UK Kidney Association
UK Renal Registry

Chapter 5

Adults on in-centre haemodialysis (ICHD) in the UK at the end of 2023

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 2023 (figure 5.1). This population comprises patients who were on ICHD at the end of 2022 and remained on ICHD throughout 2023, as well as patients who commenced/re-commenced ICHD in 2023. This latter group includes both incident kidney replacement therapy (KRT) patients who ended 2023 on ICHD and prevalent KRT patients who switched to ICHD from home haemodialysis (HHD), peritoneal dialysis (PD), or a transplant (Tx) in 2023. 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.

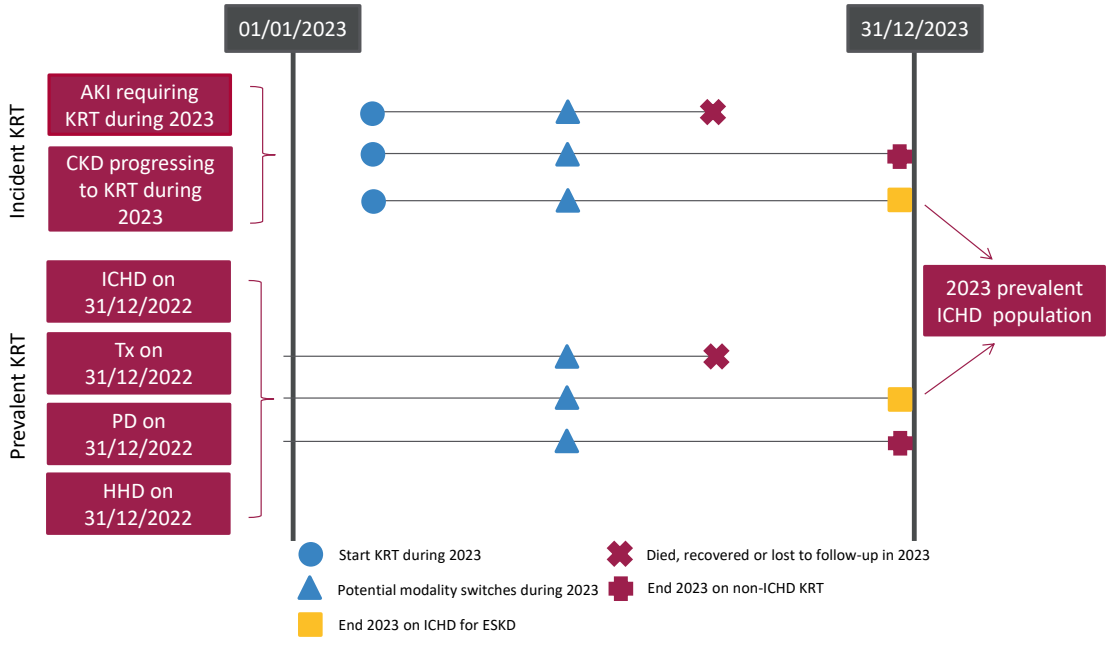

Figure 5.1 Pathways adult patients could follow to be included in the UK 2023 prevalent ICHD population

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 2023 or if they had been on KRT for ≥90 days and were on ICHD at the end of 2023

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 2023 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 the guidelines available during 2023 were used for this audit. Where data permit, attainment of these measures by UK kidney centres in 2023 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 2021-2023. Manchester Royal Infirmary was unable to submit patient level data for 2023. Both centres provided aggregate numbers by modality, and by vascular access type as part of the 2023 Multisite Dialysis Access Audit, enabling inclusion in tables 5.2 and 5.3, and figure 5.16. Exeter and Manchester are excluded from all other analyses.

London Kings moved to a new Trust IT system, and as a result data were not submitted for the final quarter of 2023. Data for London Kings presented in this chapter are for patients receiving ICHD on 30th September 2023, rather than 31st December 2023.

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	Table 5.8, figure 5.14
Vascular access (2023)	Amongst all patients receiving haemodialysis for at least 3 months, the proportion dialysing with each access type	Figure 5.16 (partly addressed)
Commentary on the NICE Guideline on Renal Replacement Therapy and Conservative Management (2020)	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

- 26,613 adult patients were receiving ICHD for ESKD in the UK on 31/12/2023, which represented 36.6% of the KRT population. The number of people on ICHD has increased by 3.0% since 2022.
- The median age of ICHD patients was 65.6 years, and 62.3% were male.
- 80.6% of ICHD patients achieved a dialysis adequacy of URR >65%. This has been declining since 2020.
- 89.9% of ICHD patients had dialysis 3 times a week and a further 1.4% had dialysis more frequently than this.
- 63.0% of ICHD patients had dialysis for 4-5 hours per session compared to 63.5% last year (2022), 66.6% in 2021, 66.4% in 2020 and 70.9% in 2019.
- The median adjusted calcium for ICHD patients was 2.3 mmol/L and 8.9% were above the target range 2.2-2.5 mmol/L.
- The median pre-dialysis bicarbonate for ICHD patients was 23 mmol/L and 82.7% were within the target range 18-26 mmol/L.
- The median pre-dialysis potassium for ICHD patients was 4.8 mmol/L and 5.7% had a pre-dialysis potassium of >6 mmol/L.
- The median haemoglobin and ferritin for ICHD patients was 111 g/L and 533 µg/L, respectively.
- 21.4% of ICHD patients had a haemoglobin <100 g/L and 21.5% had a haemoglobin >120 g/L.
- 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 25.5%, with infection accounting for 15.8% of deaths. In those older than 65 years, the leading cause of death was infection (18.9%) and cardiac disease (17.7%).

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

	N on ICHD					% on ICHD					Estimated catchment population (millions)	2023 crude rate (pmp)
Centre	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023		
ENGLAND												
Bham	1,349	1,314	1,348	1,416	1,407	40.7	40.3	40.8	41.8	41.2	2.10	671
Bradfd	280	276	275	309	346	38.2	38.1	37.4	39.6	42.0	0.51	682
Brightn	432	426	425	423	454	40.6	39.5	39.0	38.6	39.7	1.08	420
Bristol	469	463	477	491	473	31.5	31.4	31.9	32.2	31.1	1.27	373
Camb	287	276	358	363	321	19.7	18.3	22.0	21.9	19.7	0.99	325
Carlis	111	111	114	106	107	36.8	37.4	37.3	35.0	35.1	0.26	413
Carsh	840	858	883	886	925	47.1	46.4	46.3	45.7	46.2	1.68	551
Colchr	145	150	146	155	164	100.0	100.0	100.0	100.0	100.0	0.30	551
Covnt	357	365	371	372	398	33.0	32.9	32.9	32.9	34.4	0.81	494
Derby	238	244	262	291	286	36.4	36.1	37.9	40.6	38.9	0.58	497
Donc	180	177	175	200	199	52.6	51.9	51.3	52.6	51.4	0.38	524
Dorset	289	299	304	327	331	37.4	37.5	38.6	41.3	40.6	0.75	441
Dudley	207	209	223	212	202	56.6	55.9	55.3	55.4	54.9	0.35	575
EssexMS	414	423	427	433	477	48.6	47.8	47.7	48.6	49.0	1.01	472
Exeter	443	454	476	496	485	40.7	41.6	44.2	44.0	43.0	0.99	491
Glouc	228	222	223	231	218	42.9	42.5	40.9	41.5	38.9	0.53	414
Hull	350	351	361	358	382	38.7	38.4	39.4	38.3	39.8	0.81	471
Ipswi	142	135	138	131	144	33.2	31.7	32.7	33.2	36.3	0.32	453
Kent	420	425	458	475	477	36.8	37.2	38.4	38.9	38.5	1.08	440
L Barts	1,029	1,041	1,087	1,151	1,202	38.8	39.0	39.9	40.5	40.6	1.62	744
L Guys	674	693	733	714	690	29.0	29.9	31.5	30.9	29.8	1.01	685
L Kings	611	618	671	701	675	49.0	49.3	50.4	50.2	48.6	0.94	715
L Rfree	742	722	747	773	808	31.6	30.9	31.2	31.9	32.6	1.27	634
L St.G	301	320	325	304	312	35.3	37.5	37.3	35.6	35.5	0.67	467
L West	1,381	1,271	1,292	1,323	1,365	38.3	36.0	36.4	36.6	37.1	2.03	672
Leeds	552	549	580	610	647	32.0	31.3	32.5	33.2	33.9	1.40	461
Leic	958	957	1,001	1,037	1,060	37.1	36.5	38.0	38.1	37.6	2.18	486
Liv UH	530	523	549	558	541	35.7	36.2	37.6	37.8	36.0	1.27	427
M RI	498	504	510	542	588	24.3	25.4	24.6	25.7	26.0	1.37	431
Middlbr	344	327	350	344	368	36.1	34.6	36.5	36.0	37.9	0.82	449
Newc	329	355	350	376	402	28.1	29.7	28.6	30.2	31.2	0.96	420
Norwch	295	290	292	304	316	36.5	35.8	36.5	37.9	39.1	0.71	448
Nottm	359	349	363	361	355	29.5	28.9	29.8	29.9	29.7	0.93	381
Oxford	455	475	460	478	512	23.0	23.5	22.9	23.0	24.0	1.54	332
Plymth	126	146	161	160	156	23.6	26.9	29.7	29.4	28.4	0.41	377
Ports	592	608	651	674	696	31.5	32.0	33.5	33.7	34.3	1.79	390
Prestn	505	499	499	511	528	37.6	36.5	36.3	36.5	36.8	1.27	415
Redng	315	300	307	337	373	36.5	34.5	34.9	36.6	37.5	0.74	502
Salford	395	432	414	450	499	31.8	34.1	34.0	35.3	36.4	1.19	420
Sheff	541	552	561	576	583	36.3	36.9	37.4	38.7	39.4	1.12	519
Shrew	204	174	183	172	172	46.7	40.7	41.3	38.6	37.3	0.42	406
Stevng	507	543	535	572	604	52.6	55.4	52.3	53.5	54.1	1.15	523

Table 5.2 Continued

Centre	N on ICHD					% on ICHD					Estimated catchment population (millions)	2023 crude rate (pmp)
	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023		
Stoke	267	252	264	318	337	33.0	30.9	31.2	35.1	36.6	0.75	451
Sund	252	219	215	228	230	44.2	39.4	39.3	40.4	39.0	0.54	422
Truro	164	158	184	198	190	36.4	35.6	39.8	42.0	40.6	0.37	520
Wirral	207	194	191	192	167	49.6	46.5	45.9	47.6	43.2	0.48	347
Wolve	304	326	347	376	407	49.4	49.8	49.9	51.9	52.2	0.55	735
York	184	192	189	196	206	31.6	33.6	32.5	32.2	33.8	0.49	418
N IRELAND												
Antrim	117	110	115	115	121	41.1	38.3	39.0	37.6	38.9	0.25	487
Belfast	158	144	131	139	138	17.9	16.2	14.4	15.0	14.7	0.54	256
Newry	78	78	86	77	78	30.8	29.5	30.6	28.6	28.2	0.24	328
Ulster	96	96	98	99	96	51.9	47.8	48.3	47.4	45.7	0.21	467
West NI	106	118	105	107	110	32.3	33.6	31.0	30.1	30.8	0.25	435
SCOTLAND												
Abrdn	190	192	188	188	206	34.1	34.0	32.5	31.9	33.9	0.50	413
Airdrie	207	192	191	202	231	39.4	37.2	37.9	39.1	40.9	0.47	495
D&Gall	51	56	53	48	45	34.0	35.7	34.2	32.9	31.0	0.12	372
Dundee	162	156	145	135	142	36.2	36.7	36.0	34.8	37.0	0.37	386
Edinb	296	287	279	287	297	33.4	32.4	30.3	29.8	30.0	0.85	351
Glasgw	575	549	564	611	606	31.1	29.8	30.4	32.3	31.3	1.38	438
Inverns	93	92	94	87	117	32.9	33.8	34.1	31.1	37.7	0.23	519
Klmarnk	139	146	137	146	164	38.4	39.5	37.1	38.5	41.6	0.29	562
Krkcldy	138	145	163	160	171	46.8	50.2	56.0	56.1	59.4	0.28	622
WALES												
Bangor	66	78	76	76	68	32.8	36.1	35.0	34.5	31.2	0.16	430
Cardff	551	512	531	571	588	31.8	30.5	31.2	32.4	32.1	1.16	508
Clwyd	86	78	84	85	96	42.0	38.2	41.6	41.7	43.2	0.18	528
Swanse	389	394	404	392	435	44.8	46.4	47.4	46.2	48.3	0.75	578
Wrexm	106	114	103	106	119	34.2	35.4	34.0	34.5	36.4	0.21	569
TOTALS												
England	20,802	20,767	21,455	22,211	22,785	36.1	35.9	36.5	37.0	37.0	45.78	498
N Ireland	555	546	535	537	543	28.7	27.4	26.4	26.0	25.9	1.48	366
Scotland	1,851	1,815	1,814	1,864	1,979	34.6	34.1	33.9	34.3	35.2	4.48	442
Wales	1,198	1,176	1,198	1,230	1,306	36.1	35.9	36.6	36.8	37.3	2.46	531
UK	**24,406**	**24,304**	**25,002**	**25,842**	**26,613**	**35.8**	**35.5**	**36.0**	**36.4**	**36.6**	**54.20**	**491**

Country ICHD populations were calculated by summing the ICHD patients from centres in each country. Estimated country populations were derived from publicly available sources (see appendix A for details on estimated catchment population by kidney centre)
Some new patients, mainly on HD, were not submitted by Cambridge, therefore their prevalent ICHD number is slightly underestimated
Exeter was unable to submit 2021 to 2023 patient level data, Manchester was unable to submit 2023 patient level data, but both provided aggregate numbers of patients on KRT at the end of each year, 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 31/12/2023 by centre

Centre	N on KRT	N on ICHD	% on ICHD	Median age (yrs)	% male	Ethnicity				
						% White	% Asian	% Black	% Other	% missing
ENGLAND										
Bham	3,417	1,407	41.2	65.5	61.1	49.1	32.6	15.8	2.5	2.1
Bradfd	824	346	42.0	62.5	58.7	45.5	47.5	3.5	3.5	0.3
Brightn	1,145	454	39.7	67.8	61.0	86.4	6.8	3.3	3.5	5.7
Bristol	1,522	473	31.1	62.1	66.4	80.9	5.3	11.4	2.3	0.2
Camb	1,629	321	19.7	72.7	64.8	90.7	4.3	3.0	2.0	5.9
Carlis	305	107	35.1	64.5	54.2	98.1	0.0	1.9	0.0	2.8
Carsh	2,001	925	46.2	65.9	60.0	56.9	20.5	15.8	6.8	7.1
Colchr	164	164	100.0	69.5	64.6	92.9	0.6	1.9	4.5	5.5
Covnt	1,158	398	34.4	69.5	65.6	73.6	18.5	6.9	1.0	1.0
Derby	735	286	38.9	67.0	62.6	74.6	17.9	4.4	3.2	11.9
Donc	387	199	51.4	69.0	62.3	88.3	4.6	3.1	4.1	1.5
Dorset	816	331	40.6	70.0	64.4	93.1	3.0	1.2	2.7	0.0
Dudley	368	202	54.9	70.3	63.4	73.3	18.8	7.9	0.0	0.0
EssexMS	974	477	49.0	67.0	65.8	81.4	5.2	7.7	5.7	7.8
Exeter	1,127	485	43.0							
Glouc	560	218	38.9	70.3	64.7	89.4	3.7	2.8	4.1	0.0
Hull	959	382	39.8	63.8	61.0	94.4	2.1	1.6	1.9	2.1
Ipswi	397	144	36.3	70.4	64.6	81.0	2.1	3.5	13.4	1.4
Kent	1,240	477	38.5	66.4	62.5	91.1	3.0	2.2	3.7	3.6
L Barts	2,959	1,202	40.6	62.8	59.2	22.7	38.4	32.9	6.0	2.6
L Guys	2,318	690	29.8	63.5	59.1	39.4	9.4	46.2	5.1	5.8
L Kings	1,389	675	48.6	63.0	59.7	37.5	12.3	46.3	3.8	2.8
L Rfree	2,475	808	32.6	64.3	60.3	35.8	17.9	29.1	17.2	6.4
L St.G	878	312	35.5	65.6	59.6	28.2	28.5	34.9	8.4	4.5
L West	3,681	1,365	37.1	64.7	63.3	26.5	42.3	23.9	7.3	0.0
Leeds	1,906	647	33.9	62.7	62.6	67.8	22.6	7.6	2.0	0.3
Leic	2,820	1,060	37.6	65.0	66.5	69.3	21.5	7.3	2.0	9.1
Liv UH	1,503	541	36.0	64.4	62.5	87.4	4.6	3.2	4.8	7.6
M RI	2,258	588	26.0							
Middlbr	971	368	37.9	64.7	65.8	89.9	7.4	1.6	1.1	0.5
Newc	1,287	402	31.2	65.0	61.9	90.0	5.2	3.0	1.7	0.0
Norwch	808	316	39.1	70.7	63.9	95.8	1.4	1.8	1.1	9.8
Nottm	1,195	355	29.7	65.6	62.0	71.3	10.0	12.9	5.7	1.7
Oxford	2,132	512	24.0	66.2	61.1	72.0	13.2	9.9	4.9	12.9
Plymth	549	156	28.4	68.2	61.5	96.8	1.3	0.6	1.3	0.6
Ports	2,030	696	34.3	66.9	63.6	88.9	5.4	2.6	3.1	22.1
Prestn	1,436	528	36.8	64.8	62.9	80.0	17.9	1.0	1.0	8.0
Redng	994	373	37.5	66.0	64.3	59.4	22.6	6.2	11.8	13.4
Salford	1,371	499	36.4	60.8	66.5	66.5	23.7	6.5	3.4	4.4
Sheff	1,478	583	39.4	64.6	65.4	81.9	10.7	4.8	2.6	2.6
Shrew	461	172	37.3	70.3	67.4	89.3	5.3	2.4	3.0	1.7
Stevng	1,117	604	54.1	65.8	62.4	65.5	19.8	9.9	4.9	4.6
Stoke	921	337	36.6	67.9	58.8	88.2	5.3	3.1	3.4	4.5
Sund	590	230	39.0	67.5	60.4	96.1	2.2	0.9	0.9	0.0
Truro	468	190	40.6	70.2	65.8	97.9	1.6	0.5	0.0	0.0
Wirral	387	167	43.2	64.9	61.7	95.8	1.8	2.4	0.0	0.0
Wolve	780	407	52.2	64.4	61.4	52.0	31.3	11.1	5.7	0.2

Table 5.3 Continued

Centre	N on KRT	N on ICHD	% on ICHD	Median age (yrs)	% male	Ethnicity				
						% White	% Asian	% Black	% Other	% missing
York	610	206	33.8	71.8	57.8	96.4	1.5	0.0	2.0	4.4
N IRELAND										
Antrim	311	121	38.9	71.5	62.8	99.1	0.0	0.0	0.9	9.9
Belfast	938	138	14.7	66.3	58.0	94.0	4.5	0.8	0.8	3.6
Newry	277	78	28.2	71.4	59.0	95.5	1.5	3.0	0.0	15.4
Ulster	210	96	45.7	74.7	63.5	96.9	3.1	0.0	0.0	0.0
West NI	357	110	30.8	69.3	58.2	100.0	0.0	0.0	0.0	8.2
SCOTLAND										
Abrdn	608	206	33.9	66.0	58.3					
Airdrie	565	231	40.9	64.5	55.8					
D&Gall	145	45	31.0	68.0	73.3					
Dundee	384	142	37.0	65.8	63.4					
Edinb	989	297	30.0	64.6	65.7					
Glasgw	1,934	606	31.3	65.8	62.5					
Inverns	310	117	37.7	68.0	61.5					
Klmarnk	394	164	41.6	64.5	65.2					
Krkcldy	288	171	59.4	66.7	63.7					
WALES										
Bangor	218	68	31.2	71.8	63.2	94.1	0.0	2.0	3.9	25.0
Cardff	1,830	588	32.1	65.4	62.4	86.7	8.1	2.5	2.7	12.1
Clwyd	222	96	43.2	68.7	61.5	97.6	1.2	1.2	0.0	14.6
Swanse	901	435	48.3	69.4	60.7	96.6	1.7	0.5	1.2	4.6
Wrexm	327	119	36.4	66.4	58.8	98.2	0.0	0.9	0.9	6.7
TOTALS										
England	61,500	22,785	37.0	65.4	62.4	65.1	17.6	12.9	4.4	4.6
N Ireland	2,093	543	25.9	71.1	60.2	97.0	2.0	0.6	0.4	7.0
Scotland	5,617	1,979	35.2	65.7	62.4					
Wales	3,498	1,306	37.3	67.1	61.5	92.3	4.3	1.5	1.9	10.0
UK	**72,708**	**26,613**	**36.6**	**65.6**	**62.3**	**67.2**	**16.5**	**12.1**	**4.2**	**5.0**

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
Some new patients, mainly on HD, were not submitted by Cambridge, therefore their prevalent ICHD number is slightly underestimated
Exeter and Manchester were unable to submit patient level data but provided aggregate numbers of patients on KRT at the end of 2023 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.

Table 5.4 Primary renal diseases (PRDs) of adult patients prevalent to ICHD on 31/12/2023

PRD	N on ICHD	% ICHD population	Age <65 yrs		Age ≥65 yrs		M/F ratio
			N	%	N	%	
Diabetes	7,118	29.5	3,398	29.0	3,720	30.0	1.7
Glomerulonephritis	3,220	13.4	1,896	16.2	1,324	10.7	2.0
Hypertension	1,934	8.0	984	8.4	950	7.7	2.5
Polycystic kidney disease	1,435	6.0	785	6.7	650	5.2	1.0
Pyelonephritis	1,475	6.1	670	5.7	805	6.5	1.6
Renal vascular disease	994	4.1	193	1.6	801	6.5	1.7
Other	4,033	16.7	2,140	18.2	1,893	15.3	1.3
Uncertain aetiology	3,905	16.2	1,661	14.2	2,244	18.1	1.6
Total (with data)	**24,114**	**100.0**	**11,727**	**100.0**	**12,387**	**100.0**	
Missing	1,426	5.6	666	5.4	760	5.8	1.8

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 31/12/2023 using end of third quarter data (30/09/2023)

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	91.9	12.9	85.6	1.5	24.0	75.9	0.1	99.6	99.7	98.7
Bradfd	72	79.3	11.8	88.2	0.0	23.7	76.3	0.0	100.0	100.0	100.0
Brightn	74	89.9	6.0	94.0	0.0	14.6	85.4	0.0	98.5	100.0	100.0
Bristol	71	75.1	0.0	100.0	0.0	25.9	73.9	0.2	99.8	100.0	99.8
Camb			5.6	91.7	2.8	44.9	55.1	0.0	0.0	97.9	97.4
Carlis	68	60.2	12.5	87.5	0.0	31.0	69.0	0.0	98.8	100.0	100.0
Carsh			4.4	95.3	0.4	6.7	93.3	0.0	53.0	99.9	95.9
Colchr	76	86.2	5.8	94.2	0.0	24.7	75.3	0.0	99.3	100.0	100.0
Covnt			12.6	85.1	2.3	35.9	64.1	0.0	58.8	97.0	94.2
Derby	76	88.6	3.8	95.8	0.4				86.6	99.6	8.3
Donc	74	77.1	3.7	95.7	0.5	31.8	68.2	0.0	97.8	100.0	100.0
Dorset	75	86.8	4.2	95.4	0.3	14.0	84.6	1.4	90.8	100.0	100.0
Dudley	73	75.5	4.1	94.8	1.0	13.1	86.3	0.5	100.0	97.5	97.3
EssexMS	71	74.4	23.3	76.2	0.5	59.8	40.2	0.0	97.0	97.9	97.3
Exeter											
Glouc	74	87.2	10.7	87.3	2.0				100.0	100.0	0.0
Hull	77	89.7							100.0	2.3	2.1
Ipswi	70	71.1	14.7	84.5	0.8	14.7	85.3	0.0	81.8	99.2	99.1
Kent	68	63.2	4.7	94.1	1.2	85.3	14.8	0.0	89.8	100.0	100.0
L Barts			7.3	92.4	0.3	73.1	26.9	0.0	0.0	99.8	99.8
L Guys	74	86.8							99.2	0.0	0.0
L Kings	72	81.2	5.5	94.5	0.0	53.9	44.8	1.3	99.8	99.9	99.8
L Rfree			17.5	82.1	0.4	65.9	34.1	0.0	0.0	98.7	98.4
L St.G			4.0	95.3	0.7	21.1	78.9	0.0	5.9	97.9	84.1
L West	74	84.2	23.1	76.3	0.6	38.7	61.2	0.1	92.7	94.6	92.7

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	73	81.5	5.5	93.7	0.9	32.3	67.7	0.0	100.0	99.7	100.0
Leic	73	81.0	3.9	95.7	0.4	16.0	80.2	3.9	99.4	99.8	99.8
Liv UH M RI			1.4	95.2	3.4	9.2	90.6	0.2	0.0	99.2	99.0
Middlbr	71	73.5	2.7	97.0	0.3	34.3	63.3	2.4	96.6	100.0	76.6
Newc	72	79.8	13.7	84.9	1.3	53.5	46.5	0.0	100.0	100.0	100.0
Norwch	72	79.1	4.7	94.2	1.1	54.6	45.4	0.0	81.6	92.6	92.2
Nottm	74	90.2	1.5	94.6	3.9	12.2	86.9	0.9	95.9	99.4	100.0
Oxford			16.4	82.7	0.9				0.0	99.3	0.0
Plymth	71	75.9	3.5	96.5	0.0				98.6	97.9	0.7
Ports			9.8	89.6	0.6	49.2	50.8	0.0	0.0	98.6	98.4
Prestn			20.1	79.0	0.8				0.0	99.2	33.3
Redng	72	80.9	3.9	96.1	0.0	24.8	75.2	0.0	99.4	99.7	96.6
Salford			1.6	82.0	16.4	29.7	70.1	0.3	68.7	100.0	98.1
Sheff	70	71.9	7.7	90.7	1.7	86.8	13.2	0.0	99.6	99.1	99.0
Shrew	74	90.9	1.2	94.5	4.3	14.9	85.1	0.0	98.7	98.8	98.7
Stevng	73	79.7	10.4	86.7	2.9	38.0	62.0	0.0	99.6	99.8	99.8
Stoke	74	84.9	13.5	82.2	4.3	23.0	77.0	0.0	79.0	99.4	100.0
Sund	74	86.4	2.8	93.0	4.2	27.8	72.2	0.0	100.0	100.0	97.5
Truro	71	81.3	4.5	95.5	0.0				98.2	100.0	0.0
Wirral			9.6	88.0	2.4	30.1	69.9	0.0	0.0	97.1	96.7
Wolve	73	82.9	3.5	96.5	0.0				98.6	99.5	67.4
York	77	92.5	2.1	97.3	0.5	19.4	80.6	0.0	100.0	97.4	99.5
N IRELAND											
Antrim	70	66.0	0.9	98.1	0.9	17.0	83.0	0.0	94.3	100.0	100.0
Belfast	72	79.5	2.4	95.1	2.4	13.7	85.5	0.9	99.2	99.2	99.2
Newry	75	92.2	18.8	81.2	0.0	55.4	35.7	8.9	91.1	100.0	100.0
Ulster	68	62.3	3.7	95.1	1.2	23.4	76.6	0.0	98.7	98.8	98.7
West NI	70	68.2	6.3	89.6	4.2	50.0	50.0	0.0	98.8	100.0	100.0
SCOTLAND											
Abrdn	71	78.9							98.9		
Airdrie	68	65.8							99.5		
D&Gall	71	78.1							100.0		
Dundee	73	83.0							94.9		
Edinb	71	84.7							98.9		
Glasgw	68	65.0							98.5		
Inverns	70	70.7							92.0		
Klmarnk	70	74.8							98.0		
Krkcldy	71	74.4							100.0		
WALES											
Bangor	73	80.0	0.0	95.6	4.4	46.2	47.7	6.2	100.0	100.0	100.0
Cardff	73	84.8							99.5	0.0	0.0
Clwyd	71	84.3							100.0	0.0	0.0
Swanse	74	83.2	4.3	94.4	1.3	42.5	57.5	0.0	99.7	99.0	98.9
Wrexm	74	79.8	0.9	98.1	0.9	26.9	73.1	0.0	99.1	99.1	99.1
TOTALS											
England	73	81.7	8.9	89.7	1.4	36.6	63.0	0.4	71.5	94.3	84.8
N Ireland	71	72.6	5.5	92.7	1.9	28.5	70.1	1.4	96.9	99.6	99.6
Scotland	70	72.9							98.2		
Wales	74	83.6	3.1	95.3	1.6	39.9	59.4	0.8	99.6	46.1	44.9
UK	**73**	**80.6**	**8.6**	**89.9**	**1.4**	**36.5**	**63.0**	**0.5**	**75.8**	**91.8**	**82.7**

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

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

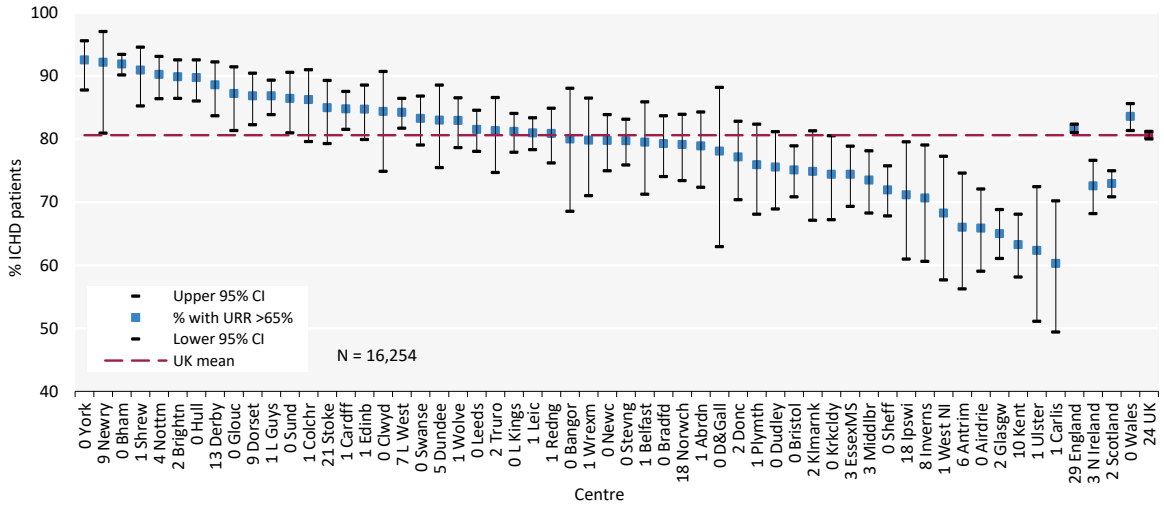

Figure 5.2 Percentage of adult patients prevalent to ICHD on 31/12/2023 with urea reduction ratio (URR) >65% by centre
CI – confidence interval

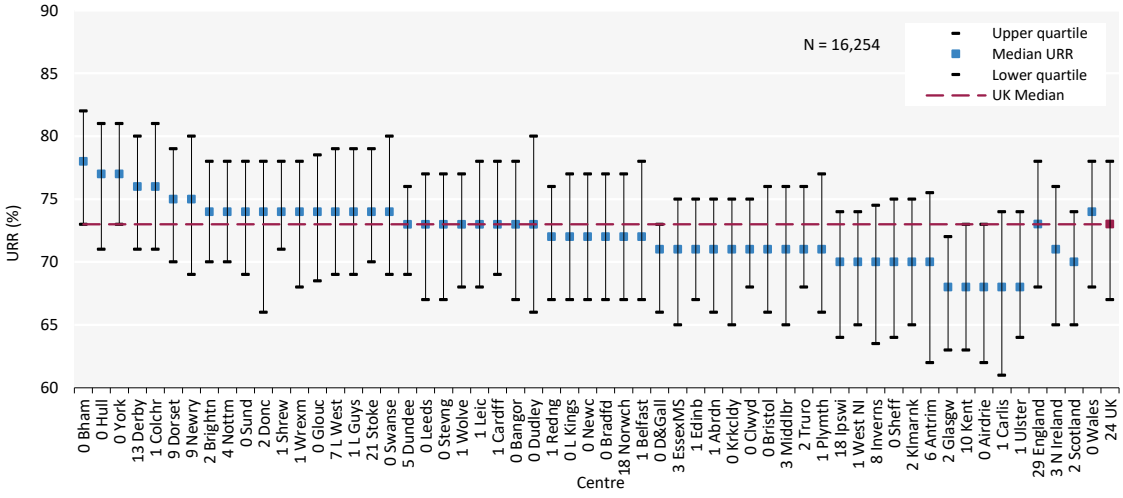

Figure 5.3 Median urea reduction ratio (URR) achieved in adult patients prevalent to ICHD on 31/12/2023 by centre

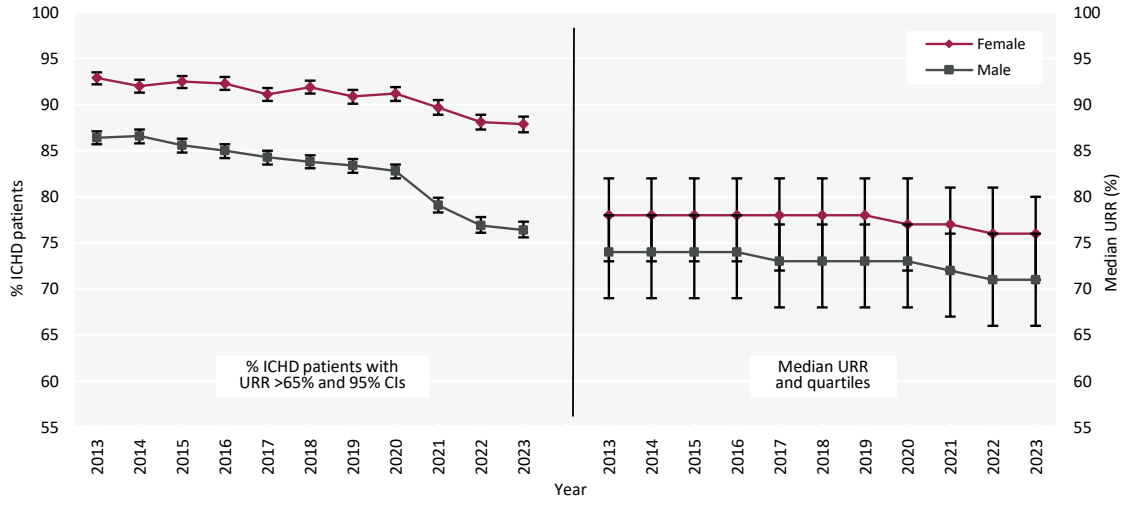

Figure 5.4 Change in the percentage of prevalent adult ICHD patients with urea reduction ratio (URR) >65% and the median URR by sex between 2013 and 2023
CI – confidence interval

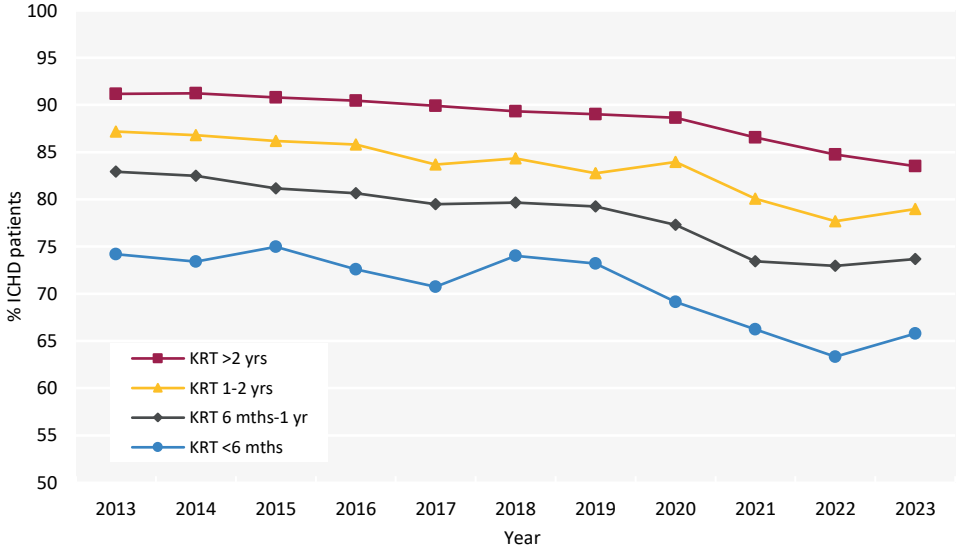

Figure 5.5 Percentage of prevalent adult ICHD patients achieving urea reduction ratio (URR) >65% by time on KRT between 2013 and 2023

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 31/12/2023 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	2.3	78.7	7.8	99.6
Bradfd	2.4	80.3	13.3	99.4
Brightn	2.3	83.3	7.3	100.0
Bristol	2.4	89.9	8.9	100.0
Camb	2.3	82.5	7.6	97.4
Carlis	2.3	79.4	4.4	100.0
Carsh	2.3	75.6	6.9	99.3
Colchr	2.3	77.4	5.8	100.0
Covnt	2.3	78.7	7.6	98.3
Derby	2.4	86.5	4.9	100.0
Donc	2.4	85.0	8.3	100.0
Dorset	2.3	79.6	7.8	100.0
Dudley	2.4	77.0	18.7	100.0
EssexMS	2.3	78.9	10.0	99.8
Exeter				
Glouc	2.4	87.2	8.7	100.0
Hull	2.4	77.6	16.7	100.0
Ipswi	2.3	75.4	11.2	99.3
Kent	2.4	75.5	17.9	99.8
L Barts	2.3	81.3	9.1	100.0
L Guys	2.4	81.3	11.6	86.3
L Kings	2.3	76.9	4.3	99.9
L Rfree	2.3	80.7	5.8	99.7
L St.G	2.4	69.3	17.0	97.5
L West	2.3	75.6	10.2	88.9
Leeds	2.3	81.6	5.1	100.0
Leic	2.3	75.9	8.8	99.9
Liv UH	2.4	81.6	14.1	99.0
M RI				
Middlbr	2.3	79.1	3.2	100.0
Newc	2.3	74.6	11.2	100.0
Norwch	2.3	88.2	6.5	84.5
Nottm	2.4	84.6	10.0	100.0
Oxford	2.2	63.7	2.5	100.0
Plymth	2.3	72.5	9.4	97.9
Ports	2.3	76.8	9.5	100.0
Prestn	2.3	81.8	7.9	100.0
Redng	2.3	80.7	5.1	99.7
Salford	2.4	78.1	12.6	100.0
Sheff	2.3	74.8	4.8	99.3
Shrew	2.4	73.0	22.1	100.0
Stoke	2.4	82.8	12.9	85.9
Sund	2.3	78.9	7.8	100.0
Truro	2.4	90.3	7.4	100.0
Wirral	2.3	73.0	9.0	75.8
Wolve	2.3	78.5	13.3	99.7
York	2.3	83.3	5.2	100.0
N IRELAND				
Antrim	2.4	90.8	7.3	100.0
Belfast	2.3	75.2	12.4	100.0
Newry	2.3	63.9	6.9	100.0
Ulster	2.4	87.4	9.2	100.0
West NI	2.4	90.8	9.2	100.0

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	87.7	4.6	100.0
Cardff	2.4	83.9	11.3	100.0
Clwyd	2.3	83.9	5.8	100.0
Swanse	2.3	85.5	5.9	99.8
Wrexm	2.3	87.0	6.5	99.1
TOTALS				
England	2.3	79.1	8.9	98.0
N Ireland	2.4	82.3	9.2	100.0
Wales	2.4	84.9	8.3	99.8
E, W & NI	**2.3**	**79.5**	**8.9**	**98.1**

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

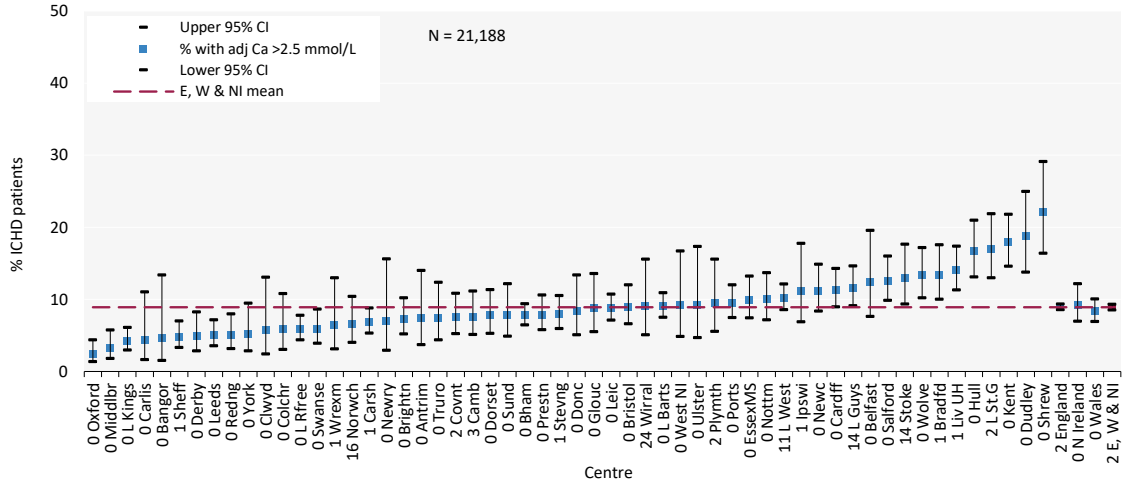

Figure 5.6 Percentage of adult patients prevalent to ICHD on 31/12/2023 with adjusted calcium (Ca) above the target range (>2.5 mmol/L) by centre
CI – confidence interval

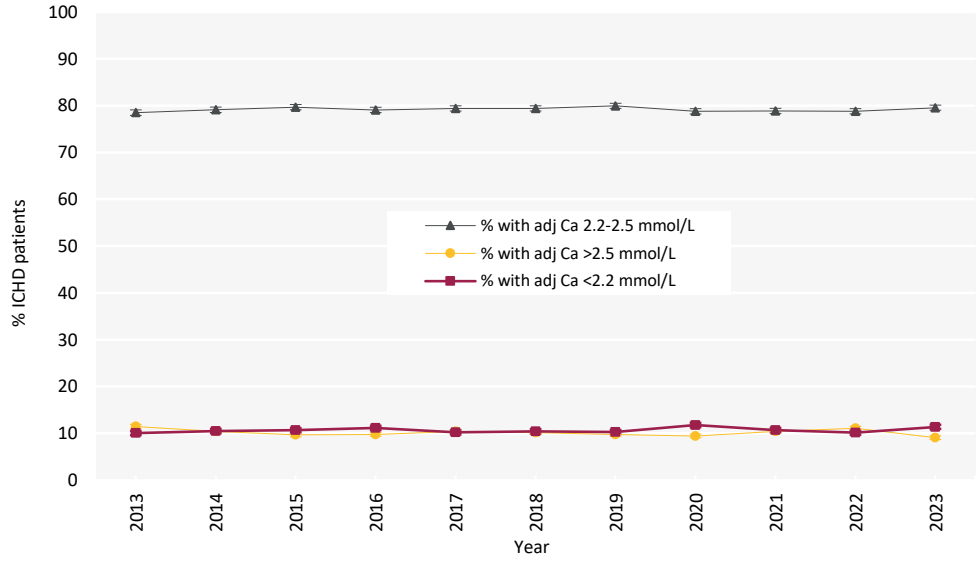

Figure 5.7 Change in percentage of prevalent adult ICHD patients within, above and below the target range for adjusted calcium (Ca 2.2–2.5 mmol/L) between 2013 and 2023

Table 5.7 Median pre-dialysis potassium and bicarbonate and percentage attaining target ranges in adult patients prevalent to ICHD on 31/12/2023 by centre

	Pre-dialysis potassium					Pre-dialysis bicarbonate				
Centre	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					50.8	22	6.0	89.6	4.4	99.6
Bradfd	4.9	7.9	82.5	9.5	99.4	23	4.9	83.8	11.3	97.5
Brightn					0.0	24	3.3	82.3	14.4	100.0
Bristol	4.5	30.7	66.1	3.2	100.0	24	1.8	87.6	10.6	100.0
Camb	4.8	6.5	89.2	4.3	98.4					14.2
Carlis					0.0	20	13.0	83.7	3.3	100.0
Carsh					0.0					22.1
Colchr	4.8	6.5	91.0	2.6	100.0	22	3.2	95.5	1.3	100.0
Covnt					0.0	25	0.6	66.9	32.6	98.3
Derby	4.6	14.7	83.5	1.9	100.0	22	3.0	94.7	2.3	100.0
Donc	4.7	9.4	84.4	6.1	100.0	24	6.7	77.2	16.1	100.0
Dorset	4.8	8.1	89.0	2.9	100.0	23	1.6	90.3	8.1	100.0
Dudley	4.8	9.1	84.0	7.0	100.0					49.7
EssexMS	4.9	11.1	82.5	6.4	99.8	23	2.4	81.4	16.2	99.3
Exeter										
Glouc					0.0	23	2.1	90.3	7.7	100.0
Hull	4.8	8.6	85.1	6.3	100.0	24	0.9	88.2	10.9	100.0
Ipswi					0.0	22	10.5	79.9	9.7	99.3
Kent	4.6	27.1	69.7	3.2	99.8	22	5.7	89.5	4.8	99.8
L Barts	4.6	23.9	71.6	4.5	100.0	23	3.6	84.0	12.4	100.0
L Guys	4.6	24.6	71.6	3.8	92.2	24	1.5	85.3	13.1	86.3
L Kings					0.0	20	11.3	88.0	0.8	99.7
L Rfree	5.0	14.3	78.2	7.6	99.7	22	5.3	91.0	3.7	96.5
L St.G					0.0					0.0
L West					0.0					56.3
Leeds	5.1	3.2	89.9	6.9	100.0	22	2.4	92.1	5.6	100.0
Leic	4.9	7.8	84.8	7.4	99.9	24	2.3	78.9	18.9	99.9

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	1.0	55.3	43.8	99.0
M RI										
Middlbr	4.7	20.1	74.3	5.6	100.0	29	0.6	14.8	84.7	100.0
Newc					0.0	23	1.9	85.8	12.3	100.0
Norwch	5.3	4.1	83.0	12.9	93.5	23	5.4	85.4	9.2	82.4
Nottm	4.6	32.0	66.2	1.8	100.0	23	2.7	84.5	12.8	99.1
Oxford	4.9	8.7	85.3	6.0	100.0	23	4.9	82.9	12.3	100.0
Plymth	5.0	10.9	80.4	8.7	97.9	19	23.7	74.8	1.5	92.9
Ports	5.0	7.2	86.0	6.9	100.0	23	3.6	84.7	11.7	99.8
Prestn	5.0	7.2	88.4	4.3	100.0	23	2.5	87.0	10.5	100.0
Redng	4.7	14.2	82.5	3.3	98.5	22	3.3	93.5	3.3	99.7
Salford	4.7	16.8	79.2	4.0	100.0	25	1.1	72.6	26.3	100.0
Sheff	4.8	11.3	82.4	6.3	99.3	23	3.3	86.8	9.8	99.3
Shrew					0.0	22	6.8	90.8	2.5	100.0
Stoke					0.0	25	1.6	78.0	20.5	85.5
Sund					0.0	22	6.0	92.2	1.8	100.0
Truro	4.8	8.0	87.4	4.6	100.0	27	1.1	39.4	59.4	100.0
Wirral					0.0	24	1.9	80.7	17.4	96.3
Wolve	4.9	9.2	85.3	5.4	99.7	21.5	7.3	88.9	3.8	99.7
York	5.2	2.1	84.3	13.6	100.0	22	2.6	90.1	7.3	100.0
N IRELAND										
Antrim	4.7	13.8	80.7	5.5	100.0	25	0.0	75.2	24.8	100.0
Belfast	5.0	5.0	84.3	10.7	100.0	21	7.4	91.7	0.8	100.0
Newry	5.0	12.5	79.2	8.3	100.0	23	6.9	80.6	12.5	100.0
Ulster	4.9	5.8	87.4	6.9	100.0	21	6.9	93.1	0.0	100.0
West NI	4.8	9.2	85.7	5.1	100.0	23	1.0	98.0	1.0	100.0
WALES										
Bangor	4.6	16.9	80.0	3.1	100.0	25	0.0	86.2	13.9	100.0
Cardff	4.9	7.9	84.6	7.5	100.0	23	1.1	87.8	11.1	98.9
Clwyd	4.9	11.5	85.1	3.5	100.0	24	0.0	88.5	11.5	100.0
Swanse	4.9	9.2	84.7	6.1	99.8	23	3.1	88.3	8.7	99.5
Wrexm	4.7	12.0	83.3	4.6	99.1	25	0.0	79.6	20.4	99.1
TOTALS										
England	4.8	13.5	80.9	5.6	63.7	23	4.2	82.2	13.6	89.4
N Ireland	4.8	9.0	83.6	7.4	100.0	23	4.3	87.9	7.8	100.0
Wales	4.9	9.4	84.3	6.3	99.8	24	1.5	87.2	11.3	99.3
E, W & NI	**4.8**	**13.0**	**81.3**	**5.7**	**66.5**	**23**	**4.0**	**82.7**	**13.3**	**90.2**

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

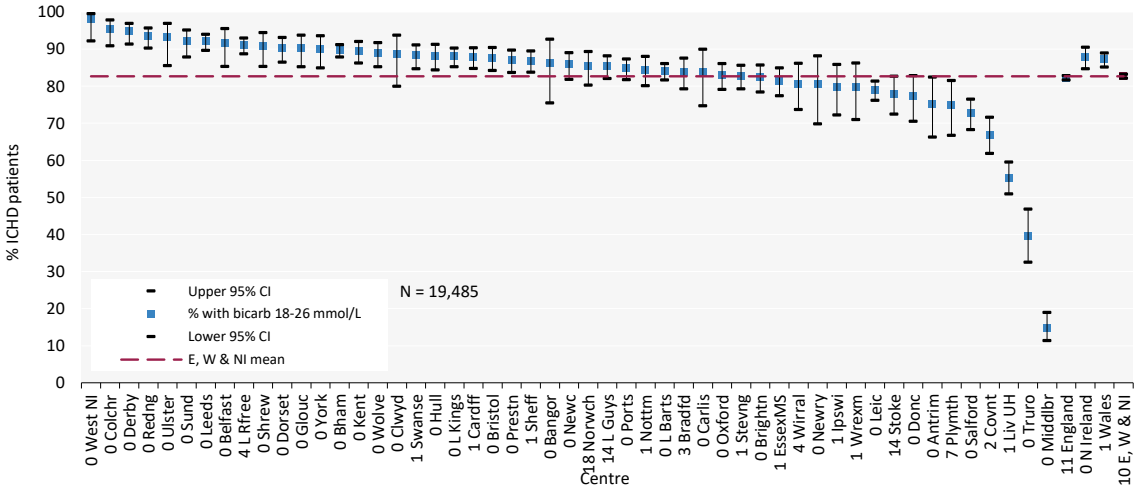

Figure 5.8 Percentage of adult patients prevalent to ICHD on 31/12/2023 with pre-dialysis bicarbonate (bicarb) within the target range (18-26 mmol/L) by centre
CI – confidence interval
Bicarb - bicarbonate

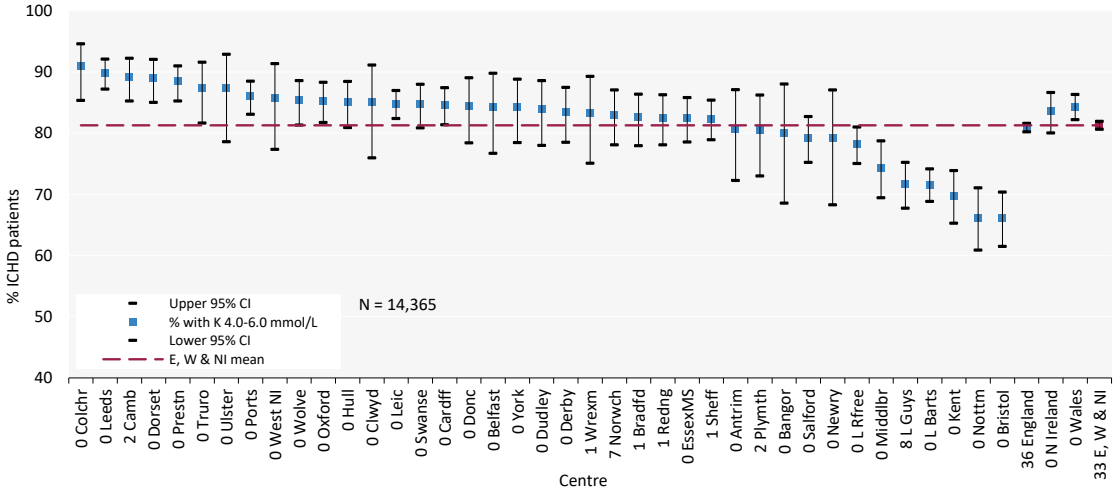

Figure 5.9 Percentage of adult patients prevalent to ICHD on 31/12/2023 with pre-dialysis potassium (K) within the target range (4.0-6.0 mmol/L) by centre
CI – confidence interval
K - Potassium

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

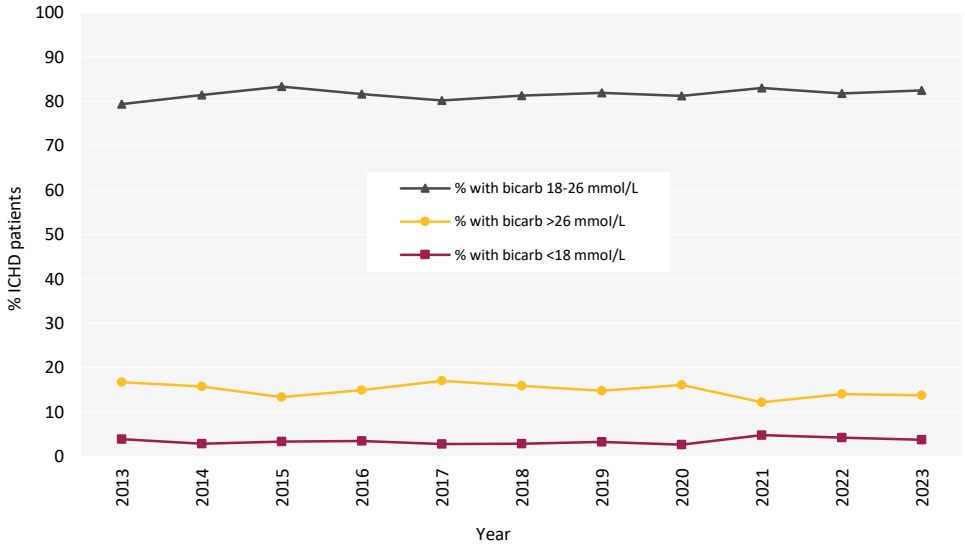

Figure 5.10 Change in percentage of prevalent adult ICHD patients within, above and below the target range for pre-dialysis bicarbonate (bicarb 18-26 mmol/L) between 2013 and 2023

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 31/12/2023 by centre

	Haemoglobin				Ferritin		
Centre	Median (g/L)	% <100 g/L	% >120 g/L	% data completeness	Median (µg/L)	% <200 µg/L	% data completeness
ENGLAND							
Bham	110	24.1	18.2	99.6	551	14.4	99.6
Bradfd	116	18.4	37.7	99.7	575	8.2	100.0
Brightn	112	19.1	22.9	100.0	465	9.6	98.6
Bristol	114	4.8	31.2	100.0	533	4.6	99.3
Camb	114	15.3	27.3	96.5	463	9.0	71.1
Carlis	112	25.0	22.8	100.0	603	5.4	100.0
Carsh	109	25.7	20.5	99.6	542	6.6	99.6
Colchr	109	21.3	13.5	100.0	471	15.5	100.0
Covnt	108	22.5	12.9	98.3	462	17.7	98.3
Derby	114	10.9	31.6	100.0	642	5.7	99.6
Donc	111	27.2	27.8	100.0	482	7.8	100.0
Dorset	114	10.7	29.4	100.0	707	3.9	100.0
Dudley	111	19.9	17.2	99.5	227	41.7	100.0
EssexMS	109	21.1	16.4	99.5	483	14.7	99.8
Exeter							
Glouc	109	22.6	19.5	100.0	448	17.9	97.4
Hull	113	19.5	24.7	100.0	652	4.6	100.0
Ipswi	110	25.4	11.2	99.3	400	25.6	98.5
Kent	111	22.2	23.9	99.8	832	7.9	98.4
L Barts	108	28.2	16.9	100.0	694	5.1	100.0
L Guys	110	18.7	18.3	86.3	527	10.1	90.8
L Kings	111	20.4	21.8	99.9	486	11.9	99.9
L Rfree	111	18.6	22.8	99.7	497	15.9	99.5
L St.G	110	21.9	22.2	95.1	675	4.5	94.7
L West	112	16.3	21.2	94.6	398	16.8	94.4
Leeds	110	19.4	18.7	100.0	388	20.4	99.8
Leic	111	20.5	26.5	99.9	472	11.1	99.9
Liv UH	113	19.4	24.2	99.0	500	12.1	98.6
M RI							
Middlbr	113	16.8	25.7	100.0	840	5.9	99.7
Newc	110	23.0	21.3	100.0	637	8.2	100.0
Norwch	107	26.3	15.7	87.9	405	19.2	96.9
Nottm	108	26.0	10.6	100.0	379	22.7	100.0
Oxford	109	26.7	19.8	100.0	662	3.8	99.1
Plymth	114	20.3	29.0	97.9	410	18.1	97.9
Ports	107	31.6	14.5	100.0	364	25.0	99.1
Prestn	112	19.0	27.5	100.0	695	9.3	100.0
Redng	108	28.9	14.0	99.7	592	8.0	99.7
Salford	112	21.9	27.9	100.0	449	18.9	99.6
Sheff	109	31.3	20.1	98.9	451	7.9	99.8
Shrew	111	19.6	25.8	100.0	506	4.9	100.0
Stevng	108	20.4	12.8	100.0	628	4.2	99.5
Stoke	115	15.0	34.2	87.5	607	8.5	83.2
Sund	111	15.6	17.4	100.0	616	5.0	100.0
Truro	109	23.4	19.4	100.0	498	7.7	96.6
Wirral	110	20.1	15.6	95.7	565	8.5	95.0

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	27.7	16.8	99.7	632	10.6	99.7
York	108	23.0	14.7	100.0	399	9.9	100.0
N IRELAND							
Antrim	105	29.4	13.8	100.0	604	5.5	100.0
Belfast	112	16.7	31.7	99.2	507	13.2	100.0
Newry	108	22.2	16.7	100.0	467	4.2	100.0
Ulster	111	18.4	24.1	100.0	653	2.3	100.0
West NI	115	14.3	26.5	100.0	724	3.1	100.0
SCOTLAND							
Abrdn	107	26.3	15.8	100.0			
Airdrie	111	25.0	18.3	99.5			
D&Gall	116	11.6	23.3	100.0			
Dundee	113	21.3	21.3	93.9			
Edinb	114	17.2	30.4	97.2			
Glasgw	111	24.0	24.6	98.1			
Inverns	110	22.1	14.7	88.8			
Klmarnk	112	27.7	24.8	96.6			
Krkcldy	114	13.8	27.7	100.0			
WALES							
Bangor	111	20.0	13.8	100.0	716	0.0	100.0
Cardff	111	18.5	23.8	100.0	558	10.4	100.0
Clwyd	112	23.0	31.0	100.0	855	11.5	100.0
Swanse	110	17.8	22.6	99.8	524	14.5	99.8
Wrexm	108	22.2	18.5	99.1	717	8.3	99.1
TOTALS							
England	110	21.5	21.2	98.5	527	11.6	98.1
N Ireland	110	20.2	23.0	99.8	596	6.2	100.0
Scotland	112	22.1	23.3	97.6			
Wales	111	19.0	22.9	99.8	587	11.1	99.8
UK	**111**	**21.4**	**21.5**	**98.5**	**533**	**11.5**	**98.2**

Blank cells – no data returned by the centre or data completeness <70%
UK National average for ferritin does not include Scotland

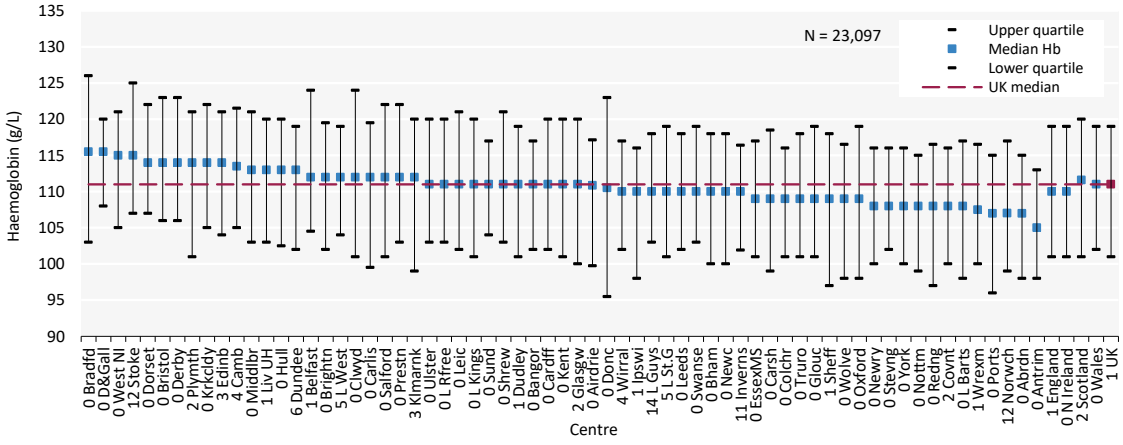

Figure 5.11 Median haemoglobin (Hb) in adult patients prevalent to ICHD on 31/12/2023 by centre

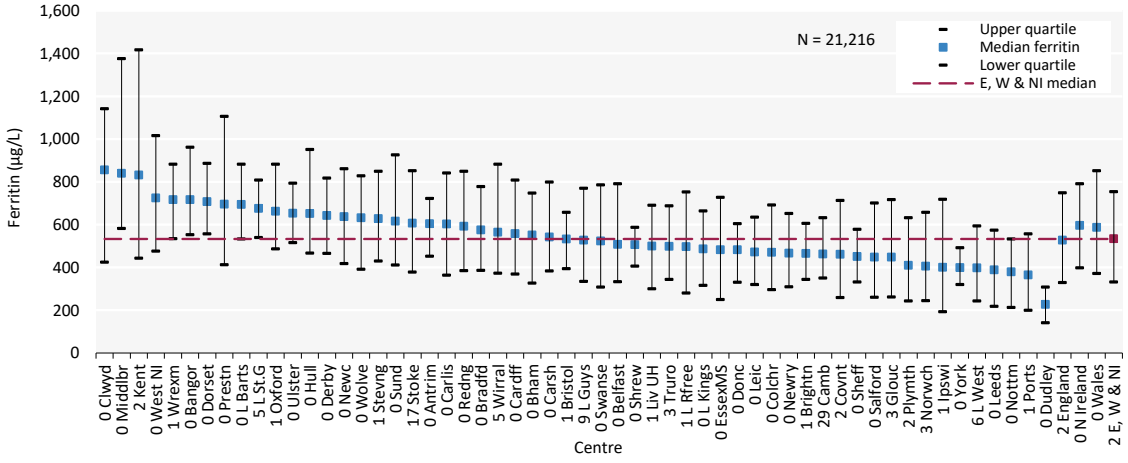

Figure 5.12 Median ferritin in adult patients prevalent to ICHD on 31/12/2023 by centre

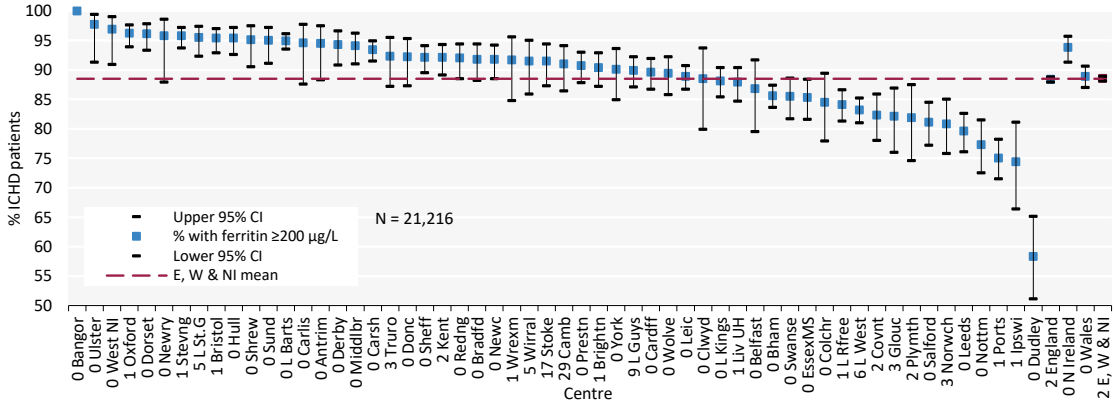

Figure 5.13 Percentage of adult patients prevalent to ICHD on 31/12/2023 with ferritin ≥200 µg/L by centre

CI – confidence interval

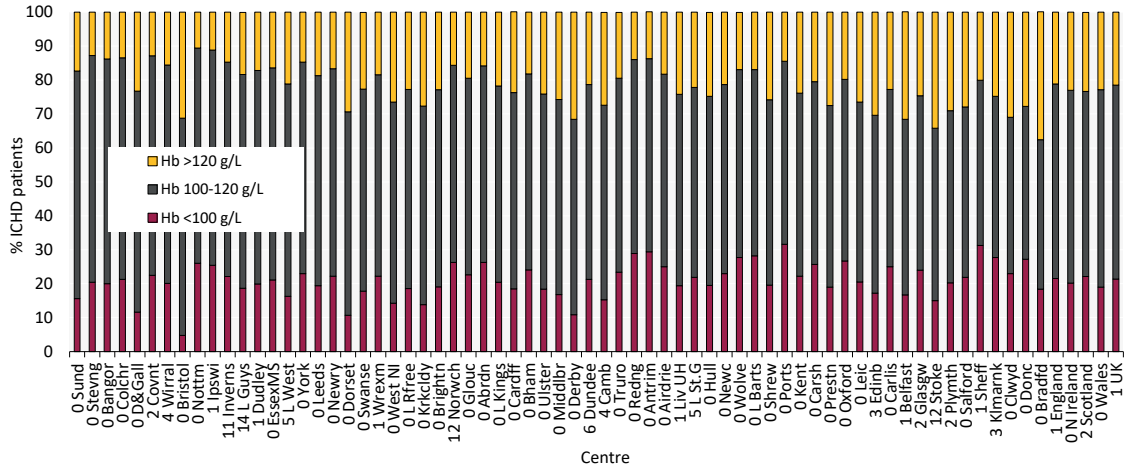

Figure 5.14 Distribution of haemoglobin (Hb) in adult patients prevalent to ICHD on 31/12/2023 by centre

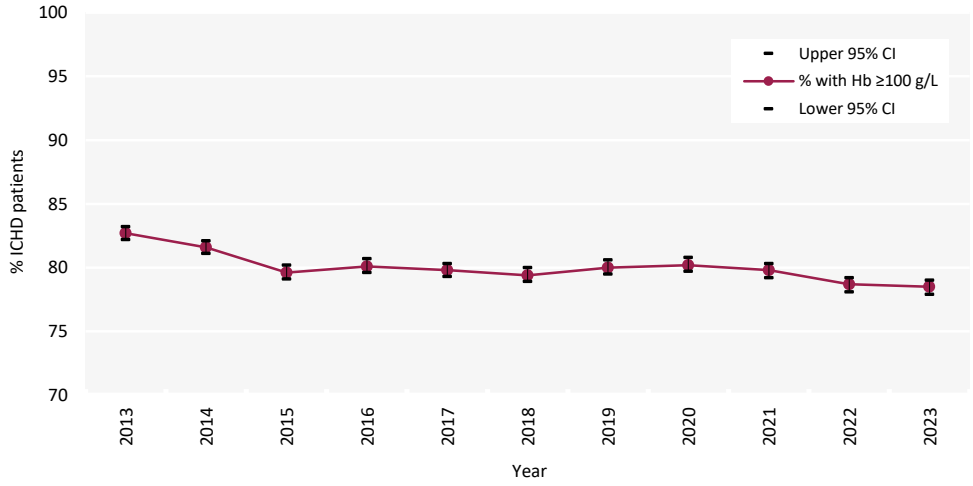

Figure 5.15 Percentage of prevalent adult ICHD patients with haemoglobin (Hb) ≥100 g/L between 2013 and 2023
CI – confidence interval

Dialysis access in prevalent adult dialysis patients

The type of prevalent dialysis access is presented in figure 5.16 for the 61 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

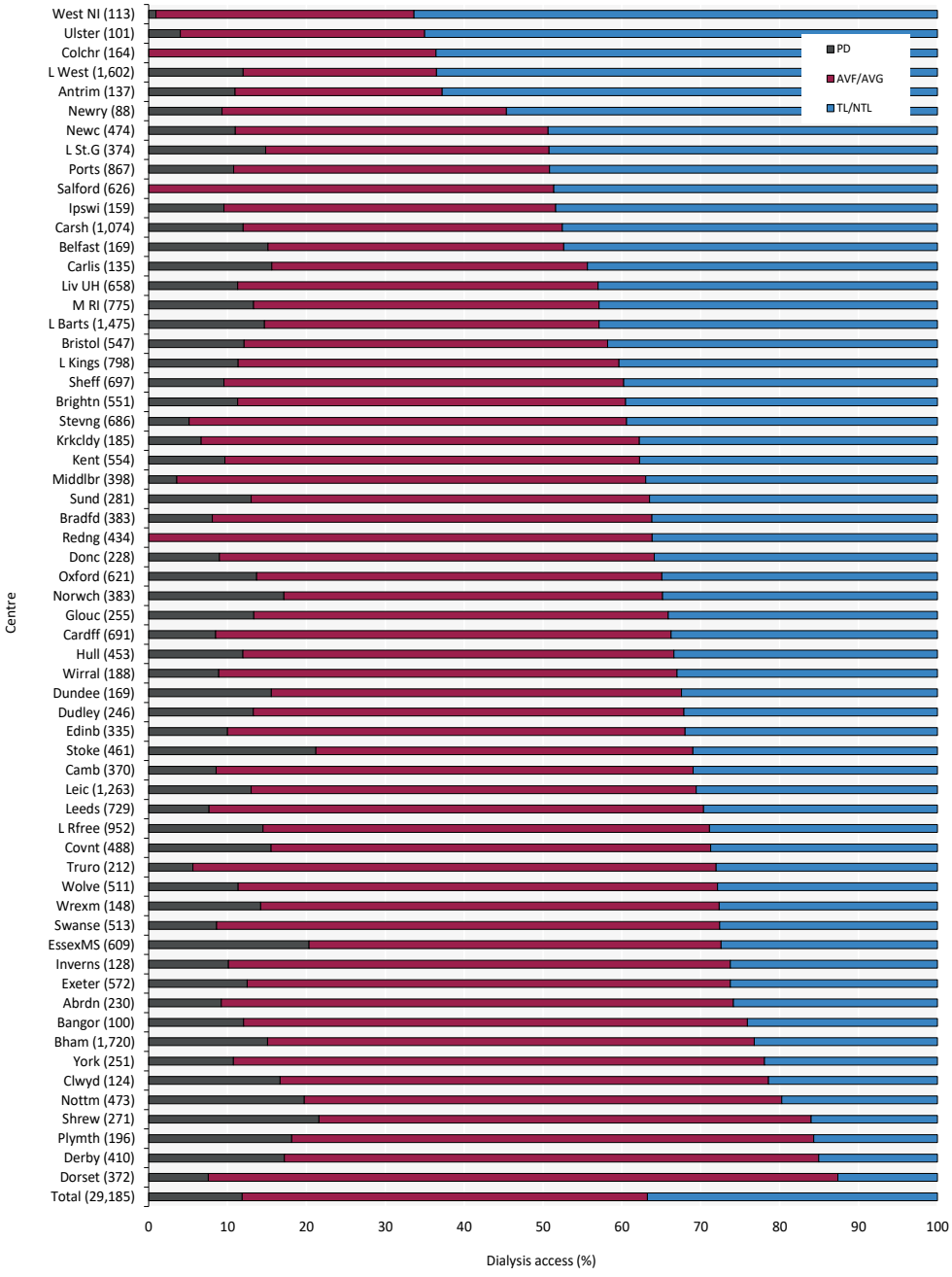

Figure 5.16 Dialysis access in adult patients prevalent to dialysis on 31/12/2023 by centre

Number of patients on dialysis in a centre in brackets (centres with <70% access data for the prevalent dialysis population were excluded)

For Reading, a prevalent date of 30/9/2023 was used due to poor data quality in the final quarter

Data for the four excluded Scottish centres (Kilmnarnock, Glasgow, Airdrie, Dumfries and Galloway) using alternative time points are published by the Scottish Renal Registry https://www.publichealthscotland.scot/publications/scottish-renal-registry/scottish-renal-registry-annual-report-2024/

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 31/12/2022 and followed-up for one year in 2023. 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 31/12/2022 followed-up in 2023 by age group

	ICHD all ages		ICHD < 65 years		ICHD ≥ 65 years	
Cause of death	*N*	%	*N*	%	*N*	%
Cardiac disease	750	20.0	282	25.5	468	17.7
Cerebrovascular disease	124	3.3	56	5.1	68	2.6
Infection	675	18.0	175	15.8	500	18.9
Malignancy	233	6.2	55	5.0	178	6.7
Treatment withdrawal	409	10.9	87	7.9	322	12.2
Other	1,216	32.4	346	31.3	870	32.9
Uncertain aetiology	344	9.2	106	9.6	238	9.0
Total (with data)	**3,751**	**100.0**	**1,107**	**100.0**	**2,644**	**100.0**
Missing	429	10.3	149	11.9	280	9.6

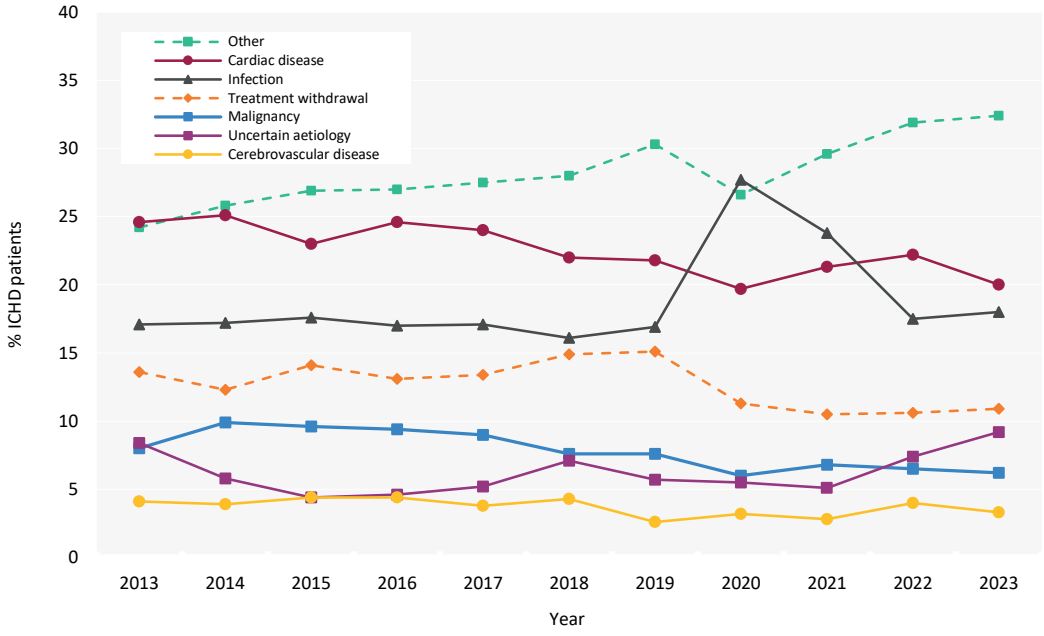

Figure 5.17 Cause of death between 2013 and 2023 for adult patients prevalent to ICHD at the beginning of the year