Chapter 5

Adults on in-centre haemodialysis (ICHD) in the UK at the end of 2022

Contents

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 2022 (figure 5.1). This population comprises patients who were on ICHD at the end of 2021 and remained on ICHD throughout 2022, as well as patients who commenced/re-commenced ICHD in 2022. This latter group includes both incident kidney replacement therapy (KRT) patients who ended 2022 on ICHD and prevalent KRT patients who switched to ICHD from home haemodialysis (HHD), peritoneal dialysis (PD), or a transplant (Tx) in 2022. 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.
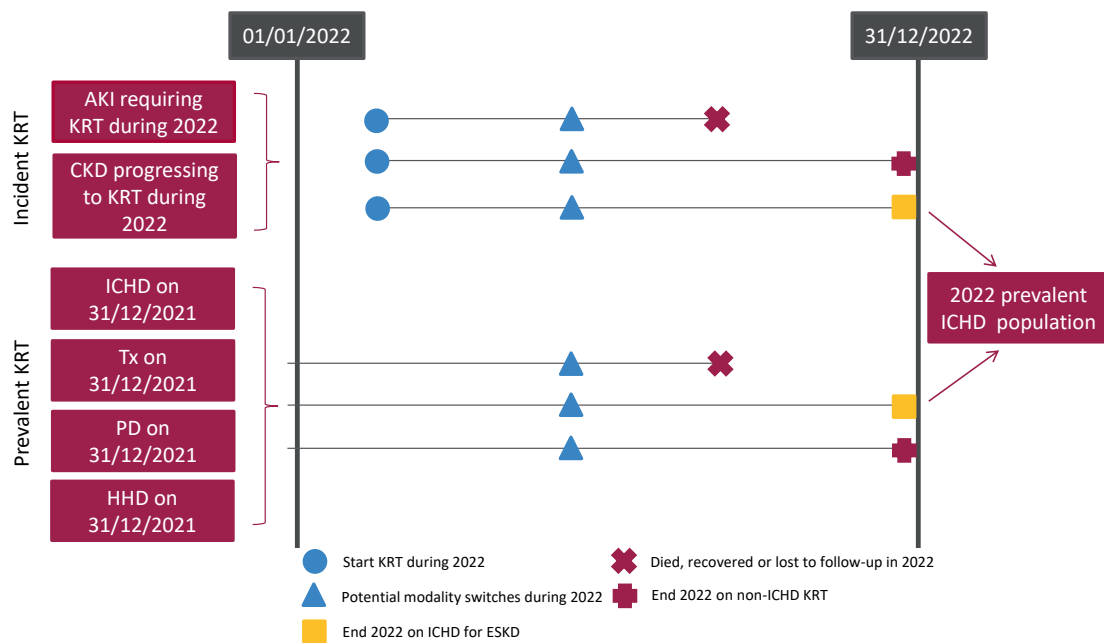
Figure 5.1 Pathways adult patients could follow to be included in the UK 2022 prevalent ICHD population

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 2022 or if they had been on KRT for ≥90 days and were on ICHD at the end of 2022

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) as new data become available.

Rationale for analyses

The analyses begin with a description of the 2022 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) provide audit measures relevant to the care of patients on ICHD and, where data permit, their attainment by UK kidney centres in 2022 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). 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 and 2022. Aggregate numbers by modality were provided, included by vascular access type as part of the 2022 Multisite Dialysis Access Audit, enabling inclusion in tables 5.2 and 5.3, and figure 5.16. Exeter is excluded from all other analyses.

Manchester moved to a new Trust IT system, and as a result data were not submitted for the final quarter of 2022. Data for Manchester presented in this chapter are for patients receiving ICHD on 30th September 2022, rather than 31st December 2022.

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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)[1]	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
[1]The UKKA published a new vascular access guideline in 2023, which we will include next year as it took effect after the data published in this report.

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Key findings

- 25,825 adult patients were receiving ICHD for ESKD in the UK on 31/12/2022, which represented 36.4% of the KRT population. The number of people on ICHD has increased by 3.2% since 2021.

- The median age of ICHD patients was 65.8 years, and 62.4% were male.

- 81.4% of ICHD patients achieved a dialysis adequacy of URR >65%. This has been declining since 2020.

- 91.9% of ICHD patients had dialysis 3 times a week and a further 1.5% had dialysis more frequently than this.

- 63.5% of ICHD patients had dialysis for 4-5 hours per session compared to 66.6% last year (2021), 66.4% in 2020 and 70.9% in 2019.

- The median adjusted calcium for ICHD patients was 2.3 mmol/L and 11.1% were above the target range 2.2-2.5 mmol/L.

- The median pre-dialysis bicarbonate for ICHD patients was 23 mmol/L and 81.9% were within the target range 18-26 mmol/L.

- The median pre-dialysis potassium for ICHD patients was 4.9 mmol/L and 6.3% had a pre-dialysis potassium of >6 mmol/L.

- The median haemoglobin and ferritin for ICHD patients was 111 g/L and 513 µg/L, respectively.

- 21.3% of ICHD patients had a haemoglobin <100 g/L and 21.5% had a haemoglobin >120 g/L.

- Of the 62 centres that provided adequate data on long term dialysis access, 6 centres achieved the 80% target for definitive access amongst prevalent dialysis patients (AVF/AVG/PD catheter).

- This year for the first time, cause of death records from Civil Registration were used where the cause of death was missing in the UKRR data. This resulted in improved completeness and changes in proportions of the causes of death. The leading cause of death in patients under 65 years was cardiac disease at 26.3%, with infection accounting for 15.2% of deaths. In those older than 65 years, the leading cause of death was also cardiac disease (20.3%) and infections (18.2%).

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Analyses

Changes to the prevalent adult ICHD population

For the 67 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)	2022 crude rate (pmp)
	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022		
ENGLAND												
Bham	1,349	1,349	1,314	1,347	1,409	41.5	40.7	40.3	40.8	41.7	2.03	696
Bradfd	261	280	276	275	309	37.9	38.2	38.1	37.4	39.6	0.50	622
Brightn	446	432	426	425	423	42.3	40.6	39.5	39.0	38.5	1.08	390
Bristol	475	469	463	477	491	32.3	31.5	31.4	31.9	32.2	1.25	394
Camb	304	287	276	358	363	21.9	19.7	18.3	22.0	21.8	0.96	380
Carlis	101	111	111	114	106	34.5	36.8	37.4	37.3	35.0	0.26	413
Carsh	858	840	858	883	885	49.0	47.2	46.4	46.4	45.7	1.64	541
Colchr	122	145	150	146	157	100.0	100.0	100.0	100.0	100.0	0.30	528
Covnt	308	357	365	371	370	31.9	33.0	32.9	32.9	32.9	0.84	442
Derby	197	238	244	262	291	33.6	36.4	36.1	37.9	40.6	0.56	523
Donc	179	180	177	175	199	54.2	52.6	51.9	51.6	52.9	0.38	527
Dorset	291	289	299	304	328	38.1	37.4	37.5	38.6	41.4	0.73	447
Dudley	204	207	209	223	212	56.7	56.6	55.9	55.3	55.4	0.34	616
EssexMS	409	414	423	427	436	48.5	48.6	47.8	47.7	48.6	1.00	438
Exeter	450	443	454	476	496	41.6	40.7	41.6	44.2	44.0	0.98	507
Glouc	239	228	222	223	228	45.8	42.9	42.5	40.9	41.2	0.52	439
Hull	350	350	351	361	358	39.8	38.7	38.4	39.4	38.4	0.80	447
Ipswi	151	142	135	138	131	35.3	33.2	31.7	32.7	33.2	0.31	417
Kent	418	420	425	458	476	37.6	36.8	37.2	38.4	38.9	1.08	442
L Barts	1,060	1,029	1,041	1,087	1,158	40.8	38.7	38.9	39.8	40.6	1.61	718
L Guys	692	673	693	733	707	31.0	29.0	29.9	31.5	30.6	1.00	707
L Kings	597	611	617	670	698	50.5	49.0	49.2	50.3	50.1	0.93	753
L Rfree	684	742	722	746	766	30.6	31.7	30.9	31.1	31.7	1.33	578
L St.G	293	301	320	325	305	35.1	35.3	37.5	37.4	35.7	0.65	468
L West	1,430	1,381	1,271	1,292	1,311	40.2	38.3	36.0	36.3	36.2	1.97	667
Leeds	542	552	549	580	610	32.2	32.0	31.4	32.5	33.2	1.39	439
Leic	917	958	957	1,001	1,036	37.4	37.1	36.5	38.0	38.1	2.11	490
Liv UH	514	530	522	549	558	34.6	35.7	36.1	37.6	37.7	1.26	444
M RI	502	497	504	511	542	24.3	24.3	25.4	24.7	25.7	1.36	399
Middlbr	349	344	327	350	344	37.5	36.1	34.6	36.5	36.0	0.82	421
Newc	339	329	355	350	376	29.4	28.1	29.7	28.6	30.2	0.97	388
Norwch	294	296	289	295	293	37.3	36.5	35.7	36.7	37.4	0.70	418
Nottm	350	359	349	363	362	29.2	29.5	28.9	29.8	29.9	0.94	384
Oxford	445	455	474	460	482	22.9	23.0	23.5	23.0	23.2	1.48	327
Plymth	128	126	146	161	159	23.7	23.6	26.9	29.7	29.1	0.41	392
Ports	529	592	608	651	672	30.0	31.5	32.0	33.5	33.6	1.77	380
Prestn	519	505	499	499	513	39.3	37.6	36.5	36.3	36.6	1.25	410
Redng	297	315	300	306	337	36.5	36.5	34.5	34.9	36.5	0.70	479
Salford	402	395	432	414	448	34.3	31.8	34.1	34.0	35.2	1.17	384
Sheff	552	541	552	560	576	37.2	36.3	36.9	37.3	38.7	1.15	502
Shrew	206	204	174	183	172	47.9	46.7	40.7	41.6	38.7	0.42	410
Stevng	489	508	543	534	570	52.1	52.8	55.4	52.4	53.5	1.12	507

Table 5.2 Continued

Centre	N on ICHD					% on ICHD					Estimated catchment population (millions)	2022 crude rate (pmp)
	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022		
Stoke	281	265	250	263	316	34.9	32.9	30.8	31.2	35.0	0.74	429
Sund	244	252	219	215	227	43.5	44.2	39.4	39.3	40.4	0.55	411
Truro	168	164	159	183	198	38.4	36.4	35.7	39.7	42.0	0.37	542
Wirral	203	207	194	190	190	50.6	49.6	46.5	45.8	47.5	0.47	403
Wolve	317	303	326	347	374	52.1	49.3	49.8	49.9	51.8	0.55	680
York	183	184	192	190	197	32.2	31.6	33.6	32.7	32.4	0.50	397
N IRELAND												
Antrim	119	117	110	115	115	43.4	41.1	38.3	39.0	37.6	0.25	466
Belfast	173	158	144	131	139	19.7	17.9	16.2	14.4	15.0	0.53	260
Newry	82	78	78	86	77	32.5	30.8	29.5	30.6	28.6	0.24	326
Ulster	106	96	96	98	100	55.5	51.9	47.8	48.3	47.6	0.20	490
West NI	114	106	118	105	107	34.9	32.3	33.6	31.0	30.1	0.25	426
SCOTLAND												
Abrdn	214	190	192	188	189	37.4	34.1	34.0	32.4	31.8	0.50	380
Airdrie	192	207	197	195	207	39.3	39.5	38.0	38.6	39.9	0.46	452
D&Gall	55	52	56	53	50	37.9	34.9	35.9	34.4	33.8	0.12	411
Dundee	161	162	158	149	140	36.2	36.1	36.7	36.3	35.1	0.37	383
Edinb	301	296	289	284	294	34.9	33.4	32.5	30.6	30.1	0.84	349
Glasgw	587	576	552	568	620	32.4	31.1	29.8	30.3	32.3	1.37	454
Inverns	90	92	89	93	85	32.3	32.6	32.8	33.5	30.4	0.23	378
Klmarnk	141	139	147	138	148	41.5	38.7	39.8	37.5	39.6	0.29	510
Krkcldy	135	138	146	164	162	45.3	46.6	50.0	55.4	55.5	0.27	592
WALES												
Bangor	70	66	78	76	76	34.5	32.8	36.1	35.0	34.5	0.20	373
Cardff	554	551	512	531	569	32.2	31.8	30.5	31.2	32.4	1.17	485
Clwyd	75	86	78	84	85	39.5	42.0	38.2	41.6	41.7	0.18	467
Swanse	373	389	394	404	392	45.2	44.8	46.4	47.4	46.3	0.76	515
Wrexm	113	106	114	103	105	36.0	34.1	35.3	33.9	34.2	0.21	506
TOTALS												
England	20,638	20,799	20,762	21,451	22,165	36.8	36.1	35.9	36.5	36.9	45.20	490
N Ireland	594	555	546	535	538	30.9	28.7	27.4	26.4	26.0	1.47	365
Scotland	1,876	1,852	1,826	1,832	1,895	35.8	34.6	34.2	34.0	34.4	4.44	427
Wales	1,185	1,198	1,176	1,198	1,227	36.4	36.1	35.9	36.6	36.8	2.53	486
UK	**24,293**	**24,404**	**24,310**	**25,016**	**25,825**	**36.5**	**35.8**	**35.5**	**36.0**	**36.4**	**53.65**	**481**

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 and 2022 by treatment modality

pmp – per million population

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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 31/12/2022 by centre

Centre	N on KRT	N on ICHD	% on ICHD	Median age (yrs)	% male	Ethnicity				% missing
						% White	% Asian	% Black	% Other	
ENGLAND										
Bham	3,378	1,409	41.7	65.3	59.9	49.4	32.3	15.4	2.9	2.7
Bradfd	781	309	39.6	63.4	57.0	47.2	46.6	2.9	3.2	0.0
Brightn	1,100	423	38.5	68.5	59.6	87.4	6.8	3.3	2.5	6.1
Bristol	1,524	491	32.2	63.6	66.2	83.1	5.4	9.8	1.7	2.4
Camb	1,663	363	21.8	72.7	65.6	93.3	3.4	1.5	1.8	9.9
Carlis	303	106	35.0	62.8	58.5	98.1	0.0	1.9	0.0	0.0
Carsh	1,936	885	45.7	67.7	63.1	60.4	17.6	14.5	7.5	5.6
Colchr	157	157	100.0	71.2	66.9	95.3	0.7	2.0	2.0	5.1
Covnt	1,125	370	32.9	70.6	64.9	73.8	18.0	8.2	0.0	0.8
Derby	716	291	40.6	66.8	64.6	81.9	13.0	3.0	2.2	7.2
Donc	376	199	52.9	69.3	64.3	89.8	3.6	3.6	3.0	1.0
Dorset	792	328	41.4	70.3	64.9	94.5	3.0	0.9	1.5	0.0
Dudley	383	212	55.4	71.0	63.7	75.5	17.5	7.1	0.0	0.0
EssexMS	897	436	48.6	67.9	69.3	81.6	6.4	7.4	4.7	6.7
Exeter	1,128	496	44.0							
Glouc	554	228	41.2	70.9	66.2	90.7	2.2	4.0	3.1	1.3
Hull	933	358	38.4	64.8	64.2	95.2	2.8	1.1	0.8	1.1
Ipswi	395	131	33.2	72.3	65.6	78.9	3.1	3.9	14.1	2.3
Kent	1,224	476	38.9	66.5	64.9	92.7	3.0	2.4	1.9	2.7
L Barts	2,851	1,158	40.6	62.3	61.1	23.6	36.6	33.1	6.7	5.1
L Guys	2,309	707	30.6	62.6	58.0	38.7	9.3	46.3	5.7	10.2
L Kings	1,394	698	50.1	63.0	59.5	37.1	12.5	46.5	3.8	2.7
L Rfree	2,418	766	31.7	64.2	60.2	36.9	20.6	30.2	12.3	10.6
L St.G	855	305	35.7	64.0	63.6	26.5	26.8	37.1	9.6	4.6
L West	3,626	1,311	36.2	65.0	61.8	28.0	39.7	25.8	6.6	0.0
Leeds	1,836	610	33.2	62.5	64.8	67.9	22.9	6.9	2.3	0.3
Leic	2,719	1,036	38.1	66.0	66.4	68.3	22.7	6.9	2.0	9.5
Liv UH	1,479	558	37.7	64.0	61.5	88.0	4.2	4.0	3.8	5.7
M RI	2,111	542	25.7	64.3	60.3	39.1	13.8	45.2	1.9	14.2
Middlbr	955	344	36.0	64.5	66.9	89.3	8.0	1.2	1.5	2.3
Newc	1,245	376	30.2	65.3	62.0	91.0	5.6	1.6	1.9	0.0
Norwch	783	293	37.4	70.0	61.8	95.1	1.9	1.1	1.9	10.2
Nottm	1,211	362	29.9	66.0	63.5	73.9	9.8	13.2	3.1	1.7
Oxford	2,080	482	23.2	66.5	57.7	74.3	11.7	9.1	5.0	29.0
Plymth	546	159	29.1	67.1	62.9	96.9	1.3	0.0	1.9	0.0
Ports	2,000	672	33.6	67.0	62.8	90.0	4.8	2.5	2.7	22.5
Prestn	1,400	513	36.6	64.9	62.4	78.3	19.1	1.0	1.6	1.2
Redng	924	337	36.5	67.8	63.2	58.9	26.5	6.3	8.3	10.4
Salford	1,273	448	35.2	62.5	65.2	65.4	25.4	5.4	3.8	0.0
Sheff	1,488	576	38.7	64.8	64.4	82.3	9.6	4.3	3.8	2.8
Shrew	445	172	38.7	67.2	66.9	88.8	3.5	4.1	3.5	1.2
Stevng	1,066	570	53.5	67.4	62.3	70.1	17.6	9.2	3.1	5.1
Stoke	903	316	35.0	69.4	63.9	86.7	6.6	3.3	3.3	4.7
Sund	562	227	40.4	67.2	60.8	96.5	2.2	0.4	0.9	0.0
Truro	471	198	42.0	69.2	63.6	97.5	1.0	0.5	1.0	0.0
Wirral	400	190	47.5	64.6	62.1	97.4	0.5	1.6	0.5	0.0
Wolve	722	374	51.8	64.7	63.9	50.1	32.4	11.8	5.6	0.3

Adults on ICHD in the UK at the end of 2022

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Table 5.3 Continued

Centre	N on KRT	N on ICHD	% on ICHD	Median age (yrs)	% male	Ethnicity				
						% White	% Asian	% Black	% Other	% missing
York	608	197	32.4	72.0	58.4	95.8	1.6	0.0	2.6	2.5
N IRELAND										
Antrim	306	115	37.6	76.2	66.1	98.9	0.0	0.0	1.1	23.5
Belfast	926	139	15.0	65.5	62.6	96.6	2.5	0.0	0.8	15.1
Newry	269	77	28.6	69.5	55.8	98.5	1.5	0.0	0.0	13.0
Ulster	210	100	47.6	76.3	63.0	96.9	3.1	0.0	0.0	2.0
West NI	356	107	30.1	72.0	57.9	98.1	1.9	0.0	0.0	3.7
SCOTLAND										
Abrdn	594	189	31.8	66.8	57.7					
Airdrie	519	207	39.9	63.5	58.5					
D&Gall	148	50	33.8	67.4	68.0					
Dundee	399	140	35.1	68.3	61.4					
Edinb	976	294	30.1	64.7	63.3					
Glasgw	1,921	620	32.3	64.7	58.4					
Inverns	280	85	30.4	71.5	62.4					
Klmarnk	374	148	39.6	66.8	68.9					
Krkcldy	292	162	55.5	68.7	62.3					
WALES										
Bangor	220	76	34.5	70.3	60.5	95.7	0.0	1.4	2.9	9.2
Cardff	1,758	569	32.4	64.9	62.2	87.1	9.2	2.3	1.4	10.2
Clwyd	204	85	41.7	67.7	65.9	96.2	2.5	1.3	0.0	7.1
Swanse	847	392	46.3	69.0	61.7	97.1	1.6	1.0	0.3	1.8
Wrexm	307	105	34.2	66.1	60.0	97.9	0.0	1.0	1.0	8.6
TOTALS										
England	60,045	22,165	36.9	65.6	62.6	65.5	17.0	13.6	3.9	5.3
N Ireland	2,067	538	26.0	72.1	61.5	97.7	1.9	0.0	0.4	11.9
Scotland	5,503	1,895	34.4	65.7	60.9					
Wales	3,336	1,227	36.8	66.6	62.0	92.5	4.8	1.7	1.0	7.1
UK	**70,951**	**25,825**	**36.4**	**65.8**	**62.4**	**67.6**	**16.1**	**12.7**	**3.7**	**5.5**

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 2022 by treatment modality

UK ethnicity distribution and completeness does not include Scotland

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.

ICHD

Table 5.4 Primary renal diseases (PRDs) of adult patients prevalent to ICHD on 31/12/2022

PRD	N on ICHD	% ICHD population	Age <65 yrs		Age ≥65 yrs		M/F ratio
			N	%	N	%	
Diabetes	6,878	29.0	3,326	28.9	3,552	29.1	1.7
Glomerulonephritis	3,245	13.7	1,909	16.6	1,336	10.9	2.0
Hypertension	1,898	8.0	958	8.3	940	7.7	2.6
Polycystic kidney disease	1,397	5.9	766	6.6	631	5.2	1.1
Pyelonephritis	1,624	6.8	823	7.1	801	6.6	1.7
Renal vascular disease	1,053	4.4	198	1.7	855	7.0	1.8
Other	4,183	17.6	2,125	18.4	2,058	16.9	1.3
Uncertain aetiology	3,450	14.5	1,417	12.3	2,033	16.7	1.6
Total (with data)	**23,728**	**100.0**	**11,522**	**100.0**	**12,206**	**100.0**	
Missing	1,601	6.3	701	5.7	900	6.9	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 31/12/2022 using end of third quarter data (30/09/2022)

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
ENGLAND											
Bham	78	90.8	11.2	87.0	1.8	23.5	76.4	0.1	98.9	98.8	98.4
Bradfd	71	77.7	9.1	89.9	1.0	29.6	70.4	0.0	76.7	100.0	100.0
Brightn	73	90.2	6.2	93.6	0.2	15.3	84.7	0.0	99.2	100.0	100.0
Bristol	72	76.6	5.0	93.8	1.1	25.5	74.5	0.0	100.0	100.0	100.0
Camb			3.6	94.0	2.4	43.0	57.0	0.0	0.0	100.0	100.0
Carlis	69	69.2	8.0	92.0	0.0	23.9	76.1	0.0	98.9	100.0	100.0
Carsh			3.6	96.3	0.1	6.6	93.4	0.0	67.7	99.8	96.0
Colchr	76	92.3	7.6	91.7	0.7	24.8	75.2	0.0	97.7	100.0	100.0
Covnt	75	85.4	9.4	89.8	0.9	51.8	48.2	0.0	97.1	98.8	98.1
Derby	74	79.0	2.0	98.0	0.0				74.4	99.6	9.6
Donc	75	84.0	2.8	96.6	0.6	29.1	70.9	0.0	98.3	100.0	100.0
Dorset	75	91.1	4.9	94.7	0.4	17.5	81.7	0.7	79.2	99.7	99.6
Dudley	74	82.4	3.9	95.6	0.5	14.3	85.7	0.0	96.0	97.6	97.5
EssexMS	71	76.5	18.7	80.3	1.1	71.1	28.9	0.0	99.3	99.2	99.0
Exeter											
Glouc	74	90.0	6.8	92.2	1.0				100.0	100.0	0.0
Hull	78	92.5							93.0	1.8	1.8
Ipswi	71	73.4	14.5	83.9	1.6	13.7	86.3	0.0	75.2	99.2	90.5
Kent	69	67.7	4.5	94.8	0.7	85.7	14.1	0.3	85.4	100.0	100.0
L Barts			8.0	91.7	0.3	72.8	27.2	0.0	0.0	97.4	97.2
L Guys	75	89.6							98.1	0.0	0.0
L Kings	73	81.1	3.8	96.2	0.0	55.6	43.2	1.2	99.7	99.8	99.8
L Rfree			18.3	81.4	0.3	71.1	28.9	0.0	0.0	99.4	99.3
L St.G			1.8	98.2	0.0				6.1	97.5	69.3
L West	76	85.9	13.1	86.4	0.5	39.6	60.1	0.3	91.4	99.6	99.3

Adults on ICHD in the UK at the end of 2022

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
Leeds	72	76.8	4.5	95.3	0.2	30.2	69.8	0.0	100.0	99.8	99.6
Leic	73	78.0	1.8	97.3	0.8	17.1	80.1	2.8	99.7	99.7	99.8
Liv UH			0.8	95.7	3.5	8.5	91.3	0.2	0.0	99.0	99.0
M RI			3.6	93.2	3.2	4.9	94.6	0.5	63.2	88.1	87.2
Middlbr	72	78.3	2.6	96.8	0.6	37.3	60.9	1.8	97.0	99.4	91.8
Newc	72	80.5	14.0	84.9	1.2	55.5	44.5	0.0	100.0	100.0	100.0
Norwch	73	80.7	5.1	94.1	0.8	63.9	36.1	0.0	78.3	93.8	93.4
Nottm	74	88.4	1.5	94.5	4.0	11.6	88.1	0.3	93.9	99.7	99.7
Oxford	72	76.7	0.0	100.0	0.0	17.6	82.4	0.0	76.7	98.8	98.8
Plymth	72	75.2	1.4	98.6	0.0				97.2	97.9	0.0
Ports			7.3	92.0	0.6	54.6	45.2	0.2	0.0	99.2	99.0
Prestn	71	71.6							91.1	0.0	0.4
Redng	72	83.0	4.1	95.5	0.3	24.2	75.8	0.0	99.6	100.0	98.6
Salford			3.6	78.7	17.7	27.1	72.9	0.0	68.7	100.0	98.7
Sheff	71	76.5	4.8	92.1	3.1	86.4	13.6	0.0	98.8	99.6	98.5
Shrew	75	87.3	0.0	96.3	3.7	15.3	84.7	0.0	98.8	98.8	98.1
Stevng	71	73.0	9.4	88.7	1.9	39.2	60.8	0.0	98.9	99.4	99.4
Stoke	75	86.8	10.8	86.1	3.1	22.1	77.9	0.0	87.7	98.6	99.2
Sund	75	92.1	3.9	91.3	4.8	27.7	72.3	0.0	100.0	100.0	93.7
Truro	72	84.4	2.4	97.6	0.0				98.2	100.0	0.0
Wirral			7.6	90.0	2.4	32.0	68.0	0.0	0.0	98.3	98.1
Wolve	73	82.8	3.0	97.0	0.0				97.3	99.4	63.2
York	78	94.3	1.8	96.4	1.8	20.4	79.6	0.0	95.8	96.5	97.6
N IRELAND											
Antrim	74	87.3	0.9	97.3	1.8	10.2	89.8	0.0	94.4	100.0	100.0
Belfast	74	83.2	2.5	95.0	2.5	18.3	80.9	0.9	98.3	100.0	100.0
Newry	75	82.7	21.8	78.2	0.0	65.6	34.4	0.0	85.3	100.0	100.0
Ulster	68	64.0	3.2	95.7	1.1	25.6	74.4	0.0	98.9	100.0	100.0
West NI	71	74.4	7.1	88.9	4.0	61.4	38.6	0.0	97.7	100.0	100.0
SCOTLAND											
Abrdn	72	81.6							100.0		
Airdrie	69	68.1							95.3		
D&Gall	69	72.7							93.6		
Dundee	73	89.8							89.4		
Edinb	72	84.6							96.7		
Glasgw	69	71.4							93.8		
Inverns	69	71.1							95.4		
Klmarnk	72	78.5							84.1		
Krkcldy	71	78.9							96.7		
WALES											
Bangor	72	69.4	2.9	91.2	5.9	58.1	40.3	1.6	100.0	100.0	100.0
Cardff	74	84.2							98.8	0.0	0.0
Clwyd	72	84.8							100.0	0.0	0.0
Swanse	74	79.5	5.9	93.0	1.1	37.4	62.6	0.0	99.7	100.0	100.0
Wrexm	73	75.9	2.3	97.7	0.0	26.2	73.8	0.0	91.2	92.5	92.3
TOTALS											
England	73	82.0	6.7	91.8	1.4	36.2	63.5	0.3	74.9	91.7	85.5
N Ireland	72	78.5	6.2	91.8	2.0	32.3	67.5	0.2	95.7	100.0	100.0
Scotland	71	76.8							94.2		
Wales	73	81.2	4.9	93.6	1.5	38.1	61.7	0.2	98.6	46.9	45.2
UK	**73**	**81.4**	**6.7**	**91.9**	**1.5**	**36.1**	**63.5**	**0.3**	**78.1**	**89.5**	**83.6**

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

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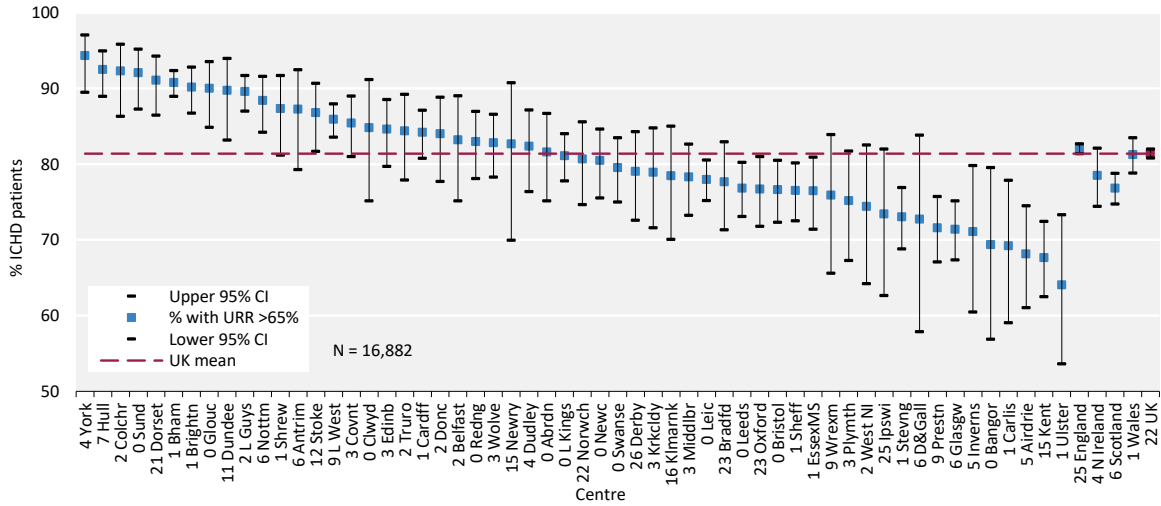
ICHD

Figure 5.2 Percentage of adult patients prevalent to ICHD on 31/12/2022 with urea reduction ratio (URR) >65% by centre

CI – confidence interval
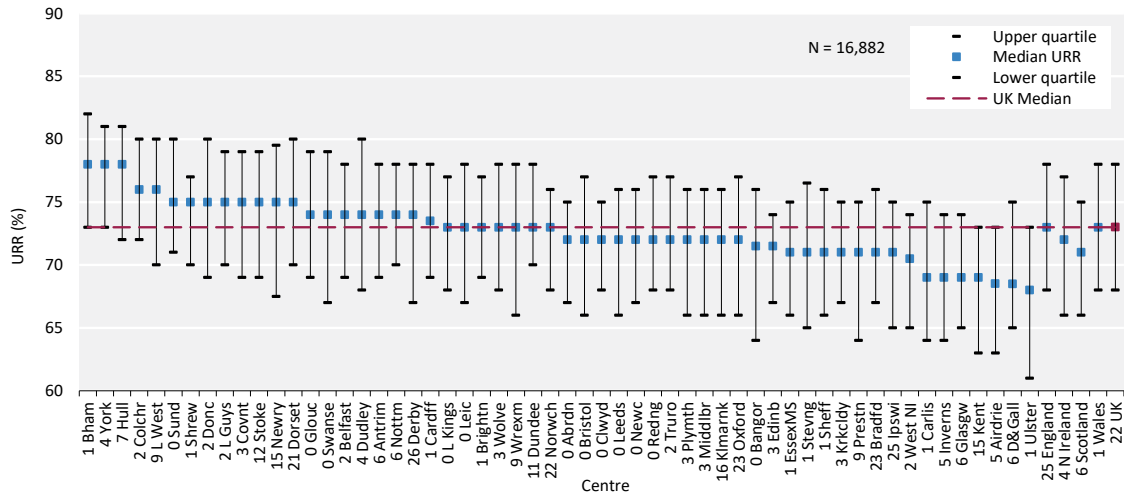
Figure 5.3 Median urea reduction ratio (URR) achieved in adult patients prevalent to ICHD on 31/12/2022 by centre
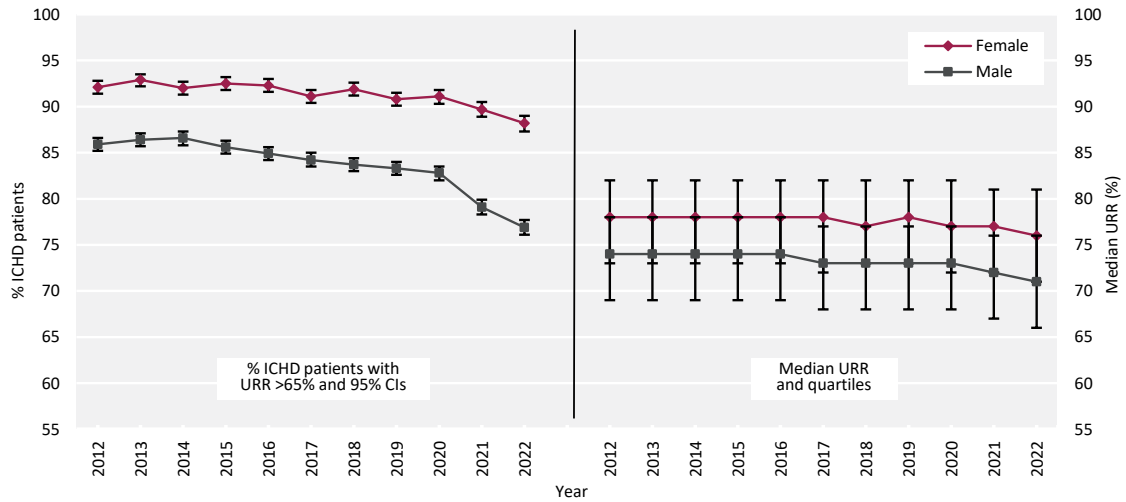
Figure 5.4 Change in the percentage of prevalent adult ICHD patients with urea reduction ratio (URR) >65% and the median URR by sex between 2012 and 2022

CI – confidence interval
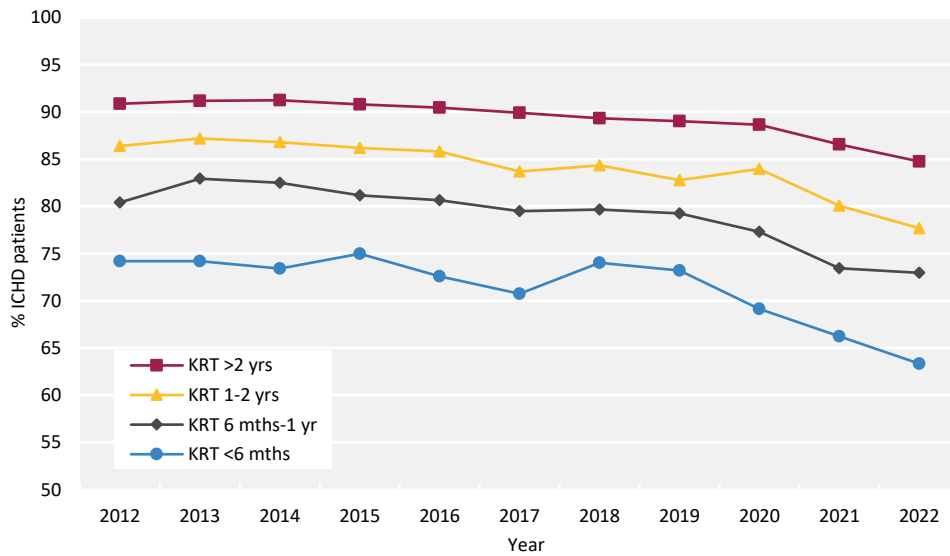
Figure 5.5 Percentage of prevalent adult ICHD patients achieving urea reduction ratio (URR) >65% by time on KRT between 2012 and 2022

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 31/12/2022 by centre

Centre	Median adj Ca (mmol/L)	% adj Ca 2.2-2.5 mmol/L	% adj Ca >2.5 mmol/L	% data completeness
ENGLAND				
Bham	2.4	73.9	16.2	99.8
Bradfd	2.4	68.2	28.2	100.0
Brightn	2.4	83.7	10.3	99.7
Bristol	2.4	87.1	11.4	100.0
Camb	2.3	80.4	8.0	100.0
Carlis	2.3	82.8	5.1	100.0
Carsh	2.3	77.0	10.1	99.4
Colchr	2.3	81.7	9.2	100.0
Covnt	2.3	79.5	6.1	100.0
Derby	2.4	85.6	9.1	100.0
Donc	2.4	83.4	7.2	100.0
Dorset	2.4	76.8	15.0	100.0
Dudley	2.4	77.8	15.7	100.0
EssexMS	2.3	78.0	10.4	99.2
Exeter				
Glouc	2.4	83.7	13.8	100.0
Hull	2.4	72.6	21.7	100.0
Ipswi	2.3	72.9	16.1	99.2
Kent	2.4	74.1	21.4	99.8
L Barts	2.4	80.6	12.0	99.4
L Guys	2.4	79.5	12.9	100.0
L Kings	2.3	74.3	6.6	99.7
L Rfree	2.3	76.2	9.0	100.0
L St.G	2.4	73.5	17.2	97.1
L West	2.3	74.4	9.3	86.7
Leeds	2.3	84.8	5.6	99.8
Leic	2.3	77.5	9.1	99.8
Liv UH	2.4	76.6	19.4	99.0
M RI	2.4	81.2	13.9	80.5
Middlbr	2.3	74.6	2.3	99.7
Newc	2.3	77.2	7.6	99.7
Norwch	2.4	79.6	12.4	84.3
Nottm	2.4	78.7	18.8	99.7
Oxford	2.3	80.7	7.4	90.9
Plymth	2.3	78.6	2.9	98.6
Ports	2.3	78.8	9.8	99.8
Prestn	2.3	82.5	7.8	99.8
Redng	2.3	85.0	6.7	100.0
Salford	2.4	75.4	14.4	100.0
Sheff	2.3	77.0	3.6	99.2
Shrew	2.4	78.6	18.9	98.8
Stoke	2.4	82.2	13.2	87.5
Sund	2.3	72.5	10.1	100.0
Truro	2.4	79.1	17.5	100.0
Wirral	2.3	77.1	11.4	76.5
Wolve	2.4	81.1	12.3	99.1
York	2.3	87.6	3.9	100.0
N IRELAND				
Antrim	2.4	83.2	15.9	100.0
Belfast	2.4	73.8	18.0	100.0
Newry	2.3	86.5	1.4	100.0
Ulster	2.4	77.2	19.6	100.0
West NI	2.3	82.8	6.1	100.0

Adults on ICHD in the UK at the end of 2022

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
WALES				
Bangor	2.4	87.9	7.6	100.0
Cardff	2.3	84.1	6.8	99.8
Clwyd	2.3	87.5	6.9	100.0
Swanse	2.4	87.7	6.9	100.0
Wrexm	2.3	81.2	8.2	92.4
TOTALS				
England	2.3	78.4	11.3	97.6
N Ireland	2.4	80.2	13.0	100.0
Wales	2.3	85.5	7.0	99.3
E, W & NI	**2.3**	**78.8**	**11.1**	**97.7**

Blank cells = No data returned by the centre or data completeness <70%
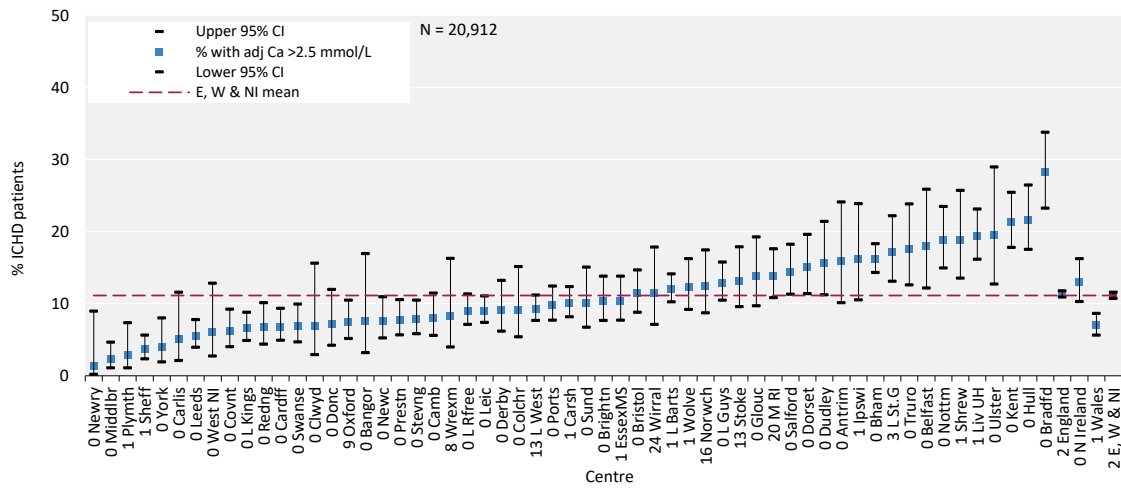
Figure 5.6 Percentage of adult patients prevalent to ICHD on 31/12/2022 with adjusted calcium (Ca) above the target range (>2.5 mmol/L) by centre
CI – confidence interval
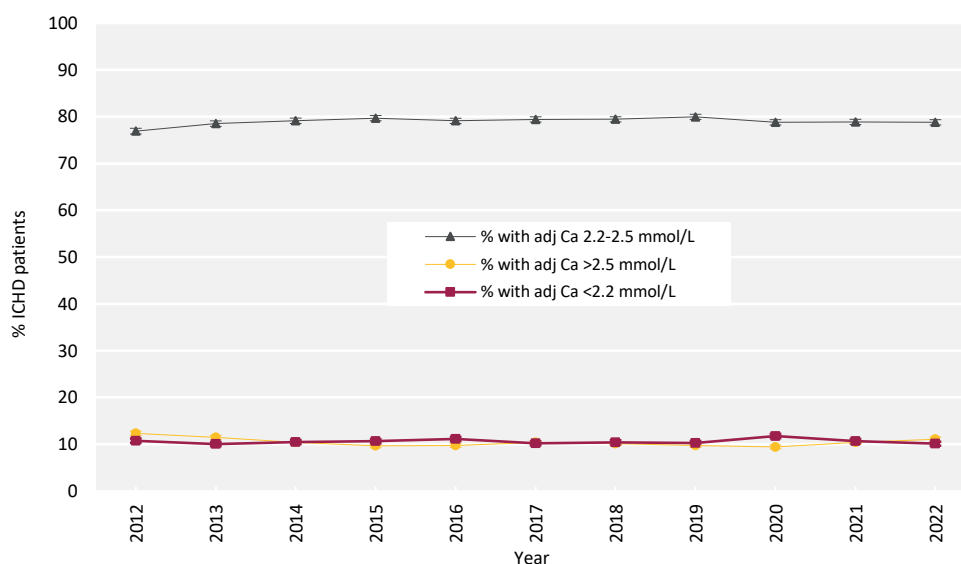
Figure 5.7 Change in percentage of prevalent adult ICHD patients within, above and below the target range for adjusted calcium (Ca 2.2–2.5 mmol/L) between 2012 and 2022
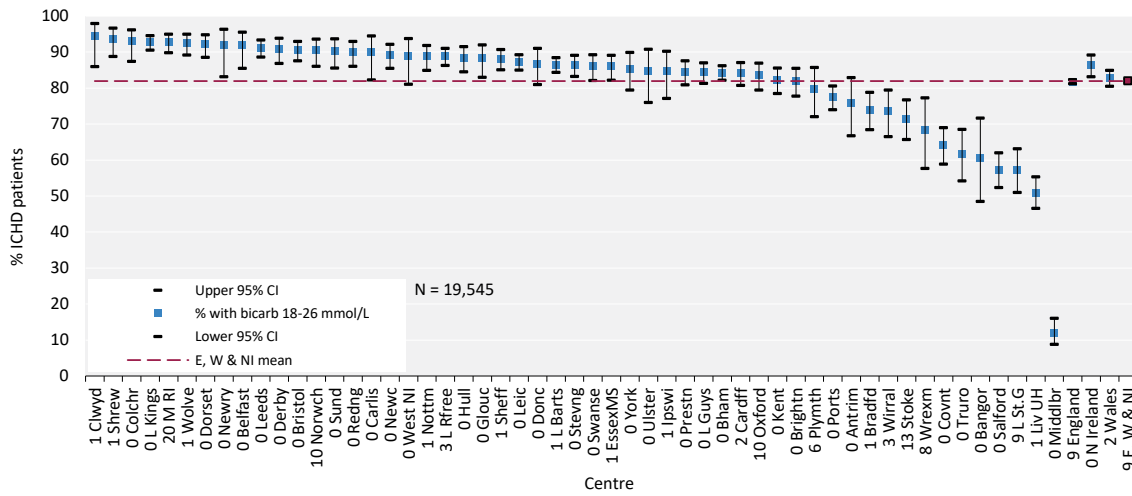
Table 5.7 Median pre-dialysis potassium and bicarbonate and percentage attaining target ranges in adult patients prevalent to ICHD on 31/12/2022 by centre

Centre	Pre-dialysis potassium					Pre-dialysis bicarbonate				
	Median (mmoI/L)	% <4.0 mmol/L	% 4.0–6.0 mmol/L	% >6.0 mmol/L	% data completeness	Median (mmoI/L)	% <18 mmol/L	% 18–26 mmol/L	% >26 mmol/L	% data completeness
ENGLAND										
Bham					48.5	23	4.6	84.3	11.1	99.7
Bradfd	4.9	10.4	80.7	8.9	100.0	24	2.2	73.9	23.9	98.6
Brightn					0.0	24	2.3	81.9	15.8	99.7
Bristol	4.6	20.2	77.0	2.9	100.0	23	4.0	90.6	5.5	100.0
Camb	4.9	4.5	89.6	6.0	100.0					20.2
Carlis					0.0	21	8.1	89.9	2.0	100.0
Carsh					0.0					25.0
Colchr	4.7	20.4	76.1	3.5	100.0	23	2.1	93.0	4.9	100.0
Covnt					0.0	26	0.9	64.0	35.1	100.0
Derby	4.7	18.9	76.9	4.2	100.0	22	5.3	90.9	3.8	100.0
Donc	4.7	11.6	86.2	2.2	100.0	24	3.3	86.7	9.9	100.0
Dorset	4.9	8.5	88.1	3.4	100.0	23	1.7	92.2	6.1	100.0
Dudley	4.7	11.1	84.3	4.6	100.0					53.0
EssexMS	4.8	12.7	83.5	3.9	99.5	23	3.9	86.0	10.1	99.0
Exeter										
Glouc					0.0	23	2.0	88.2	9.9	100.0
Hull	4.8	8.2	85.1	6.7	100.0	24	1.2	88.4	10.4	100.0
Ipswi					0.0	22	8.5	84.8	6.8	99.2
Kent	4.6	24.6	70.9	4.6	99.8	20	16.4	82.3	1.4	99.8
L Barts	4.7	19.5	75.0	5.5	99.5	22	9.0	86.5	4.5	99.1
L Guys	4.6	26.3	69.8	3.9	100.0	22	9.4	84.4	6.3	100.0
L Kings	5.1	8.0	80.3	11.7	99.7	21	5.5	92.8	1.7	99.5
L Rfree	5.0	10.0	80.3	9.7	100.0	22	6.7	88.8	4.5	96.8
L St.G					0.0	26	1.6	57.1	41.3	91.3
L West					0.0					55.2
Leeds	5.1	4.3	88.7	7.0	99.8	23	2.0	91.2	6.8	99.8
Leic	4.9	8.0	85.0	7.1	99.8	23	1.9	87.3	10.8	99.8

ICHD

Table 5.7 Continued

Centre	Pre-dialysis potassium					Pre-dialysis bicarbonate				
	Median (mmoI/L)	% <4.0 mmol/L	% 4.0–6.0 mmol/L	% >6.0 mmol/L	% data completeness	Median (mmoI/L)	% <18 mmol/L	% 18–26 mmol/L	% >26 mmol/L	% data completeness
Liv UH					0.0	26	0.8	50.9	48.3	98.8
M RI					0.0	22	2.5	92.8	4.7	80.1
Middlbr	4.7	12.9	83.6	3.5	99.7	30	0.0	11.9	88.1	99.7
Newc					0.0	22	3.5	89.2	7.3	100.0
Norwch	5.2	4.2	81.9	13.9	97.4	22	2.5	90.4	7.1	89.9
Nottm	5.0	7.7	84.9	7.4	99.7	23	2.5	88.8	8.7	99.1
Oxford	4.8	6.8	87.4	5.8	91.6	22	7.2	83.5	9.3	90.2
Plymth	4.8	8.6	87.9	3.6	98.6	20	20.3	79.7	0.0	93.7
Ports	4.9	12.1	81.9	6.0	100.0	23	2.8	77.4	19.8	99.7
Prestn	5.0	5.2	89.4	5.4	99.8	24	3.0	84.5	12.5	99.8
Redng					0.0	23	2.0	90.0	8.0	100.0
Salford	4.8	14.4	80.1	5.5	100.0	26	0.3	57.2	42.5	100.0
Sheff	4.9	8.2	82.4	9.4	99.2	22	4.6	88.1	7.3	99.2
Shrew					0.0	22	3.8	93.7	2.5	98.8
Stoke					0.0	25	1.6	71.5	27.0	86.8
Sund					0.0	23	3.9	90.3	5.8	100.0
Truro	4.8	13.6	78.5	7.9	100.0	26	0.0	61.6	38.4	100.0
Wirral					0.0	24	2.3	73.5	24.3	96.7
Wolve	4.9	9.6	84.7	5.7	99.1	21	5.7	92.5	1.8	99.1
York	5.2	3.4	86.0	10.7	100.0	23	2.3	85.4	12.4	100.0
N IRELAND										
Antrim	4.7	10.3	86.9	2.8	100.0	25	0.0	75.7	24.3	100.0
Belfast	5.1	6.6	91.0	2.5	100.0	21	7.4	91.8	0.8	100.0
Newry	4.8	16.2	77.0	6.8	100.0	24	1.4	91.9	6.8	100.0
Ulster	4.8	6.5	90.2	3.3	100.0	24	1.1	84.8	14.1	100.0
West NI	5.1	3.0	95.0	2.0	100.0	22	4.0	88.9	7.1	100.0
WALES										
Bangor					0.0	26	0.0	60.6	39.4	100.0
Cardff					0.0	23	2.8	84.2	13.1	98.1
Clwyd					0.0	22	4.2	94.4	1.4	98.6
Swanse					0.0	24	1.1	86.0	12.9	100.0
Wrexm					0.0	25	0.0	68.2	31.8	92.4
TOTALS										
England	4.9	12.1	81.6	6.4	63.6	23	4.4	81.8	13.9	90.7
N Ireland	4.9	8.1	88.7	3.2	100.0	23	3.0	86.4	10.5	100.0
Wales					0.0	23	1.9	82.8	15.3	98.4
E, W & NI	**4.9**	**11.9**	**81.8**	**6.3**	**61.2**	**23**	**4.2**	**81.9**	**13.9**	**91.4**

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

ICHD

Figure 5.8 Percentage of adult patients prevalent to ICHD on 31/12/2022 with pre-dialysis bicarbonate (bicarb) within the target range (18-26 mmol/L) by centre
CI – confidence interval
Bicarb - bicarbonate
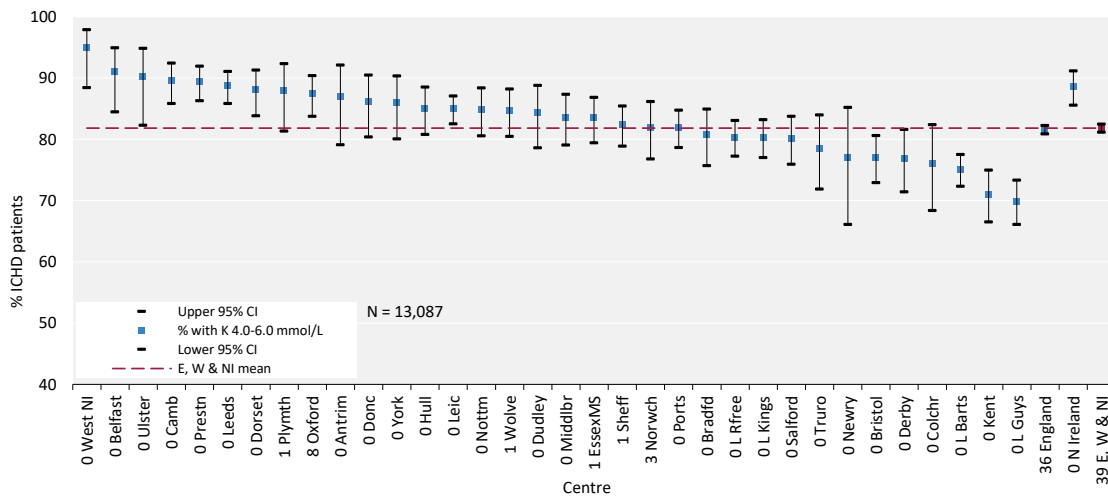
Figure 5.9 Percentage of adult patients prevalent to ICHD on 31/12/2022 with pre-dialysis potassium (K) within the target range (4.0-6.0 mmol/L) by centre
CI – confidence interval
K - Potassium

Pre-dialysis potassium has only been included in the UKRR report in the last few years and therefore longitudinal analyses are not shown.
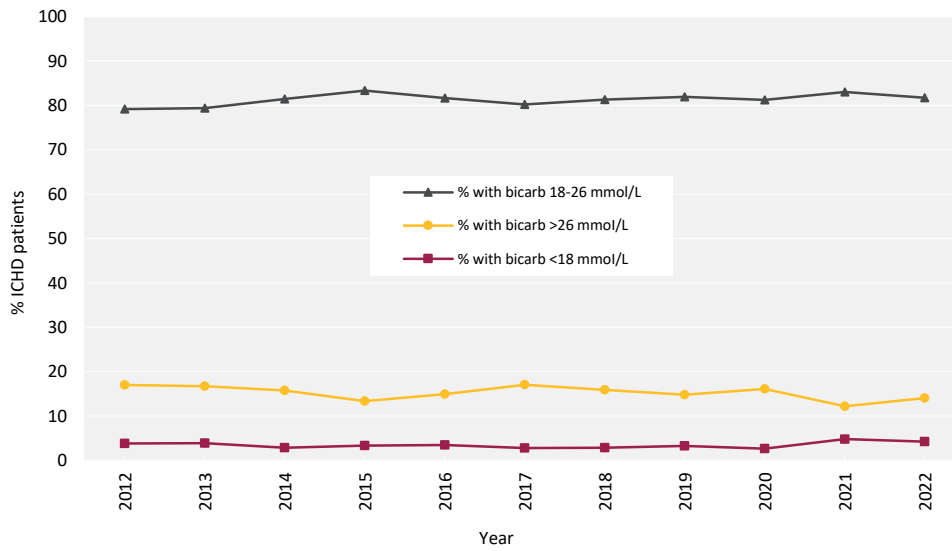
Figure 5.10 Change in percentage of prevalent adult ICHD patients within, above and below the target range for pre-dialysis bicarbonate (bicarb 18-26 mmol/L) between 2012 and 2022

Adults on ICHD in the UK at the end of 2022

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 31/12/2022 by centre

Centre	Haemoglobin				Ferritin		
	Median (g/L)	% <100 g/L	% >120 g/L	% data completeness	Median (μg/L)	% <200 μg/L	% data completeness
ENGLAND							
Bham	110	23.8	18.4	99.8	575	11.7	99.9
Bradfd	116	17.5	36.1	100.0	491	11.5	99.6
Brightn	109	23.5	17.6	99.7	516	5.2	99.0
Bristol	114	5.7	28.9	100.0	505	6.2	99.8
Camb	115	13.9	32.8	98.8	290	27.1	70.2
Carlis	113	16.2	24.2	100.0	584	9.1	100.0
Carsh	109	26.3	20.4	99.5	540	8.2	99.8
Colchr	108	24.6	8.5	100.0	484	7.7	100.0
Covnt	108	28.4	14.7	99.7	429	18.7	100.0
Derby	115	14.8	32.2	100.0	533	6.4	100.0
Donc	107	28.2	16.6	100.0	519	10.1	98.9
Dorset	112	15.0	19.8	100.0	664	5.8	100.0
Dudley	114	14.1	23.2	100.0	225	41.4	100.0
EssexMS	109	21.2	12.9	99.5	471	16.6	99.0
Exeter							
Glouc	110	22.2	21.7	100.0	443	23.5	98.5
Hull	115	16.8	32.3	100.0	585	4.0	99.7
Ipswi	111	25.2	18.5	100.0	461	17.9	98.3
Kent	111	22.3	28.6	99.8	771	7.3	99.3
L Barts	110	22.9	19.5	99.4	659	8.1	99.5
L Guys	110	25.2	18.3	99.8	532	10.2	99.7
L Kings	109	22.1	19.2	99.7	462	12.9	99.5
L Rfree	114	14.9	30.5	100.0	510	15.8	99.6
L St.G	110	28.7	22.4	97.1	652	4.5	97.5
L West	112	14.2	23.4	93.0	394	15.1	93.0
Leeds	109	22.0	15.8	99.8	365	24.7	99.8
Leic	111	20.3	24.3	99.8	439	12.4	99.7
Liv UH	110	22.6	20.4	99.2	549	9.1	98.0
M RI	109	26.6	25.0	87.7	437	12.3	84.5
Middlbr	113	15.4	24.4	99.7	874	5.9	98.4
Newc	111	23.6	25.1	100.0	651	9.0	100.0
Norwch	109	25.4	17.4	88.4	476	18.5	87.3
Nottm	110	18.5	13.0	99.7	441	17.6	99.7
Oxford	112	22.2	22.7	91.9	579	6.0	96.4
Plymth	109	27.1	15.0	98.6	509	21.6	97.9
Ports	108	26.9	17.6	100.0	352	26.9	98.2
Prestn	111	21.3	26.5	100.0	747	7.3	100.0
Redng	108	30.5	14.4	99.7	666	5.4	100.0
Salford	111	23.1	28.6	100.0	379	25.8	99.3
Sheff	107	32.4	17.4	99.2	460	8.8	99.4
Shrew	112	17.6	24.5	98.8	507	5.7	98.8
Stevng	110	17.8	15.9	99.8	400	14.0	99.6
Stoke	112	15.0	26.9	88.1	565	7.4	95.9
Sund	110	17.0	24.3	99.5	656	5.3	100.0
Truro	112	16.9	17.5	100.0	484	7.9	100.0
Wirral	109	28.6	19.4	95.6	563	8.5	96.2

ICHD

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
Wolve	109	24.9	16.8	99.1	646	8.7	99.1
York	110	21.3	13.5	100.0	416	7.3	100.0
N IRELAND							
Antrim	110	18.7	15.9	100.0	629	9.3	100.0
Belfast	111	23.0	19.7	100.0	632	13.9	100.0
Newry	110	21.6	18.9	100.0	486	14.9	100.0
Ulster	113	13.0	27.2	100.0	724	0.0	100.0
West NI	110	19.2	20.2	100.0	756	3.0	100.0
SCOTLAND							
Abrdn	109	19.7	15.6	98.9			
Airdrie	112	16.0	19.1	96.9			
D&Gall	115	11.9	35.7	91.3			
Dundee	111	14.8	16.4	92.8			
Edinb	112	21.1	24.6	94.8			
Glasgw	110	25.1	22.2	97.2			
Inverns	108	22.4	19.4	87.0			
Klmarnk	111	16.7	23.0	96.2			
Krkcldy	110	17.1	17.8	98.1			
WALES							
Bangor	117	16.7	31.8	100.0	567	13.6	100.0
Cardff	111	23.0	22.8	99.8	621	11.1	99.4
Clwyd	114	13.9	25.0	100.0	761	16.7	100.0
Swanse	108	25.5	15.9	100.0	493	15.7	99.7
Wrexm	114	14.3	23.8	91.3	542	13.1	91.3
TOTALS							
England	111	21.4	21.6	98.4	507	12.3	97.9
N Ireland	111	19.2	20.2	100.0	644	8.3	100.0
Scotland	110	20.3	21.0	96.0			0.0
Wales	111	22.2	21.3	99.2	565	13.3	98.9
UK	**111**	**21.3**	**21.5**	**98.3**	**513**	**12.3**	**98.0**

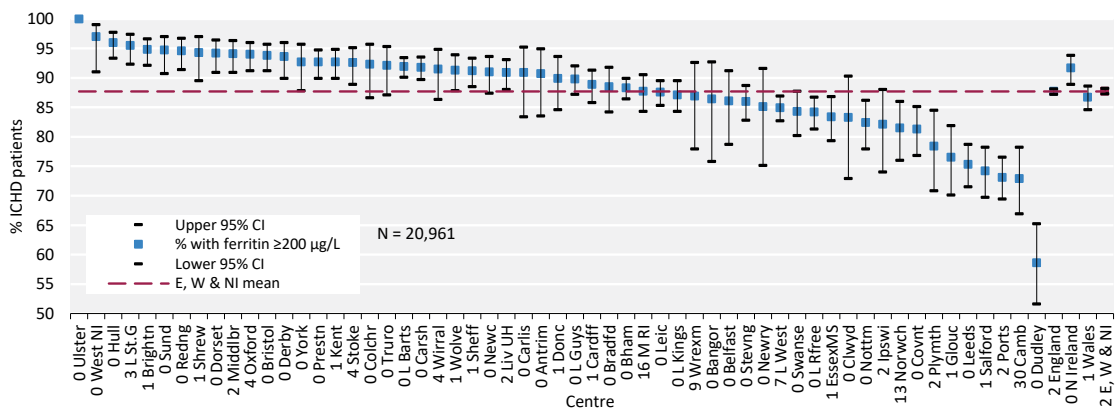Blank cells – no data returned by the centre or data completeness <70%

UK National average for ferritin does not include Scotland
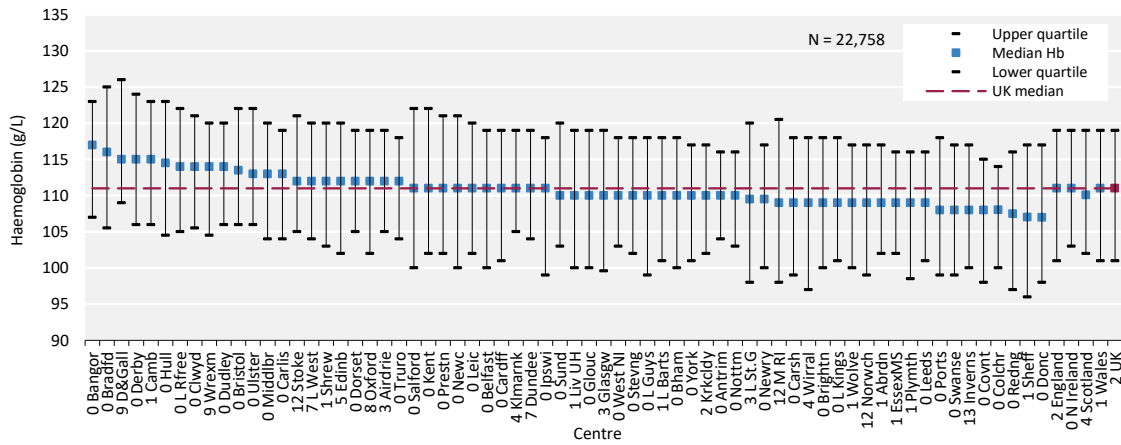
ICHD

Figure 5.11 Median haemoglobin (Hb) in adult patients prevalent to ICHD on 31/12/2022 by centre
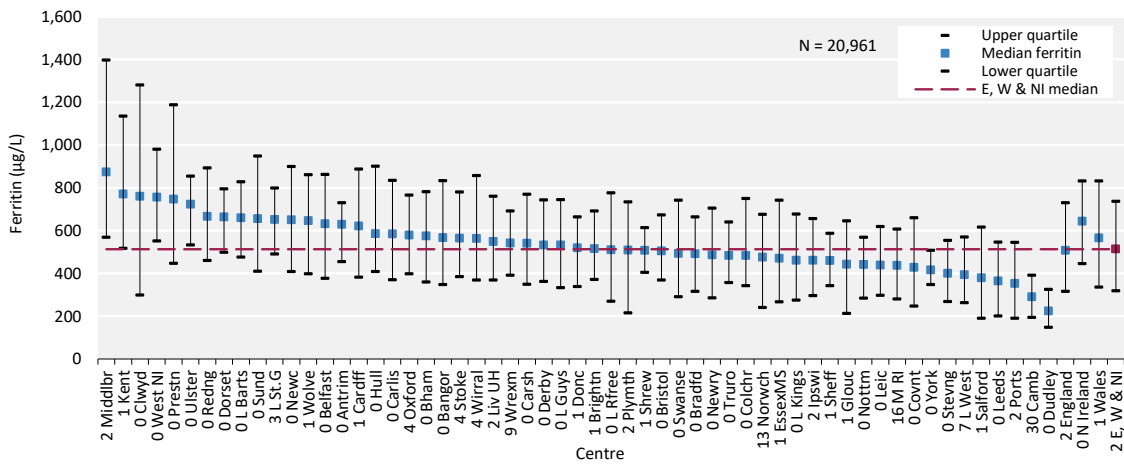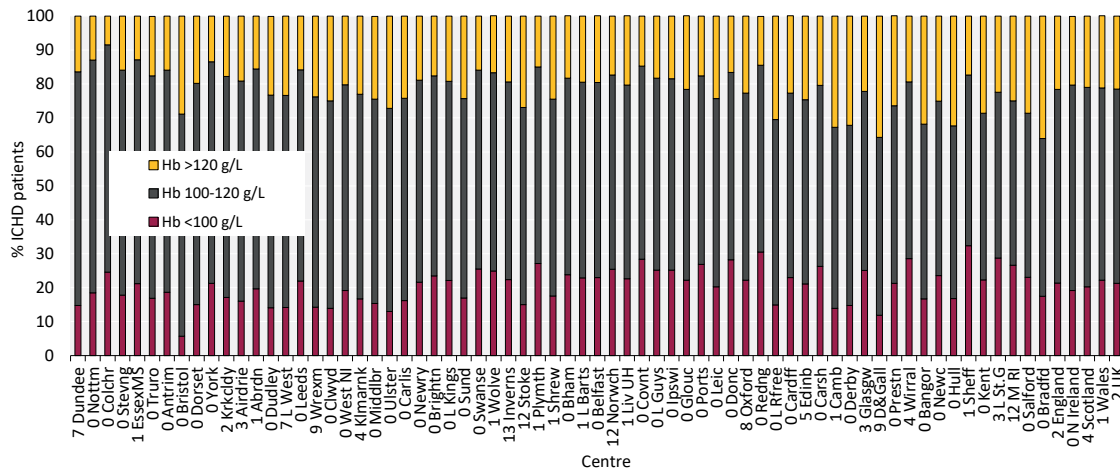

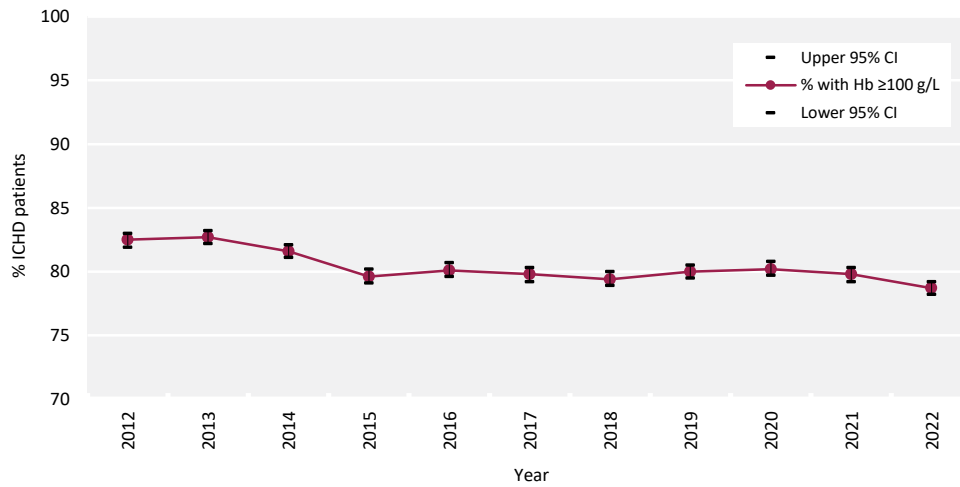**Figure 5.12** Median ferritin in adult patients prevalent to ICHD on 31/12/2022 by centre

Figure 5.13 Percentage of adult patients prevalent to ICHD on 31/12/2022 with ferritin ≥200 μg/L by centre

CI – confidence interval

Adults on ICHD in the UK at the end of 2022

Figure 5.14 Distribution of haemoglobin (Hb) in adult patients prevalent to ICHD on 31/12/2022 by centre

Figure 5.15 Percentage of prevalent adult ICHD patients with haemoglobin (Hb) ≥100 g/L between 2012 and 2022
CI – confidence interval

Adults on ICHD in the UK at the end of 2022

Dialysis access in prevalent adult dialysis patients

The type of prevalent dialysis access is presented in figure 5.16 for the 62 centres that returned vascular access data on ≥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
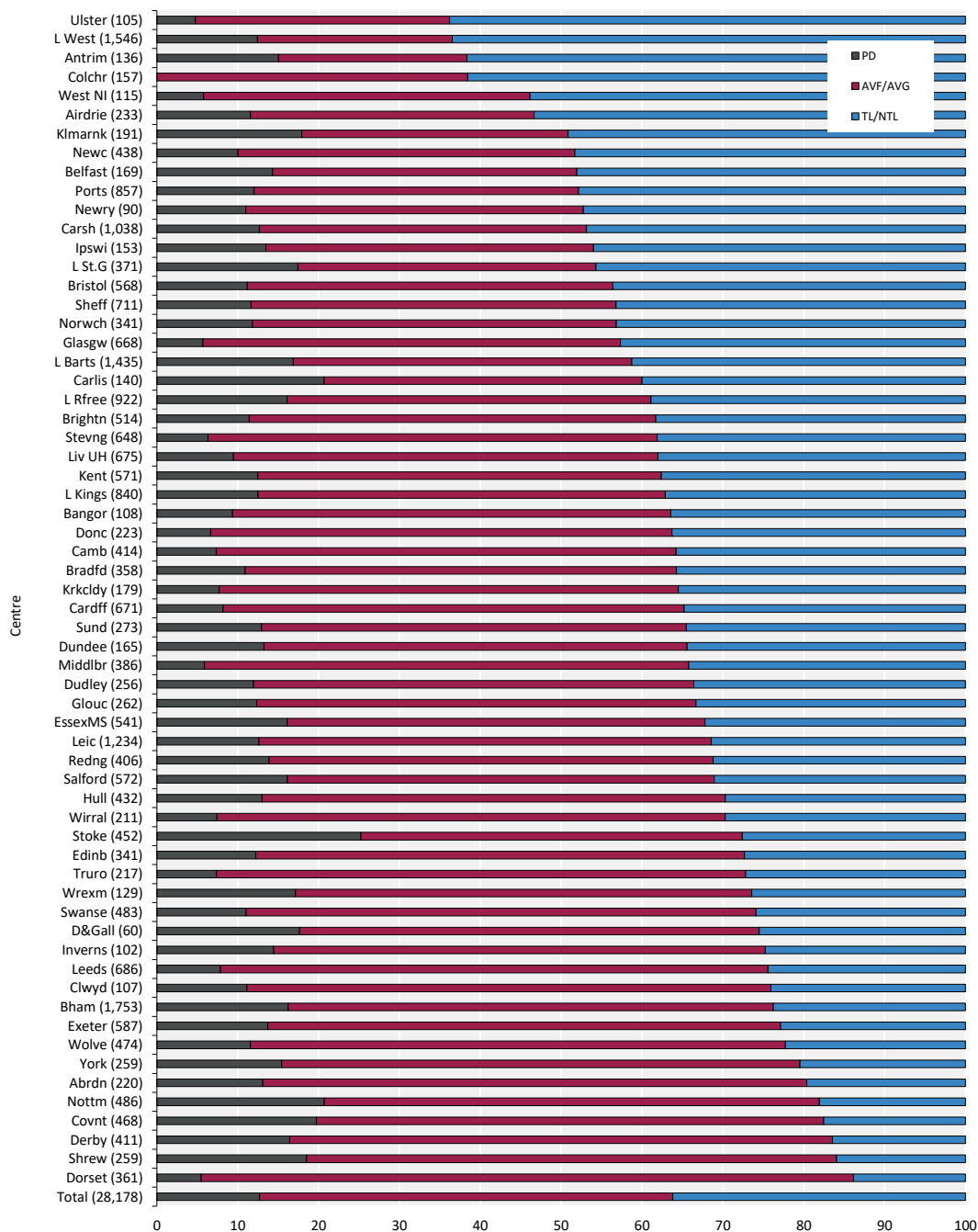

Figure 5.16 Dialysis access in adult patients prevalent to dialysis on 31/12/2022 by centre

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 31/12/2021 and followed-up for one year in 2022. 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. Where the cause of death was missing in UKRR data, cause of death from Civil Registration records was used. 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 31/12/2021 followed-up in 2022 by age group

Cause of death	ICHD all ages		ICHD < 65 years		ICHD ≥ 65 years	
	N	%	N	%	N	%
Cardiac disease	803	22.1	276	26.3	527	20.3
Cerebrovascular disease	147	4.0	52	5.0	95	3.7
Infection	631	17.3	159	15.2	472	18.2
Malignancy	237	6.5	45	4.3	192	7.4
Treatment withdrawal	383	10.5	66	6.3	317	12.2
Other	1,180	32.4	357	34.0	823	31.8
Uncertain aetiology	259	7.1	94	9.0	165	6.4
Total (with data)	**3,640**	**100.0**	**1,049**	**100.0**	**2,591**	**100.0**
Missing	397	9.8	147	12.3	250	8.8
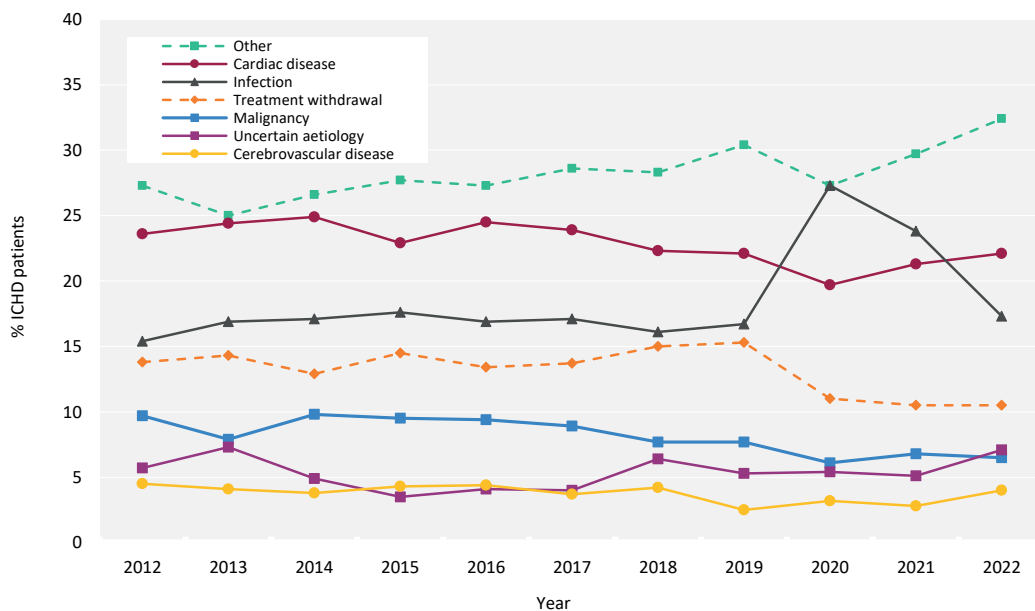
Figure 5.17 Cause of death between 2012 and 2022 for adult patients prevalent to ICHD at the beginning of the year