UK Renal Registry 17th Annual Report: Chapter 1 UK Renal Replacement Therapy Incidence in 2013: 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

- In 2013 the incidence rate in the UK was stable at 109 per million population (pmp) reflecting renal replacement therapy (RRT) initiation for 7,006 new patients.
- From 2006 to 2013 the incidence rate pmp has remained stable for England.
- The median age of all incident patients was 64.5 years but this was highly dependant on ethnicity (66.0 for White incident patients; 57.0 for non-White patients).
- Diabetic renal disease remained the single most common cause of renal failure (25%).
- By 90 days, 66.1% of patients were on haemodialysis, 19.0% on peritoneal dialysis, 9.5% had a functioning transplant and 5.3% had died or stopped treatment.
- The mean eGFR at the start of RRT was 8.5 ml/min/1.73 m^2 similar to the previous four years.
- Late presentation (<90 days) fell from 23.9% in 2006 to 18.4% in 2013.

Introduction

This chapter contains analyses of adult patients starting renal replacement therapy (RRT) in the UK in 2013. 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 2013 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.

Differences may be seen in the 2008 to 2012 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 2013.

Renal Association Guidelines

Table 1.1 lists the relevant items from the Renal Association Guidelines on the Planning, Initiating and

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	Registry 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	Part	Proportion starting on PD is reported
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 3 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 3 months or more prior to initiation (planned initiation)	No	Not in UKRR dataset
Proportion of planned initiations with established access or pre-emptive transplantation	Yes	See appendix F for pre-emptive transplantation, and see chapter 10 for dialysis access
Inpatient/outpatient status of planned initiations	No	Not in UKRR dataset
Mean eGFR at start of renal replacement therapy	Part	Reported but not at centre level due to poor data completness

Table 1.2. Number of new adult patients starting RRT in the UK in 2013

	England	N Ireland	Scotland	Wales	**UK**
Number starting RRT	5,964	180	502	360	**7,006**
Total estimated population mid-2013 (millions)*	53.9	1.8	5.3	3.1	**64.1**
Incidence rate (pmp)	111	98	94	117	**109**
(95% CI)	(108–114)	(84–113)	(86–102)	(105–129)	**(107–112)**

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

Withdrawal of Renal Replacement Therapy [1]. Many of the audit measures are not currently reported by the UKRR; mainly due to a high proportion of incomplete data or because the relevant data item(s) is not currently within the specified UKRR dataset. Over time we hope 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 of 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 2013, the number of adult patients starting RRT in the UK was 7,006 equating to an incidence rate of 109 pmp (table 1.2), compared with 108 pmp in 2012. Wales remained the country with the highest incidence rate (figure 1.1). For England, incidence rates have been stable for the last eight years. There continued to be very marked gender differences in incidence rates which were 141 pmp (95% CI 137–145) in males and 79 pmp (95% CI 76–82) 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 111 pmp.

CCG/HB level

Table 1.3 shows incidence rates and standardised incidence ratios for CCG/HBs. There were wide variations

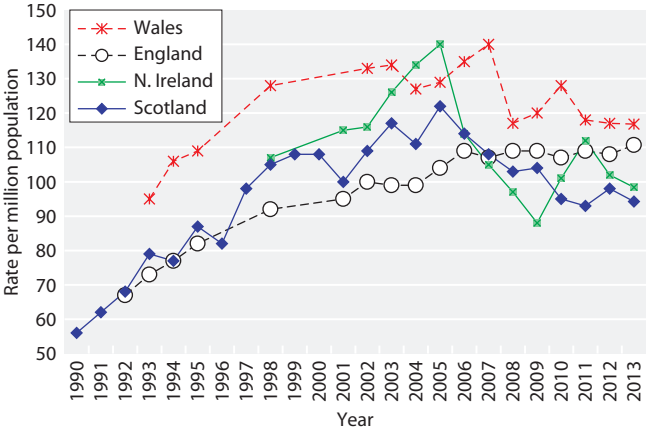

Fig. 1.1. RRT incidence rates in the countries of the UK 1990–2013

Table 1.3. Crude adult incidence rates (pmp) and age/gender standardised incidence ratios 2008–2013
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 significantly low incidence ratios over six years are italicised in greyed areas, those with significantly 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-2012 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

								2013		2008–2013				
UK Area	CCG/HB	Tot pop (2012)	2008 O/E	2009 O/E	2010 O/E	2011 O/E	2012 O/E	O/E	Crude rate pmp	O/E	LCL	UCL	Crude rate pmp*	% non-White
Cheshire, Warrington and Wirral	*NHS Eastern Cheshire*	*195,300*	*0.51*	*0.75*	*0.85*	*0.74*	*0.74*	*0.68*	*87*	*0.71*	*0.59*	*0.86*	*88*	*3.7*
	NHS South Cheshire	*176,800*	*0.61*	*0.70*	*0.71*	*0.74*	*0.59*	*1.15*	*136*	*0.75*	*0.61*	*0.92*	*86*	*2.9*
	NHS Vale Royal	102,100	0.54	0.88	0.81	0.87	0.78	1.27	147	0.86	0.67	1.11	96	2.1
	NHS Warrington	*203,700*	*0.61*	*1.01*	*0.61*	*0.46*	*0.86*	*0.67*	*74*	*0.70*	*0.57*	*0.86*	*75*	*4.1*
	NHS West Cheshire	228,100	0.61	0.90	1.18	1.04	0.81	1.01	123	0.92	0.79	1.08	109	2.8
	NHS Wirral	*320,200*	*0.72*	*0.81*	*0.88*	*0.94*	*0.59*	*0.99*	*119*	*0.82*	*0.71*	*0.95*	*95*	*3.0*
Durham, Darlington	NHS Darlington	105,200	1.05	0.95	0.97	0.94	1.27	0.83	95	1.00	0.79	1.26	111	3.8
	NHS Durham Dales, Easington and Sedgefield	273,000	0.71	0.98	1.03	1.09	0.84	1.00	121	0.94	0.81	1.09	110	1.2
	NHS Hartlepool and Stockton-on-Tees	284,600	1.01	0.69	0.81	0.91	1.04	0.86	95	0.89	0.76	1.03	95	4.4
	NHS North Durham	*241,300*	*0.68*	*0.52*	*0.49*	*0.55*	*1.28*	*0.64*	*75*	*0.69*	*0.58*	*0.84*	*78*	*2.5*
	NHS South Tees	273,700	1.03	0.77	1.06	0.93	0.96	1.20	135	0.99	0.86	1.15	108	6.7
Greater Manchester	NHS Bolton	279,000	0.89	0.84	1.40	0.94	0.90	0.82	86	0.96	0.83	1.12	99	18.1
	NHS Bury	186,200	0.78	0.82	0.73	0.71	1.35	0.79	86	0.86	0.71	1.05	91	10.8
	NHS Central Manchester	**182,400**	**2.20**	**1.79**	**2.08**	**1.11**	**1.70**	**2.22**	**154**	**1.85**	**1.56**	**2.18**	**125**	**48.0**
	NHS Heywood, Middleton & Rochdale	212,000	1.01	1.14	0.82	1.22	1.26	1.10	113	1.09	0.92	1.29	109	18.3
	NHS North Manchester	**167,100**	**0.99**	**1.68**	**0.93**	**1.50**	**1.43**	**1.48**	**120**	**1.34**	**1.11**	**1.62**	**106**	**30.8**
	NHS Oldham	225,900	1.15	0.86	0.88	1.03	0.71	0.96	97	0.93	0.78	1.11	91	22.5
	NHS Salford	237,100	1.07	0.97	1.39	0.74	0.87	1.11	110	1.02	0.87	1.21	98	9.9
	NHS South Manchester	161,300	0.90	0.89	0.99	1.17	1.18	1.23	105	1.06	0.86	1.31	89	19.6
	NHS Stockport	*283,900*	*0.80*	*0.53*	*0.92*	*0.87*	*0.64*	*0.51*	*60*	*0.71*	*0.60*	*0.84*	*80*	*7.9*
	NHS Tameside and Glossop	253,400	0.69	0.86	0.96	0.97	0.59	1.12	122	0.87	0.73	1.02	91	8.2
	NHS Trafford	228,500	0.55	1.08	1.28	0.54	1.15	1.13	123	0.96	0.81	1.13	101	14.5
	NHS Wigan Borough	*318,700*	*0.79*	*0.58*	*0.77*	*1.04*	*0.77*	*0.73*	*82*	*0.78*	*0.67*	*0.91*	*85*	*2.7*
Lancashire	NHS Blackburn with Darwen	147,700	0.52	0.88	1.04	1.44	1.22	0.91	88	1.00	0.81	1.24	94	30.8
	NHS Blackpool	142,000	1.00	0.98	0.62	0.85	1.45	1.12	134	1.01	0.83	1.22	116	3.3
	NHS Chorley and South Ribble	167,900	0.83	1.30	0.55	1.02	0.75	1.31	149	0.96	0.80	1.16	106	2.9
	NHS East Lancashire	*371,600*	*0.71*	*0.85*	*0.74*	*0.92*	*0.54*	*0.89*	*100*	*0.78*	*0.67*	*0.90*	*84*	*11.9*
	NHS Fylde & Wyre	*165,000*	*0.70*	*0.86*	*0.69*	*0.54*	*0.76*	*0.79*	*109*	*0.73*	*0.59*	*0.89*	*97*	*2.1*
	NHS Greater Preston	*202,000*	*0.88*	*0.67*	*0.54*	*0.52*	*1.00*	*0.84*	*89*	*0.74*	*0.61*	*0.91*	*77*	*14.7*
	NHS Lancashire North	*158,500*	*0.34*	*0.62*	*0.57*	*1.00*	*0.66*	*0.60*	*69*	*0.63*	*0.50*	*0.80*	*71*	*4.0*
	NHS West Lancashire	*110,900*	*1.03*	*0.62*	*0.63*	*0.84*	*0.76*	*0.67*	*81*	*0.76*	*0.59*	*0.98*	*89*	*1.9*
Merseyside	NHS Halton	125,700	0.31	1.07	0.86	1.59	0.97	0.95	103	0.96	0.77	1.20	101	2.2
	NHS Knowsley	145,900	0.46	0.78	0.93	1.16	1.28	0.69	75	0.89	0.71	1.10	94	2.8
	NHS Liverpool	469,700	1.16	1.19	0.87	1.08	1.19	0.98	98	1.08	0.96	1.21	105	11.1
	NHS South Sefton	159,400	1.12	0.77	1.28	1.36	1.02	1.27	151	1.14	0.95	1.35	131	2.2
	NHS Southport and Formby	114,300	0.55	0.80	0.61	0.93	0.73	1.36	184	0.84	0.67	1.05	109	3.1
	NHS St Helens	*176,100*	*0.76*	*0.70*	*0.92*	*0.74*	*0.88*	*0.63*	*74*	*0.77*	*0.63*	*0.94*	*88*	*2.0*

Table 1.3. Continued

UK Area	CCG/HB	Tot pop (2012)	2008 O/E	2009 O/E	2010 O/E	2011 O/E	2012 O/E	2013		2008–2013				% non-White
								O/E	Crude rate pmp	O/E	LCL	UCL	Crude rate pmp*	
Cumbria, Northumberland, Tyne and Wear	*NHS Cumbria*	*505,200*	*0.70*	*0.61*	*0.73*	*0.59*	*0.61*	*0.89*	*115*	*0.69*	*0.61*	*0.78*	*86*	*1.5*
	NHS Gateshead	*200,200*	*0.55*	*0.89*	*0.78*	*0.75*	*0.88*	*0.48*	*55*	*0.72*	*0.59*	*0.88*	*81*	*3.7*
	NHS Newcastle North and East	141,600	0.96	1.03	0.88	0.85	0.70	0.46	42	0.81	0.63	1.04	73	10.7
	NHS Newcastle West	140,900	1.25	0.87	0.67	0.86	0.86	0.91	92	0.90	0.72	1.13	89	18.3
	NHS North Tyneside	*201,400*	*0.50*	*0.89*	*0.90*	*0.62*	*0.87*	*0.94*	*109*	*0.79*	*0.65*	*0.95*	*89*	*3.4*
	NHS Northumberland	*316,100*	*0.68*	*0.62*	*0.60*	*0.82*	*0.78*	*0.62*	*79*	*0.69*	*0.59*	*0.80*	*85*	*1.6*
	NHS South Tyneside	148,400	0.55	1.31	0.73	1.06	0.59	0.75	88	0.83	0.67	1.03	94	4.1
	NHS Sunderland	*275,700*	*0.87*	*0.95*	*1.04*	*0.75*	*0.87*	*0.57*	*65*	*0.84*	*0.72*	*0.98*	*93*	*4.1*
North Yorkshire and Humber	*NHS East Riding of Yorkshire*	*314,500*	*1.00*	*0.93*	*0.69*	*0.72*	*0.74*	*0.48*	*64*	*0.76*	*0.65*	*0.88*	*96*	*1.9*
	NHS Hambleton, Richmondshire and Whitby	153,400	0.60	0.90	0.76	0.68	1.25	0.92	117	0.85	0.70	1.04	105	2.7
	NHS Harrogate and Rural District	*158,600*	*0.65*	*1.01*	*0.65*	*0.95*	*0.89*	*0.52*	*63*	*0.78*	*0.63*	*0.96*	*92*	*3.7*
	NHS Hull	257,200	1.06	1.00	0.94	0.75	0.79	0.93	93	0.91	0.77	1.08	89	5.9
	NHS North East Lincolnshire	159,700	1.09	0.85	0.69	1.34	0.67	0.82	94	0.91	0.74	1.11	101	2.6
	NHS North Lincolnshire	168,400	0.90	0.73	0.69	1.50	1.13	1.06	125	1.00	0.84	1.20	115	4.0
	NHS Scarborough and Ryedale	*110,500*	*0.80*	*0.92*	*0.58*	*0.56*	*0.91*	*0.69*	*91*	*0.74*	*0.58*	*0.95*	*95*	*2.5*
	NHS Vale of York	*346,100*	*0.74*	*0.65*	*0.69*	*1.08*	*0.92*	*0.78*	*90*	*0.81*	*0.70*	*0.93*	*91*	*4.0*
South Yorkshire and Bassetlaw	NHS Barnsley	233,700	1.10	0.93	1.18	0.80	1.03	1.01	116	1.01	0.86	1.18	112	2.1
	NHS Bassetlaw	113,200	0.61	0.68	0.92	0.82	1.04	1.23	150	0.89	0.70	1.12	105	2.6
	NHS Doncaster	302,700	0.80	1.03	0.93	1.05	0.81	1.14	129	0.96	0.83	1.11	105	4.7
	NHS Rotherham	258,400	1.39	0.95	1.11	0.69	0.83	0.78	89	0.95	0.82	1.11	106	6.4
	NHS Sheffield	**557,400**	**1.14**	**1.29**	**1.05**	**1.00**	**1.23**	**0.97**	**99**	**1.11**	**1.00**	**1.23**	**111**	**16.3**
West Yorkshire	*NHS Airedale, Wharfedale and Craven*	*158,200*	*0.56*	*1.03*	*0.56*	*0.49*	*0.64*	*0.84*	*101*	*0.69*	*0.55*	*0.86*	*80*	*11.1*
	NHS Bradford City	**82,300**	**2.10**	**0.38**	**3.32**	**1.87**	**2.66**	**2.60**	**170**	**2.15**	**1.70**	**2.73**	**138**	**72.2**
	NHS Bradford Districts	**333,500**	**1.26**	**0.96**	**1.21**	**1.08**	**1.35**	**1.05**	**102**	**1.15**	**1.01**	**1.31**	**108**	**28.7**
	NHS Calderdale	*205,300*	*0.89*	*0.97*	*0.52*	*0.59*	*0.77*	*1.06*	*117*	*0.80*	*0.66*	*0.97*	*85*	*10.3*
	NHS Greater Huddersfield	238,800	0.61	0.76	0.82	0.91	1.10	0.89	96	0.85	0.71	1.01	89	17.4
	NHS Leeds North	199,600	1.40	0.73	0.65	0.81	0.77	0.84	95	0.86	0.72	1.04	95	17.4
	NHS Leeds South and East	238,300	1.13	0.67	0.73	0.97	0.75	0.95	92	0.86	0.72	1.03	82	18.3
	NHS Leeds West	*319,800*	*0.69*	*0.96*	*0.59*	*0.64*	*0.71*	*1.13*	*106*	*0.79*	*0.67*	*0.93*	*72*	*10.8*
	NHS North Kirklees	186,700	0.94	1.47	1.06	1.24	0.54	1.48	150	1.12	0.94	1.34	111	25.3
	NHS Wakefield	*327,600*	*0.76*	*0.58*	*0.88*	*0.91*	*1.07*	*0.86*	*98*	*0.84*	*0.73*	*0.98*	*93*	*4.6*
Arden, Herefordshire and Worcestershire	**NHS Coventry and Rugby**	**423,900**	**1.32**	**1.62**	**1.33**	**1.43**	**1.74**	**1.26**	**127**	**1.45**	**1.31**	**1.61**	**142**	**22.2**
	NHS Herefordshire	184,900	0.93	1.13	0.71	0.82	0.90	0.76	97	0.87	0.73	1.04	109	1.8
	NHS Redditch and Bromsgrove	178,700	1.17	1.30	0.97	0.79	1.23	0.67	78	1.02	0.85	1.22	115	6.0
	NHS South Warwickshire	*259,200*	*0.88*	*0.79*	*0.74*	*1.01*	*0.65*	*0.57*	*69*	*0.77*	*0.66*	*0.91*	*91*	*7.0*
	NHS South Worcestershire	*292,300*	*0.82*	*0.86*	*0.70*	*0.71*	*0.84*	*0.75*	*92*	*0.78*	*0.67*	*0.91*	*94*	*3.7*
	NHS Warwickshire North	188,000	1.31	0.96	1.61	1.09	0.80	0.69	80	1.07	0.90	1.27	120	6.5
	NHS Wyre Forest	98,100	1.01	1.24	0.93	1.06	0.89	0.64	82	0.96	0.76	1.21	119	2.8
Birmingham and the Black Country	**NHS Birmingham CrossCity**	**721,400**	**1.84**	**1.52**	**1.38**	**1.62**	**1.48**	**1.41**	**133**	**1.54**	**1.42**	**1.67**	**141**	**35.2**
	NHS Birmingham South and Central	**199,600**	**1.47**	**1.85**	**1.47**	**1.82**	**1.55**	**1.68**	**150**	**1.64**	**1.41**	**1.91**	**143**	**40.4**
	NHS Dudley	313,600	0.89	1.38	0.80	0.84	1.19	1.09	128	1.03	0.90	1.18	117	10.0
	NHS Sandwell and West Birmingham	**475,700**	**2.45**	**2.04**	**1.82**	**1.69**	**1.46**	**1.45**	**135**	**1.81**	**1.66**	**1.99**	**163**	**45.3**
	NHS Solihull	207,400	1.03	1.35	0.99	0.67	0.99	0.89	106	0.98	0.84	1.16	113	10.9
	NHS Walsall	**270,900**	**1.35**	**1.08**	**1.93**	**1.21**	**1.34**	**1.56**	**170**	**1.41**	**1.24**	**1.60**	**149**	**21.1**
	NHS Wolverhampton	**251,000**	**1.42**	**1.12**	**1.46**	**1.15**	**1.49**	**1.05**	**112**	**1.28**	**1.12**	**1.47**	**132**	**32.0**

Table 1.3. Continued

UK Area	CCG/HB	Tot pop (2012)	2008 O/E	2009 O/E	2010 O/E	2011 O/E	2012 O/E	2013		2008–2013				% non-White
								O/E	Crude rate pmp	O/E	LCL	UCL	Crude rate pmp*	
Derbyshire and Notting-hamshire	NHS Erewash	94,600	1.28	1.35	0.89	1.15	1.33	1.30	148	1.22	0.97	1.52	134	3.2
	NHS Hardwick	108,900	1.04	1.02	0.40	0.70	0.85	0.76	92	0.80	0.62	1.02	93	1.8
	NHS Mansfield & Ashfield	192,500	0.91	1.09	0.92	0.75	0.83	0.82	93	0.88	0.74	1.06	98	2.5
	NHS Newark & Sherwood	115,900	0.97	0.95	0.97	1.30	0.93	0.49	60	0.93	0.75	1.17	111	2.4
	NHS North Derbyshire	*272,100*	*0.87*	*0.49*	*0.68*	*0.93*	*0.77*	*0.73*	*92*	*0.75*	*0.63*	*0.88*	*91*	*2.5*
	NHS Nottingham City	**308,700**	**1.33**	**1.28**	**1.58**	**1.10**	**1.23**	**1.28**	**110**	**1.30**	**1.13**	**1.49**	**109**	**28.5**
	NHS Nottingham North & East	146,200	0.80	1.21	0.87	0.78	0.72	0.70	82	0.85	0.68	1.05	96	6.2
	NHS Nottingham West	110,700	1.04	1.10	0.97	0.55	1.08	1.22	145	0.99	0.79	1.24	114	7.3
	NHS Rushcliffe	111,600	0.95	0.78	0.95	1.15	0.38	1.05	125	0.88	0.69	1.11	102	6.9
	NHS Southern Derbyshire	515,300	1.44	1.07	0.96	1.04	1.13	0.88	97	1.09	0.98	1.20	116	11.0
East Anglia	*NHS Cambridgeshire and Peterborough*	*849,000*	*0.78*	*1.06*	*0.77*	*0.91*	*0.67*	*1.09*	*118*	*0.88*	*0.81*	*0.97*	*92*	*9.5*
	NHS Great Yarmouth & Waveney	213,200	1.11	0.86	1.06	1.14	0.95	0.87	113	1.00	0.85	1.16	126	2.7
	NHS Ipswich and East Suffolk	*395,700*	*0.83*	*0.84*	*0.68*	*0.62*	*0.89*	*0.89*	*109*	*0.79*	*0.69*	*0.90*	*94*	*5.6*
	NHS North Norfolk	*167,900*	*1.00*	*0.47*	*0.78*	*0.51*	*0.71*	*0.86*	*125*	*0.72*	*0.59*	*0.87*	*101*	*1.5*
	NHS Norwich	193,400	1.00	1.18	1.15	1.07	0.87	0.71	78	0.99	0.83	1.19	105	7.3
	NHS South Norfolk	*235,200*	*0.49*	*0.59*	*0.67*	*0.96*	*0.82*	*0.97*	*123*	*0.75*	*0.63*	*0.89*	*93*	*2.6*
	NHS West Norfolk	*171,300*	*1.20*	*0.67*	*0.82*	*0.62*	*0.66*	*0.61*	*82*	*0.76*	*0.63*	*0.92*	*99*	*2.6*
	NHS West Suffolk	*221,000*	*0.52*	*0.87*	*0.84*	*0.70*	*0.89*	*0.84*	*100*	*0.78*	*0.65*	*0.93*	*90*	*4.6*
Essex	NHS Basildon and Brentwood	250,500	0.95	0.89	0.83	1.03	1.24	0.86	96	0.97	0.83	1.13	104	7.1
	NHS Castle Point, Rayleigh and Rochford	*172,100*	*0.62*	*0.56*	*0.86*	*0.74*	*0.69*	*1.18*	*151*	*0.78*	*0.64*	*0.95*	*97*	*3.0*
	NHS Mid Essex	*379,600*	*0.84*	*0.85*	*0.84*	*0.98*	*0.81*	*0.71*	*82*	*0.84*	*0.73*	*0.96*	*94*	*4.4*
	NHS North East Essex	314,300	1.64	0.86	0.98	1.25	0.95	0.86	105	1.09	0.96	1.23	129	5.5
	NHS Southend	174,800	1.24	0.63	0.65	0.84	0.94	1.17	132	0.91	0.75	1.10	99	8.4
	NHS Thurrock	159,500	1.50	0.47	1.17	1.20	0.79	0.91	88	1.00	0.82	1.23	94	14.1
	NHS West Essex	*290,000*	*0.42*	*0.83*	*0.65*	*0.72*	*1.19*	*0.98*	*110*	*0.80*	*0.68*	*0.94*	*87*	*8.2*
Hertford-shire and the South Midlands	*NHS Bedfordshire*	*419,200*	*0.71*	*0.86*	*0.90*	*0.74*	*1.00*	*1.06*	*117*	*0.88*	*0.77*	*1.00*	*93*	*11.2*
	NHS Corby	63,100	1.67	1.31	1.34	1.14	0.81	0.63	63	1.14	0.85	1.55	111	4.5
	NHS East and North Hertfordshire	*540,700*	*0.74*	*0.70*	*0.89*	*1.06*	*0.70*	*1.10*	*118*	*0.87*	*0.77*	*0.97*	*90*	*10.4*
	NHS Herts Valleys	569,900	1.06	0.92	0.86	0.78	0.89	0.93	98	0.91	0.81	1.01	93	14.6
	NHS Luton	**205,800**	**1.08**	**1.07**	**1.09**	**1.39**	**1.22**	**2.12**	**189**	**1.33**	**1.13**	**1.57**	**116**	**45.3**
	NHS Milton Keynes	257,900	0.91	0.90	1.05	0.98	1.14	0.91	85	0.98	0.83	1.16	89	19.6
	NHS Nene	621,800	1.17	0.81	0.75	0.90	1.07	0.98	106	0.95	0.86	1.05	100	9.1
Leicester-shire and Lincolnshire	*NHS East Leicestershire and Rutland*	*319,500*	*0.60*	*0.54*	*0.71*	*0.69*	*0.98*	*0.93*	*113*	*0.75*	*0.64*	*0.87*	*87*	*9.8*
	NHS Leicester City	**331,600**	**1.48**	**1.50**	**1.71**	**1.79**	**1.62**	**1.73**	**151**	**1.64**	**1.46**	**1.84**	**139**	**49.5**
	NHS Lincolnshire East	*228,100*	*0.70*	*0.69*	*0.77*	*0.88*	*0.74*	*1.11*	*153*	*0.82*	*0.70*	*0.96*	*110*	*2.0*
	NHS Lincolnshire West	*227,700*	*0.64*	*0.63*	*0.64*	*0.74*	*0.42*	*0.80*	*92*	*0.64*	*0.53*	*0.79*	*72*	*3.0*
	NHS South Lincolnshire	141,000	0.59	0.81	1.24	0.97	0.96	0.67	85	0.87	0.71	1.07	108	2.3
	NHS South West Lincolnshire	122,000	0.70	0.96	0.91	0.95	0.68	0.86	107	0.85	0.67	1.06	101	2.3
	NHS West Leicestershire	*374,200*	*0.79*	*0.97*	*1.11*	*0.91*	*0.52*	*0.82*	*94*	*0.85*	*0.74*	*0.97*	*94*	*6.9*
Shropshire and Staffordshire	NHS Cannock Chase	132,800	1.04	0.48	1.12	1.15	0.81	0.99	113	0.93	0.75	1.16	103	2.4
	NHS East Staffordshire	123,900	0.60	0.66	1.42	0.95	0.72	1.13	129	0.91	0.73	1.15	101	9.0
	NHS North Staffordshire	213,200	0.89	1.11	0.69	1.10	0.58	0.84	103	0.87	0.73	1.03	103	3.5
	NHS Shropshire	308,200	1.05	0.69	0.92	0.94	0.75	1.02	130	0.90	0.78	1.03	110	2.0
	NHS South East Staffs and Seisdon and Peninsular	222,800	1.22	0.81	0.71	0.99	0.72	0.63	76	0.84	0.71	1.00	99	3.6
	NHS Stafford and Surrounds	151,100	0.56	1.10	1.12	0.82	0.92	0.85	106	0.89	0.73	1.09	108	4.7
	NHS Stoke on Trent	258,100	0.99	1.38	1.37	1.03	0.85	1.05	112	1.11	0.96	1.28	116	11.0
	NHS Telford & Wrekin	**167,700**	**1.02**	**1.24**	**1.45**	**1.11**	**1.22**	**1.37**	**143**	**1.24**	**1.04**	**1.47**	**125**	**7.3**

Table 1.3. Continued

UK Area	CCG/HB	Tot pop (2012)	2008 O/E	2009 O/E	2010 O/E	2011 O/E	2012 O/E	2013		2008–2013				% non-White
								O/E	Crude rate pmp	O/E	LCL	UCL	Crude rate pmp*	
London	**NHS Barking & Dagenham**	**190,600**	**1.78**	**1.42**	**1.38**	**1.67**	**2.07**	**1.71**	**136**	**1.67**	**1.42**	**1.96**	**130**	**41.7**
	NHS Barnet	**364,000**	**1.43**	**1.25**	**1.78**	**1.45**	**1.53**	**1.30**	**124**	**1.46**	**1.30**	**1.63**	**134**	**35.9**
	NHS Camden	**225,000**	**1.05**	**1.46**	**1.71**	**1.18**	**1.24**	**1.42**	**124**	**1.34**	**1.15**	**1.57**	**115**	**33.7**
	NHS City and Hackney	**259,700**	**1.34**	**1.92**	**1.65**	**1.79**	**2.17**	**2.02**	**150**	**1.82**	**1.59**	**2.09**	**132**	**44.6**
	NHS Enfield	**317,300**	**1.37**	**1.35**	**1.38**	**2.00**	**1.64**	**1.68**	**154**	**1.57**	**1.39**	**1.77**	**140**	**39.0**
	NHS Haringey	**258,900**	**1.62**	**1.02**	**1.50**	**1.78**	**2.41**	**2.36**	**193**	**1.79**	**1.57**	**2.04**	**142**	**39.5**
	NHS Havering	*239,700*	*0.78*	*0.69*	*0.35*	*1.18*	*1.06*	*0.81*	*92*	*0.81*	*0.68*	*0.97*	*89*	*12.3*
	NHS Islington	**211,000**	**1.03**	**1.51**	**1.55**	**1.61**	**2.15**	**1.52**	**123**	**1.56**	**1.34**	**1.83**	**123**	**31.8**
	NHS Newham	**314,100**	**1.68**	**2.15**	**2.40**	**2.30**	**2.08**	**2.40**	**169**	**2.17**	**1.93**	**2.44**	**149**	**71.0**
	NHS Redbridge	**284,600**	**1.63**	**1.77**	**1.57**	**1.40**	**2.19**	**2.07**	**186**	**1.77**	**1.57**	**2.00**	**155**	**57.5**
	NHS Tower Hamlets	**263,000**	**1.91**	**1.80**	**1.55**	**1.83**	**2.15**	**2.44**	**163**	**1.95**	**1.70**	**2.24**	**128**	**54.8**
	NHS Waltham Forest	**262,600**	**1.32**	**1.40**	**1.25**	**1.85**	**1.30**	**1.72**	**145**	**1.48**	**1.28**	**1.70**	**121**	**47.8**
	NHS Brent	**314,700**	**1.92**	**2.24**	**2.71**	**2.14**	**2.50**	**2.02**	**178**	**2.25**	**2.03**	**2.50**	**193**	**63.7**
	NHS Central London (Westminster)	**161,000**	**1.22**	**1.40**	**1.37**	**1.39**	**1.32**	**1.49**	**143**	**1.37**	**1.14**	**1.63**	**127**	**36.2**
	NHS Ealing	**340,700**	**1.44**	**2.34**	**2.02**	**1.92**	**2.28**	**1.68**	**150**	**1.95**	**1.75**	**2.16**	**169**	**51.0**
	NHS Hammersmith and Fulham	**179,900**	**0.56**	**1.31**	**1.56**	**1.50**	**1.51**	**1.01**	**83**	**1.24**	**1.03**	**1.50**	**100**	**31.9**
	NHS Harrow	**242,400**	**1.51**	**2.08**	**2.13**	**2.23**	**1.59**	**1.11**	**111**	**1.77**	**1.57**	**2.01**	**173**	**57.8**
	NHS Hillingdon	**281,800**	**1.26**	**1.24**	**1.51**	**1.50**	**1.53**	**1.47**	**138**	**1.42**	**1.24**	**1.62**	**130**	**39.4**
	NHS Hounslow	**259,100**	**1.10**	**1.63**	**1.86**	**1.88**	**1.79**	**2.10**	**185**	**1.73**	**1.52**	**1.97**	**148**	**48.6**
	NHS West London (Kensington and Chelsea, Queen's Park and Paddington)	**218,800**	**1.62**	**1.20**	**1.28**	**1.24**	**0.94**	**1.02**	**96**	**1.21**	**1.03**	**1.43**	**111**	**33.4**
	NHS Bexley	234,300	1.19	1.29	1.36	1.20	0.86	1.05	111	1.16	0.99	1.34	119	18.1
	NHS Bromley	314,000	1.26	0.99	1.13	0.71	0.71	0.81	89	0.93	0.81	1.08	99	15.7
	NHS Croydon	**368,900**	**1.52**	**1.64**	**1.44**	**1.27**	**2.03**	**1.93**	**182**	**1.64**	**1.47**	**1.83**	**150**	**44.9**
	NHS Greenwich	**260,100**	**1.61**	**1.36**	**2.12**	**1.07**	**1.25**	**2.37**	**200**	**1.63**	**1.43**	**1.87**	**134**	**37.5**
	NHS Kingston	163,900	1.35	0.93	0.89	0.99	1.12	1.10	104	1.06	0.87	1.30	98	25.5
	NHS Lambeth	**310,200**	**1.64**	**1.89**	**1.42**	**1.83**	**1.71**	**1.34**	**103**	**1.64**	**1.44**	**1.86**	**123**	**42.9**
	NHS Lewisham	**281,600**	**1.56**	**2.29**	**1.54**	**1.84**	**1.92**	**1.54**	**128**	**1.78**	**1.57**	**2.02**	**144**	**46.5**
	NHS Merton	**202,200**	**1.75**	**1.39**	**1.20**	**1.55**	**1.71**	**1.08**	**99**	**1.45**	**1.24**	**1.69**	**129**	**35.1**
	NHS Richmond	*189,100*	*0.66*	*0.81*	*0.89*	*0.70*	*0.80*	*0.95*	*95*	*0.80*	*0.65*	*0.99*	*78*	*14.0*
	NHS Southwark	**293,500**	**2.14**	**1.54**	**1.95**	**2.06**	**1.84**	**2.28**	**177**	**1.97**	**1.74**	**2.22**	**149**	**45.8**
	NHS Sutton	**193,600**	**1.44**	**0.99**	**1.44**	**1.30**	**1.55**	**0.86**	**88**	**1.26**	**1.07**	**1.48**	**125**	**21.4**
	NHS Wandsworth	**308,300**	**1.42**	**1.99**	**1.50**	**1.23**	**1.27**	**0.93**	**75**	**1.39**	**1.21**	**1.59**	**109**	**28.6**
Bath, Gloucestershire, and Wiltshire	NHS Bath and North East Somerset	177,600	0.74	1.24	0.63	0.56	0.91	0.95	107	0.84	0.69	1.02	92	5.4
	NHS Gloucestershire	602,200	0.63	1.14	0.90	0.89	1.18	0.73	86	0.91	0.82	1.01	105	4.6
	NHS Swindon	217,200	1.08	1.07	1.04	1.15	1.23	0.94	97	1.09	0.92	1.28	108	10.0
	NHS Wiltshire	*476,800*	*0.83*	*0.78*	*0.81*	*0.64*	*0.49*	*0.79*	*92*	*0.72*	*0.64*	*0.82*	*82*	*3.4*
Bristol, North Somerset, Somerset and South Gloucestershire	**NHS Bristol**	**432,500**	**1.53**	**1.28**	**1.49**	**1.41**	**1.24**	**1.36**	**127**	**1.38**	**1.24**	**1.54**	**126**	**16.0**
	NHS North Somerset	204,400	1.28	0.96	0.99	0.88	0.99	1.05	132	1.02	0.87	1.20	125	2.7
	NHS Somerset	*535,000*	*0.79*	*1.08*	*1.09*	*0.83*	*0.67*	*0.56*	*71*	*0.84*	*0.75*	*0.93*	*103*	*2.0*
	NHS South Gloucestershire	266,100	0.92	0.66	1.09	0.62	0.82	1.17	132	0.88	0.75	1.03	96	5.0
Devon, Cornwall and Isles of Scilly	NHS Kernow	540,200	0.91	1.07	0.89	0.81	0.96	0.87	113	0.92	0.83	1.02	115	1.8
	NHS North, East, West Devon	869,400	1.10	1.06	1.00	0.92	1.00	0.84	104	0.98	0.91	1.07	117	3.0
	NHS South Devon and Torbay	273,300	1.43	0.87	1.26	0.89	1.07	1.00	135	1.08	0.95	1.23	142	2.1

Table 1.3. Continued

UK Area	CCG/HB	Tot pop (2012)	2008 O/E	2009 O/E	2010 O/E	2011 O/E	2012 O/E	2013		2008–2013				% non-White
								O/E	Crude rate pmp	O/E	LCL	UCL	Crude rate pmp*	
Kent and Medway	NHS Ashford	120,100	1.50	1.01	0.95	0.85	1.29	1.12	125	1.12	0.91	1.38	121	6.3
	NHS Canterbury and Coastal	200,300	0.91	1.07	0.96	0.84	0.57	0.95	110	0.88	0.74	1.06	99	5.9
	NHS Dartford, Gravesham and Swanley	249,200	1.09	1.18	0.98	0.91	0.98	1.44	156	1.10	0.95	1.27	116	13.0
	NHS Medway	268,200	0.69	0.91	0.74	0.94	0.78	1.10	112	0.86	0.73	1.02	85	10.4
	NHS South Kent Coast	203,000	1.09	0.70	0.92	1.02	0.61	0.79	99	0.85	0.72	1.02	103	4.5
	NHS Swale	108,200	1.41	1.31	1.07	0.60	1.37	0.84	92	1.10	0.88	1.37	117	3.8
	NHS Thanet	**135,700**	**1.21**	**1.18**	**1.46**	**0.86**	**1.04**	**1.69**	**206**	**1.24**	**1.04**	**1.48**	**147**	**4.5**
	NHS West Kent	*463,700*	*0.97*	*0.81*	*0.75*	*0.86*	*0.60*	*0.70*	*80*	*0.78*	*0.69*	*0.89*	*86*	*4.9*
Surrey and Sussex	NHS Brighton & Hove	275,800	1.07	1.13	0.84	0.92	1.16	0.79	76	0.98	0.84	1.15	92	10.9
	NHS Coastal West Sussex	*476,700*	*0.87*	*0.68*	*0.51*	*0.65*	*0.79*	*0.79*	*105*	*0.72*	*0.63*	*0.81*	*92*	*3.8*
	NHS Crawley	108,300	1.22	1.51	1.95	0.50	0.79	1.07	102	1.17	0.92	1.48	108	20.1
	NHS East Surrey	175,900	0.65	0.69	1.31	0.74	1.26	0.98	108	0.94	0.78	1.14	100	8.3
	NHS Eastbourne, Hailsham and Seaford	182,000	0.74	0.51	0.60	0.84	1.13	1.19	159	0.84	0.70	1.00	109	4.4
	NHS Guildford and Waverley	205,900	1.06	0.99	0.69	0.71	1.15	0.52	58	0.85	0.71	1.03	92	7.2
	NHS Hastings & Rother	181,400	0.85	0.61	0.80	0.95	0.78	1.18	154	0.87	0.72	1.04	109	4.6
	NHS High Weald Lewes Havens	*167,800*	*0.55*	*0.74*	*0.65*	*0.68*	*0.92*	*0.62*	*77*	*0.69*	*0.56*	*0.86*	*84*	*3.1*
	NHS Horsham and Mid Sussex	*223,300*	*0.74*	*0.76*	*0.74*	*0.80*	*0.51*	*0.77*	*90*	*0.72*	*0.60*	*0.87*	*81*	*4.9*
	NHS North West Surrey	338,200	0.96	0.83	1.13	1.29	0.90	0.94	103	1.01	0.88	1.15	108	12.5
	NHS Surrey Downs	282,700	0.83	1.09	0.95	0.95	0.89	1.05	124	0.96	0.83	1.11	110	9.1
	NHS Surrey Heath	94,100	1.08	1.16	0.79	0.77	0.67	0.47	53	0.82	0.62	1.08	90	9.3
Thames Valley	*NHS Aylesbury Vale*	*196,400*	*0.83*	*0.58*	*0.98*	*1.05*	*0.76*	*0.70*	*76*	*0.82*	*0.67*	*0.99*	*87*	*9.7*
	NHS Bracknell and Ascot	132,900	1.02	0.77	1.03	0.77	0.38	1.19	120	0.86	0.68	1.09	84	9.5
	NHS Chiltern	*317,900*	*0.79*	*1.14*	*0.67*	*0.68*	*0.73*	*0.97*	*110*	*0.83*	*0.72*	*0.97*	*92*	*15.8*
	NHS Newbury and District	105,100	0.74	1.09	0.65	0.63	0.71	1.14	124	0.83	0.64	1.08	87	4.4
	NHS North & West Reading	*99,300*	*1.15*	*0.28*	*0.29*	*0.93*	*0.93*	*0.64*	*70*	*0.70*	*0.53*	*0.94*	*76*	*10.4*
	NHS Oxfordshire	647,100	0.67	1.01	0.91	1.01	0.98	0.89	96	0.91	0.83	1.01	95	9.3
	NHS Slough	**141,800**	**2.36**	**1.88**	**2.12**	**2.22**	**1.77**	**1.74**	**141**	**2.01**	**1.70**	**2.38**	**159**	**54.3**
	NHS South Reading	**107,200**	**2.28**	**1.31**	**1.34**	**1.17**	**1.18**	**2.43**	**196**	**1.62**	**1.31**	**2.01**	**128**	**30.5**
	NHS Windsor, Ascot and Maidenhead	139,000	0.63	1.17	0.91	1.23	0.61	1.33	144	0.98	0.80	1.21	103	14.7
	NHS Wokingham	156,700	0.86	0.78	0.80	1.32	0.47	0.87	96	0.85	0.69	1.05	90	11.6
Wessex	*NHS Dorset*	*750,300*	*0.83*	*0.63*	*0.61*	*0.72*	*0.71*	*0.72*	*93*	*0.70*	*0.64*	*0.78*	*88*	*4.0*
	NHS Fareham and Gosport	196,100	0.63	1.10	1.12	0.78	0.78	1.10	133	0.92	0.77	1.10	107	3.4
	NHS Isle of Wight	*138,700*	*0.28*	*0.17*	*0.62*	*0.76*	*0.87*	*1.28*	*173*	*0.67*	*0.53*	*0.84*	*88*	*2.7*
	NHS North East Hampshire and Farnham	206,800	1.54	0.90	0.87	0.84	1.16	1.19	126	1.08	0.91	1.28	111	9.7
	NHS North Hampshire	*216,200*	*0.45*	*0.53*	*0.77*	*0.70*	*0.48*	*0.72*	*79*	*0.61*	*0.49*	*0.75*	*64*	*6.4*
	NHS Portsmouth	206,800	0.91	0.69	0.54	1.30	1.10	1.12	106	0.95	0.78	1.14	87	11.6
	NHS South Eastern Hampshire	209,100	0.94	1.03	1.06	0.75	0.63	1.00	124	0.90	0.76	1.06	108	3.1
	NHS Southampton	239,400	1.23	0.79	1.24	1.15	0.88	0.63	58	0.98	0.83	1.17	88	14.1
	NHS West Hampshire	*544,400*	*0.72*	*0.66*	*0.47*	*0.67*	*0.62*	*0.67*	*83*	*0.63*	*0.56*	*0.72*	*76*	*3.9*
Wales	Betsi Cadwaladr University	690,400	0.98	0.95	0.97	0.82	0.99	0.86	106	0.93	0.85	1.02	111	2.5
	Powys Teaching	133,000	0.94	1.04	0.70	1.25	1.30	0.72	98	0.99	0.82	1.20	130	1.6
	Hywel Dda	383,400	1.20	0.77	1.11	1.18	0.90	1.07	136	1.04	0.93	1.16	127	2.2
	Abertawe Bro Morgannwg University	**519,500**	**1.24**	**1.51**	**1.51**	**1.16**	**1.42**	**1.05**	**121**	**1.31**	**1.20**	**1.44**	**148**	**3.9**
	Cwm Taf	**294,500**	**1.11**	**1.29**	**0.99**	**1.46**	**0.92**	**1.09**	**122**	**1.14**	**1.00**	**1.31**	**125**	**2.6**
	Aneurin Bevan	578,000	0.95	0.95	1.31	1.19	1.17	1.03	118	1.10	1.00	1.21	122	3.9
	Cardiff and Vale University	475,300	1.03	1.17	1.33	1.01	1.00	1.11	112	1.11	0.99	1.24	108	12.2

Table 1.3. Continued

UK Area	CCG/HB	Tot pop (2012)	2008 O/E	2009 O/E	2010 O/E	2011 O/E	2012 O/E	2013 O/E	2013 Crude rate pmp	2008–2013 O/E	2008–2013 LCL	2008–2013 UCL	2008–2013 Crude rate pmp*	% non-White
Scotland	Ayrshire and Arran	373,200	0.88	0.88	1.11	0.81	0.94	0.99	121	0.93	0.82	1.06	111	1.2
	Borders	*113,700*	*1.07*	*0.97*	*1.06*	*0.55*	*0.48*	*0.47*	*62*	*0.76*	*0.60*	*0.97*	*97*	*1.3*
	Dumfries and Galloway	*150,800*	*1.11*	*1.08*	*0.58*	*0.56*	*1.01*	*0.45*	*60*	*0.80*	*0.65*	*0.98*	*103*	*1.2*
	Fife	366,200	0.99	1.19	1.24	1.16	0.88	1.01	117	1.08	0.95	1.21	122	2.4
	Forth Valley	299,100	0.78	1.01	1.03	0.82	0.84	1.00	114	0.91	0.79	1.06	100	2.2
	Grampian	*573,400*	*0.91*	*0.85*	*0.85*	*0.82*	*0.82*	*0.91*	*101*	*0.86*	*0.77*	*0.96*	*92*	*4.0*
	Greater Glasgow and Clyde	1,217,000	0.95	0.99	0.87	1.07	1.09	0.95	102	0.99	0.92	1.06	103	7.3
	Highland	*319,800*	*0.76*	*0.75*	*0.63*	*0.51*	*0.63*	*0.62*	*78*	*0.65*	*0.56*	*0.76*	*79*	*1.3*
	Lanarkshire	572,500	0.74	0.86	1.01	0.82	1.12	0.85	94	0.90	0.81	1.00	97	2.0
	Lothian	*843,700*	*0.97*	*0.85*	*0.62*	*0.73*	*0.74*	*0.60*	*63*	*0.75*	*0.68*	*0.83*	*76*	*5.6*
	Orkney	21,500	1.16	1.13	0.39	0.00	1.85	0.73	93	0.88	0.52	1.48	108	0.7
	Shetland	*23,200*	*0.00*	*0.78*	*0.40*	*0.77*	*0.00*	*0.75*	*86*	*0.45*	*0.21*	*0.95*	*50*	*1.5*
	Tayside	411,700	1.16	1.27	1.01	1.15	0.69	0.86	102	1.02	0.91	1.14	118	3.2
	Western Isles	27,600	0.29	0.85	1.45	0.00	0.00	1.10	145	0.62	0.36	1.06	79	0.9
Northern Ireland	**Belfast**	**348,300**	**1.02**	**0.77**	**1.30**	**1.05**	**1.67**	**1.15**	**115**	**1.16**	**1.02**	**1.32**	**113**	**3.2**
	Northern	465,500	1.16	0.81	1.15	1.26	1.15	1.00	105	1.09	0.97	1.22	111	1.2
	Southern	363,100	0.99	0.77	1.03	1.29	0.82	0.83	80	0.96	0.83	1.10	89	1.2
	South Eastern	*350,100*	*0.87*	*0.66*	*0.70*	*0.93*	*0.79*	*0.90*	*97*	*0.81*	*0.70*	*0.94*	*84*	*1.3*
	Western	296,600	0.83	1.21	0.84	1.09	0.56	0.99	98	0.92	0.79	1.08	88	1.0

between areas. From the analysis using all six years combined, 49 areas were significantly high and 66 were significantly low out of a total of 237 areas. The standardised incidence ratios ranged from 0.45 to 2.25 (IQR 0.82, 1.10). 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.

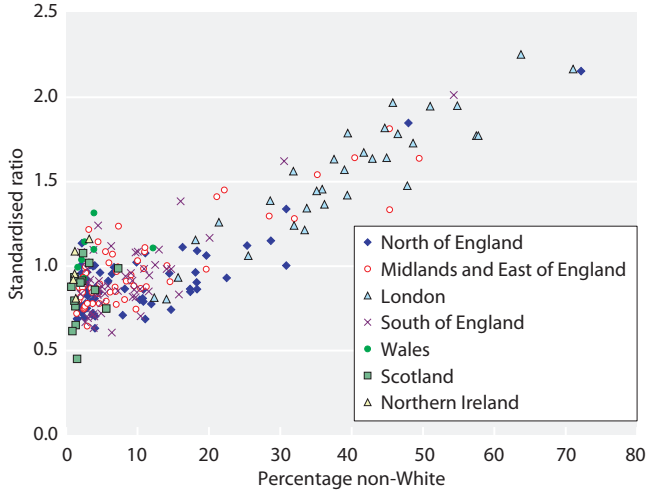

Fig. 1.2. Age/gender standardised incidence ratio (2008–2013) by percentage non-White

Centre level

The number of new patients starting RRT at each renal centre from 2008 to 2013 is shown in table 1.4. The table also shows centre level incidence rates (per million population) for 2013. 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 a fall of approximately 5% in the number of new patients for Scotland between 2008 and 2013. There was an increase of 6% in new patients for England

Table 1.4. Number of patients starting RRT by renal centre 2008–2013

Centre	Year						Catchment population (millions)	2013 crude rate pmp[a]	(95% CI)
	2008	2009	2010	2011	2012	2013			
England									
B Heart	105	99	94	113	102	99	0.74	134	(108–161)
B QEH	267	256	198	216	213	191	1.70	112	(96–128)
Basldn	41	28	34	44	53	32	0.42	77	(50–104)
Bradfd	62	57	67	60	69	62	0.65	95	(71–119)
Brightn	118	117	106	119	135	139	1.30	107	(89–125)
Bristol	175	157	169	140	148	173	1.44	120	(102–138)
Camb	94	134	106	122	125	139	1.16	120	(100–140)
Carlis	30	28	22	28	19	41	0.32	128	(89–167)
Carsh	210	202	216	207	243	231	1.91	121	(105–136)
Chelms	36	51	45	47	46	42	0.51	82	(57–107)
Colchr	58	21	32	44	29	30	0.30	100	(64–136)
Covnt[b]	113	115	114	110	113	96	0.89	108	(86–129)
Derby	96	77	78	76	79	74	0.70	105	(81–129)
Donc	26	40	45	43	40	60	0.41	146	(109–183)
Dorset	82	73	72	79	73	74	0.86	86	(66–105)
Dudley	47	67	43	43	56	47	0.44	106	(76–137)
Exeter[b]	135	145	139	112	135	108	1.09	99	(80–118)
Glouc	46	79	61	58	76	54	0.59	92	(67–116)
Hull	110	99	86	109	97	92	1.02	90	(72–109)
Ipswi	38	38	33	29	43	39	0.40	98	(67–128)
Kent	138	126	132	121	115	145	1.22	118	(99–138)
L Barts	206	236	201	251	268	291	1.83	159	(141–177)
L Guys	161	172	144	123	129	130	1.08	120	(99–141)
L Kings	151	127	144	139	124	162	1.17	138	(117–160)
L Rfree	172	170	203	220	237	228	1.52	150	(131–170)
L St.G[b]	99	110	85	72	90	81	0.80	102	(79–124)
L West	294	357	365	365	355	303	2.40	126	(112–141)
Leeds	160	149	125	158	154	184	1.67	110	(94–126)
Leic	242	227	244	266	236	291	2.44	119	(106–133)
Liv Ain	42	38	50	58	63	66	0.48	136	(103–169)
Liv Roy	102	110	99	112	104	94	1.00	94	(75–113)
M RI	130	146	161	155	161	200	1.53	131	(113–149)
Middlbr	95	96	100	101	120	108	1.00	108	(87–128)
Newc	99	97	91	97	104	95	1.12	85	(68–102)
Norwch	84	71	85	85	74	76	0.79	97	(75–118)
Nottm	115	133	116	114	101	113	1.09	104	(85–123)
Oxford	147	174	165	177	170	166	1.69	98	(83–113)
Plymth[c]	69	57	56	60	55	63	0.47	134	(101–167)
Ports	170	149	149	187	160	198	2.02	98	(84–111)
Prestn	113	146	123	140	146	151	1.49	101	(85–117)
Redng	103	94	89	103	73	117	0.91	129	(105–152)
Salford[b]	138	125	149	132	134	122	1.49	82	(67–96)
Sheff	179	149	142	135	157	137	1.37	100	(83–117)
Shrew	59	48	58	61	58	61	0.50	122	(91–152)
Stevng[b]	103	98	107	110	109	130	1.20	108	(89–127)
Sthend	36	23	27	29	26	42	0.32	133	(92–173)
Stoke	79	108	95	91	74	100	0.89	112	(90–134)
Sund	45	64	54	57	71	49	0.62	79	(57–101)
Truro	41	58	46	38	49	46	0.41	111	(79–144)
Wirral	39	63	60	60	44	68	0.57	119	(91–147)
Wolve	89	65	106	77	87	88	0.67	132	(104–159)
York	37	43	38	51	53	36	0.49	73	(49–97)

Table 1.4. Continued

Centre	Year						Catchment population (millions)	2013 crude rate pmp[a]	(95% CI)
	2008	2009	2010	2011	2012	2013			
N Ireland									
Antrim	41	22	41	30	26	29	0.29	98	(63–134)
Belfast	70	57	70	68	93	69	0.64	108	(83–134)
Newry	21	19	21	36	17	23	0.26	88	(52–124)
Ulster	14	13	20	36	29	29	0.27	109	(69–149)
West NI	31	37	26	38	21	30	0.35	85	(55–116)
Scotland									
Abrdn	56	55	51	50	53	58	0.60	97	(72–122)
Airdrie	39	48	57	48	60	51	0.55	92	(67–118)
D & Gall	19	17	10	10	18	9	0.15	61	(21–100)
Dundee	64	69	50	58	39	42	0.46	91	(63–118)
Edinb	103	98	70	77	78	71	0.96	74	(57–91)
Glasgw	159	174	154	177	185	173	1.62	107	(91–122)
Inverns	25	21	27	13	17	19	0.27	70	(39–102)
Klmarnk	33	39	43	33	40	41	0.36	113	(79–148)
Krkcldy	30	33	45	43	30	38	0.32	120	(82–158)
Wales									
Bangor	40	30	26	20	21	24	0.22	110	(66–154)
Cardff	148	177	184	186	171	169	1.42	119	(101–137)
Clwyd[b]	15	25	21	17	22	20	0.19	105	(59–152)
Swanse	125	113	135	117	119	110	0.89	124	(101–147)
Wrexm	21	19	25	26	34	37	0.24	154	(104–204)
							% change since 2008		
England	**5,626**	**5,712**	**5,569**	**5,744**	**5,795**	**5,964**	**6.0**		
N Ireland	**177**	**148**	**178**	**208**	**186**	**180**	**1.7**		
Scotland	**528**	**554**	**507**	**509**	**520**	**502**	**−4.9**		
Wales	**349**	**364**	**391**	**366**	**367**	**360**	**3.2**		
UK	**6,680**	**6,778**	**6,645**	**6,827**	**6,868**	**7,006**	**4.9**		

[a]pmp – per million population
[b]Subsequent to closing the 2013 database several centres reported a variation to the numbers returned for 2013. Tables 1.2 and 1.4 (but not the remainder of this chapter) reflect these revisions (Covnt (+9), Exeter (+6), L St.G (+5), Salford (+11), Stevng (−29), Clwyd (+6))
[c]In last year's report the data included 47 incident patients for Plymouth for 2012 but the centre advised the UKRR that the number was 75 and an adjustment was made to the summary tables. After extensive data validation work the data now shows that there were 55 incident patients for 2012

between 2008 and 2013. Across all four countries the change between 2008 and 2013 was an increase of 4.9%.

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. Individual EDTA codes for primary diagnoses were grouped into eight categories, 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 to test for significant differences.

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 [2]. 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 in order to normalise the data.

Results

Age

Overall, incidence rates have plateaued in the last eight years (figure 1.3). Figure 1.4 shows RRT incidence rates for 2013 by age group and gender. For women, the peak rate was in the 75–79 age group and in men in the 80–84 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.

In 2013, the median age of patients starting renal replacement therapy was 64.5 years (table 1.5) and this has changed little over the last six years (data not shown). The median age at start was 67.1 years for patients starting on HD, 59.7 for patients starting on PD and 49.7 for those having a pre-emptive transplant (table 1.6). The median age of non-White patients (57.0 years) was considerably lower than for White patients (66.0 years) reflecting CKD differences and the younger age distribution of ethnic minority populations in general compared with the White population (in the 2011 census data for England and Wales 5.3% of ethnic minorities were over 65 years old compared to 18.3% of Whites) [3]. The median age of new patients with diabetes was similar to the overall median and has not varied greatly over the last five 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

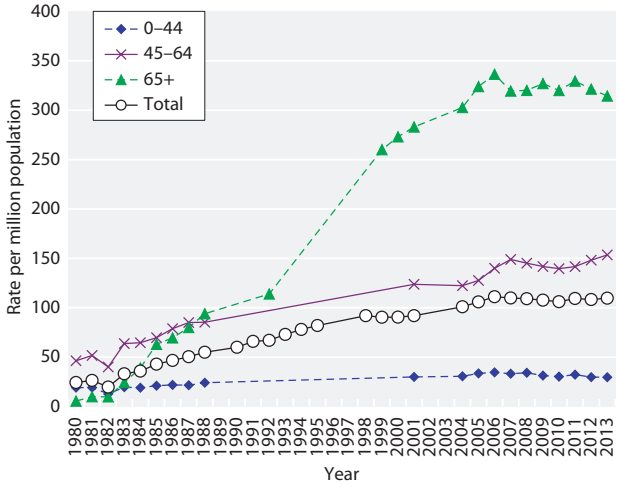

Fig. 1.3. RRT incidence rates between 1980 and 2013

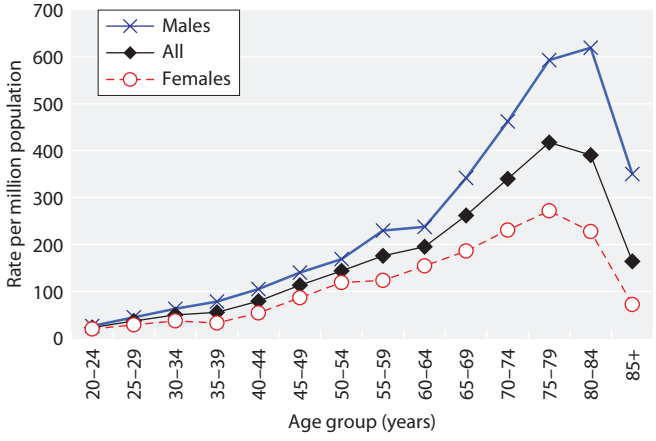

Fig. 1.4. RRT incidence rates in 2013 by age and gender

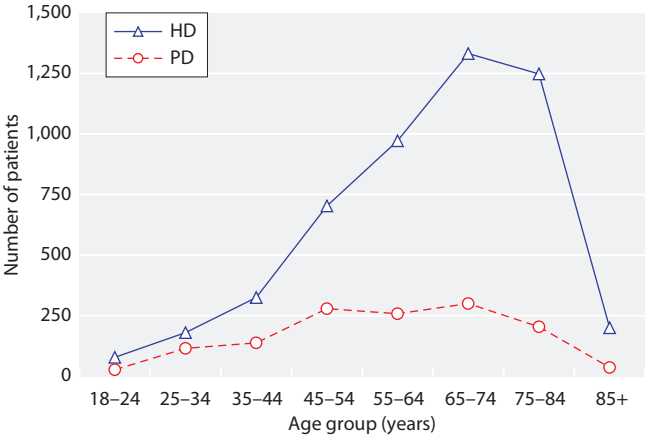

Fig. 1.5. Number of incident dialysis patients in 2013, by age group and initial dialysis modality

Table 1.5. Median, inter-quartile range and 90% range of the age of patients starting renal replacement therapy in 2013 by country

Country	Median	IQR	90% range
England	64.2	(51.0–74.6)	(31.3–83.9)
N Ireland	66.7	(50.9–75.0)	(32.0–82.8)
Scotland	64.1	(51.1–74.1)	(31.7–82.8)
Wales	68.9	(57.2–75.9)	(34.4–84.6)
UK	**64.5**	**(51.2–74.7)**	**(31.6–83.9)**

Table 1.6. Median, inter-quartile range and 90% range of the age of patients starting renal replacement therapy in 2013 by initial treatment modality

Treatment	Median	IQR	90% range
HD	67.1	(54.6–76.2)	(34.7–84.5)
PD	59.7	(47.2–71.5)	(29.3–82.5)
Transplant	49.7	(40.6–59.3)	(25.1–69.2)

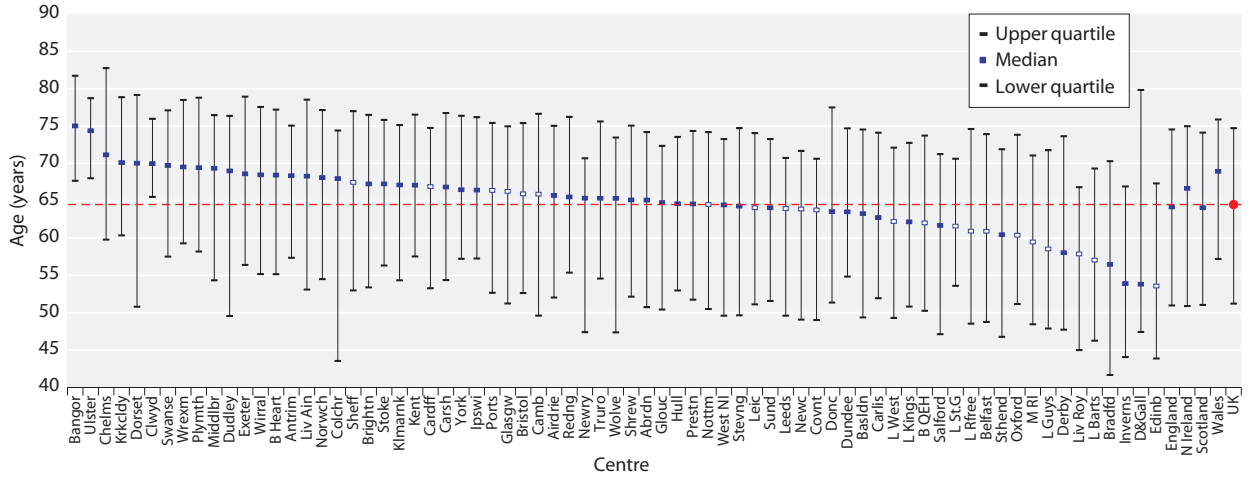

Fig. 1.6. Median age of incident RRT patients by centre in 2013
White points indicate transplant centres

centres, chance fluctuations. The median age of patients starting treatment at transplant centres was 62.8 years (IQR 49.8, 73.8) and at non-transplanting centres 65.7 years (IQR 52.4, 75.4) ($p < 0.0001$).

Averaged over 2008–2013, crude CCG/HB incidence rates in the over 75 years age group varied from 99 per million age related population (pmarp) in Shetland to 947 pmarp in NHS Brent (data not shown). Excluding two areas which had much higher rates than the rest, there was 7.3-fold variation (99 pmarp to 722 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 uncertainty within the renal community about the suitability of older patients for dialysis. The 7.3-fold variation between CCG/HBs seen in the over 75s was much greater than the 2.7-fold variation (64 pmp to 173 pmp) after excluding two outliers 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

There continued to be more men than women starting RRT in every age group (figure 1.7). The overall breakdown was 63.4% male, 36.6% female equating to a M : F ratio of 1.73.

Ethnicity

As in previous reports, Scotland is not included in this section as ethnicity completeness was low. Across centres in England, Wales and Northern Ireland the average completeness fell slightly in 2013 to 95.2% (vs. 98.1% for 2012). This was in large part due to one centre (Carshalton) which fell from a completeness of 85.9 to 54.1%. Completeness was 80% or more for all the other centres for 2013 (table 1.7) and was over 90% for all but seven centres. Ten centres reported no non-White patients starting in 2013 whilst some London centres reported over 50%.

Primary renal diagnosis

The breakdown of primary renal diagnosis (PRD) by centre is shown in table 1.8. The information was missing for 9.5% of patients. Fifty-eight centres provided data on over 90% of incident patients and 36 of these centres had 100% completeness. There was only a small amount of missing data for Wales, Northern Ireland and Scotland, whilst England had 11.0% missing (up from 7.4% for 2012). The overall percentage missing was up on 2012

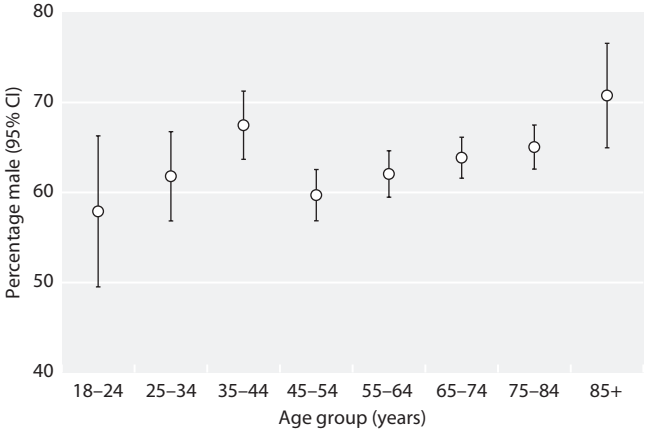

Fig. 1.7. Percentage of patients starting RRT in 2013 who were male, by age group

Table 1.7. Percentage of incident RRT patients (2013) 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	99	55.6	34.3	7.1	2.0	1.0
B QEH	0.0	191	64.9	22.0	10.5		2.6
Basldn	0.0	32	90.6	6.3		3.1	
Bradfd	0.0	62	53.2	43.5	1.6		1.6
Brightn	1.4	137	90.5	2.9	1.5		5.1
Bristol	2.3	169	88.8	4.1	2.4	0.6	4.1
Camb	6.5	130	96.2	1.5	1.5		0.8
Carlis	2.4	40	95.0		2.5		2.5
Carsh	45.9	125	72.0	17.6	4.8	0.8	4.8
Chelms	19.0	34	88.2	5.9		5.9	
Colchr	3.3	29	100.0				
Covnt	0.0	87	83.9	12.6	3.4		
Derby	8.1	68	89.7	5.9	2.9		1.5
Donc	0.0	60	91.7	3.3	1.7		3.3
Dorset	0.0	74	95.9	1.4	1.4		1.4
Dudley	4.3	45	88.9	8.9	2.2		
Exeter	1.0	101	100.0				
Glouc	0.0	54	92.6	3.7	1.9		1.9
Hull	3.3	89	97.8	2.2			
Ipswi	15.4	33	100.0				
Kent	2.1	142	96.5	0.7	1.4	0.7	0.7
L Barts	1.0	288	33.3	25.7	39.2	1.4	0.3
L Guys	3.8	125	50.4	11.2	30.4	1.6	6.4
L Kings	0.0	162	54.3	8.0	30.2	2.5	4.9
L Rfree	13.6	197	39.6	21.3	26.4	1.0	11.7
L St.G	14.5	65	46.2	23.1	23.1		7.7
L West	0.0	303	39.3	40.6	18.5	1.7	
Leeds	0.0	184	79.9	13.0	4.9	1.1	1.1
Leic	7.6	269	75.8	19.0	3.0	1.1	1.1
Liv Ain	4.5	63	92.1	1.6	1.6	1.6	3.2
Liv Roy	1.1	93	90.3	4.3	2.2		3.2
M RI	7.0	186	75.8	10.2	10.8		3.2
Middlbr	0.0	108	96.3	2.8		0.9	
Newc	0.0	95	95.8	3.2	1.1		
Norwch	1.3	75	100.0				
Nottm	0.0	113	89.4	6.2	2.7		1.8
Oxford	1.2	164	82.9	9.1	5.5	1.2	1.2
Plymth	0.0	63	98.4	1.6			
Ports	6.6	185	96.8	2.2	0.5		0.5
Prestn	1.3	149	86.6	12.8	0.7		
Redng	14.5	100	80.0	12.0	6.0	1.0	1.0
Salford	0.9	110	76.4	20.9	1.8		0.9
Sheff	4.4	131	88.6	6.9	2.3		2.3
Shrew	0.0	61	91.8	6.6	1.6		
Stevng	4.4	152	72.4	16.4	7.9	0.7	2.6
Sthend	16.7	35	97.1				2.9
Stoke	8.0	92	93.5	3.3	2.2		1.1
Sund	0.0	49	98.0	2.0			
Truro	0.0	46	100.0				
Wirral	2.9	66	98.5			1.5	
Wolve	1.1	87	69.0	21.8	5.7	2.3	1.1
York	0.0	36	94.4		2.8		2.8

Table 1.7. Continued

Centre	% data not available	*N* with data	Percentage in each ethnic group				
			White	South Asian	Black	Chinese	Other
N Ireland							
Antrim	0.0	29	96.6		3.4		
Belfast	1.4	68	98.5		1.5		
Newry	0.0	23	100.0				
Ulster	0.0	29	96.6			3.4	
West NI	0.0	30	100.0				
Wales							
Bangor	0.0	24	100.0				
Cardff	0.0	169	89.3	7.1	2.4	0.6	0.6
Clwyd	7.1	13	100.0				
Swanse	0.9	109	100.0				
Wrexm	2.7	36	97.2			2.8	
England	**5.2**	**5,653**	**76.8**	**12.3**	**8.2**	**0.7**	**2.0**
N Ireland	**0.6**	**179**	**98.3**		**1.1**	**0.6**	
Wales	**0.8**	**351**	**94.6**	**3.4**	**1.1**	**0.6**	**0.3**
E, W & NI	**4.8**	**6,183**	**78.4**	**11.5**	**7.6**	**0.7**	**1.9**

Blank cells – no reported patients

(9.5% from 6.3%) and was similar in under and over 65 year olds (9.3% and 9.7% respectively). Five 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. 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 (50%), Colchester (67%) and Ipswich (49%). 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 8% to over 46% of incident patients. The overall percentage with uncertain aetiology continued to decrease (14.5% for 2013 versus 15.9% for 2012 and 17.3% for 2011).

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 25% of all (non-missing) incident diagnoses. Glomerulonephritis and autosomal dominant polycystic kidney disease (ADPKD) made up higher proportions of the younger than the older incident cohorts (18% vs. 11% and 11% vs. 4% respectively), whilst patients with renal vascular disease comprised a much higher percentage of the older rather than the younger patients (10% vs. 1%). Uncertainty about the underlying diagnosis was also much more likely in the older rather than the younger cohort (18% vs. 11%).

For all primary renal diagnoses except ADPKD, the male to female ratio was 1.3 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 2013 cohort. The incidence of RRT due to diabetes as PRD was somewhat higher in Wales than in the other countries. As there were some

Table 1.8. Distribution of primary renal diagnosis by centre in the 2013 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	11.1	88	19.3	46.6	10.2	8.0	6.8	4.6	4.6	0.0
B QEH	1.6	188	10.6	23.4	14.4	10.6	24.5	6.4	3.7	6.4
Basldn	0.0	32	6.3	28.1	25.0	6.3	6.3	3.1	12.5	12.5
Bradfd	0.0	62	9.7	21.0	22.6	9.7	22.6	8.1	3.2	3.2
Brightn	2.9	135	23.0	20.7	15.6	3.7	20.7	7.4	5.2	3.7
Bristol	8.1	159	17.6	23.3	14.5	4.4	15.1	10.7	8.2	6.3
Camb[a]	0.0	139	50.4							
Carlis	4.9	39	2.6	7.7	12.8	12.8	15.4	28.2	12.8	7.7
Carsh[b]	58.0	97								
Chelms	0.0	42	14.3	19.1	11.9	4.8	21.4	7.1	16.7	4.8
Colchr[a]	2.2	30	66.7							
Covnt	0.0	87	16.1	21.8	11.5	12.6	13.8	10.3	8.1	5.8
Derby	0.0	74	18.9	28.4	14.9	5.4	20.3	5.4	4.1	2.7
Donc	0.0	60	21.7	11.7	11.7	10.0	25.0	8.3	6.7	5.0
Dorset	0.0	74	12.2	23.0	17.6	12.2	5.4	6.8	18.9	4.1
Dudley	0.0	47	12.8	19.2	4.3	14.9	40.4	6.4	2.1	0.0
Exeter	2.0	100	3.0	28.0	14.0	12.0	17.0	13.0	6.0	7.0
Glouc	0.0	54	29.6	20.4	24.1	3.7	5.6	9.3	3.7	3.7
Hull	0.0	92	17.4	18.5	20.7	4.4	13.0	9.8	9.8	6.5
Ipswi[a]	0.0	39	48.7							
Kent	0.7	144	15.3	23.6	13.2	4.9	26.4	4.2	9.0	3.5
L Barts	10.0	262	11.5	37.0	9.9	12.6	16.4	5.7	5.3	1.5
L Guys[b]	86.2	18								
L Kings	0.0	162	11.1	35.8	10.5	21.6	7.4	3.7	6.2	3.7
L Rfree	4.4	218	8.3	34.4	11.5	8.7	25.7	5.1	2.8	3.7
L St.G	18.4	62	19.4	25.8	6.5	14.5	17.7	8.1	6.5	1.6
L West	0.0	303	10.2	40.6	17.2	3.3	13.9	4.0	5.0	5.9
Leeds	0.0	184	14.7	19.6	11.4	12.5	19.6	12.5	5.4	4.4
Leic	22.3	226	22.1	20.8	15.0	4.4	14.2	10.2	9.3	4.0
Liv Ain	1.5	65	7.7	24.6	21.5	10.8	9.2	3.1	10.8	12.3
Liv Roy	0.0	94	7.5	25.5	17.0	11.7	18.1	9.6	8.5	2.1
M RI	11.5	177	7.9	31.6	11.9	15.8	15.8	8.5	7.3	1.1
Middlbr	0.0	108	19.4	28.7	6.5	5.6	17.6	4.6	11.1	6.5
Newc	0.0	95	15.8	20.0	19.0	5.3	24.2	8.4	4.2	3.2
Norwch	1.3	75	29.3	14.7	14.7	5.3	20.0	4.0	8.0	4.0
Nottm	0.0	113	15.0	16.8	8.9	7.1	24.8	9.7	13.3	4.4
Oxford	1.2	164	14.0	24.4	18.9	6.1	16.5	9.2	5.5	5.5
Plymth	17.5	52	3.9	13.5	26.9	7.7	15.4	9.6	5.8	17.3
Ports	13.1	172	9.9	22.7	16.9	12.2	15.7	7.6	9.9	5.2
Prestn	2.0	148	14.9	19.6	13.5	12.8	12.2	7.4	10.8	8.8
Redng	2.6	114	15.8	30.7	12.3	1.8	21.9	5.3	5.3	7.0
Salford[b]	85.6	16								
Sheff	0.0	137	19.0	21.9	20.4	5.1	13.9	7.3	8.0	4.4
Shrew	1.6	60	16.7	18.3	15.0	0.0	36.7	6.7	3.3	3.3
Stevng	1.9	156	14.1	18.6	8.3	1.3	48.1	5.1	0.6	3.9
Sthend	2.4	41	22.0	12.2	17.1	2.4	14.6	19.5	7.3	4.9
Stoke[b]	35.0	65								
Sund	2.0	48	2.1	29.2	12.5	14.6	16.7	4.2	8.3	12.5
Truro	0.0	46	4.4	26.1	23.9	8.7	10.9	6.5	8.7	10.9
Wirral[b]	32.4	46								
Wolve	4.6	84	29.8	14.3	11.9	0.0	33.3	6.0	0.0	4.8
York	5.6	34	11.8	14.7	11.8	23.5	20.6	8.8	2.9	5.9

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	29	34.5	20.7	10.3	3.5	20.7	3.5	6.9	0.0
Belfast	4.4	66	13.6	18.2	9.1	4.6	19.7	15.2	13.6	6.1
Newry	0.0	23	13.0	21.7	13.0	0.0	17.4	17.4	13.0	4.4
Ulster	0.0	29	13.8	24.1	3.5	13.8	10.3	3.5	6.9	24.1
West NI	0.0	30	3.3	23.3	20.0	6.7	10.0	6.7	26.7	3.3
Scotland										
Abrdn	0.0	58	5.2	31.0	13.8	6.9	19.0	10.3	10.3	3.5
Airdrie	0.0	51	23.5	31.4	13.7	2.0	15.7	7.8	3.9	2.0
D & Gall	0.0	9	0.0	44.4	11.1	11.1	22.2	0.0	11.1	0.0
Dundee	0.0	42	9.5	9.5	21.4	7.1	31.0	9.5	7.1	4.8
Edinb	0.0	71	11.3	21.1	15.5	5.6	15.5	12.7	11.3	7.0
Glasgw	0.0	173	19.7	22.0	20.2	0.0	16.2	8.7	5.8	7.5
Inverns	0.0	19	21.1	21.1	21.1	0.0	21.1	0.0	15.8	0.0
Klmarnk	0.0	41	2.4	26.8	7.3	7.3	14.6	4.9	17.1	19.5
Krkcldy	2.6	37	21.6	29.7	13.5	0.0	13.5	2.7	13.5	5.4
Wales										
Bangor	0.0	24	25.0	33.3	0.0	8.3	0.0	4.2	0.0	29.2
Cardff	0.0	169	26.6	26.0	16.6	3.0	11.2	10.1	2.4	4.1
Clwyd	14.3	12	16.7	16.7	16.7	0.0	16.7	8.3	0.0	25.0
Swanse	3.6	106	4.7	32.1	15.1	3.8	17.0	3.8	10.4	13.2
Wrexm	0.0	37	27.0	27.0	24.3	0.0	8.1	2.7	5.4	5.4
England	**11.0**	**5,327**	**14.1**	**25.4**	**14.2**	**8.3**	**18.9**	**7.5**	**6.6**	**4.9**
N Ireland	**1.7**	**177**	**15.3**	**20.9**	**10.7**	**5.7**	**16.4**	**10.2**	**13.6**	**7.3**
Scotland	**0.2**	**501**	**14.8**	**24.2**	**16.6**	**3.2**	**17.6**	**8.2**	**9.0**	**6.6**
Wales	**1.7**	**348**	**19.5**	**28.2**	**15.8**	**3.2**	**12.1**	**6.9**	**4.9**	**9.5**
UK	**9.5**	**6,353**	**14.5**	**25.4**	**14.4**	**7.6**	**18.3**	**7.6**	**6.9**	**5.4**
Min			**0.0**	**7.7**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Max			**34.5**	**46.6**	**26.9**	**23.5**	**48.1**	**28.2**	**26.7**	**29.2**

The percentage in each category has been calculated after excluding those patients with data not available
[a]For 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
[b]For those centres with >25% missing primary diagnoses, the percentages in the diagnostic categories have not been calculated

Table 1.9. Percentage distribution of primary renal diagnosis by age in the 2013 incident RRT cohort

Diagnosis	Percentage with diagnosis		
	Age <65	Age ⩾65	All patients
Diabetes	27.1	23.5	25.4
Glomerulonephritis	17.8	10.9	14.4
Pyelonephritis	7.7	6.1	6.9
Hypertension	6.4	8.8	7.6
Polycystic kidney	11.2	3.7	7.6
Renal vascular disease	1.3	9.7	5.4
Other	17.5	19.1	18.3
Uncertain aetiology	10.9	18.3	14.5

Percentages calculated after excluding those patients with data not available

missing data, the rates for at least some of the diagnoses will be underestimates.

First established treatment modality

In 2013, the first treatment recorded, irrespective of any later change, was haemodialysis in 72.0% of patients, peritoneal dialysis in 19.4% and pre-emptive transplant in 8.6%. The previous year on year fall seen 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 65% from 2008). Table F.1.3 in appendix F: Additional Data Tables for 2013 New and Existing Patients gives the treatment breakdown at start of RRT by centre.

Table 1.10. Primary renal diagnosis RRT incidence rates (2013) per million population (unadjusted)

Diagnosis	England	N Ireland	Scotland	Wales	UK
Diabetes	25.2	20.2	22.7	31.8	25.1
Glomerulonephritis	14.1	10.4	15.6	17.8	14.3
Pyelonephritis	6.6	13.1	8.4	5.5	6.9
Hypertension	8.3	5.5	3.0	3.6	7.5
Polycystic kidney	7.4	9.8	7.7	7.8	7.5
Renal vascular disease	4.9	7.1	6.2	10.7	5.3
Other	18.7	15.8	16.5	13.6	18.1
Uncertain aetiology	13.9	14.8	13.9	22.1	14.4
Data not available	12.3	1.6	0.2	1.9	10.4
All	**111**	**98**	**94**	**115**	**110**

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

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 these analyses, the incident cohort from 1st October 2012 to 30th September 2013 was used so that follow up to 90 days was possible for all patients. By 90 days, 5.1% of incident patients had died and a further 0.2% had stopped treatment, leaving 94.7% 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, 66.1% were on HD at 90 days, 19.0% were on PD and 9.5% had received a transplant. Expressed as percentages of those still receiving RRT at 90 days, 69.8% were on HD, 20.1% on PD and 10.1% had received a transplant.

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

Start	HD (%)	PD (%)	Transplant (%)
Day 0 treatment			
2008	75.4	19.4	5.2
2009	76.3	18.0	5.7
2010	74.6	18.6	6.8
2011	72.7	20.4	6.9
2012	72.9	19.6	7.5
2013	72.0	19.4	8.6
Day 90 treatment			
Oct 2007 to end Sept 2008	72.2	21.6	6.2
Oct 2008 to end Sept 2009	73.9	19.2	6.9
Oct 2009 to end Sept 2010	72.6	19.4	8.0
Oct 2010 to end Sept 2011	70.8	20.6	8.7
Oct 2011 to end Sept 2012	70.8	20.3	9.0
Oct 2012 to end Sept 2013	69.8	20.1	10.1

Figure 1.8 shows the modality breakdown with the HD patients further subdivided. Of those still on RRT at 90 days, 39% were treated with hospital HD, 31% with satellite HD, and only 0.2% were receiving home HD at this early stage. This 0.2% on home HD was only 13 patients (split between seven centres). Chapter 2 UK Renal Replacement Therapy Prevalence in 2013 shows that prevalent numbers of home HD patients have grown to 4.1% of all dialysis patients.

The percentage of incident patients who had died by 90 days varied considerably between centres (0% to 20%). Differences in the definition of whether patients have acute or chronic renal failure 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 31% (between 7% and 31% for transplanting centres and between 0% and 12% 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 (13.4% vs. 6.0%). 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 is given by age group and overall. The percentage on PD at 90 days was about 65% higher in patients aged

Table 1.12. RRT modality at 90 days by centre (incident cohort 1/10/2012 to 30/09/2013)

		Status at 90 days of all patients who started RRT (%)					Status at 90 days of only those patients still on RRT (%)		
Centre	*N*	HD	PD	Tx	Stopped treatment	Died	HD	PD	Tx
England									
B Heart	96	67.7	17.7	2.1	0.0	12.5	77.4	20.2	2.4
B QEH	203	71.9	15.8	11.3	0.0	1.0	72.6	15.9	11.4
Basldn	39	74.4	23.1	0.0	0.0	2.6	76.3	23.7	0.0
Bradfd	61	67.2	19.7	9.8	0.0	3.3	69.5	20.3	10.2
Brightn	154	62.3	24.7	7.1	0.7	5.2	66.2	26.2	7.6
Bristol	172	68.0	16.3	12.2	0.6	2.9	70.5	16.9	12.7
Camb	135	59.3	7.4	30.4	0.0	3.0	61.1	7.6	31.3
Carlis	38	50.0	39.5	10.5	0.0	0.0	50.0	39.5	10.5
Carsh	227	67.8	21.2	4.9	0.4	5.7	72.3	22.5	5.2
Chelms	41	80.5	14.6	0.0	0.0	4.9	84.6	15.4	0.0
Colchr	32	87.5	0.0	0.0	0.0	12.5	100.0	0.0	0.0
Covnt	99	64.7	22.2	7.1	0.0	6.1	68.8	23.7	7.5
Derby	76	52.6	43.4	1.3	0.0	2.6	54.1	44.6	1.4
Donc	61	60.7	24.6	1.6	0.0	13.1	69.8	28.3	1.9
Dorset	68	60.3	27.9	5.9	1.5	4.4	64.1	29.7	6.3
Dudley	50	72.0	26.0	0.0	0.0	2.0	73.5	26.5	0.0
Exeter	116	72.4	17.2	5.2	0.0	5.2	76.4	18.2	5.5
Glouc	60	66.7	23.3	5.0	0.0	5.0	70.2	24.6	5.3
Hull	91	64.8	30.8	2.2	1.1	1.1	66.3	31.5	2.3
Ipswi	35	74.3	17.1	8.6	0.0	0.0	74.3	17.1	8.6
Kent	146	71.2	16.4	8.2	0.0	4.1	74.3	17.1	8.6
L Barts	284	55.6	32.8	7.0	0.0	4.6	58.3	34.3	7.4
L Guys	128	68.8	9.4	18.8	0.0	3.1	71.0	9.7	19.4
L Kings	141	75.2	23.4	1.4	0.0	0.0	75.2	23.4	1.4
L Rfree	229	64.6	22.3	10.0	0.0	3.1	66.7	23.0	10.4
L St.G	73	53.4	23.3	17.8	0.0	5.5	56.5	24.6	18.8
L West	309	80.9	5.5	11.7	0.3	1.6	82.5	5.6	11.9
Leeds	181	67.4	11.1	15.5	0.0	6.1	71.8	11.8	16.5
Leic	267	65.9	17.6	10.9	0.0	5.6	69.8	18.7	11.5
Liv Ain	64	56.3	21.9	1.6	0.0	20.3	70.6	27.5	2.0
Liv Roy	95	41.1	21.1	27.4	0.0	10.5	45.9	23.5	30.6
M RI	190	58.4	15.3	23.2	0.0	3.2	60.3	15.8	23.9
Middlbr	109	70.6	10.1	11.0	0.0	8.3	77.0	11.0	12.0
Newc	98	66.3	12.2	13.3	0.0	8.2	72.2	13.3	14.4
Norwch	79	76.0	12.7	2.5	3.8	5.1	83.3	13.9	2.8
Nottm	116	45.7	29.3	18.1	0.0	6.9	49.1	31.5	19.4
Oxford	175	56.0	23.4	17.1	0.0	3.4	58.0	24.3	17.8
Plymth	61	57.4	21.3	16.4	1.6	3.3	60.3	22.4	17.2
Ports	176	66.5	17.1	9.1	0.6	6.8	71.8	18.4	9.8
Prestn	158	66.5	15.8	11.4	0.6	5.7	71.0	16.9	12.2
Redng	111	55.9	27.9	9.0	0.0	7.2	60.2	30.1	9.7
Salford	126	68.3	27.0	2.4	0.0	2.4	69.9	27.6	2.4
Sheff	133	72.2	15.0	6.8	0.0	6.0	76.8	16.0	7.2
Shrew	55	67.3	20.0	1.8	0.0	10.9	75.5	22.5	2.0
Stevng	163	71.8	13.5	10.4	0.0	4.3	75.0	14.1	10.9
Sthend	43	69.8	16.3	11.6	0.0	2.3	71.4	16.7	11.9
Stoke	98	56.1	31.6	0.0	0.0	12.2	64.0	36.1	0.0
Sund	54	74.1	14.8	5.6	0.0	5.6	78.4	15.7	5.9
Truro	48	68.8	20.8	4.2	0.0	6.3	73.3	22.2	4.4
Wirral	66	71.2	16.7	0.0	0.0	12.1	81.0	19.0	0.0
Wolve	83	59.0	32.5	1.2	0.0	7.2	63.6	35.1	1.3
York	45	68.9	22.2	4.4	0.0	4.4	72.1	23.3	4.7

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	Stopped treatment	Died	HD	PD	Tx
N Ireland									
Antrim	30	70.0	16.7	0.0	0.0	13.3	80.8	19.2	0.0
Belfast	76	60.5	15.8	19.7	1.3	2.6	63.0	16.4	20.6
Newry	23	52.2	43.5	0.0	0.0	4.4	54.6	45.5	0.0
Ulster	30	70.0	6.7	0.0	6.7	16.7	91.3	8.7	0.0
West NI	29	51.7	31.0	10.3	3.5	3.5	55.6	33.3	11.1
Scotland									
Abrdn	56	64.3	23.2	3.6	0.0	8.9	70.6	25.5	3.9
Airdrie	55	85.5	14.6	0.0	0.0	0.0	85.5	14.6	0.0
D & Gall	6	83.3	16.7	0.0	0.0	0.0	83.3	16.7	0.0
Dundee	37	86.5	13.5	0.0	0.0	0.0	86.5	13.5	0.0
Edinb	67	71.6	6.0	17.9	0.0	4.5	75.0	6.3	18.8
Glasgw	180	72.8	11.1	13.9	0.0	2.2	74.4	11.4	14.2
Inverns	18	55.6	44.4	0.0	0.0	0.0	55.6	44.4	0.0
Klmarnk	39	71.8	18.0	5.1	0.0	5.1	75.7	18.9	5.4
Krkcldy	39	76.9	12.8	0.0	0.0	10.3	85.7	14.3	0.0
Wales									
Bangor	27	74.1	14.8	0.0	0.0	11.1	83.3	16.7	0.0
Cardff	167	67.1	15.0	12.6	0.0	5.4	70.9	15.8	13.3
Clwyd	16	75.0	18.8	6.3	0.0	0.0	75.0	18.8	6.3
Swanse	118	63.6	21.2	5.9	0.9	8.5	70.1	23.4	6.5
Wrexm	40	70.0	20.0	5.0	0.0	5.0	73.7	21.1	5.3
England	**5,958**	**65.5**	**19.5**	**9.7**	**0.2**	**5.1**	**69.2**	**20.6**	**10.3**
N Ireland	**188**	**61.2**	**20.2**	**9.6**	**2.1**	**6.9**	**67.3**	**22.2**	**10.5**
Scotland	**497**	**73.8**	**14.3**	**8.3**	**0.0**	**3.6**	**76.6**	**14.8**	**8.6**
Wales	**368**	**67.1**	**17.7**	**8.4**	**0.3**	**6.5**	**72.0**	**19.0**	**9.0**
UK	**7,011**	**66.1**	**19.0**	**9.5**	**0.2**	**5.1**	**69.8**	**20.1**	**10.1**

under 65 years than in older patients (27.8% vs. 17.1%). These percentages are similar to those for 2012. In both age groups there was a lot of variability between centres in the percentage on PD.

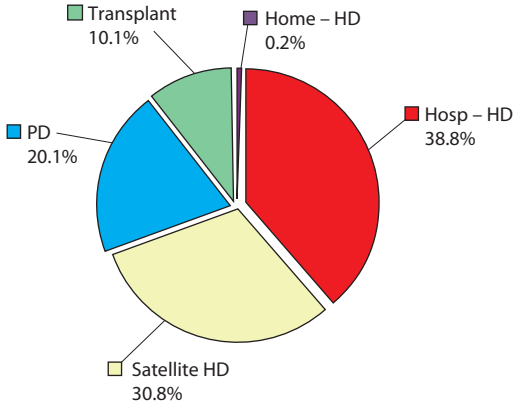

Fig. 1.8. RRT modality at 90 days (incident cohort 1/10/2012 to 30/09/2013)

The median age at start for those on HD at 90 days was 66.7 years compared with 59.3 years for PD. There were eight centres where the percentage of patients treated with PD was the same as or higher in the over 65s than the under 65s (a similar number to the 10 centres for 2012 and 11 centres for 2011).

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 2008. Fifty-one percent of patients who started on HD had died within five years of starting. This compared to 33% and 5% for those starting on PD or transplant respectively. Of those patients starting on PD, 91% were on PD at 90 days but this percentage dropped sharply at the later time points. As expected and in contrast, 92% of patients starting with a transplant were also transplant patients at the five year time point.

Table 1.13. Modality split of patients on dialysis at 90 days (incident cohort 1/10/2012 to 30/09/2013)

		Age <65 (%)		Age ⩾65 (%)		All patients (%)	
Centre	*N*	HD	PD	HD	PD	HD	PD
England							
B Heart	82	71.8	28.2	86.0	14.0	79.3	20.7
B QEH	178	74.5	25.5	90.5	9.5	82.0	18.0
Basldn	38	68.4	31.6	84.2	15.8	76.3	23.7
Bradfd	53	67.7	32.3	90.9	9.1	77.4	22.6
Brightn	134	62.1	37.9	78.9	21.1	71.6	28.4
Bristol	145	74.6	25.4	85.9	14.1	80.7	19.3
Camb	90	83.3	16.7	91.7	8.3	88.9	11.1
Carlis	34	55.0	45.0	57.1	42.9	55.9	44.1
Carsh	202	69.7	30.3	81.4	18.6	76.2	23.8
Chelms	39	81.8	18.2	85.7	14.3	84.6	15.4
Colchr	28	100.0	0.0	100.0	0.0	100.0	0.0
Covnt	86	65.0	35.0	82.6	17.4	74.4	25.6
Derby	73	50.0	50.0	62.1	37.9	54.8	45.2
Donc	52	62.1	37.9	82.6	17.4	71.2	28.8
Dorset	60	69.6	30.4	67.6	32.4	68.3	31.7
Dudley	49	59.1	40.9	85.2	14.8	73.5	26.5
Exeter	104	74.3	25.7	84.1	15.9	80.8	19.2
Glouc	54	60.9	39.1	83.9	16.1	74.1	25.9
Hull	87	58.7	41.3	78.0	22.0	67.8	32.2
Ipswi	32	80.0	20.0	82.4	17.6	81.3	18.8
Kent	128	72.9	27.1	88.4	11.6	81.3	18.8
L Barts	251	65.0	35.0	59.6	40.4	62.9	37.1
L Guys	100	84.5	15.5	92.9	7.1	88.0	12.0
L Kings	139	70.7	29.3	82.8	17.2	76.3	23.7
L Rfree	199	67.5	32.5	83.5	16.5	74.4	25.6
L St.G	56	64.3	35.7	75.0	25.0	69.6	30.4
L West	267	93.3	6.7	94.1	5.9	93.6	6.4
Leeds	142	80.6	19.4	91.4	8.6	85.9	14.1
Leic	223	69.5	30.5	87.3	12.7	78.9	21.1
Liv Ain	50	69.2	30.8	75.0	25.0	72.0	28.0
Liv Roy	59	68.9	31.1	57.1	42.9	66.1	33.9
M RI	140	79.2	20.8	79.4	20.6	79.3	20.7
Middlbr	88	83.3	16.7	91.3	8.7	87.5	12.5
Newc	77	87.2	12.8	81.6	18.4	84.4	15.6
Norwch	70	80.6	19.4	89.7	10.3	85.7	14.3
Nottm	87	48.7	51.3	70.8	29.2	60.9	39.1
Oxford	139	67.6	32.4	73.8	26.2	70.5	29.5
Plymth	48	50.0	50.0	80.6	19.4	72.9	27.1
Ports	147	78.9	21.1	80.3	19.7	79.6	20.4
Prestn	130	80.6	19.4	81.0	19.0	80.8	19.2
Redng	93	52.2	47.8	80.9	19.1	66.7	33.3
Salford	120	68.1	31.9	76.5	23.5	71.7	28.3
Sheff	116	71.2	28.8	92.2	7.8	82.8	17.2
Shrew	48	72.7	27.3	80.8	19.2	77.1	22.9
Stevng	139	84.0	16.0	84.4	15.6	84.2	15.8
Sthend	37	64.7	35.3	95.0	5.0	81.1	18.9
Stoke	86	51.3	48.7	74.5	25.5	64.0	36.0
Sund	48	69.6	30.4	96.0	4.0	83.3	16.7
Truro	43	62.5	37.5	85.2	14.8	76.7	23.3
Wirral	58	57.1	42.9	94.6	5.4	81.0	19.0
Wolve	76	59.0	41.0	70.3	29.7	64.5	35.5
York	41	72.7	27.3	78.9	21.1	75.6	24.4

Table 1.13. Continued

Centre	*N*	Age <65 (%)		Age ⩾65 (%)		All patients (%)	
		HD	PD	HD	PD	HD	PD
N Ireland							
Antrim	26	80.0	20.0	81.3	18.8	80.8	19.2
Belfast	58	78.6	21.4	80.0	20.0	79.3	20.7
Newry	22	70.0	30.0	41.7	58.3	54.5	45.5
Ulster	23	80.0	20.0	94.4	5.6	91.3	8.7
West NI	24	36.4	63.6	84.6	15.4	62.5	37.5
Scotland							
Abrdn	49	70.8	29.2	76.0	24.0	73.5	26.5
Airdrie	55	84.0	16.0	86.7	13.3	85.5	14.5
D & Gall	6	80.0	20.0	100.0	0.0	83.3	16.7
Dundee	37	82.4	17.6	90.0	10.0	86.5	13.5
Edinb	52	92.7	7.3	90.9	9.1	92.3	7.7
Glasgw	151	87.3	12.7	86.3	13.8	86.8	13.2
Inverns	18	46.2	53.8	80.0	20.0	55.6	44.4
Klmarnk	35	87.5	12.5	73.7	26.3	80.0	20.0
Krkcldy	35	76.9	23.1	90.9	9.1	85.7	14.3
Wales							
Bangor	24	100.0	0.0	77.8	22.2	83.3	16.7
Cardff	137	74.2	25.8	88.0	12.0	81.8	18.2
Clwyd	15	66.7	33.3	88.9	11.1	80.0	20.0
Swanse	100	60.0	40.0	83.1	16.9	75.0	25.0
Wrexm	36	57.1	42.9	90.9	9.1	77.8	22.2
England	**5,065**	**71.4**	**28.6**	**82.7**	**17.3**	**77.1**	**22.9**
N Ireland	**153**	**70.3**	**29.7**	**78.7**	**21.3**	**75.2**	**24.8**
Scotland	**438**	**82.7**	**17.3**	**85.0**	**15.0**	**83.8**	**16.2**
Wales	**312**	**69.1**	**30.9**	**85.7**	**14.3**	**79.2**	**20.8**
UK	**5,968**	**72.2**	**27.8**	**82.9**	**17.1**	**77.6**	**22.4**

Table 1.14. Initial and subsequent modalities for patients starting RRT in 2008

First treatment	*N*	Later modality	Percentage			
			90 days	1 year	3 years	5 years
HD	5,034	HD	88	72	48	30
		PD	2	3	2	1
		Transplant	1	4	12	16
		Other*	0	1	2	1
		Died	8	19	38	51
PD	1,297	HD	6	15	21	18
		PD	91	69	30	11
		Transplant	1	9	28	37
		Other*	0	1	1	1
		Died	2	7	21	33
Transplant	349	HD	1	1	3	4
		PD	0	0	0	0
		Transplant	99	97	94	92
		Died	0	1	3	5

*Other e.g. stopped treatment

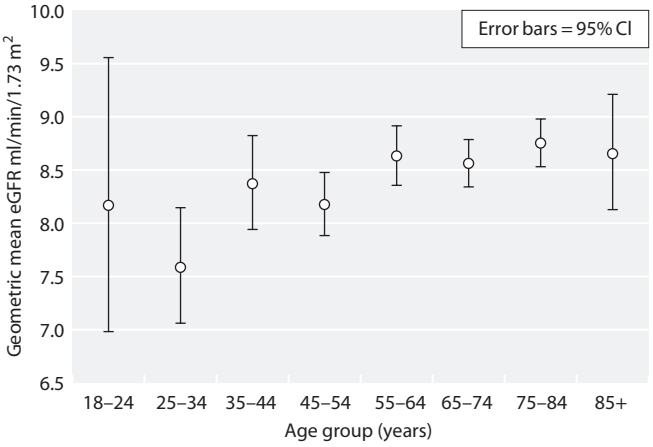

Fig. 1.9. Geometric mean eGFR at start of RRT (2013) by age group

Renal function at the time of starting RRT

The mean eGFR at initiation of RRT in 2013 was 8.5 ml/min/1.73 m^2. This is shown by age group in figure 1.9.

Figure 1.10 shows serial data from centres reporting annually to the UKRR since 2004. For the six years before 2011 there was higher average eGFR at start of RRT for PD than HD patients but the values were more similar between treatments for 2011 to 2013.

Some caution should be applied to the analyses of eGFR at the start of RRT as data was only available for less than half of the incident patients (approximately 3,000 for 2013) and almost half of these came from only 10 centres. Three-quarters of the values came from 22 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 [4]. In the future the UKRR hopes to address this and related timeline anomalies by more frequent data downloads.

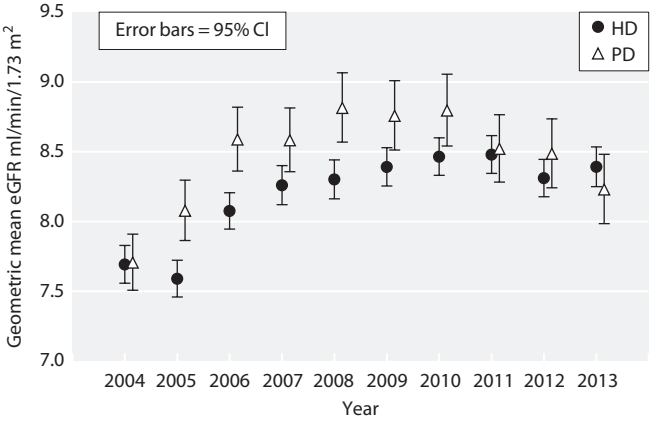

Fig. 1.10. eGFR on starting RRT 2004 to 2013, PD and HD (restricted to centres reporting since 2004)

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 from all incident patients in English, Welsh or Northern Irish centres in the years 2012 to 2013. 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 were excluded because of actual or potential inconsistencies. 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 10,502 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.

The 'acute' group was made up of those people with conditions likely to present with rapidly deteriorating renal function: crescentic glomerulonephritis (type I, II, III), 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, haemolytic ureaemic syndrome, multi-system disease – other, tubular necrosis (irreversible) or cortical necrosis, kidney tumour(s) and surgical loss of kidney(s).

Results

Table 1.15 shows the percentage completeness of data for 2012 and 2013. The overall average completeness was over 85%.

Late presentation by centre

Figure 1.11 shows that late presentation varied between centres from 6% to 36% in patients starting RRT in 2012 to 2013. The overall rate of late presentation was 18.6% and was 14.0% once those people with diseases likely to present acutely were excluded. Table 1.16 shows the overall percentage presenting late for the combined 2012/2013 incident cohort, the percentages presenting late amongst those patients defined as not having an 'acute diagnosis' and the percentages amongst non-diabetics (as PRD). The table also shows the percentages presenting less than a year before RRT initiation.

Late presentation in 2013 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 rates.

Table 1.15. Percentage completeness of time of presentation data (2012 and 2013 incident RRT patients) by centre

	N		Percentage completeness	
Centre	2012	2013	2012	2013
England				
B Heart	102	99	97.1	93.9
B QEH	213	191	100.0	99.5
Basldn	53	32	98.1	100.0
Bradfd	69	62	97.1	100.0
Brightn	135	139	91.7	98.5
Bristol	148	173	96.6	49.7
Camb	125	139	100.0	88.5
Carlis	19	41	94.7	100.0
Carsh	243	231	88.0	68.7
Chelms	46	42	97.8	100.0
Colchr	29	30	100.0	100.0
Covnt	113	87	99.1	97.7
Derby	79	74	100.0	97.3
Donc	40	60	97.5	91.7
Dorset	73	74	98.6	100.0
Dudley	56	47	98.2	100.0
Exeter	135	102	97.0	97.1
Glouc	76	54	96.0	96.2
Hull	97	92	97.9	96.6
Ipswi	43	39	97.7	94.9
Kent	115	145	100.0	100.0
L Barts	268	291	1.5	1.7
L Guys	129	130	22.1	54.3
L Kings	124	162	98.4	98.8
L Rfree	237	228	99.2	98.7
L St.G	90	76	65.6	52.6
L West	355	303	81.6	99.0
Leeds	154	184	98.0	98.3
Leic	236	291	97.0	96.6
Liv Ain	63	66	100.0	97.0
Liv Roy	104	94	99.0	98.9
M RI	161	200	92.5	99.0
Middlbr	120	108	100.0	99.1
Newc	104	95	88.5	94.7
Norwch	74	76	91.9	*
Nottm	101	113	98.0	97.3
Oxford	170	166	98.2	96.4
Plymth	55	63	40.0	68.3
Ports	160	198	96.9	86.2
Prestn	146	151	95.8	99.3
Redng	73	117	97.3	99.2
Salford	134	111	10.6	0.9
Sheff	157	137	98.7	99.2
Shrew	58	61	98.3	100.0
Stevng	109	159	99.1	98.7
Sthend	26	42	100.0	97.6
Stoke	74	100	98.7	78.0
Sund	71	49	98.6	93.9
Truro	49	46	100.0	100.0
Wirral	44	68	95.4	98.5
Wolve	87	88	100.0	98.9
York	53	36	100.0	*
N Ireland				
Antrim	26	29	100.0	96.6
Belfast	93	69	90.3	95.7
Newry	17	23	100.0	100.0
Ulster	29	29	100.0	100.0
West NI	21	30	100.0	100.0
Wales				
Bangor	21	24	90.5	95.8
Cardff	171	169	98.8	97.6
Clwyd	22	14	100.0	*
Swanse	119	110	99.2	100.0
Wrexm	34	37	97.1	100.0
England	**5,795**	**5,962**	**87.0**	**84.4**
N Ireland	**186**	**180**	**95.2**	**97.8**
Wales	**367**	**354**	**98.4**	**94.6**
E, W & NI	**6,348**	**6,496**	**87.9**	**85.3**

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

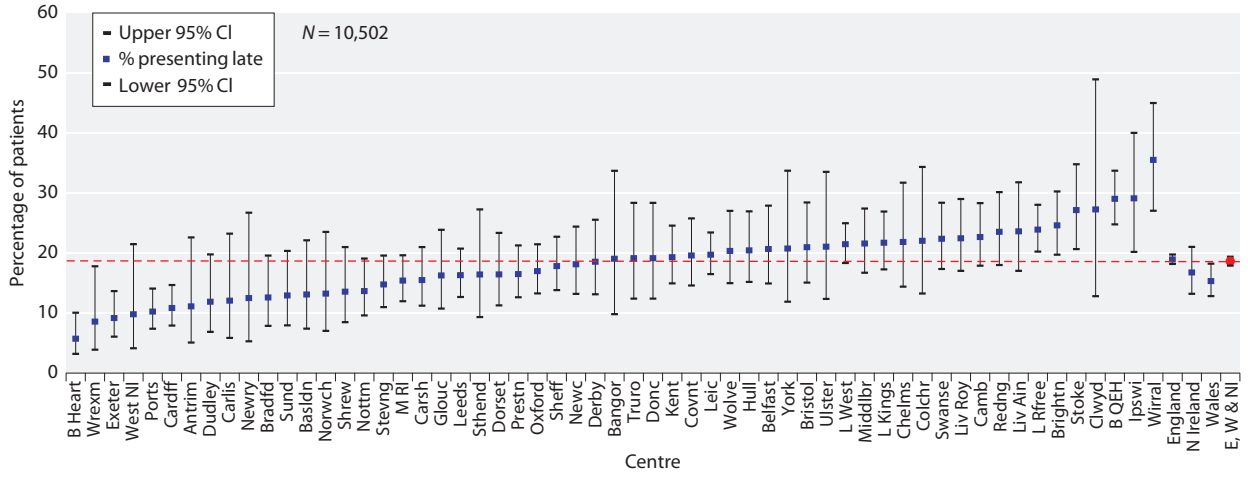

Fig. 1.11. Percentage presenting late (2012/2013)

This may be a consequence of the National CKD guidelines published by the Medical and GP Royal Colleges [5], 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.

In 2013, 68.6% of incident patients presented to nephrology services over a year before they started RRT. There were 7.8% of patients presenting within the 6–12 month window before RRT, 5.2% within 3–6 months and 18.4% within three months of RRT start. Figure 1.12 shows this breakdown by year for those 26 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

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 (2012/2013 incident patients) by centre

		Percentage presenting <90 days before start				Percentage presenting <1 year before start[b]	
Centre	*N* with data	Overall	(95% CI)	Non-acute[a]	Non-diab PRD		(95% CI)
England							
B Heart	192	5.7	(3.2–10.1)	4.8	7.7	9.9	(6.4–15.0)
B QEH	396	29.0	(24.8–33.7)	24.7	30.1	46.5	(41.6–51.4)
Basldn	84	13.1	(7.4–22.1)	11.3	18.0	34.5	(25.2–45.3)
Bradfd	127	12.6	(7.9–19.6)	9.2	15.8	23.6	(17.0–31.8)
Brightn	256	24.6	(19.7–30.3)	19.4	27.7	38.7	(32.9–44.8)
Bristol	143	21.0	(15.1–28.4)	14.1	24.6	31.5	(24.4–39.5)
Camb	247	22.7	(17.9–28.3)			38.5	(32.6–44.7)
Carlis	58	12.1	(5.9–23.2)	9.3	13.2	20.7	(12.1–33.0)
Carsh	213	15.5	(11.2–21.0)	11.3	15.9	34.3	(28.2–40.9)
Chelms	87	21.8	(14.4–31.7)	16.3	26.6	39.1	(29.4–49.7)
Colchr	59	22.0	(13.3–34.3)	21.4	21.7	33.9	(23.0–46.8)
Covnt	194	19.6	(14.6–25.8)	12.2	22.4	29.9	(23.9–36.7)
Derby	151	18.5	(13.1–25.6)	13.5	23.8	27.8	(21.3–35.5)
Donc	94	19.2	(12.4–28.4)	14.3	22.8	24.5	(16.8–34.1)
Dorset	146	16.4	(11.3–23.4)	15.0	17.9	25.3	(19.0–33.0)
Dudley	101	11.9	(6.9–19.8)	9.7	12.9	21.8	(14.8–30.9)
Exeter	229	9.2	(6.1–13.7)	7.7	11.3	28.8	(23.3–35.0)
Glouc	123	16.3	(10.7–23.9)	13.0	16.0	27.6	(20.5–36.2)
Hull	181	20.4	(15.2–26.9)	14.7	23.6	37.0	(30.3–44.3)
Ipswi	79	29.1	(20.2–40.0)			58.2	(47.1–68.6)
Kent	259	19.3	(15.0–24.6)	17.8	22.0	30.9	(25.6–36.8)

Table 1.16. Continued

		Percentage presenting <90 days before start				Percentage presenting <1 year before start[b]	
Centre	*N* with data	Overall	(95% CI)	Non-acute[a]	Non-diab PRD		(95% CI)
L Kings	281	21.7	(17.3–26.9)	16.5	28.2	34.2	(28.9–39.9)
L Rfree	460	23.9	(20.2–28.0)	20.1	27.9	44.1	(39.7–48.7)
L West	587	21.5	(18.3–25.0)	18.1	23.6	34.4	(30.7–38.4)
Leeds	325	16.3	(12.7–20.7)	9.0	19.2	24.9	(20.5–29.9)
Leic	507	19.7	(16.5–23.4)	12.3	22.4	33.5	(29.6–37.8)
Liv Ain	127	23.6	(17.0–31.8)	21.0	29.9	37.8	(29.8–46.5)
Liv Roy	187	22.5	(17.0–29.0)	13.3	26.7	35.8	(29.3–43.0)
M RI	344	15.4	(12.0–19.6)	12.9	18.4	35.8	(30.9–41.0)
Middlbr	227	21.6	(16.7–27.4)	19.1	26.4	34.4	(28.5–40.8)
Newc	182	18.1	(13.2–24.4)	8.7	21.5	31.3	(25.0–38.4)
Norwch	68	13.2	(7.0–23.5)	11.1	16.1	22.1	(13.8–33.4)
Nottm	205	13.7	(9.6–19.1)	12.3	16.3	25.9	(20.3–32.3)
Oxford	324	17.0	(13.3–21.5)	12.8	22.4	28.7	(24.0–33.9)
Ports	322	10.3	(7.4–14.1)	5.4	11.7	17.7	(13.9–22.3)
Prestn	285	16.5	(12.6–21.3)	12.5	18.4	27.0	(22.2–32.5)
Redng	187	23.5	(18.0–30.1)	17.3	31.0	36.4	(29.8–43.5)
Sheff	286	17.8	(13.8–22.7)	13.4	22.0	27.3	(22.4–32.7)
Shrew	118	13.6	(8.5–21.0)	13.5	15.2	33.9	(25.9–42.9)
Stevng	264	14.8	(11.0–19.6)	11.3	16.2	20.1	(15.7–25.3)
Sthend	67	16.4	(9.3–27.3)	14.1	19.0	28.4	(18.9–40.2)
Stoke	151	27.2	(20.7–34.8)	22.2	29.1	45.0	(37.3–53.0)
Sund	116	12.9	(8.0–20.4)	10.8	11.8	21.6	(15.0–30.0)
Truro	94	19.2	(12.4–28.4)	14.3	22.1	31.9	(23.3–42.0)
Wirral	107	35.5	(27.0–45.0)			52.3	(42.9–61.6)
Wolve	172	20.4	(15.0–27.0)	17.8	21.3	36.6	(29.8–44.1)
York	53	20.8	(11.9–33.7)	15.6	21.4	28.3	(17.8–41.8)
N Ireland							
Antrim	54	11.1	(5.1–22.6)	8.2	15.0	24.1	(14.5–37.2)
Belfast	150	20.7	(14.9–27.9)	14.1	24.0	34.0	(26.9–41.9)
Newry	40	12.5	(5.3–26.7)	10.5	18.5	30.0	(17.9–45.7)
Ulster	57	21.1	(12.4–33.5)	18.2	18.2	28.1	(18.0–41.0)
West NI	51	9.8	(4.1–21.5)	8.7	11.9	21.6	(12.4–34.9)
Wales							
Bangor	42	19.1	(9.8–33.7)	19.5	26.9	28.6	(17.0–43.9)
Cardff	332	10.8	(7.9–14.7)	9.1	13.6	26.5	(22.0–31.5)
Clwyd	22	27.3	(12.8–48.9)	22.2	22.2	36.4	(19.3–57.7)
Swanse	219	22.4	(17.3–28.4)	14.8	27.7	38.8	(32.6–45.4)
Wrexm	70	8.6	(3.9–17.8)	7.6	11.5	25.7	(16.8–37.2)
England	**9,465**	**18.9**	**(18.2–19.8)**	**14.3**	**21.3**	**32.2**	**(31.3–33.2)**
N Ireland	**352**	**16.8**	**(13.2–21.0)**	**12.7**	**19.3**	**29.3**	**(24.7–34.2)**
Wales	**685**	**15.3**	**(12.8–18.2)**	**11.7**	**18.9**	**30.8**	**(27.5–34.4)**
E, W & NI	**10,502**	**18.6**	**(17.9–19.4)**	**14.0**	**21.1**	**32.0**	**(31.2–32.9)**
Min		**5.7**		**4.8**	**7.7**	**9.9**	
Quartile 1		**13.6**		**10.9**	**16.0**	**25.9**	
Quartile 3		**21.7**		**17.1**	**23.9**	**35.8**	
Max		**35.5**		**24.7**	**31.0**	**58.2**	

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

[a]Non-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)

[b]The remaining patients starting RRT therefore presented over 1 year beforehand

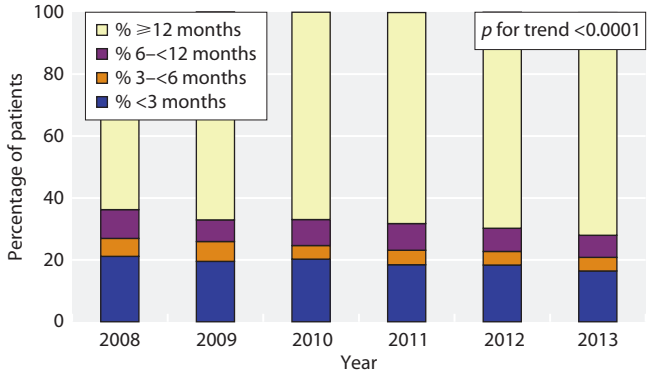

Fig. 1.12. Late presentation rate by year (2008–2013)
Restricted to centres reporting continuous data for 2008–2013

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 needed to start RRT compared with nearly 70% in 2013.

Age and late presentation

In the combined 2012/2013 incident cohort, patients who presented late were not significantly older or younger than patients who presented earlier (>90 days before RRT initiation) (median age 65.4 vs. 64.5 years: $p = 0.5$). Except for the two youngest age groups, the median duration of pre-RRT care did not vary greatly with age group (figure 1.13).

Gender and late presentation

In the 2012/2013 cohort, there was no significant difference in the ratio of males to females by time of presentation (male : female ratio 1.70 in early presentation, 1.77 in late presentation, $p = 0.4$).

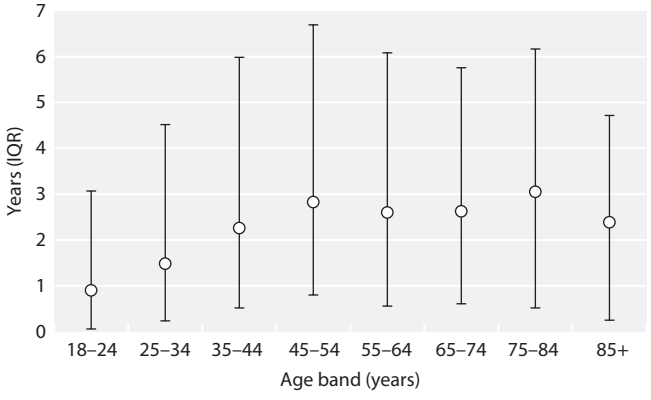

Fig. 1.13. Median duration of pre-RRT care by age group (incident patients 2012/2013)

Ethnicity and late presentation

In the 2012/2013 cohort, the percentage of South Asian and Black patients presenting late (<90 days) was somewhat lower than in Whites (16.3% vs. 18.7%: $p = 0.02$).

Primary renal disease and late presentation

In the 2012/2013 cohort, late presentation differed significantly between primary renal diagnoses (Chi-squared test $p < 0.0001$) (table 1.17). Patients in the acute group or with data not available had high rates of late presentation as anticipated. Those with diabetes and pyelonephritis or adult polycystic kidney disease had low rates in keeping with their longer natural histories of CKD progression. There was a notable 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.

Modality and late presentation

In the 2012/2013 cohort, late presentation was associated with initial modality. The percentage of patients whose first modality was PD was significantly lower in the late presentation group than in those presenting earlier (10.8% vs. 22.2%: $p < 0.0001$). By 90 days after

Table 1.17. Late presentation by primary renal diagnosis (2012/2013 incident patients)

		Late presentation	
Diagnosis	*N*	*N*	%
Uncertain aetiology	1,365	284	20.8
Diabetes	2,473	234	9.5
Glomerulonephritis	1,317	196	14.9
Other identified category	1,092	195	17.9
Polycystic kidney or pyelonephritis	1,366	132	9.7
Renal vascular disease	1,198	196	16.4
Acute group	886	489	55.2
Data not available	264	85	32.2

Unlike elsewhere in the report, the RVD group includes hypertension
Polycystic 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 1.18. Percentage prevalence of specific comorbidities amongst patients presenting late (<90 days) compared with those presenting early (⩾90 days) (2012/2013 incident patients)

Comorbidity	<90 days	⩾90 days	*p*-value
Ischaemic heart disease	15.9	19.7	0.003
Cerebrovascular disease	9.4	10.6	0.2
Peripheral vascular disease	10.4	12.0	0.1
Diabetes (not a cause of ERF)	9.2	9.9	0.5
Liver disease	4.3	2.8	0.01
Malignancy	21.3	11.5	<0.0001
COPD	7.7	7.3	0.6
Smoking	15.2	13.6	0.2

RRT initiation this difference was reduced, although it was still highly significant (12.8% vs. 22.0%: $p < 0.0001$).

Comorbidity and late presentation

In the 2012/2013 cohort, the percentage of patients who were assessed as having no comorbidity was similar in those who presented late as in those presenting earlier (45.2% vs. 47.4%: $p = 0.2$). That said however, there were differences in those with comorbidities: ischaemic heart disease was significantly less common and liver disease and malignancy significantly more common in those presenting late compared to those presenting early (table 1.18) perhaps reflecting underlying causes of CKD and its progression. This is in keeping with findings from other studies [6–8].

Haemoglobin and late presentation

In the 2012/2013 cohort, patients presenting late had a significantly lower average haemoglobin concentration at RRT initiation than patients presenting earlier (91 vs. 101 g/L: $p < 0.0001$). This may reflect inadequate predialysis care with limited anaemia management, but alternatively those presenting late may be more likely to have anaemia because of multisystem disease or intercurrent 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 2013.

eGFR at start of RRT and late presentation

In the 2012/2013 cohort, eGFR at start of RRT was significantly lower in patients presenting late than those presenting earlier (7.7 vs. 8.6 ml/min/1.73 m^2: $p < 0.0001$). Although these findings are in contrast to some of the studies in the literature, many of those studies pre-date the era of routine use of eGFR [6, 7]. A recent Cochrane review has shown that eGFR was indeed higher in RRT patients [9] referred early (mean difference of 0.42 ml/min/1.73 m^2) compared to those presenting late (definition: up to 6 months before starting RRT) consistent with UKRR data.

International comparisons

Figure 1.14 shows the crude RRT incidence rates (including children) for 2011 for several countries. The data is from the USRDS [10]; 2011 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

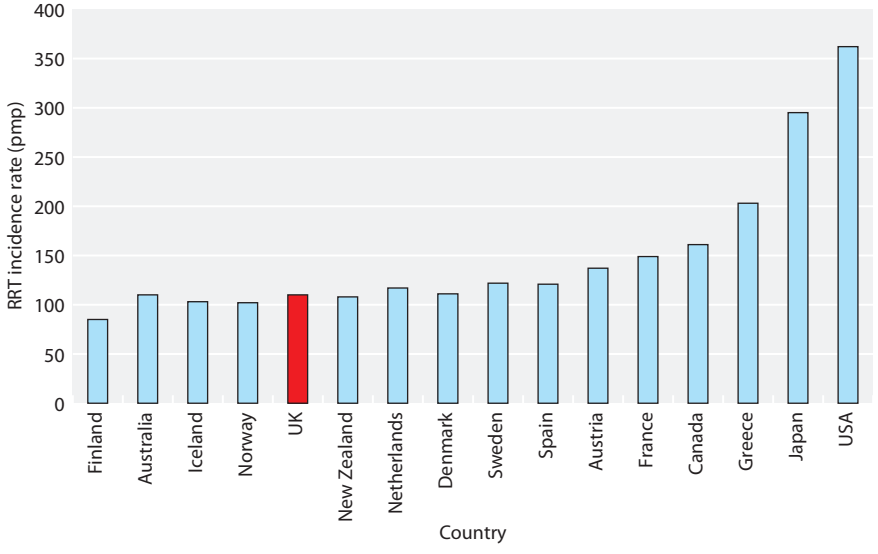

Fig. 1.14. International comparison of RRT incidence rates in 2011
Non UK data from USRDS [10]

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 [11].

Survival of incident patients

See chapter 5: Survival and Causes of Death of UK Adult Patients on Renal Replacement Therapy in 2013.

Conclusions

Across the UK, as a whole, the renal replacement therapy (RRT) incidence rate for 2013 was similar to those in 2012 and 2011. 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 remains 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 seven-fold 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 significant numbers of patients continue to present late to renal centres this proportion has dropped substantially in the last eight years. Some centre's lower rates (<10%) suggest that local factors may be worth exploring in improving this aspect of renal care. Plans for more frequent and more detailed data downloads will hopefully allow the UKRR to explore these areas of variation in advanced CKD care.

Conflicts of interest: none

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