12.8	24.2	(15.1–36.3)
Wales							
Bangor	43	9.3	(3.5–22.3)	10.3	12.9	18.6	(9.6–33.0)
Cardff	323	10.5	(7.6–14.4)	6.6	12.2	25.1	(20.7–30.1)
Clwyd	14	14.3	(3.6–42.7)	16.7	20.0	14.3	(3.6–42.7)
Swanse	207	19.8	(14.9–25.8)	14.4	22.8	30.9	(25.0–37.5)
Wrexm	78	11.5	(6.1–20.7)	10.0	12.1	28.2	(19.4–39.2)
England	8,984	18.5	(17.8–19.4)	13.7	21.2	31.4	(30.4–32.3)
N Ireland	338	13.3	(10.1–17.4)	8.6	16.1	26.0	(21.6–31.0)
Wales	665	13.5	(11.1–16.4)	9.9	15.6	26.6	(23.4–30.1)
E, W & NI	9,987	18.0	(17.3–18.8)	13.3	20.7	30.9	(30.0–31.8)
.....							
Min		4.9		2.8	6.5	9.2	
Quartile 1		13.1		9.3	14.7	24.7	
Quartile 3		20.1		14.7	22.8	33.4	
Max		33.9		30.0	31.1	61.2	

Blank cells – data for PRD not used due to high % with missing data or high % with uncertain aetiology

^aNon-acute group excludes crescentic (extracapillary) glomerulonephritis (type I, II, III), nephropathy (interstitial) due to cis-platinum, renal vascular disease due to malignant hypertension, renal vascular disease due to polyarteritis, Wegener’s granulomatosis, cryoglobulinemic glomerulonephritis, myelomatosis/light chain deposit disease, Goodpasture’s syndrome, systemic sclerosis (scleroderma), haemolytic ureaemic syndrome, multi-system disease – other, tubular necrosis (irreversible) or cortical necrosis, Balkan nephropathy, kidney tumour(s), and traumatic or surgical loss of kidney(s)

^bThe remaining patients starting RRT therefore presented over 1 year beforehand

rates. This may be a consequence of the National CKD guidelines published by the Medical and GP Royal Colleges [6], the Quality and Outcomes Framework (QOF) initiative (www.dh.gov.uk) raising awareness of CKD amongst non-nephrologists and the introduction of estimated GFR reporting. The Health Foundation is currently funding a quality improvement initiative rolling out a computer programme that flags people with declining kidney function to laboratory staff who in turn flag these people to the GP to ensure they are aware of the decline and have considered referral to a nephrologist. Nineteen renal centres are participating in this initiative (ASSIST-CKD) which is being managed through Kidney Research UK and the UKRR is leading the stepped-wedge evaluation to establish effectiveness [7].

In 2014, 69.4% of incident patients presented to nephrology services over a year before they started RRT. The remaining patients presented within a year of start, with 7.6% of patients presenting within the 6–12 month window before RRT, 5.1% within 3–6 months and 17.8% within three months of RRT start. Figure 1.12 shows this breakdown by year for those 28 centres supplying data over 75% complete for each of the last six years. The figure shows an increase over time in the percentage of patients presenting a year or more before starting RRT. As shown in previous reports this increase was most marked in the years just before those shown in the figure. In 2005, only 52.6% of incident patients presented over a year before they started RRT.

Characteristics of patients presenting late versus those presenting early

In the combined 2013/2014 incident cohort, the median age was similar in those presenting late and those presenting early (table 1.17). There was also little difference in the male:female ratio. There were however

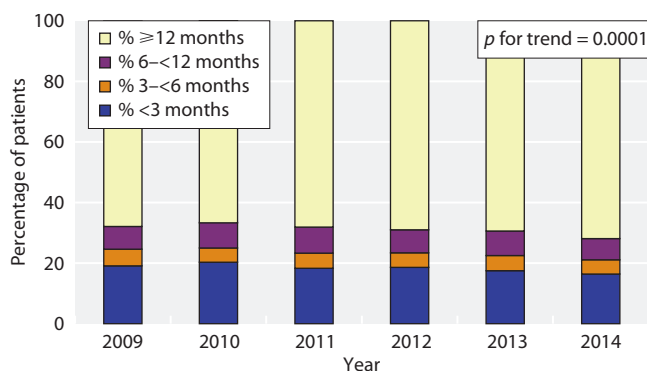


Fig. 1.12. Late presentation rate by year (2009–2014) Restricted to centres reporting continuous data for 2009–2014

large differences in the percentages starting on PD and in haemoglobin and eGFR at start with all three of these being lower in late presenters than in early presenters. The difference for haemoglobin may reflect inadequate pre-dialysis care with limited anaemia management, but alternatively those presenting late may be more likely to have anaemia because of multisystem disease or inter-current illness. More detailed analyses of haemoglobin at start of RRT and late presentation can be found in chapter 7: Haemoglobin, Ferritin and Erythropoietin amongst UK Adult Dialysis Patients in 2014. The finding of lower average eGFR in those presenting late is in contrast to some of the studies in the literature but many of those studies pre-date the era of routine use of eGFR [8, 9]. A recent Cochrane review [10] has shown that eGFR was indeed lower in RRT patients referred late (mean difference of 0.42 ml/min/1.73 m²) compared to those presenting early (definition: more than six months before starting RRT) consistent with UKRR data.

In the 2013/2014 cohort, the percentage of South Asian and Black patients presenting late (<90 days) was somewhat lower than in Whites (16.2% vs. 17.9%: $p = 0.08$). The median duration of pre-RRT care did not vary greatly with age group except perhaps for the two youngest age groups (figure 1.13).

Primary renal disease and late presentation

In the 2013/2014 cohort, there were large differences in late presentation rates between primary renal diagnoses (Chi-squared test $p < 0.0001$) (table 1.18). Patients in the acute group or with data not available had high rates of late presentation as anticipated. Those with diabetes and adult polycystic kidney disease or pyelonephritis had low rates in keeping with their longer natural histories of CKD progression. There was a notable

Table 1.17. Patient characteristics amongst patients presenting late (<90 days) compared with those presenting early (≥90 days) (2013/2014 incident patients)

	<90 days	≥90 days	<i>p</i> -value
Median age	65.0	64.9	0.4
Male:female ratio (% male)	1.89 (65%)	1.74 (64%)	0.14
Percentage starting on PD	9.9	22.2	<0.0001
Percentage on PD at 90 days	13.3	21.7	<0.0001
Mean haemoglobin at RRT start (g/L)	90	101	<0.0001
Geometric mean eGFR at RRT start (ml/min/1.73 m ²)	7.7	8.7	<0.0001

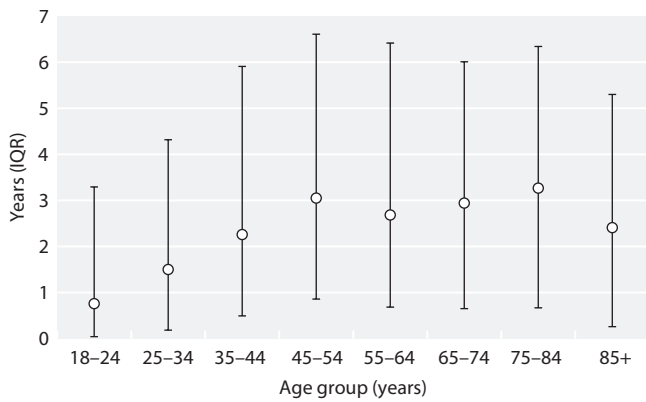


Fig. 1.13. Median duration of pre-RRT care by age group (incident patients 2013/2014)

decline in the proportion of diabetics presenting late up until 2007. Since then the proportion has been stable. The decline seen earlier likely reflects national initiatives to screen patients with diabetes for proteinuria and falling GFR.

Comorbidity and late presentation

In the 2013/2014 cohort, the percentage of patients who were recorded as having no comorbidity was similar in those who presented late as in those presenting earlier

Table 1.18. Late presentation by primary renal diagnosis (2013/2014 incident patients)

Diagnosis	Total N	Late presentation	
		N	%
Uncertain aetiology	1,255	275	21.9
Diabetes	2,430	220	9.1
Glomerulonephritis	1,248	177	14.2
Other identified category	979	181	18.5
Polycystic kidney or pyelonephritis	1,247	91	7.3
Renal vascular disease	1,112	154	13.8
Acute group	836	467	55.9
Data not available	299	96	32.1

Unlike elsewhere in the report, the RVD group includes hypertension and polycystic kidney and pyelonephritis are grouped together. Acute group includes crescentic (extracapillary) glomerulonephritis (type I, II, III), nephropathy (interstitial) due to cis-platinum, renal vascular disease due to malignant hypertension, renal vascular disease due to polyarteritis, Wegener's granulomatosis, cryoglobulinemic glomerulonephritis, myelomatosis/light chain deposit disease, Goodpasture's syndrome, systemic sclerosis (scleroderma), haemolytic ureaemic syndrome, multi-system disease – other, tubular necrosis (irreversible) or cortical necrosis, Balkan nephropathy, kidney tumour(s), and traumatic or surgical loss of kidney(s)

Table 1.19. Percentage prevalence of specific comorbidities amongst patients presenting late (<90 days) compared with those presenting early (≥ 90 days) (2013/2014 incident patients)

Comorbidity	<90 days	≥ 90 days	p-value
Ischaemic heart disease	14.3	21.4	<0.0001
Cerebrovascular disease	8.8	11.5	0.01
Peripheral vascular disease	8.5	12.3	0.001
Diabetes (not a cause of ERF)	11.1	10.0	0.3
Liver disease	5.0	2.9	0.001
Malignancy	21.9	12.3	<0.0001
COPD	8.6	7.6	0.3
Smoking	13.3	11.8	0.2

(48.1% vs. 50.2%: $p = 0.2$). That said however, there were differences in those with comorbidities: liver disease and malignancy were more common in those presenting late compared to those presenting early (table 1.19) perhaps reflecting underlying causes of CKD and its progression. Cardiovascular disease was less common in those presenting late. This is in keeping with other findings [11].

International comparisons

Figure 1.14 shows the crude RRT incidence rates (including children) for 2013 for various countries. The data is from the USRDS [12]; 2013 was the latest year available at time of writing. The UK incidence rate was similar to those in many other Northern European countries, Australia and New Zealand but remained markedly lower than in some other countries, most notably Greece, Japan and the USA. There are numerous reasons for these differences which have been documented and explored in other ecological studies and summarised by this review [13].

Survival of incident patients

See chapter 5: Survival and Causes of Death of UK Adult Patients on Renal Replacement Therapy in 2014.

Conclusions

Across the UK, as a whole, the renal replacement therapy (RRT) incidence rate for 2014 was higher than

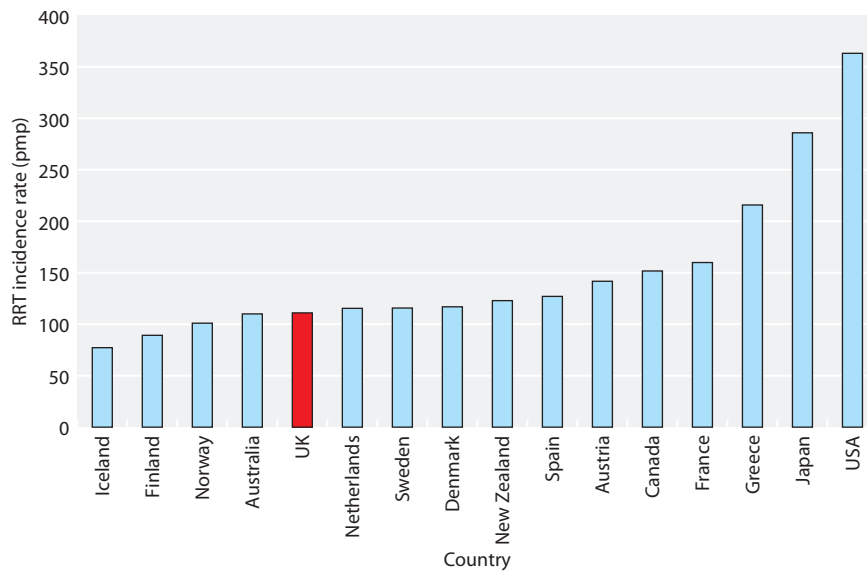


Fig. 1.14. International comparison of RRT incidence rates in 2013
Data from USRDS [12]

for 2013 and 2012. Partly because of the smaller numbers involved, rates have been more variable over the last few years for Northern Ireland, Scotland and Wales compared with England. Wales continues to have the highest incidence rate and there remained large between centre variation in incidence rates for RRT some of which is likely explained by population differences in ethnicity and age structure. There was a lot of variation between CCG/HBs in the rates of older people (>75) starting RRT and also substantial between centre variation in use of different types of RRT modality some of which suggests inefficient use of cheaper and more effective forms of treatment. Although large numbers of patients continue to present late to renal centres this proportion has dropped substantially in the last decade. Some centres' lower rates (<10%) suggest that local factors may be worth exploring with the aim of improving this aspect of renal care and one example of this is the ASSIST-CKD Study being funded by the Health Foundation. Plans for prospectively capturing data on patients attending renal centres from eGFR 30 ml/min/1.73 m² and more frequent and more detailed data downloads will hopefully allow the UKRR to explore these areas of variation in advanced CKD care.

Acknowledgement

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Conflicts of interest: the authors declare no conflicts of interest

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