

## *Chapter 5*

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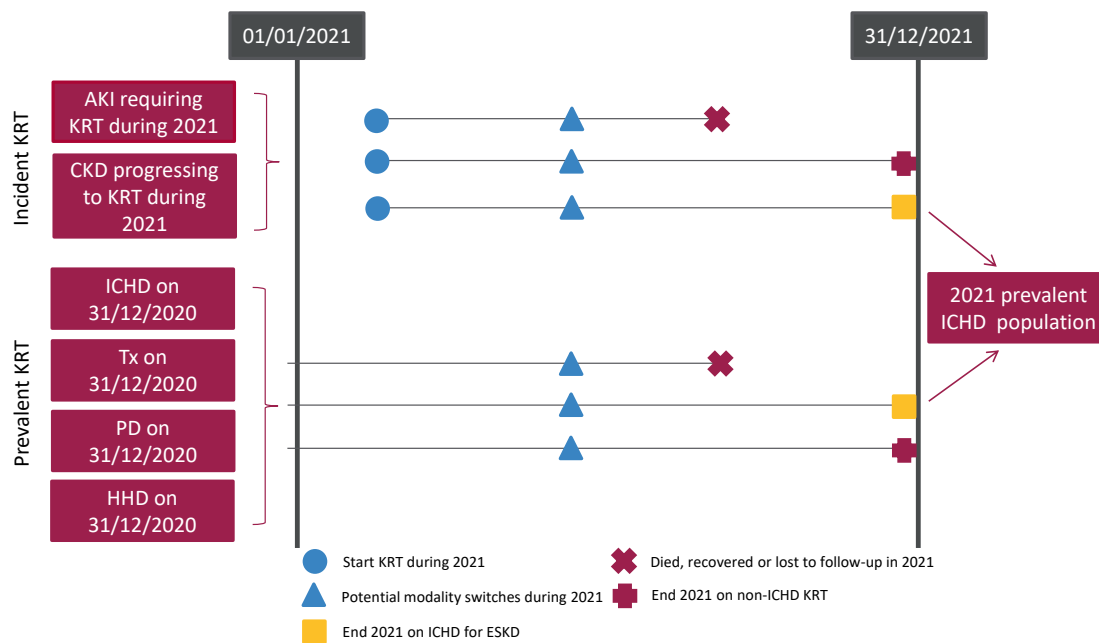
# **Adults on in-centre haemodialysis (ICHHD) in the UK at the end of 2021**

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# Introduction

This chapter describes the population of adult patients with end-stage kidney disease (ESKD) who were receiving regular in-centre haemodialysis (ICHD) in the UK at the end of 2021 (figure 5.1). This population comprises patients who were on ICHD at the end of 2020 and remained on ICHD throughout 2021, as well as patients who commenced/re-commenced ICHD in 2021. This latter group includes both incident kidney replacement therapy (KRT) patients who ended 2021 on ICHD and prevalent KRT patients who switched to ICHD from home haemodialysis (HHD), peritoneal dialysis (PD), or a transplant (Tx) in 2021. Consequently, the cohort of patients receiving ICHD in a centre not only reflects differences in underlying population case-mix, but also differences in the rates of acceptance onto KRT, survival on ICHD, transplantation and home therapies (HHD and PD), and the care of patients on those other modalities, as described in other chapters of this report.



**Figure 5.1** Pathways adult patients could follow to be included in the UK 2021 prevalent ICHD population

Note that patients receiving dialysis for acute kidney injury (AKI) are only included in this chapter if they had a timeline or KRT modality code for chronic ICHD at the end of 2021 or if they had been on KRT for  $\geq 90$  days and were on ICHD at the end of 2021  
CKD – chronic kidney disease

The cause of death analyses were undertaken on historic prevalent cohorts to allow sufficient follow-up time.

This chapter addresses the following key aspects of the care of patients on ICHD for which there are UK Kidney Association guidelines (table 5.1):

- **Complications associated with ESKD and ICHD:** these include anaemia and mineral bone disorders.
- **Adequacy of ICHD:** measures of dialysis care include urea clearance and frequency and length of dialysis sessions. Currently, the urea reduction ratio (URR) is the only urea clearance measure routinely reported to the UK Renal Registry (UKRR).
- **Type of ICHD access:** definitive access – either a surgically created arteriovenous fistula (AVF) or arteriovenous graft (AVG). Alternatively, more temporary access can be provided through a central venous catheter – either a tunnelled line (TL) or a non-tunnelled line (NTL).
- **Infections associated with haemodialysis (ICHD and HHD):** analysis of infections is presented for ICHD and HHD combined because kidney centres are not required to submit changes in dialysis modality that last <30 days. It is therefore not possible to attribute accurately an infection to HHD or ICHD. Rates of the four infections subject to mandatory reporting to the UK Health Security Agency (UKHSA) – methicillin-resistant *Staphylococcus aureus* (MRSA), methicillin-sensitive *Staphylococcus aureus* (MSSA), *Escherichia coli* bacteraemia and *Clostridium difficile* - will be added to the UKRR data portal ([ukkidney.org/audit-research/data-portals](http://ukkidney.org/audit-research/data-portals)) when 2021 data becomes available.

## Rationale for analyses

The analyses begin with a description of the 2021 prevalent adult ICHD population, including the number on ICHD per million population (pmp), dialysis duration and frequency.

The UK Kidney Association guidelines ([ukkidney.org/health-professionals/guidelines/guidelines-commentaries](http://ukkidney.org/health-professionals/guidelines/guidelines-commentaries)) provide audit measures relevant to the care of patients on ICHD and, where data permit, their attainment by UK kidney centres in 2021 is reported in this chapter (table 5.1). Audit measures in guidelines that have been archived are not included.

Some audit measures – for example, the target for glycated haemoglobin (HbA1c) in those on hypoglycaemia-inducing treatment – cannot be reported because the completeness of the required data items is too low. Further detail about the completeness of data returned to the UKRR is available through the UKRR data portal ([ukkidney.org/audit-research/data-portals](http://ukkidney.org/audit-research/data-portals)). Audit measures that cannot be reported because the required data items were not collected by the UKRR are omitted.

For definitions and methods relating to this chapter see appendix A. Centres were excluded from caterpillar plots and cells were blanked in tables where data completeness for a biochemical variable was <70% and/or the number of patients reported was <10. The number preceding the centre name in each caterpillar plot indicates the percentage of missing data for that centre.

Exeter was unable to submit patient level data for 2021. Aggregate numbers by modality were provided enabling inclusion in tables 5.2 and 5.3. Exeter is excluded from all other analyses.

**Table 5.1** The UK Kidney Association audit measures relevant to ICHD that are reported in this chapter

The UK Kidney Association guideline	Audit criteria	Related analysis/analyses
CKD mineral bone disorder (2018)	Percentage of patients with serum calcium above the normal reference range of 2.2–2.5 mmol/L	Table 5.6, figure 5.6
HD (2019)	Proportion of patients with pre-dialysis bicarbonate 18–26 mmol/L	Table 5.7, figure 5.8
	Proportion of patients with pre-dialysis potassium 4.0–6.0 mmol/L	Table 5.7, figure 5.9
Anaemia (2020)	Proportion of patients who are not iron replete with a serum ferritin <200 µg/L	Table 5.8, figure 5.13
	Proportion of patients with haemoglobin 100–120 g/L	
Vascular access (2015)	Proportion of prevalent dialysis patients with definitive access (AVF/AVG/PD catheter) – ≥80%	Figure 5.16
Planning, initiating and withdrawing KRT (2014)	Number of patients withdrawing from ICHD as a proportion of all deaths on ICHD	Table 5.9, figure 5.17

AVF – arteriovenous fistula; AVG – arteriovenous graft

## Key findings

- 25,009 adult patients were receiving ICHD for ESKD in the UK on 31/12/2021, which represented 36.0% of the KRT population. The number of people on ICHD has increased by 2.9% since 2020 following the reduction due to the COVID pandemic.
- The median age of ICHD patients was 66.1 years and 62.1% were male.
- 82.8% of ICHD patients achieved a dialysis adequacy of URR >65%.
- 92.7% of ICHD patients had dialysis 3 times a week and a further 1.5% had dialysis more frequently than this.
- 66.6% of ICHD patients had dialysis for 4–5 hours per session compared to 66.4% last year and 70.9% in 2019 (suggesting that COVID related disruption continues).
- The median adjusted calcium for ICHD patients was 2.3 mmol/L and 10.4% were above the target range 2.2–2.5 mmol/L.
- The median pre-dialysis bicarbonate for ICHD patients was 23 mmol/L and 83.1% were within the target range 18–26 mmol/L.
- The median pre-dialysis potassium for ICHD patients was 4.8 mmol/L and 13.8% had a pre-dialysis potassium of >6 mmol/L.
- The median haemoglobin and ferritin for ICHD patients was 111 g/L and 483 µg/L, respectively.
- 20.3% of ICHD patients had a haemoglobin <100 g/L and 20.9% had a haemoglobin >120 g/L.
- Of the 54 centres that provided adequate data on long term dialysis access in England, Northern Ireland and Wales, 5 centres achieved the 80% target for definitive access amongst prevalent dialysis patients (AVF/AVG/PD catheter).
- There was no cause of death data available for 36.9% of deaths. For those with data, the leading cause of death in patients under 65 years was cardiac disease at 26.1% , with infection accounting for 23.1% of deaths. In those older than 65 years, the leading cause of death was infection (25.1%), with a likely contribution from Covid related deaths.

# Analyses

## Changes to the prevalent adult ICHD population

For the 68 adult kidney centres, the number of prevalent patients on ICHD was calculated as both a proportion of the prevalent patients on KRT and as a proportion of the estimated centre catchment population (calculated as detailed in appendix A).

**Table 5.2** Number of prevalent adult ICHD patients and proportion of adult KRT patients on ICHD by year and by centre; number of ICHD patients as a proportion of the catchment population

Centre	N on ICHD					% on ICHD					Estimated catchment population (millions)	2021 crude rate (pmp)
	2017	2018	2019	2020	2021	2017	2018	2019	2020	2021		
<b>ENGLAND</b>												
Bham	1,333	1,349	1,349	1,314	1,348	42.0	41.5	40.7	40.3	40.7	2.05	656
Bradfd	269	261	280	276	275	39.9	37.9	38.3	38.1	37.4	0.49	560
Brightn	425	446	432	425	424	42.0	42.3	40.6	39.5	38.8	1.08	393
Bristol	491	475	469	463	476	33.3	32.3	31.5	31.4	31.8	1.22	390
Camb	306	304	287	276	355	22.9	21.9	19.7	18.3	21.8	0.94	379
Carlis	98	101	111	111	114	34.9	34.5	36.9	37.4	37.4	0.26	446
Carsh	849	858	840	858	885	50.1	49.0	47.2	46.4	46.4	1.63	543
Colchr	129	122	145	150	145	100.0	100.0	100.0	100.0	100.0	0.29	497
Covnt	333	306	355	362	370	34.5	31.9	33.0	32.8	33.1	0.80	465
Derby	191	197	238	244	262	34.4	33.6	36.4	36.1	38.0	0.56	467
Donc	178	179	180	177	175	53.5	54.2	52.6	51.9	51.6	0.38	466
Dorset	291	291	289	299	304	39.9	38.1	37.4	37.5	38.7	0.73	417
Dudley	201	204	207	208	220	54.9	56.7	56.6	55.9	55.3	0.34	640
EssexMS	411	409	414	422	429	49.5	48.5	48.6	47.7	47.9	0.99	432
Exeter	455	450	443	454	476	43.0	41.6	40.7	41.6	44.2	0.95	499
Glouc	245	242	231	226	226	47.9	46.4	43.5	43.3	41.4	0.51	443
Hull	349	350	350	352	361	40.0	39.8	38.7	38.5	39.3	0.80	451
Ipswi	147	151	142	135	140	33.7	35.3	33.2	31.7	33.3	0.31	448
Kent	424	418	420	424	458	38.9	37.6	36.9	37.1	38.4	1.07	428
L Barts	1,031	1,061	1,032	1,045	1,094	41.3	40.8	38.8	38.9	39.8	1.59	688
L Guys	669	692	673	693	730	30.9	31.0	29.0	29.9	31.4	1.01	725
L Kings	577	597	610	616	672	50.0	50.5	48.9	49.2	50.4	0.93	719
L Rfree	685	684	742	722	735	31.3	30.6	31.7	30.9	30.9	1.33	553
L St.G	310	294	302	320	322	36.9	35.3	35.4	37.6	37.2	0.67	484
L West	1,449	1,430	1,381	1,271	1,292	41.7	40.2	38.3	36.0	36.3	1.96	658
Leeds	538	542	552	549	580	33.2	32.2	32.0	31.3	32.5	1.37	422
Leic	899	917	958	957	1,002	38.1	37.4	37.1	36.5	38.0	2.09	480
Liv Ain	160	154	160	163	181	76.2	71.0	70.8	67.4	68.6	0.43	419
Liv Roy	352	360	370	360	370	28.1	28.3	29.4	29.8	30.7	0.81	456
M RI	497	501	497	505	511	24.2	24.2	24.3	25.4	24.6	1.33	383
Middlbr	332	349	344	327	349	36.7	37.5	36.1	34.6	36.5	0.81	432
Newc	327	339	329	355	351	29.3	29.4	28.1	29.7	28.6	0.95	368
Norwch	302	294	296	289	284	38.7	37.3	36.5	35.8	36.2	0.69	412
Nottm	354	350	359	349	363	29.9	29.2	29.5	28.8	29.8	0.93	391
Oxford	451	445	455	475	463	24.0	22.9	23.1	23.6	23.1	1.45	320
Plymth	141	128	126	150	165	26.1	23.7	23.6	27.7	30.1	0.40	411
Ports	544	529	591	607	649	31.2	30.0	31.4	32.0	33.4	1.75	371
Prestn	516	519	505	500	501	40.6	39.3	37.6	36.5	36.3	1.23	406
Redng	302	297	315	300	304	38.0	36.5	36.5	34.5	34.7	0.70	436
Salford	387	402	395	432	412	34.6	34.3	31.8	34.1	33.9	1.15	358
Sheff	550	551	539	548	554	38.1	37.2	36.2	36.8	37.0	1.13	488



**Table 5.2** Continued

Centre	N on ICHD					% on ICHD					Estimated catchment population (millions)	2021 crude rate (pmp)
	2017	2018	2019	2020	2021	2017	2018	2019	2020	2021		
Shrew	184	206	204	174	183	47.5	47.9	46.7	40.7	41.4	0.41	446
Stevng	465	489	507	538	529	52.6	52.1	52.8	55.2	52.2	1.11	476
Stoke	301	281	265	250	265	37.1	34.9	32.9	30.8	31.4	0.73	362
Sund	243	243	252	219	215	44.7	43.4	44.2	39.4	39.3	0.55	393
Truro	158	168	164	159	184	37.2	38.4	36.4	35.7	39.9	0.36	514
Wirral	202	203	207	194	192	51.8	50.8	49.8	46.9	46.6	0.47	409
Wolve	301	317	304	326	346	51.6	52.1	49.5	49.8	50.1	0.55	630
York	184	183	184	192	190	33.0	32.2	31.6	33.6	32.7	0.49	391
<b>N IRELAND</b>												
Antrim	117	119	117	110	115	45.9	43.4	41.1	38.3	38.9	0.25	468
Belfast	179	173	158	144	132	21.2	19.7	17.9	16.2	14.5	0.53	247
Newry	77	82	78	78	86	32.0	32.5	30.8	29.5	30.6	0.24	366
Ulster	109	106	96	96	99	59.6	55.5	51.9	47.8	48.8	0.20	487
West NI	113	114	106	118	105	36.1	34.9	32.3	33.6	31.0	0.25	418
<b>SCOTLAND</b>												
Abrdn	226	214	190	192	189	40.1	37.4	34.1	34.0	32.7	0.50	378
Airdrie	191	192	207	196	195	41.0	39.3	39.5	37.9	38.7	0.46	425
D&Gall	51	55	52	56	53	37.8	37.9	34.9	35.9	34.4	0.12	432
Dundee	183	161	162	158	149	42.1	36.2	36.1	36.7	36.3	0.37	405
Edinb	306	301	296	288	283	37.1	34.9	33.4	32.4	30.6	0.84	337
Glasgw	573	587	575	551	575	32.3	32.4	31.0	29.8	30.8	1.37	418
Inverns	83	90	92	89	93	31.7	32.3	32.6	32.8	33.5	0.22	416
Klmarnk	144	141	139	147	138	42.7	41.5	38.7	39.8	37.8	0.29	472
Krkldy	144	135	138	146	164	47.4	45.3	46.8	50.2	55.6	0.27	599
<b>WALES</b>												
Bangor	73	70	66	78	76	37.4	34.5	32.8	36.1	35.0	0.16	463
Cardff	530	554	551	512	531	31.5	32.2	31.8	30.5	31.2	1.16	459
Clwyd	71	75	86	84	90	39.7	39.5	42.0	41.2	44.1	0.18	497
Swanse	347	373	389	394	405	44.0	45.2	44.8	46.4	47.5	0.76	534
Wrexm	120	113	106	114	100	37.2	36.0	34.1	35.3	33.3	0.21	481
<b>TOTALS</b>												
England	20,536	20,638	20,800	20,761	21,431	37.5	36.8	36.1	35.9	36.4	44.77	479
N Ireland	595	594	555	546	537	32.4	30.9	28.7	27.4	26.5	1.47	365
Scotland	1,901	1,876	1,851	1,823	1,839	37.3	35.8	34.6	34.2	34.2	4.45	413
Wales	1,141	1,185	1,198	1,182	1,202	36.0	36.4	36.1	36.1	36.7	2.49	483
<b>UK</b>	<b>24,173</b>	<b>24,293</b>	<b>24,404</b>	<b>24,312</b>	<b>25,009</b>	<b>37.3</b>	<b>36.5</b>	<b>35.8</b>	<b>35.5</b>	<b>36.0</b>	<b>53.19</b>	<b>470</b>

Country ICHD populations were calculated by summing the ICHD patients from centres in each country. Estimated country populations were derived from Office for National Statistics figures (see appendix A for details on estimated catchment population by kidney centre)

Exeter was unable to submit patient level data but provided aggregate numbers of patients on KRT at the end of 2021 by treatment modality

pmp – per million population

## Demographics of prevalent adult ICHD patients

The proportion of ICHD patients from each ethnic group is shown for patients with ethnicity data – the proportion of patients in each centre with no ethnicity data is shown separately.

**Table 5.3** Demographics of adult patients prevalent to ICHD on 31/12/2021 by centre

Centre	N on KRT	N on ICHD	% on ICHD	Median age (yrs)	% male	Ethnicity				% missing
						% White	% Asian	% Black	% Other	
ENGLAND										
Bham	3,309	1,348	40.7	65.5	59.4	50.8	31.0	15.1	3.1	2.0
Bradfd	735	275	37.4	62.9	58.2	45.5	46.2	3.6	4.7	0.0
Brightn	1,092	424	38.8	68.4	61.6	86.1	7.1	3.8	3.0	6.6
Bristol	1,497	476	31.8	64.6	63.9	84.7	5.2	8.4	1.7	2.3
Camb	1,629	355	21.8	72.5	64.5	92.0	4.2	1.9	1.9	12.4
Carlis	305	114	37.4	62.2	57.9	100.0	0.0	0.0	0.0	0.0
Carsh	1,907	885	46.4	67.7	60.1	60.0	18.4	14.3	7.3	6.7
Colchr	145	145	100.0	73.7	64.8	96.4	0.7	0.7	2.2	4.8
Covnt	1,119	370	33.1	69.8	62.2	74.8	19.0	6.2	0.0	0.3
Derby	689	262	38.0	67.1	63.7	80.2	12.7	4.0	3.2	3.8
Donc	339	175	51.6	68.5	60.6	91.4	3.4	1.7	3.4	0.6
Dorset	786	304	38.7	72.0	61.5	96.1	2.0	0.3	1.6	0.0
Dudley	398	220	55.3	69.9	63.2	76.4	15.5	7.7	0.5	0.0
EssexMS	895	429	47.9	68.0	69.5	82.7	6.7	7.4	3.2	5.8
Exeter	1,077	476	44.2							
Glouc	546	226	41.4	72.1	65.5	89.6	3.2	5.0	2.3	1.8
Hull	919	361	39.3	64.0	64.8	95.0	3.4	1.4	0.3	1.1
Ipswi	421	140	33.3	71.6	65.0	79.7	0.8	4.5	15.0	5.0
Kent	1,192	458	38.4	66.6	64.4	92.2	2.9	2.7	2.2	2.0
L Barts	2,750	1,094	39.8	62.1	58.9	24.5	35.2	32.4	7.9	4.3
L Guys	2,322	730	31.4	63.1	58.1	41.9	9.4	44.2	4.5	9.5
L Kings	1,334	672	50.4	62.3	58.5	35.8	13.0	47.4	3.8	2.7
L Rfree	2,380	735	30.9	64.3	59.5	35.6	21.9	31.3	11.3	12.9
L St.G	866	322	37.2	64.8	63.4	27.2	25.2	34.4	13.2	6.2
L West	3,556	1,292	36.3	65.5	61.1	30.3	39.0	25.7	5.0	0.0
Leeds	1,784	580	32.5	63.0	64.3	69.8	20.6	7.3	2.3	0.5
Leic	2,640	1,002	38.0	66.5	65.3	71.8	20.6	5.8	1.8	9.1
Liv Ain	264	181	68.6	66.2	63.0	94.9	1.7	1.1	2.3	2.8
Liv Roy	1,207	370	30.7	64.0	61.4	85.3	5.1	5.1	4.5	4.3
M RI	2,077	511	24.6	65.4	59.1	40.2	12.3	45.7	1.8	4.5
Middlbr	955	349	36.5	66.0	67.0	90.9	7.0	0.9	1.2	2.3
Newc	1,226	351	28.6	65.9	62.7	91.2	4.3	2.0	2.6	0.0
Norwch	784	284	36.2	71.9	59.9	95.0	1.2	1.5	2.3	8.5
Nottm	1,220	363	29.8	67.6	65.6	73.4	10.8	13.3	2.5	0.6
Oxford	2,003	463	23.1	66.4	60.0	74.6	10.6	8.0	6.8	26.8
Plymth	548	165	30.1	67.0	65.5	98.2	0.0	0.6	1.2	0.0
Ports	1,941	649	33.4	66.7	62.9	87.4	5.9	2.1	4.6	19.1
Prestn	1,379	501	36.3	65.8	62.7	78.8	19.0	1.0	1.2	0.0
Redng	877	304	34.7	66.8	63.2	61.4	25.4	5.7	7.5	7.9
Salford	1,215	412	33.9	61.9	62.1	65.3	25.2	6.3	3.2	0.0
Sheff	1,496	554	37.0	65.9	63.2	84.3	8.0	4.6	3.1	2.5
Shrew	442	183	41.4	70.8	66.7	87.2	4.4	2.8	5.6	1.6
Stevng	1,014	529	52.2	67.5	62.8	71.9	15.4	9.8	3.0	5.3
Stoke	845	265	31.4	70.0	64.9	86.6	7.5	2.8	3.2	4.5
Sund	547	215	39.3	66.0	60.0	95.3	3.3	0.5	0.9	0.0
Truro	461	184	39.9	70.5	59.8	98.4	0.5	0.0	1.1	0.0
Wirral	412	192	46.6	64.5	62.0	96.4	0.5	2.1	1.0	0.0

**Table 5.3** Continued

Centre	N on KRT	N on ICHD	% on ICHD	Median age (yrs)	% male	Ethnicity				% missing
						% White	% Asian	% Black	% Other	
Wolve	691	346	50.1	63.9	63.3	51.0	34.5	12.2	2.3	0.3
York	581	190	32.7	71.4	58.9	95.2	1.1	0.5	3.2	1.1
N IRELAND										
Antrim	296	115	38.9	75.8	64.3	100.0	0.0	0.0	0.0	19.1
Belfast	911	132	14.5	65.4	61.4	96.7	1.6	0.8	0.8	6.8
Newry	281	86	30.6	68.4	58.1	98.7	1.3	0.0	0.0	9.3
Ulster	203	99	48.8	76.3	59.6	96.0	4.0	0.0	0.0	0.0
West NI	339	105	31.0	71.5	61.9	99.0	1.0	0.0	0.0	3.8
SCOTLAND										
Abrdn	578	189	32.7	67.4	60.8					93.1
Airdrie	504	195	38.7	62.8	56.4					50.8
D&Gall	154	53	34.4	71.5	64.2					69.8
Dundee	411	149	36.3	68.0	66.4					83.9
Edinb	926	283	30.6	63.7	65.7					86.6
Glasgw	1,865	575	30.8	64.8	60.9					81.7
Inverns	278	93	33.5	72.5	63.4					83.9
Klmarnk	365	138	37.8	69.0	63.8					80.4
Krkldy	295	164	55.6	68.0	64.6					92.1
WALES										
Bangor	217	76	35.0	71.4	60.5	97.3	0.0	0.0	2.7	1.3
Cardff	1,700	531	31.2	64.5	62.7	87.9	8.9	1.6	1.6	5.1
Clwyd	204	90	44.1	68.8	68.9	97.4	2.6	0.0	0.0	14.4
Swanse	853	405	47.5	69.1	64.4	97.5	1.5	0.7	0.2	0.2
Wrexm	300	100	33.3	66.4	66.0	97.9	0.0	1.0	1.0	4.0
TOTALS										
England	58,817	21,431	36.4	66.0	62.0	66.2	16.4	13.5	3.9	4.7
N Ireland	2,030	537	26.5	71.9	61.3	98.0	1.6	0.2	0.2	8.0
Scotland	5,376	1,839	34.2	65.8	62.4					81.1
Wales	3,274	1,202	36.7	66.7	63.9	93.3	4.6	1.0	1.0	3.8
<b>UK</b>	<b>69,497</b>	<b>25,009</b>	<b>36.0</b>	<b>66.1</b>	<b>62.1</b>	<b>68.6</b>	<b>15.3</b>	<b>12.4</b>	<b>3.6</b>	<b>10.5</b>

Blank cells – no data returned by the centre or data completeness <70%

Breakdown by ethnicity is not shown for centres with <70% data completeness, but these centres were included in national averages  
Exeter was unable to submit patient level data but provided aggregate numbers of patients on KRT at the end of 2021 by treatment modality

Primary renal diseases (PRDs) were grouped into categories as shown in table 5.4, with the mapping of disease codes into groups explained in more detail in appendix A. The proportion of ICHD patients with each PRD is shown for patients with PRD data and these total 100% of patients with data. The proportion of patients with no PRD data is shown on a separate line.

**Table 5.4** Primary renal diseases (PRDs) of adult patients prevalent to ICHD on 31/12/2021

PRD	N on ICHD	% ICHD population	Age <65 yrs		Age ≥65 yrs		M/F ratio
			N	%	N	%	
Diabetes	6,710	29.0	3,244	29.3	3,466	28.6	1.7
Glomerulonephritis	3,148	13.6	1,838	16.6	1,310	10.8	2.0
Hypertension	1,809	7.8	876	7.9	933	7.7	2.3
Polycystic kidney disease	1,342	5.8	711	6.4	631	5.2	1.1
Pyelonephritis	1,580	6.8	799	7.2	781	6.4	1.6
Renal vascular disease	1,076	4.6	185	1.7	891	7.4	1.9
Other	4,008	17.3	2,014	18.2	1,994	16.5	1.3
Uncertain aetiology	3,495	15.1	1,386	12.5	2,109	17.4	1.6
<b>Total (with data)</b>	<b>23,168</b>	<b>100.0</b>	<b>11,053</b>	<b>100.0</b>	<b>12,115</b>	<b>100.0</b>	
Missing	1,365	5.6	575	4.9	790	6.1	1.7

## Adequacy of dialysis in prevalent adult ICHD patients

URR and session duration were calculated only for patients who were undertaking ICHD three times per week. Patients who had missing data for the number of dialysis sessions per week were assumed to be dialysing three times per week for the purposes of calculating the median URR.

**Table 5.5** Median urea reduction ratio (URR) and distribution of session frequency and time for adult patients prevalent to ICHD on 31/12/2021 using end of third quarter data (30/09/2021)

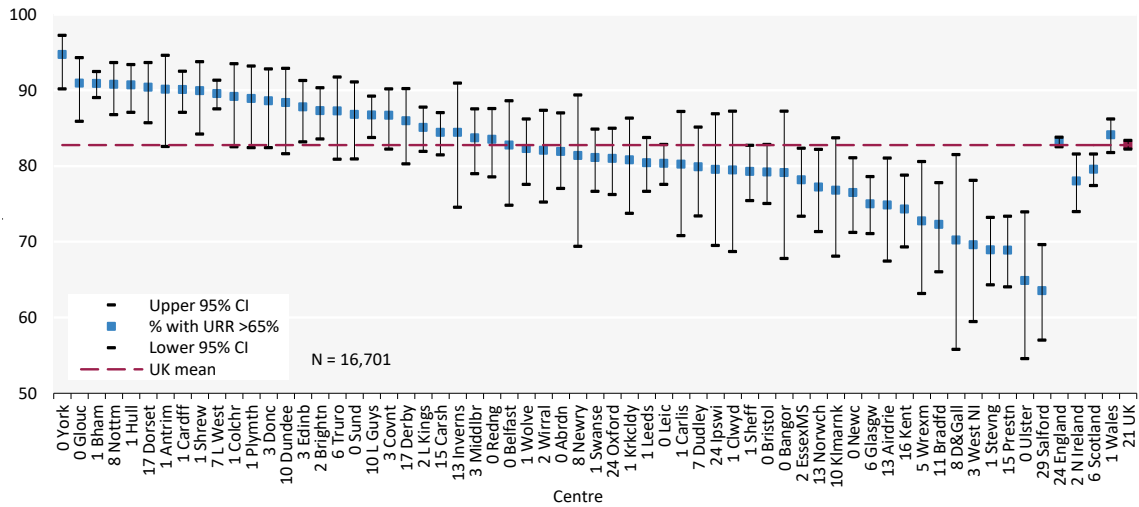
Centre	Median URR (%)	% URR >65%	% session frequency/week			% session time			% data completeness		
			<3 sessions	3 sessions	>3 sessions	<4 hours	4–5 hours	>5 hours	URR	Session frequency	Session time
<b>ENGLAND</b>											
Bham	79	90.9	10.6	87.8	1.6	20.0	79.1	0.9	98.6	95.1	95.2
Bradfd	71	72.3	10.5	88.8	0.7	32.5	67.5	0.0	89.4	100.0	100.0
Brightn	73	87.3	4.9	94.8	0.2	17.4	82.6	0.0	97.9	99.8	100.0
Bristol	74	79.2	3.9	95.2	0.9	27.7	72.3	0.0	99.8	100.0	100.0
Camb									0.0	0.0	0.0
Carlisle	73	80.2	7.3	92.7	0.0	23.7	76.3	0.0	98.9	83.7	82.6
Carsh	75	84.4	2.0	98.0	0.0	5.6	94.4	0.0	84.6	99.9	97.2
Colchr	77	89.2	0.8	99.2	0.0	27.7	72.3	0.0	99.2	100.0	100.0
Covnt	76	86.7	10.2	89.5	0.3	39.2	60.8	0.0	97.3	99.1	97.6
Derby	75	85.9	1.3	97.5	1.3				83.1	99.6	13.9
Donc	75	88.6	0.7	99.3	0.0	31.9	68.1	0.0	97.4	92.9	94.1
Dorset	76	90.4	5.4	93.9	0.7	18.4	81.6	0.0	83.2	99.3	99.6
Dudley	75	79.9	5.5	94.0	0.5	17.0	83.0	0.0	93.2	98.0	97.9
EssexMS	71	78.2	15.5	83.5	1.0	37.1	62.9	0.0	97.9	99.2	99.1
Exeter											
Glouc	75	90.9	7.1	92.4	0.5				100.0	97.5	0.0
Hull	77	90.7							99.1	0.9	1.8
Ipswi	73	79.5	14.4	84.8	0.8	11.9	88.1	0.0	76.2	97.7	92.7
Kent	70	74.3	3.7	93.9	2.4	81.9	18.1	0.0	84.5	99.3	99.7
L Barts			6.6	93.0	0.3	67.7	32.3	0.0	0.0	97.6	97.4
L Guys	75	86.7							89.7	0.0	0.0
L Kings	74	85.1	3.3	96.5	0.2	54.7	45.3	0.0	98.0	99.8	99.8
L Rfree									0.0	0.0	0.0
L St.G			2.0	98.0	0.0				4.4	99.0	63.8
L West	77	89.6	11.1	88.4	0.5	37.2	62.2	0.6	92.7	98.5	98.4
Leeds	72	80.4	8.4	91.0	0.6	27.6	72.4	0.0	99.4	99.8	100.0
Leic	73	80.3	1.5	97.9	0.7	18.3	79.2	2.5	99.7	99.5	99.8

**Table 5.5** Continued

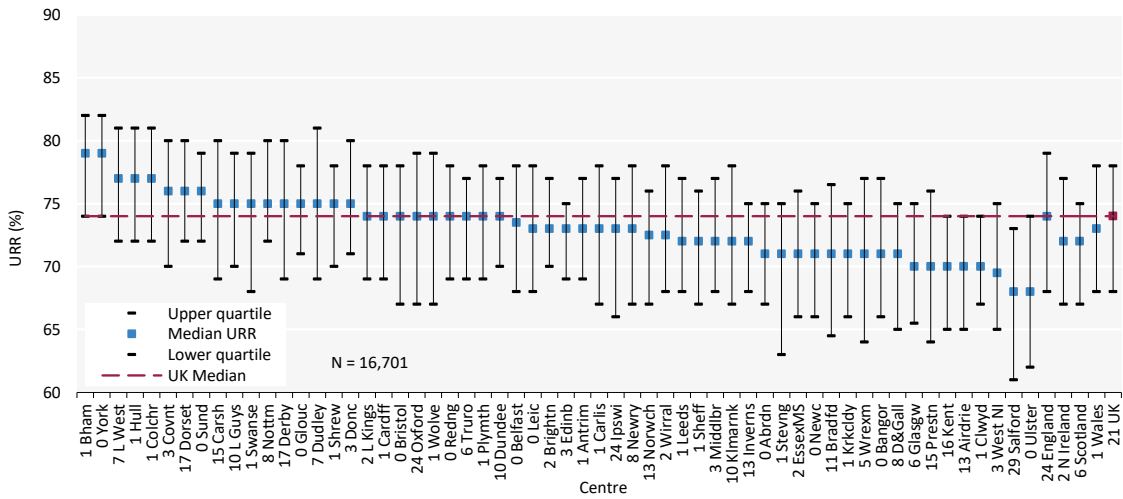
Centre	Median URR (%)	% URR >65%	% session frequency/week			% session time			% data completeness		
			<3 sessions	3 sessions	>3 sessions	<4 hours	4-5 hours	>5 hours	URR	Session frequency	Session time
Liv Ain			1.6	93.7	4.7	10.1	89.1	0.8	0.0	96.2	96.0
Liv Roy			1.8	94.6	3.6	8.0	91.6	0.4	0.0	99.3	98.9
M RI			3.1	95.0	1.9	5.4	94.3	0.2	63.3	90.2	90.4
Middlbr	72	83.7	3.2	95.5	1.3				97.3	100.0	0.0
Newc	71	76.5	10.5	88.0	1.5	52.3	47.7	0.0	100.0	100.0	100.0
Norwch	73	77.2	4.5	94.4	1.1	62.2	37.8	0.0	87.0	97.1	97.0
Nottm	75	90.8	0.9	94.4	4.7	8.3	91.4	0.3	92.4	99.1	99.0
Oxford	74	81.0	0.0	100.0	0.0	19.3	80.7	0.0	75.8	98.8	98.8
Plymth	74	88.9	2.2	97.8	0.0				98.5	97.1	0.0
Ports			4.6	94.2	1.2	49.0	50.3	0.7	0.0	99.7	99.6
Prestn	70	68.9							84.8	0.0	0.2
Redng	74	83.5	5.1	94.5	0.4	23.8	76.2	0.0	100.0	99.3	98.1
Salford	68	63.5	8.1	77.7	14.2	28.0	72.0	0.0	70.7	98.3	96.8
Sheff	72	79.3	4.0	93.3	2.8	85.4	14.6	0.0	99.0	98.6	98.5
Shrew	75	89.9	0.6	92.4	7.0	13.2	86.8	0.0	99.4	99.4	99.4
Stevng	71	68.9	10.0	87.9	2.1	42.7	57.3	0.0	98.8	98.7	98.8
Stoke			9.3	86.9	3.8	22.0	78.0	0.0	65.9	100.0	100.0
Sund	76	86.8	3.1	88.7	8.2	23.6	76.4	0.0	100.0	99.0	92.5
Truro	74	87.3	3.1	96.9	0.0				94.3	100.0	0.0
Wirral	73	82.1	4.3	93.2	2.5	30.3	69.7	0.0	98.1	94.7	95.6
Wolve	74	82.3	2.3	97.4	0.3				98.7	99.4	3.6
York	79	94.7	1.7	96.0	2.3	17.9	82.1	0.0	100.0	97.7	98.8
N IRELAND											
Antrim	73	90.1	0.0	98.1	1.9	14.9	85.1	0.0	99.0	99.0	99.0
Belfast	74	82.8	2.6	95.7	1.7	16.5	83.5	0.0	100.0	95.9	99.1
Newry	73	81.4	21.3	78.8	0.0	55.6	44.4	0.0	92.2	98.8	98.4
Ulster	68	64.8	3.2	96.8	0.0	24.2	75.8	0.0	100.0	98.9	100.0
West NI	70	69.6	4.9	91.2	3.9	67.0	33.0	0.0	96.8	98.1	99.0
SCOTLAND											
Abrdn	71	81.9							100.0		
Airdrie	70	74.8							87.1		
D&Gall	71	70.2							92.2		
Dundee	74	88.4							89.6		
Edinb	73	87.8							97.3		
Glasgw	70	75.0							93.7		
Inverns	72	84.4							87.5		
Klmarnk	72	76.8							89.6		
Krkldy	71	80.8							98.7		
WALES											
Bangor	71	79.1	5.4	90.5	4.1	59.7	40.3	0.0	100.0	100.0	100.0
Cardff	74	90.1							98.8	0.0	0.0
Clwyd	70	79.5							98.7	0.0	0.0
Swanse	75	81.1	5.6	93.6	0.8	35.0	65.0	0.0	99.4	100.0	100.0
Wrexm	71	72.7	2.9	97.1	0.0	21.0	77.0	2.0	95.2	96.3	96.2
TOTALS											
England	74	83.2	5.7	92.7	1.6	33.0	66.7	0.3	76.2	85.6	76.9
N Ireland	72	78.0	5.7	92.7	1.6	33.2	66.8	0.0	98.1	98.0	99.2
Scotland	72	79.6							93.7		
Wales	73	84.1							98.7	49.7	48.1
<b>UK</b>	<b>74</b>	<b>82.8</b>	<b>5.7</b>	<b>92.7</b>	<b>1.5</b>	<b>33.1</b>	<b>66.6</b>	<b>0.3</b>	<b>79.3</b>	<b>84.0</b>	<b>75.9</b>

Blank cells – no data returned by the centre or data completeness <70%

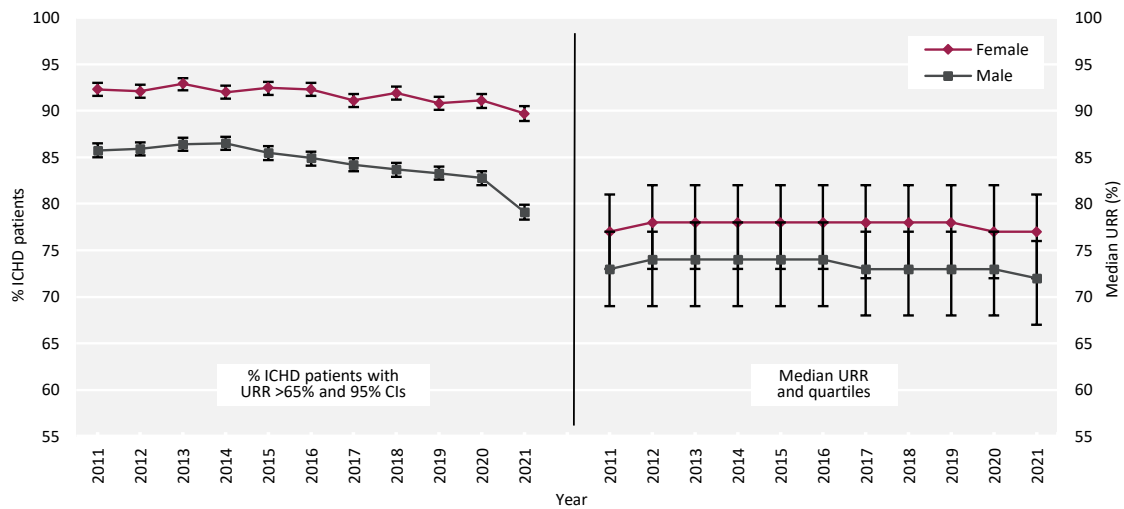
UK National averages for session frequency and time do not include Scotland



**Figure 5.2** Percentage of adult patients prevalent to ICHD on 31/12/2021 with urea reduction ratio (URR) >65% by centre  
CI – confidence interval

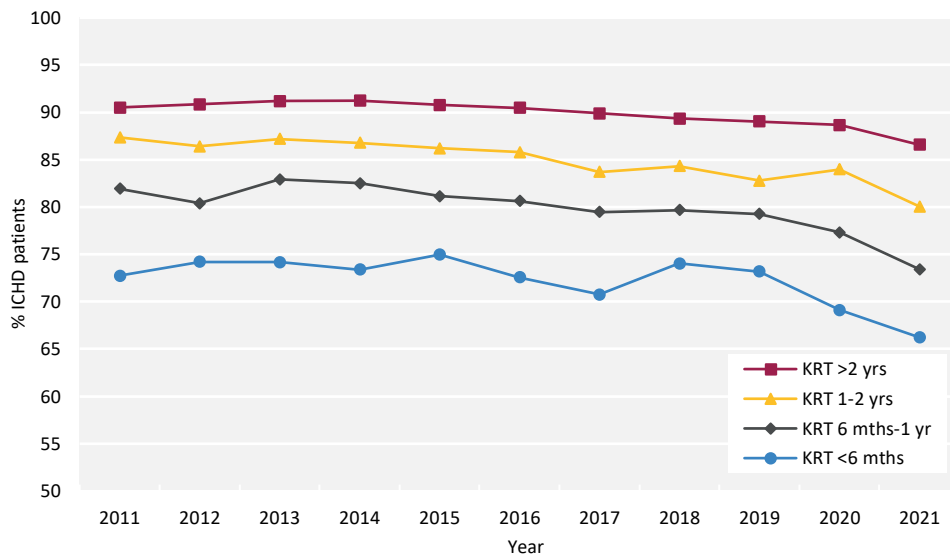


**Figure 5.3** Median urea reduction ratio (URR) achieved in adult patients prevalent to ICHD on 31/12/2021 by centre



**Figure 5.4** Change in the percentage of prevalent adult ICHD patients with urea reduction ratio (URR) >65% and the median URR by sex between 2011 and 2021

CI - confidence interval



**Figure 5.5** Percentage of prevalent adult ICHD patients achieving urea reduction ratio (URR) >65% by time on KRT between 2011 and 2021

## Biochemistry parameters in prevalent adult ICHD patients

The UK Kidney Association guideline on CKD mineral bone disease contains only one audit measure, which is the percentage of patients with adjusted calcium above the target range.

**Table 5.6** Median adjusted calcium (Ca) and percentage with adjusted Ca within and above the target range (2.2–2.5 mmol/L) in adult patients prevalent to ICHD on 31/12/2021 by centre

Centre	Median adj Ca (mmol/L)	% adj Ca 2.2-2.5 mmol/L	% adj Ca >2.5 mmol/L	% data completeness
<b>ENGLAND</b>				
Bham	2.4	76.6	15.0	99.7
Bradfd	2.4	72.4	23.0	100.0
Brightn	2.3	77.7	9.9	100.0
Bristol	2.4	83.4	15.0	100.0
Camb	2.3	82.9	4.7	99.1
Carlisle	2.3	79.6	10.2	100.0
Carsh	2.3	73.4	9.5	99.6
Colchr	2.3	86.4	6.1	100.0
Covnt	2.3	80.5	7.4	100.0
Derby	2.4	84.1	11.0	100.0
Donc	2.4	78.5	17.1	100.0
Dorset	2.4	80.7	13.6	99.6
Dudley	2.4	77.7	19.8	100.0
EssexMS	2.3	82.5	9.9	99.7
Exeter				
Glouc	2.4	84.7	10.3	100.0
Hull	2.4	76.0	17.4	100.0
Ipswi	2.3	77.1	9.8	97.6
Kent	2.4	72.1	18.5	99.3
L Barts	2.3	77.5	6.4	98.2
L Guys	2.4	79.8	11.1	100.0
L Kings	2.3	75.4	7.7	99.8
L Rfree	2.3	78.0	6.9	100.0
L St.G	2.4	77.2	10.3	99.0
L West	2.3	74.0	8.8	87.0
Leeds	2.3	82.9	7.8	100.0
Leic	2.3	76.3	8.6	99.9
Liv Ain	2.5	69.4	26.1	97.5
Liv Roy	2.4	81.4	13.5	98.2
M RI	2.4	81.2	14.9	86.3
Middlbr	2.3	80.9	0.9	100.0
Newc	2.4	77.2	11.4	100.0
Norwch	2.3	83.3	9.4	89.7
Nottm	2.4	82.4	10.6	100.0
Oxford	2.3	78.5	9.8	86.5
Plymth	2.3	78.0	6.4	99.3
Ports	2.3	79.6	7.3	100.0
Prestn	2.3	75.7	5.6	89.1
Redng	2.3	83.0	8.2	100.0
Salford	2.3	79.8	9.2	100.0
Sheff	2.3	80.3	5.9	99.8
Shrew	2.4	79.0	20.5	99.4
Stoke	2.4	83.8	13.2	84.3
Sund	2.3	71.7	9.1	100.0
Truro	2.4	74.0	22.5	100.0
Wirral	2.3	77.7	8.2	95.5
Wolve	2.4	83.1	11.7	99.0
York	2.3	90.3	5.1	100.0
<b>N IRELAND</b>				
Antrim	2.4	86.5	11.5	100.0
Belfast	2.4	83.1	13.6	100.0
Newry	2.3	76.0	3.8	100.0

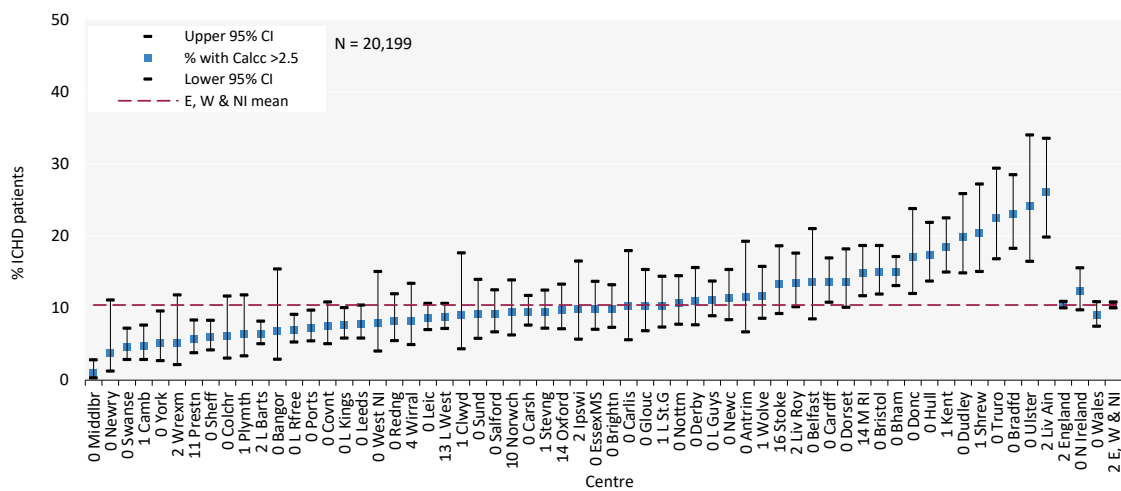
ICHD



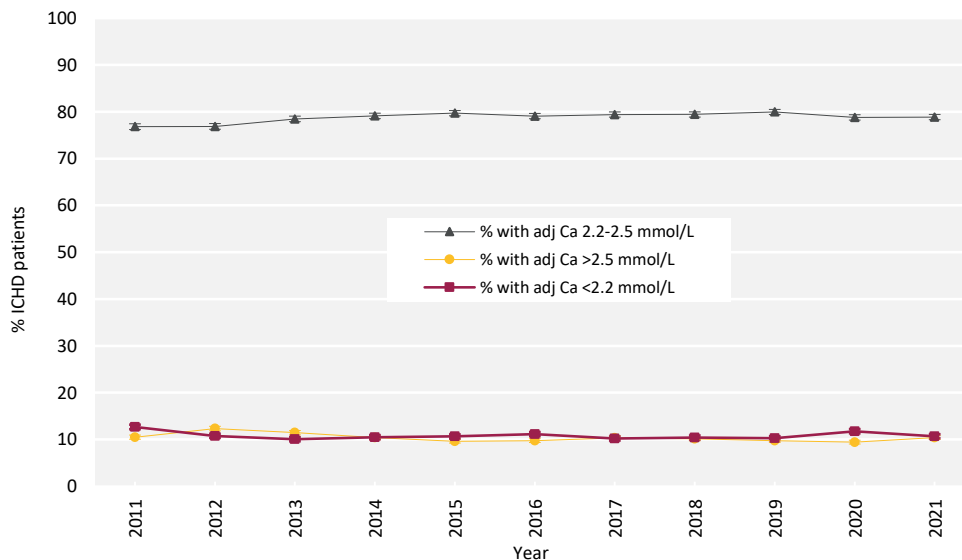
**Table 5.6** Continued

Centre	Median adj Ca (mmol/L)	% adj Ca 2.2-2.5 mmol/L	% adj Ca >2.5 mmol/L	% data completeness
Ulster	2.4	75.8	24.2	100.0
West NI	2.3	79.2	7.9	100.0
<b>WALES</b>				
Bangor	2.3	89.0	6.9	100.0
Cardff	2.4	81.7	13.6	99.8
Clwyd	2.3	79.5	9.0	98.7
Swanse	2.3	87.2	4.6	100.0
Wrexm	2.3	87.6	5.2	98.0
<b>TOTALS</b>				
England	2.3	78.5	10.5	97.6
N Ireland	2.4	80.5	12.4	100.0
Wales	2.3	84.4	9.0	99.6
<b>E, W &amp; NI</b>	<b>2.3</b>	<b>78.9</b>	<b>10.4</b>	<b>97.8</b>

.Blank cells = No data returned by the centre or data completeness <70%



**Figure 5.6** Percentage of adult patients prevalent to ICHD on 31/12/2021 with adjusted calcium (Ca) above the target range (>2.5 mmol/L) by centre  
CI – confidence interval



**Figure 5.7** Change in percentage of prevalent adult ICHD patients within, above and below the target range for adjusted calcium (Ca 2.2–2.5 mmol/L) between 2011 and 2021

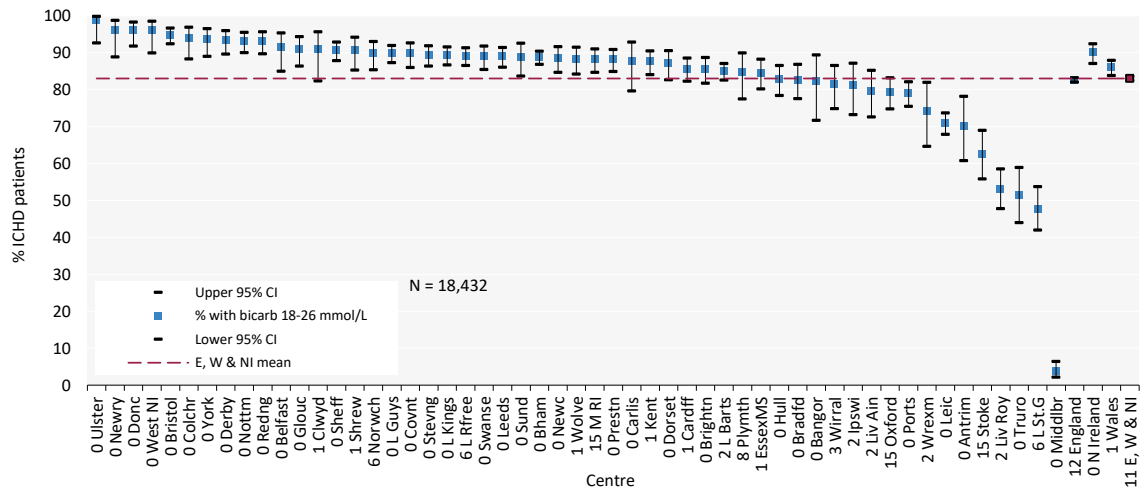
**Table 5.7** Median pre-dialysis potassium and bicarbonate and percentage attaining target ranges in adult patients prevalent to ICHD on 31/12/2021 by centre

Centre	Pre-dialysis potassium					Pre-dialysis bicarbonate				
	Median (mmol/L)	% <4.0 mmol/L	% 4.0–6.0 mmol/L	% >6.0 mmol/L	% complete	Median (mmol/L)	% <18 mmol/L	% 18–26 mmol/L	% >26 mmol/L	% complete
ENGLAND										
Bham	4.2	36.8	60.3	34.2	99.7	23	4.1	88.8	7.1	99.7
Bradfd	4.8	11.1	80.5	7.8	100.0	24	1.2	82.7	16.2	99.6
Brightn					0.0	23	3.0	85.6	11.4	100.0
Bristol	4.8	19.4	77.2	15.9	100.0	21	4.4	94.9	0.7	100.0
Camb	4.9	4.7	90.9	2.9	98.8					12.4
Carlis					0.0	21	10.2	87.8	2.0	100.0
Carsh					0.0					24.4
Colchr	4.7	18.2	79.6	12.5	100.0	22	3.8	93.9	2.3	100.0
Covnt					0.0	23	5.0	89.8	5.3	100.0
Derby	4.7	15.1	81.6	11.1	100.0	21	6.1	93.5	0.4	100.0
Donc	4.7	12.0	82.3	7.8	100.0	22	1.3	96.2	2.5	100.0
Dorset	4.8	8.6	88.9	5.8	99.6	22	6.8	87.1	6.1	99.6
Dudley	4.8	13.4	82.7	9.3	100.0					62.9
EssexMS	4.8	7.5	86.8	4.9	89.2	24	1.9	84.6	13.5	99.1
Exeter										
Glouc					0.0	24	1.5	91.1	7.4	100.0
Hull	4.8	9.0	85.3	6.4	100.0	24	1.2	82.9	15.9	100.0
Ipswi					0.0	24	0.8	81.2	18.0	97.6
Kent	4.5	28.2	67.5	24.0	99.3	20	11.7	87.6	0.7	99.3
L Barts	4.7	17.7	76.6	15.4	98.3	21	12.4	85.0	2.6	98.2
L Guys	4.6	24.4	71.2	21.3	100.0	23	1.2	89.8	9.0	100.0
L Kings	5.2	8.2	79.3	6.2	99.8	20	10.2	89.4	0.5	99.5
L Rfree	4.9	13.3	78.4	10.9	100.0	21	10.2	89.2	0.6	94.1
L St.G					0.0	27	1.1	47.8	51.1	93.5
L West					0.0					52.6
Leeds	5.0	3.4	91.3	2.1	100.0	23	2.2	89.0	8.8	100.0
Leic	4.9	9.6	84.7	7.9	99.9	24	2.8	70.9	26.3	99.9
Liv Ain					0.0	24	3.2	79.6	17.2	97.5

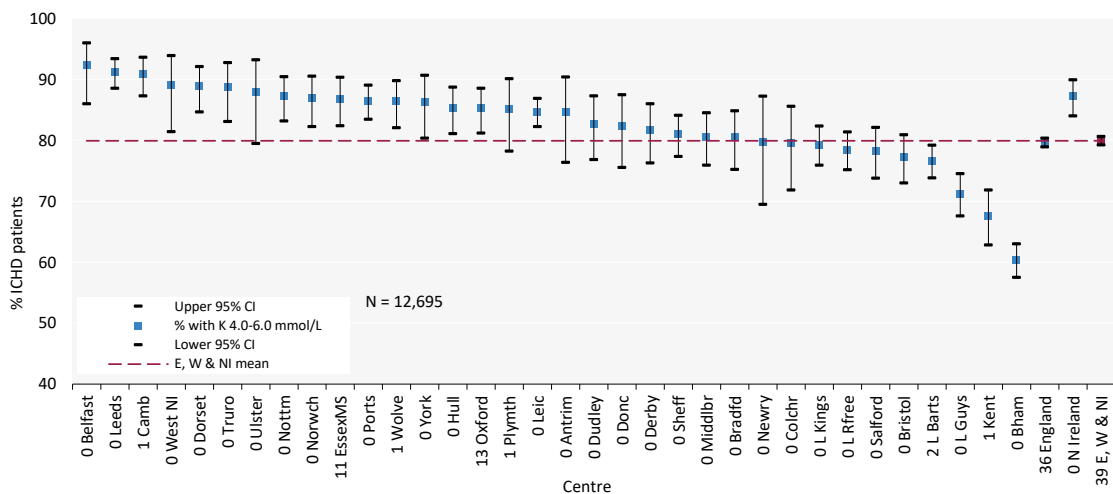
**Table 5.7** Continued

Centre	Pre-dialysis potassium					Pre-dialysis bicarbonate				
	Median (mmol/L)	% <4.0 mmol/L	% 4.0–6.0 mmol/L	% >6.0 mmol/L	% complete	Median (mmol/L)	% <18 mmol/L	% 18–26 mmol/L	% >26 mmol/L	% complete
Liv Roy					0.0	26	0.3	53.2	46.5	98.2
M RI					0.0	23	3.3	88.3	8.5	85.5
Middlbr	4.7	16.1	80.6	12.4	99.7	31	0.0	3.7	96.3	99.7
Newc					0.0	22	3.7	88.6	7.7	100.0
Norwch	5.1	3.9	86.9	2.1	99.6	22	4.1	89.8	6.1	94.3
Nottm	4.9	8.2	87.2	5.7	100.0	23	1.5	93.3	5.2	99.7
Oxford	4.9	8.6	85.2	6.1	86.7	22	7.9	79.3	12.8	85.3
Plymth	4.8	12.1	85.1	7.6	99.3	21	13.0	84.7	2.3	92.3
Ports	4.9	6.2	86.5	4.5	100.0	23	3.8	79.0	17.2	99.8
Prestn					0.0	23	4.8	88.2	7.0	100.0
Redng					0.0	23	1.4	93.3	5.3	100.0
Salford	4.6	17.6	78.2	14.1	100.0					0.0
Sheff	4.9	9.9	80.9	7.6	99.8	22	4.4	90.7	5.0	99.8
Shrew					0.0	21	7.0	90.6	2.3	99.4
Sthend										
Stoke					0.0	26	1.0	62.6	36.4	85.1
Sund					0.0	21	9.1	88.9	2.0	100.0
Truro	4.9	7.1	88.8	4.1	100.0	26	0.0	51.5	48.5	100.0
Wirral					0.0	24	0.6	81.4	18.0	96.6
Wolve	4.8	7.5	86.4	5.0	99.0	20	11.4	88.3	0.3	99.0
York	5.2	3.4	86.3	1.6	100.0	22	2.9	93.7	3.4	100.0
N IRELAND										
Antrim	4.9	12.5	84.6	7.4	100.0	26	0.0	70.2	29.8	100.0
Belfast	5.1	1.7	92.4	0.4	100.0	21	7.6	91.5	0.9	100.0
Newry	4.7	15.2	79.8	8.8	100.0	23	2.5	96.2	1.3	100.0
Ulster	4.7	8.8	87.9	4.5	100.0	23	1.1	98.9	0.0	100.0
West NI	5.0	5.0	89.1	2.1	100.0	22	3.0	96.0	1.0	100.0
WALES										
Bangor					0.0	24	2.7	82.2		100.0
Cardff					0.0	24	1.2	85.7		99.2
Clwyd					0.0	24	1.3	91.0		98.7
Swanse					0.0	23	3.5	89.0		100.0
Wrexm					0.0	25	1.0	74.2		98.0
TOTALS										
England	4.8	5.0	79.6	14.0	64.0	23	5.0	82.7	12.3	88.3
N Ireland	4.9		87.2	6.0	100.0	23	3.0	90.1	6.9	100.0
Wales					0.0	24	2.1	86.0	12.0	99.4
<b>E, W &amp; NI</b>	<b>4.8</b>	<b>14.4</b>	<b>79.9</b>	<b>13.8</b>	<b>61.5</b>	<b>23</b>	<b>4.8</b>	<b>83.1</b>	<b>12.2</b>	<b>89.2</b>

Blank cells – no data returned by the centre or data completeness <70%

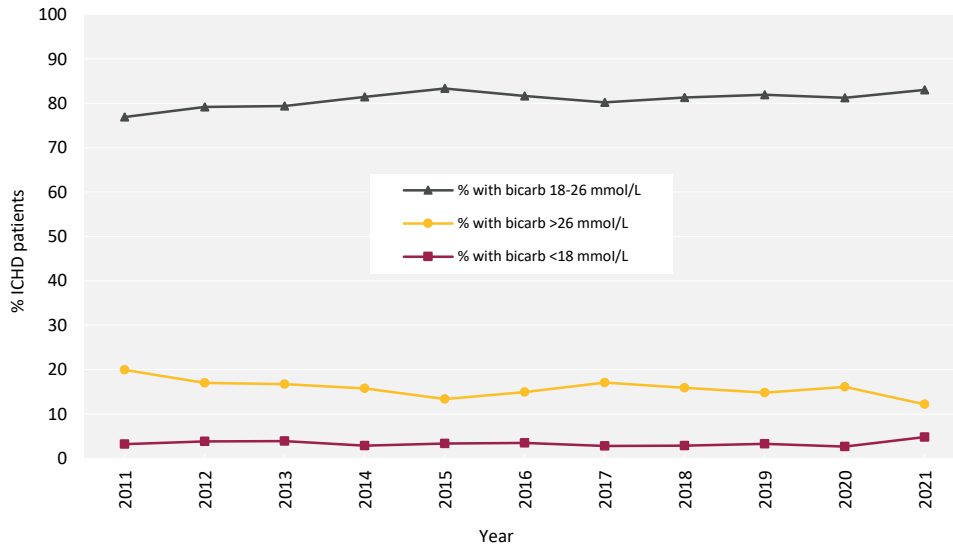


**Figure 5.8** Percentage of adult patients prevalent to ICHD on 31/12/2021 with pre-dialysis bicarbonate (bicarb) within the target range (18–26 mmol/L) by centre  
 CI – confidence interval  
 Bicarb - bicarbonate



**Figure 5.9** Percentage of adult patients prevalent to ICHD on 31/12/2021 with pre-dialysis potassium (K) within the target range (4.0–6.0 mmol/L) by centre  
 CI – confidence interval  
 K - Potassium

Pre-dialysis potassium has only been included in the UKRR report in the last few years and therefore longitudinal analyses are not shown.



**Figure 5.10** Change in percentage of prevalent adult ICHD patients within, above and below the target range for pre-dialysis bicarbonate (bicarb 18–26 mmol/L) between 2011 and 2021

## Anaemia in prevalent adult ICHD patients

UK Kidney Association anaemia guidelines recommend a target haemoglobin of 100-120 g/L. Data regarding target and median haemoglobin and ferritin levels attained are presented in table 5.8.

**Table 5.8** Median haemoglobin and ferritin and percentage attaining target ranges in adult patients prevalent to ICHD on 31/12/2021 by centre

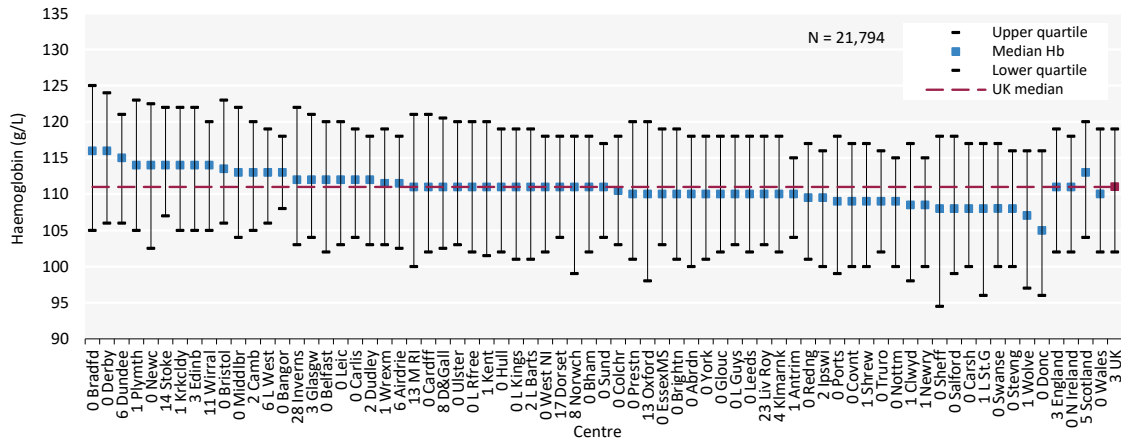
Centre	Haemoglobin			% data completeness	Ferritin		
	Median (g/L)	% <100 g/L	% >120 g/L		Median (µg/L)	% <200 µg/L	% data completeness
ENGLAND							
Bham	111	21.0	17.4	99.7	554	14.9	99.7
Bradfd	116	19.9	36.8	100.0	446	11.2	99.6
Brightn	110	22.3	23.0	100.0	490	6.4	99.0
Bristol	114	5.5	30.9	100.0	666	2.8	99.1
Camb	113	13.2	23.0	97.8			51.9
Carlis	112	16.3	19.4	100.0	618	12.2	100.0
Carsh	108	22.9	15.4	99.9	459	11.6	99.9
Colchr	111	18.2	16.7	100.0	494	6.1	100.0
Covnt	109	21.4	15.2	100.0	492	11.5	100.0
Derby	116	12.7	35.9	100.0	510	9.8	100.0
Donc	105	34.8	13.9	100.0	507	7.0	100.0
Dorset	111	15.5	17.2	82.9	735	3.2	99.6
Dudley	112	16.2	13.7	97.5			68.3
EssexMS	110	17.5	20.3	100.0	468	15.0	99.7
Exeter							
Glouc	110	20.7	18.2	100.0	425	13.3	96.1
Hull	111	21.3	20.7	100.0	445	8.8	99.1
Ipswi	110	23.0	13.1	97.6	434	25.4	97.6
Kent	111	20.9	22.3	99.3	555	12.2	98.6
L Barts	111	22.0	19.6	98.3	622	9.0	98.3
L Guys	110	19.6	18.5	100.0	513	9.6	99.5
L Kings	111	20.1	21.2	99.7	473	11.8	99.0
L Rfree	111	20.1	22.2	100.0	434	21.1	99.4
L St.G	108	30.7	17.9	99.0	644	3.4	99.0
L West	113	12.1	21.2	94.2	363	16.2	93.7
Leeds	110	20.5	18.2	100.0	339	27.4	100.0
Leic	112	17.7	24.5	99.9	401	15.2	99.7
Liv Ain				67.7	574	11.2	88.8
Liv Roy	110	17.6	18.4	76.9	506	8.3	97.9
M RI	111	24.4	26.4	86.5	405	10.6	81.0
Middlbr	113	15.1	31.1	100.0	812	11.7	94.5
Newc	114	17.9	29.3	99.7	575	14.2	100.0
Norwch	111	25.3	15.4	92.3	481	16.7	94.3
Nottm	109	24.7	12.2	99.7	453	13.1	100.0
Oxford	110	26.9	24.1	87.2	556	4.4	98.8
Plymth	114	16.3	30.5	99.3	314	26.4	98.6
Ports	109	26.3	18.7	100.0	343	28.7	99.1
Prestn	110	22.3	23.4	100.0	728	5.2	96.5
Redng	110	23.0	17.4	100.0	690	5.7	100.0
Salford	108	26.8	18.6	100.0	354	27.1	99.7
Sheff	108	33.6	20.4	99.8	446	9.4	99.6
Shrew	109	21.6	17.0	99.4	493	5.3	99.4
Stevng	108	23.1	11.1	99.8	382	19.0	99.4
Stoke	114	9.7	30.4	85.5	524	8.0	82.6
Sund	111	16.7	19.2	100.0	649	4.0	100.0
Truro	109	19.5	13.6	100.0	389	12.0	98.8

**Table 5.8** Continued

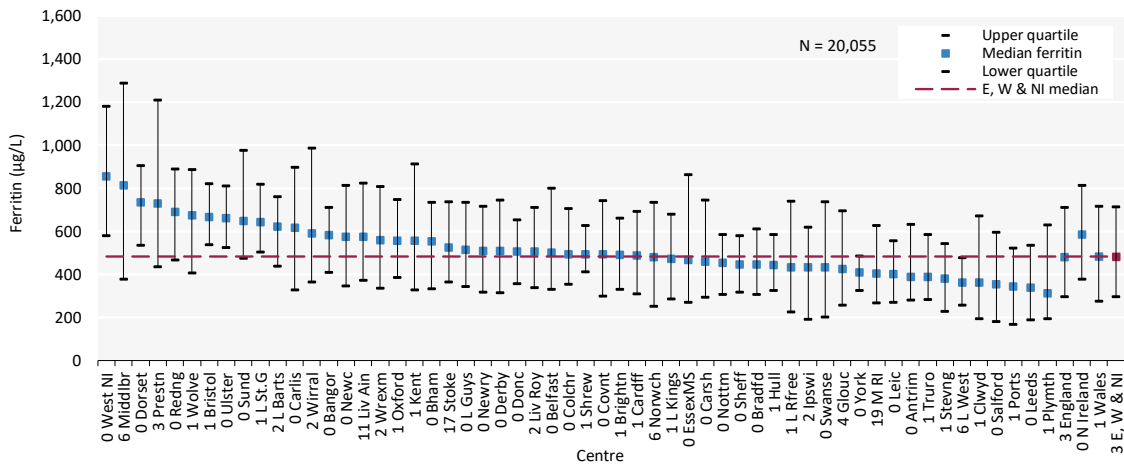
Centre	Haemoglobin				Ferritin		
	Median (g/L)	% <100 g/L	% >120 g/L	% data completeness	Median (µg/L)	% <200 µg/L	% data completeness
Wirral	114	18.2	24.5	89.3	590	11.5	97.8
Wolve	107	29.9	18.5	99.0	673	10.1	99.0
York	110	21.1	19.4	100.0	408	10.3	100.0
<b>N IRELAND</b>							
Antrim	110	15.5	10.7	99.0	389	9.6	100.0
Belfast	112	18.6	23.7	100.0	501	5.1	100.0
Newry	109	24.4	11.5	98.7	510	8.9	100.0
Ulster	111	17.6	22.0	100.0	660	4.4	100.0
West NI	111	19.8	21.8	100.0	856	4.0	100.0
<b>SCOTLAND</b>							
Abrdn	110	22.6	18.9	100.0			
Airdrie	112	18.5	17.9	93.9			
D&Gall	111	15.9	25.0	91.7			
Dundee	115	15.0	25.6	93.7			
Edinb	114	17.2	29.7	97.0			
Glasgw	112	17.3	25.1	96.8			
Inverns	112	17.5	28.6	72.4			
Klmarnk	110	17.1	17.1	96.1			
Krkldy	114	14.8	27.1	99.4			
<b>WALES</b>							
Bangor	113	6.8	16.4	100.0	582	11.0	100.0
Cardff	111	20.4	26.1	99.8	489	12.4	99.4
Clwyd	109	28.2	12.8	98.7	362	25.6	98.7
Swanse	108	22.5	16.8	100.0	434	24.3	100.0
Wrexm	112	17.3	21.4	99.0	558	11.3	98.0
<b>TOTALS</b>							
England	111	20.6	20.7	97.4	480	13.3	96.9
N Ireland	111	18.9	18.3	99.6	584	6.3	100.0
Scotland	113	16.9	24.8	95.4			
Wales	110	20.5	21.0	99.7	484	17.2	99.5
<b>UK</b>	<b>111</b>	<b>20.3</b>	<b>20.9</b>	<b>97.4</b>	<b>483</b>	<b>13.3</b>	<b>97.1</b>

Blank cells – no data returned by the centre or data completeness <70%

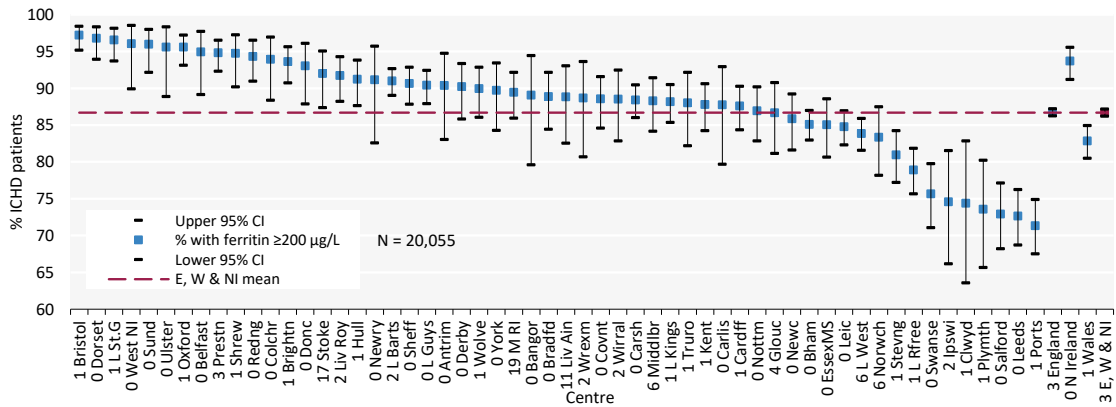
UK National average for ferritin does not include Scotland



**Figure 5.11** Median haemoglobin (Hb) in adult patients prevalent to ICHD on 31/12/2021 by centre

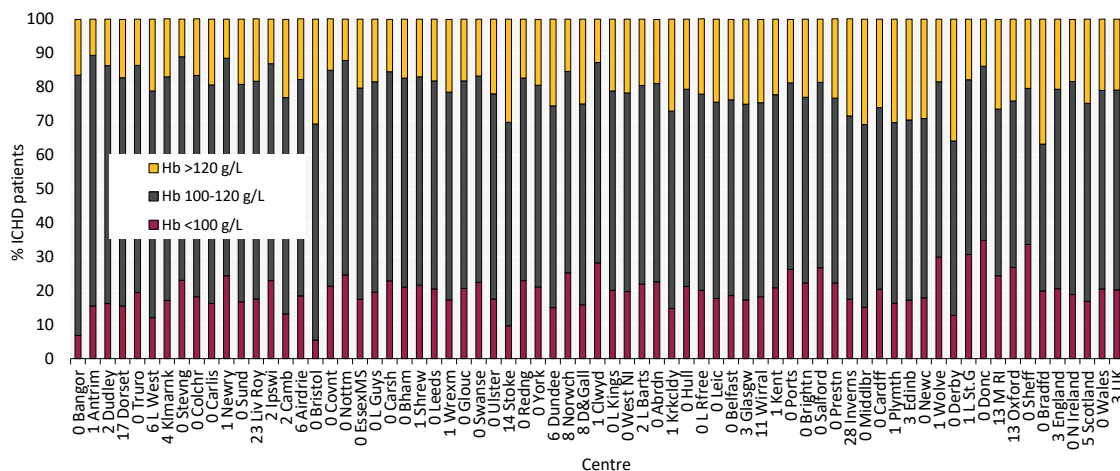


**Figure 5.12** Median ferritin in adult patients prevalent to ICHD on 31/12/2021 by centre

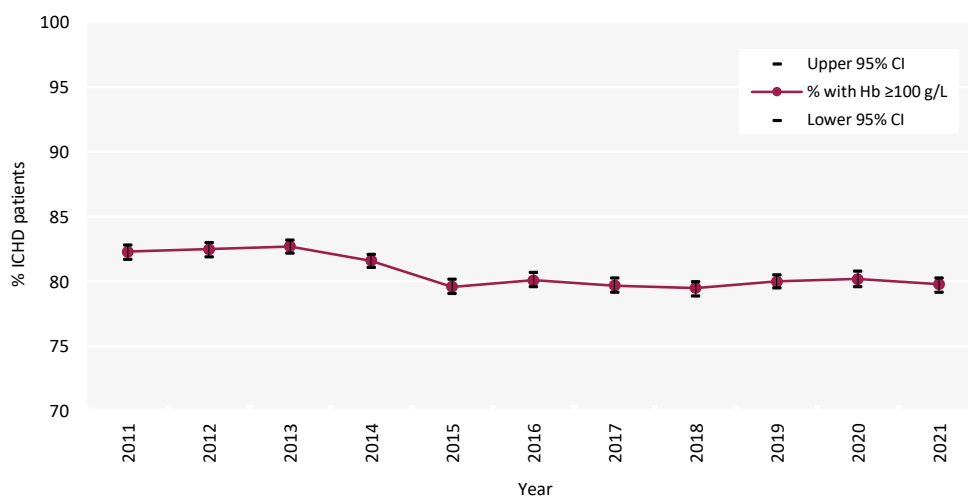


**Figure 5.13** Percentage of adult patients prevalent to ICHD on 31/12/2021 with ferritin <200 µg/L by centre  
CI – confidence interval





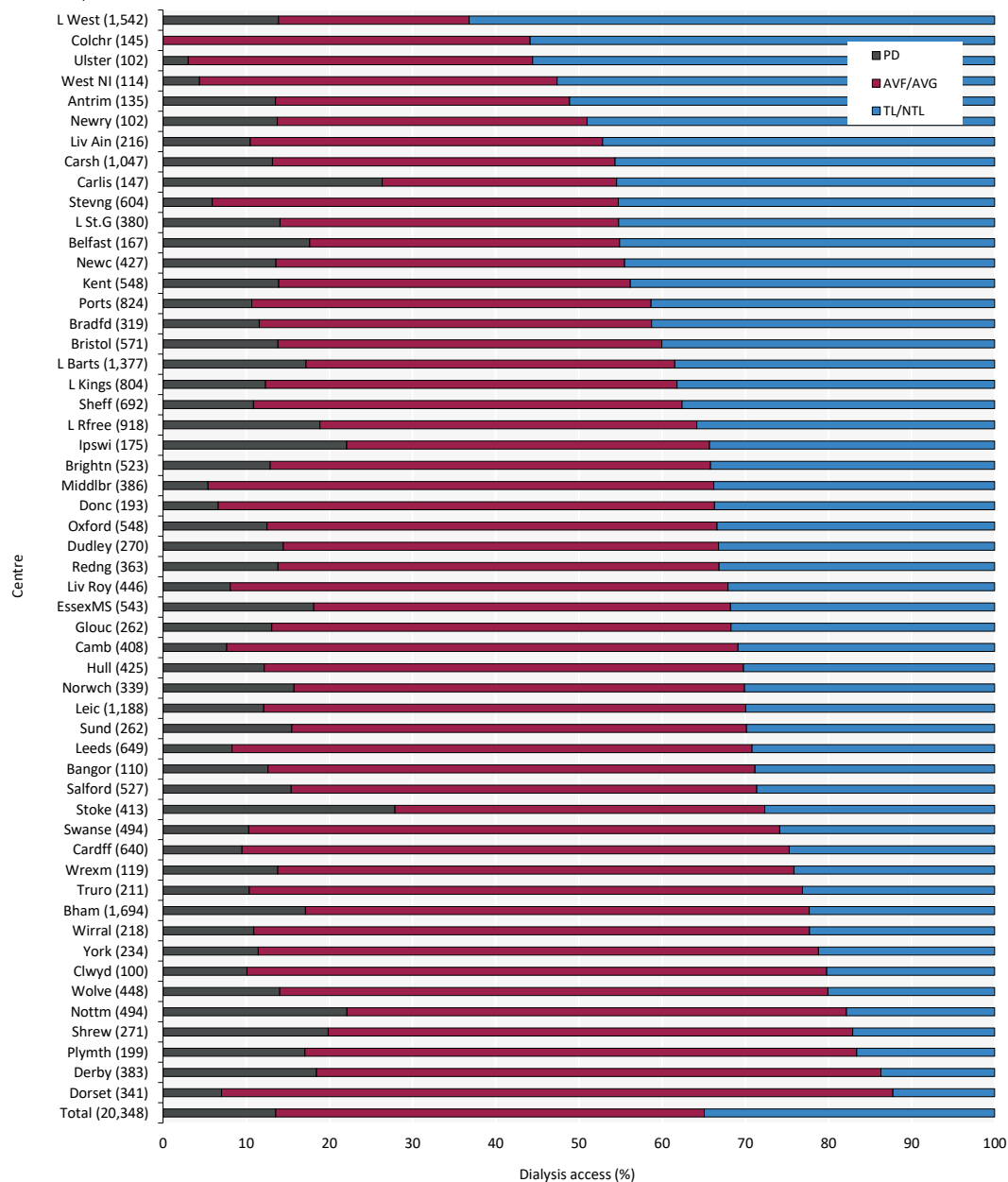
**Figure 5.14** Distribution of haemoglobin (Hb) in adult patients prevalent to ICHD on 31/12/2021 by centre



**Figure 5.15** Percentage of prevalent adult ICHD patients with haemoglobin (Hb)  $\geq 100$  g/L between 2011 and 2021  
CI – confidence interval

## Dialysis access in prevalent adult dialysis patients

Scotland do not contribute dialysis session information or data via the audit, and therefore are not included in the analysis of prevalent patients. They submit access data for incident patients separately to the audit (see chapter 2). The type of prevalent dialysis access is presented in figure 5.16 for the 40 of centres in England, Northern Ireland and Wales that returned vascular access data on  $\geq 70\%$  of their prevalent dialysis patients. Rates of PD may impact the types of vascular access used for ICHD and this is reflected in the combined audit measures for dialysis access. .



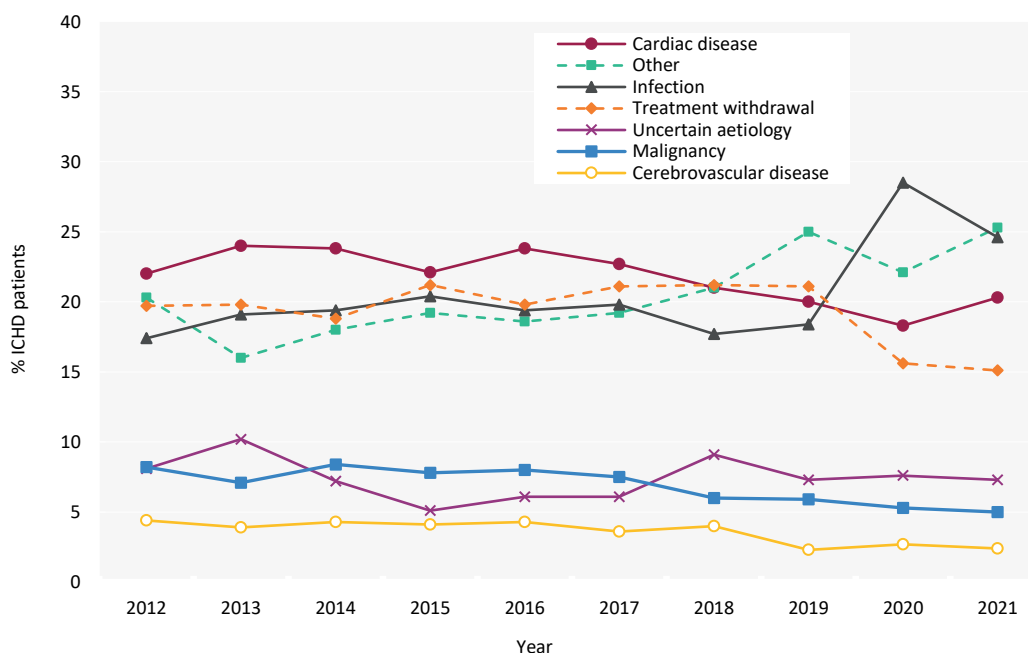
**Figure 5.16** Dialysis access in adult patients prevalent to dialysis on 31/12/2021 by centre  
 Number of patients on dialysis in a centre in brackets (centres with <70% access data for the prevalent dialysis population were excluded)  
 AVF – arteriovenous fistula; AVG – arteriovenous graft; NTL – non-tunnelled line; TL – tunnelled line

## Cause of death in adult ICHD patients

Cause of death was analysed in prevalent patients receiving ICHD on 31/12/2020 and followed-up for one year in 2021. The proportion of ICHD patients with each cause of death is shown for patients with cause of death data and these total 100% of patients with data. The proportion of patients with no cause of death data is shown on a separate line. Further detail on the survival of prevalent KRT patients is in chapter 3.

**Table 5.9** Cause of death in adult patients prevalent to ICHD on 31/12/2020 followed-up in 2021 by age group

Cause of death	ICHD all ages		ICHD < 65 years		ICHD ≥ 65 years	
	N	%	N	%	N	%
Cardiac disease	523	20.3	196	26.1	327	17.9
Cerebrovascular disease	62	2.4	25	3.3	37	2.0
Infection	633	24.6	174	23.2	459	25.1
Malignancy	129	5.0	32	4.3	97	5.3
Treatment withdrawal	390	15.1	59	7.9	331	18.1
Other	651	25.3	199	26.5	452	24.8
Uncertain aetiology	189	7.3	66	8.8	123	6.7
<b>Total (with data)</b>	<b>2,577</b>	<b>100.0</b>	<b>751</b>	<b>100.0</b>	<b>1,826</b>	<b>100.0</b>
Missing	1,509	36.9	453	37.6	1,056	36.6



**Figure 5.21** Cause of death between 2012 and 2021 for adult patients prevalent to ICHD at the beginning of the year