

Chapter 3

Adults on kidney replacement therapy (KRT) in the UK at the end of 2020

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Introduction

This chapter describes the population of adult patients with end-stage kidney disease (ESKD) who were on kidney replacement therapy (KRT) in the UK at the end of 2020 (figure 3.1). Patients may have started KRT prior to 2020 or during 2020. Three KRT modalities are available to patients with ESKD – haemodialysis (HD), peritoneal dialysis (PD) and kidney transplantation. HD may be undertaken in-centre (ICHD) or at home (HHD).

The size of the prevalent population on each KRT modality reflects uptake to the modality by new KRT patients (chapter 2); the number of patients switching from one modality to another; and the length of time patients remain on a modality before they switch to another, withdraw from KRT or die.

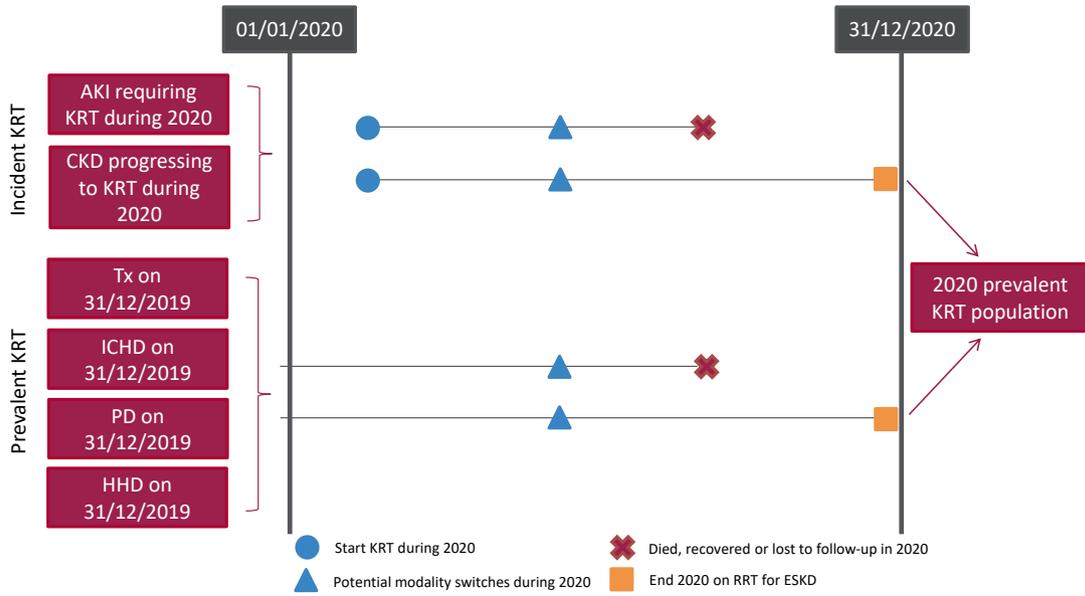


Figure 3.1 Pathways adult patients could follow to be included in the UK 2020 prevalent KRT population

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 KRT at the end of 2020 or if they had been on KRT for ≥ 90 days and were on KRT at the end of 2020. CKD – chronic kidney disease; Tx – transplant

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

Rationale for analyses

The analyses focus on a description of the 2020 prevalent adult KRT population, including the number on KRT per million population (pmp). These analyses are performed annually to help clinicians and policy makers plan future KRT requirements in the UK. Variation in case-mix is also reported to aid understanding of how to improve equity of KRT provision in the UK.

The UK Kidney Association guidelines (ukkidney.org/health-professionals/guidelines/guidelines-commentaries) provide audit measures relevant to the care of patients on KRT, but these are treatment-specific – for further details see the guideline tables in each chapter.

For definitions and methods relating to this chapter see appendix A.

Key findings

- 68,249 adult patients were receiving KRT for ESKD on 31/12/2020 which is similar to the 68,111 that were receiving KRT for ESKD at the end of 2019. This represents the first year we have not seen a 2-2.5% increase in number of patients on KRT. This is likely due to the impact of COVID pandemic with fewer patients starting KRT and increased COVID related mortality of existing KRT patients.
- KRT prevalence was 1,290 per million population, again stable compared to last year and in contrast to increasing prevalence seen in previous years.
- The median age of KRT patients was 59.6 years (ICHD 66.5 years, HHD 55.3 years, PD 63.5 years and Tx 56.0 years). In 2010 the median age was 57.9 years (ICHD 66.8 years, HHD 52.4 years, PD 61.5 years and Tx 51.2 years).
- 61.3% of KRT patients were male.
- Tx continued as the most common treatment modality (57.0%) – ICHD comprised 35.4%, PD 5.6% and HHD 2.0% of the KRT population.
- The most common identifiable primary renal disease was glomerulonephritis (19.6%), followed by diabetes (18.4%).
- There were 3 centres above the upper 95% limit and no centres below the lower 95% limit in the funnel plots showing 1 year age-, sex- and comorbidity-adjusted survival for patients prevalent to dialysis on 31/12/2019. It is expected that 3 centres would be outside the limits by chance.
- There was no cause of death data available for 35.0% of deaths. For those with data, the leading cause of death was infection amongst both patients > 65 years and < 65 years at 28.8% and 29.6% respectively, with a significant contribution from COVID related deaths.

Analyses

Changes to the prevalent adult KRT population

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

Table 3.1 Number of prevalent adult KRT patients by year and by centre; number of KRT patients as a proportion of the catchment population

Centre	N on KRT					Estimated catchment population (millions)	2020 crude rate (pmp)
	2016	2017	2018	2019	2020		
ENGLAND							
Bham	3,051	3,173	3,250	3,312	3,272	2.04	1,605
Bradfd	634	674	688	733	727	0.49	1,491
Brightn	993	1,012	1,055	1,064	1,078	1.07	1,007
Bristol	1,470	1,473	1,471	1,486	1,477	1.21	1,218
Camb	1,326	1,335	1,388	1,457	1,526	0.93	1,641
Carlis	279	281	293	301	297	0.25	1,172
Carsh	1,657	1,696	1,752	1,781	1,854	1.62	1,147
Colchr	123	129	122	145	151	0.29	521
Covnt	976	965	958	1,075	1,096	0.79	1,388
Derby	543	556	587	654	677	0.56	1,215
Donc	331	333	330	342	341	0.37	915
Dorset	685	730	764	773	798	0.72	1,102
Dudley	345	366	360	366	370	0.34	1,084
EssexMS	783	831	845	851	884	0.99	896
Exeter	1,013	1,057	1,083	1,089	1,106	0.95	1,169
Glouc	473	511	522	529	521	0.51	1,029
Hull	854	872	880	904	914	0.79	1,150
Ipswi	417	436	428	428	425	0.31	1,370
Kent	1,073	1,091	1,112	1,139	1,143	1.06	1,077
L Barts	2,374	2,498	2,600	2,660	2,557	1.58	1,620
L Guys	2,101	2,165	2,231	2,321	2,320	1.00	2,323
L Kings	1,112	1,154	1,183	1,247	1,253	0.93	1,351
L Rfree	2,176	2,192	2,235	2,345	2,337	1.32	1,773
L St.G	853	839	835	853	857	0.66	1,298
L West	3,395	3,475	3,560	3,611	3,537	1.95	1,814
Leeds	1,548	1,619	1,683	1,727	1,751	1.36	1,285
Leic	2,293	2,356	2,452	2,579	2,604	2.07	1,257
Liv Ain	229	210	217	209	216	0.43	503
Liv Roy*	1,218	1,252	1,270	1,224	1,142	0.81	1,417
M RI	1,988	2,052	2,066	2,045	1,985	1.32	1,499
Middlbr	892	904	930	953	942	0.80	1,176
Newc	1,051	1,116	1,153	1,172	1,207	0.95	1,276
Norwch	774	781	788	810	805	0.68	1,176
Nottm	1,152	1,184	1,197	1,217	1,212	0.92	1,314
Oxford	1,768	1,880	1,940	1,969	2,021	1.44	1,408
Plymth	514	541	540	534	544	0.40	1,365
Ports	1,692	1,746	1,762	1,880	1,902	1.74	1,095
Prestn	1,208	1,272	1,322	1,343	1,370	1.23	1,118
Redng	791	795	814	862	871	0.69	1,257
Salford	1,022	1,117	1,173	1,241	1,264	1.14	1,105
Sheff	1,422	1,441	1,481	1,488	1,491	1.13	1,324
Shrew	378	386	428	432	414	0.41	1,016

Table 3.1 Continued

Centre	N on KRT					Estimated catchment population (millions)	2020 crude rate (pmp)
	2016	2017	2018	2019	2020		
Stevng	888	884	938	962	963	1.10	873
Stoke	829	811	806	805	809	0.73	1,114
Sund	508	544	560	570	557	0.54	1,025
Truro	426	425	437	450	445	0.36	1,252
Wirral	338	389	398	412	406	0.47	871
Wolve	571	582	608	613	643	0.54	1,180
York	536	557	569	582	572	0.48	1,186
N IRELAND							
Antrim	252	255	274	286	289	0.24	1,188
Belfast	822	842	876	880	890	0.53	1,684
Newry	236	241	252	253	264	0.23	1,134
Ulster	166	183	191	184	200	0.20	994
West NI	306	313	327	328	350	0.25	1,408
SCOTLAND							
Abrdn	555	563	572	558	565	0.50	1,133
Airdrie	439	466	488	524	514	0.46	1,123
D&Gall	131	135	145	149	156	0.12	1,277
Dundee	418	435	445	449	430	0.37	1,172
Edinb	777	824	862	885	888	0.84	1,060
Glasgw	1,752	1,772	1,813	1,854	1,844	1.37	1,347
Inverns	258	262	279	282	271	0.22	1,216
Klmarnk	317	337	340	359	369	0.29	1,267
Krkldy	294	304	298	295	291	0.27	1,067
WALES							
Bangor	179	195	203	201	216	0.17	1,280
Cardff	1,629	1,682	1,719	1,729	1,678	1.19	1,410
Clwyd	177	179	190	205	207	0.19	1,111
Swanse	756	789	825	869	850	0.78	1,089
Wrexm	313	323	314	311	323	0.21	1,510
TOTALS							
England	53,073	54,688	56,064	57,545	57,654	44.46	1,297
N Ireland	1,782	1,834	1,920	1,931	1,993	1.45	1,370
Scotland	4,941	5,098	5,242	5,355	5,328	4.44	1,200
Wales	3,054	3,168	3,251	3,315	3,274	2.54	1,289
UK	62,850	64,788	66,477	68,146	68,249	52.89	1,290

Country KRT populations were calculated by summing the KRT 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.

*Incident patient numbers at Liverpool Royal Infirmary are under-reported (about 30 HD patients) due to a systems extraction problem at the centre. This will be corrected in the next annual report.

pmp – per million population

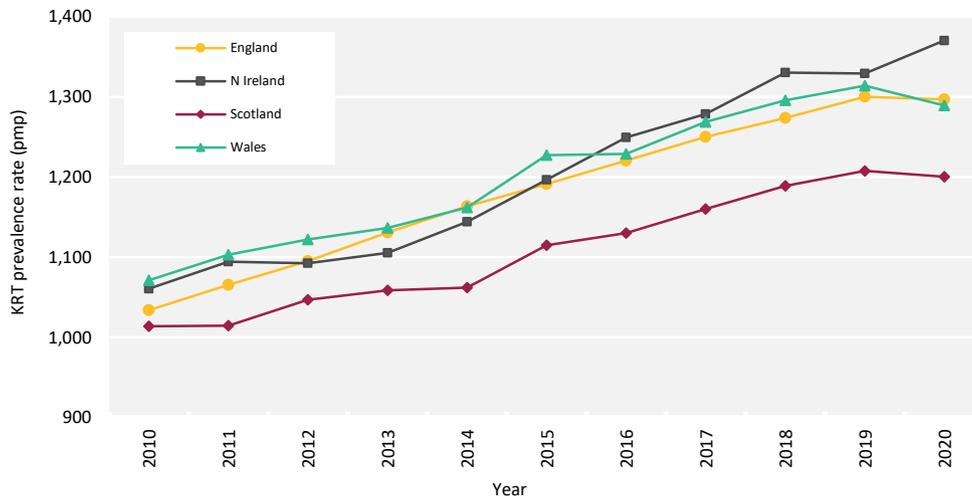


Figure 3.2 Adult KRT prevalence rates by country between 2010 and 2020
pmp – per million population

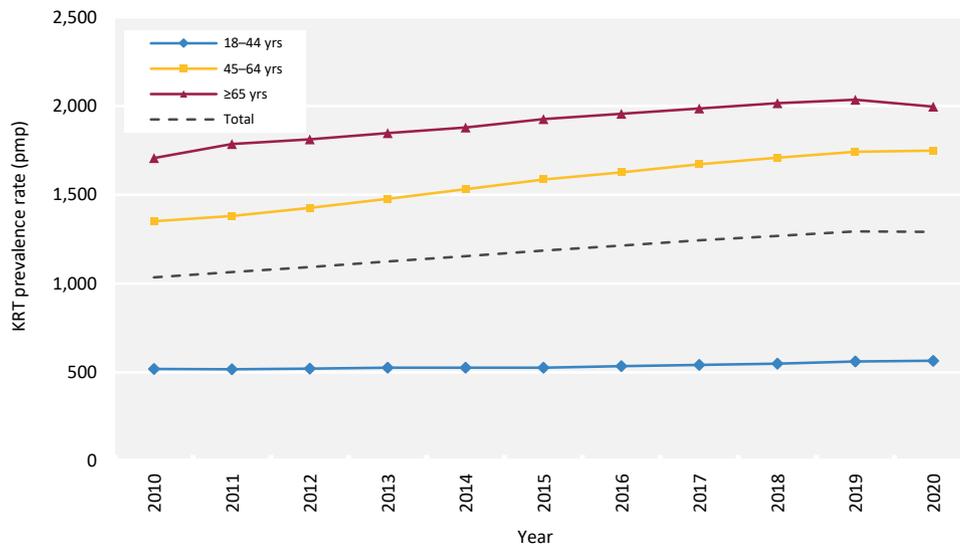


Figure 3.3 Adult KRT prevalence rates by age group between 2010 and 2020
pmp – per million population

Demographics and treatment modality of prevalent adult KRT patients

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

Variation between centres in the proportion of dialysis patients on home therapies (PD and HHD combined) is shown in figure 3.4.

Table 3.2 Demographics and treatment modality of adult patients prevalent to KRT on 31/12/2020 by centre

Centre	N on KRT	% on ICHD	% on PD	% on HHD	% with Tx	Median age (yrs)	% male	Ethnicity				
								% White	% Asian	% Black	% Other	% missing
ENGLAND												
Bham	3,272	40.2	8.2	2.3	49.3	58.4	59.1	56.7	29.6	10.9	2.8	1.2
Bradfd	727	38.2	3.6	0.8	57.4	57.0	60.5	51.0	44.1	2.5	2.4	0.8
Brightn	1,078	39.4	6.1	2.9	51.6	61.4	63.7	89.6	6.4	1.9	2.0	3.2
Bristol	1,477	31.4	4.6	1.2	62.8	59.4	62.4	89.0	3.8	5.3	1.8	1.1
Camb	1,526	18.0	1.8	1.7	78.6	57.0	63.3	89.4	6.3	2.5	1.7	1.9
Carlis	297	37.4	10.8	0.7	51.2	60.8	61.3	99.0	1.0	0.0	0.0	0.0
Carsh	1,854	46.4	6.6	1.5	45.5	62.0	62.0	66.3	17.1	11.4	5.3	3.2
Colchr	151	100.0	0.0	0.0	0.0	73.9	63.6	95.9	1.4	0.7	2.0	2.6
Covnt	1,096	32.8	7.8	1.8	57.7	59.6	61.5	77.7	17.6	4.8	0.0	0.3
Derby	677	36.0	10.3	9.3	44.3	61.0	63.4	83.5	11.3	2.8	2.4	0.9
Donc	341	51.9	5.6	1.5	41.1	63.5	62.2	94.1	2.3	1.5	2.1	0.0
Dorset	798	37.3	4.3	2.0	56.4	65.0	60.0	96.6	1.5	0.3	1.6	0.0
Dudley	370	56.5	8.6	2.4	32.4	64.2	62.4	78.9	14.1	6.2	0.8	0.0
EssexMS	884	47.9	9.5	3.2	39.5	63.0	64.4	86.8	5.9	4.1	3.1	2.8
Exeter	1,106	41.6	7.7	1.8	48.9	63.5	62.2	97.3	0.8	0.7	1.2	0.3
Glouc	521	43.4	5.8	0.0	50.9	63.5	62.0	91.9	4.0	2.3	1.7	0.4
Hull	914	38.5	6.2	0.8	54.5	59.4	65.0	96.0	2.1	0.9	1.0	0.4
Ipswi	425	31.8	7.5	0.7	60.0	61.7	62.8	84.2	2.4	3.2	10.2	3.3
Kent	1,143	37.1	5.4	1.6	55.9	60.9	61.0	92.9	3.2	1.5	2.4	1.0
L Barts	2,557	36.6	10.5	0.9	52.0	57.5	59.4	33.0	34.6	24.1	8.3	1.4
L Guys	2,320	29.9	2.8	2.1	65.3	56.1	59.2	58.4	10.0	27.2	4.3	2.8
L Kings	1,253	49.2	8.1	1.8	41.0	59.4	60.8	43.9	13.8	37.7	4.6	1.3
L Rfree	2,337	30.8	7.8	0.4	61.0	58.5	59.6	43.8	22.4	22.1	11.7	5.5
L St.G	857	37.1	5.6	0.7	56.6	59.8	58.0	40.1	25.4	24.8	9.6	4.1
L West	3,537	35.9	5.7	1.0	57.4	60.8	61.0	38.8	35.6	18.9	6.6	0.0
Leeds	1,751	31.4	3.7	1.3	63.7	57.3	61.5	76.3	16.9	5.3	1.5	0.2
Leic	2,604	36.7	4.3	1.9	57.1	60.3	60.4	73.0	20.4	4.9	1.7	4.3
Liv Ain	216	67.1	9.3	4.6	19.0	61.5	61.6	95.8	0.5	1.4	2.3	1.4
Liv Roy*	1,142	28.2	2.4	3.3	66.1	58.0	60.3	90.7	3.3	3.5	2.6	1.7
M RI	1,985	25.4	4.2	3.5	66.8	57.5	59.9	66.6	14.5	16.7	2.2	1.4
Middlbr	942	34.4	3.0	1.9	60.7	59.3	64.8	94.1	4.7	0.3	0.9	0.5
Newc	1,207	29.5	3.8	1.2	65.5	59.3	60.5	93.3	4.6	1.1	1.1	0.1
Norwch	805	35.9	5.5	1.6	57.0	62.1	61.5	97.0	1.4	0.7	0.9	0.4
Nottm	1,212	28.8	7.8	2.6	60.7	58.3	61.1	80.9	8.7	7.6	2.9	0.0
Oxford	2,021	23.8	3.3	0.8	72.1	58.5	62.0	79.7	11.2	4.5	4.5	11.6
Plymth	544	28.1	6.1	0.0	65.8	62.6	67.6	97.1	0.9	0.4	1.7	0.0
Ports	1,902	31.9	5.3	4.4	58.5	60.1	61.7	92.2	4.1	1.1	2.6	7.4
Prestn	1,370	36.5	3.6	3.4	56.4	59.6	61.0	83.2	15.2	0.9	0.7	0.1
Redng	871	34.4	7.1	0.9	57.5	61.0	62.6	65.1	22.9	6.0	6.0	4.6
Salford	1,264	34.3	8.4	3.0	54.4	58.6	60.8	79.0	16.1	3.2	1.7	0.0
Sheff	1,491	36.8	5.2	4.1	54.0	59.7	63.2	88.3	6.6	2.6	2.6	1.7
Shrew	414	42.0	12.3	8.7	37.0	62.2	65.7	92.6	3.7	1.2	2.5	1.7
Stevng	963	56.3	2.6	3.2	37.9	61.5	62.8	70.2	16.2	9.1	4.4	11.0

Table 3.2 Continued

Centre	N on KRT	% on ICHD	% on PD	% on HHD	% with Tx	Median age (yrs)	% male	Ethnicity				
								% White	% Asian	% Black	% Other	% missing
Stoke	809	31.3	11.0	4.8	52.9	59.9	64.2	90.6	5.7	1.9	1.8	3.1
Sund	557	39.5	5.9	1.6	53.0	60.0	59.4	95.9	3.1	0.5	0.5	0.2
Truro	445	35.7	5.2	0.9	58.2	63.2	58.7	98.2	0.4	0.0	1.3	0.0
Wirral	406	48.0	3.7	1.7	46.6	60.5	63.1	95.6	2.7	1.0	0.7	0.2
Wolve	643	50.2	9.2	4.7	35.9	60.2	61.6	62.3	25.7	9.3	2.6	0.2
York	572	33.6	4.2	3.1	59.1	61.6	61.5	97.2	1.2	0.5	1.1	1.7
N IRELAND												
Antrim	289	38.8	4.2	1.4	55.7	63.6	63.3	99.6	0.0	0.4	0.0	2.1
Belfast	890	16.1	1.7	1.1	81.1	57.8	59.6	97.6	1.7	0.5	0.2	3.3
Newry	264	29.5	3.4	1.5	65.5	60.7	59.1	98.5	0.8	0.4	0.4	1.5
Ulster	200	48.0	1.5	0.0	50.5	66.7	59.0	94.5	3.5	1.5	0.5	0.0
West NI	350	33.7	2.0	0.9	63.4	58.2	60.9	99.1	0.6	0.3	0.0	0.6
SCOTLAND												
Abrdn	565	34.0	3.9	0.4	61.8	57.9	58.1					69.4
Airdrie	514	37.7	5.4	0.0	56.8	58.6	57.8					16.9
D&Gall	156	35.9	6.4	0.6	57.1	61.0	62.8					39.7
Dundee	430	36.7	3.3	1.4	58.6	59.5	60.5					67.7
Edinb	888	32.4	3.6	0.3	63.6	58.6	64.8					77.9
Glasgw	1,844	29.8	2.4	0.6	67.2	58.4	59.3					52.6
Inverns	271	32.8	3.3	1.1	62.7	59.1	57.6					49.8
Klmarnk	369	39.8	7.3	3.8	49.1	62.0	58.8					62.6
Krkldy	291	50.2	2.1	1.0	46.7	62.4	62.5					82.5
WALES												
Bangor	216	36.1	8.3	6.0	49.5	63.7	65.7	98.5	0.0	0.5	1.0	5.6
Cardiff	1,678	30.5	4.0	2.0	63.5	58.7	61.2	90.9	6.1	1.1	1.9	1.0
Clwyd	207	40.6	7.2	0.0	52.2	62.8	64.7	97.0	2.5	0.0	0.5	4.8
Swanse	850	46.4	6.9	5.2	41.5	63.4	64.2	97.5	1.8	0.2	0.5	0.7
Wrexm	323	35.0	8.0	2.2	54.8	59.8	65.0	96.2	1.3	0.9	1.6	1.2
TOTALS												
England	57,654	35.7	5.9	2.1	56.3	59.6	61.3	73.0	14.6	9.0	3.4	2.3
N Ireland	1,993	27.4	2.3	1.1	69.2	59.6	60.2	98.0	1.3	0.5	0.2	2.1
Scotland	5,328	34.1	3.6	0.8	61.4	59.1	60.2					58.2
Wales	3,274	36.1	5.7	3.0	55.3	60.2	62.9	94.0	3.9	0.7	1.3	1.5
UK	68,249	35.4	5.6	2.0	57.0	59.6	61.3	75.3	13.4	8.1	3.1	6.6

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.

*Incident patient numbers at Liverpool Royal Infirmery are under-reported (about 30 HD patients) due to a systems extraction problem at the centre. This will be corrected in the next annual report.

PRDs were grouped into categories as shown in table 3.3, with the mapping of disease codes into groups explained in more detail in appendix A. The proportion of KRT patients in each ethnic group and with each PRD is shown for patients with ethnicity and PRD data, respectively, and these total 100% of patients with data. The proportions of patients with no ethnicity and no PRD data are shown on separate lines.

Table 3.3 Demographics, primary renal diseases (PRDs) and prevalent treatment modality of adult patients prevalent to KRT on 31/12/2020 by age group

Characteristic	Age group (yrs)							Total	Median age (yrs)
	18–34	35–44	45–54	55–64	65–74	75–84	≥85		
Total									
N on KRT	5,407	7,645	13,035	17,193	14,603	8,619	1,747	68,249	59.6
% on KRT	7.9	11.2	19.1	25.2	21.4	12.6	2.6		
Sex (%)									
Male	7.7	11.0	18.7	25.4	21.5	13.0	2.7	61.3	59.9
Female	8.4	11.5	19.7	24.8	21.2	12.1	2.3	38.7	59.2
Ethnicity (%)									
White	7.9	10.6	18.7	24.8	21.9	13.3	2.8	75.3	60.0
Asian	8.9	13.6	18.9	24.3	22.9	9.9	1.5	13.4	59.0
Black	6.3	12.4	24.1	31.2	13.7	10.1	2.2	8.1	57.0
Other	9.8	16.5	20.9	23.7	17.9	9.3	1.9	3.1	56.4
Missing	7.1	9.5	16.7	25.2	23.7	15.3	2.5	6.6	61.8
PRD (%)									
Diabetes	2.9	9.0	18.7	29.3	24.9	13.2	2.1	18.4	61.9
Glomerulonephritis	9.2	13.8	22.1	26.4	18.8	8.4	1.3	19.6	56.8
Hypertension	3.2	8.9	19.1	26.0	20.8	17.4	4.6	6.3	62.0
Polycystic kidney disease	1.7	5.5	19.9	34.6	27.2	10.3	0.8	10.5	61.5
Pyelonephritis	11.4	14.5	23.0	23.0	16.0	9.8	2.3	9.6	55.5
Renal vascular disease	2.2	3.6	5.9	13.4	29.7	34.8	10.3	2.7	73.8
Other	16.5	14.0	17.5	20.7	18.6	10.6	2.1	18.3	56.0
Uncertain aetiology	6.8	11.7	17.7	20.9	21.9	16.6	4.4	14.5	61.4
Missing	9.9	9.6	14.5	22.0	21.6	18.5	4.0	2.5	62.5
Modality (%)									
ICHD	4.7	6.7	13.2	22.0	24.5	22.9	6.1	35.4	66.5
HHD	9.5	15.1	24.3	27.2	15.5	7.8	0.7	2.0	55.3
PD	7.7	9.3	14.7	21.4	23.1	19.8	4.1	5.6	63.5
Tx	9.9	14.1	23.0	27.5	19.5	5.7	0.3	57.0	56.0

Variation between centres in the proportion of patients prevalent to dialysis on 31/12/2020 and on home therapies is shown in figure 3.4 . Please visit the UKRR data portal (ukkidney.org/audit-research/data-portals) to identify individual kidney centres.

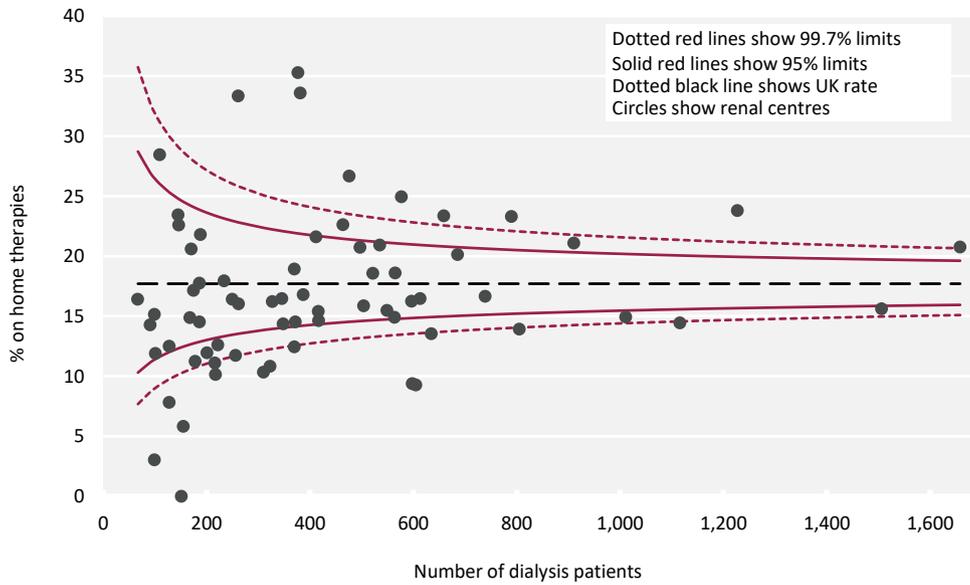


Figure 3.4 Percentage of adult patients prevalent to dialysis on 31/12/2020 on home therapies (PD and HHD) by centre

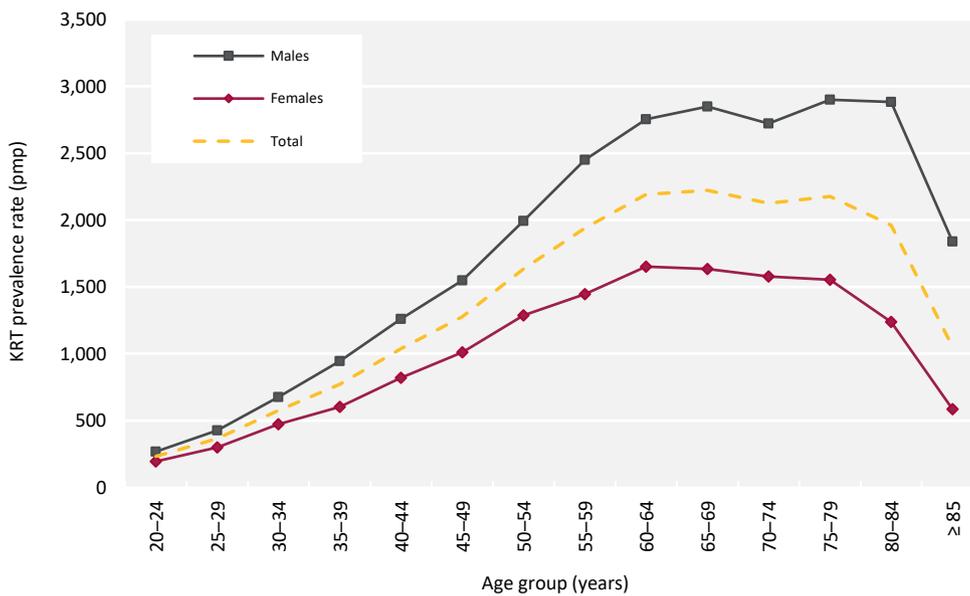


Figure 3.5 Prevalence rates for adult patients on KRT on 31/12/2020 by age group and sex

For each modality, the percentage of patients of each year of age is shown in figure 3.6.

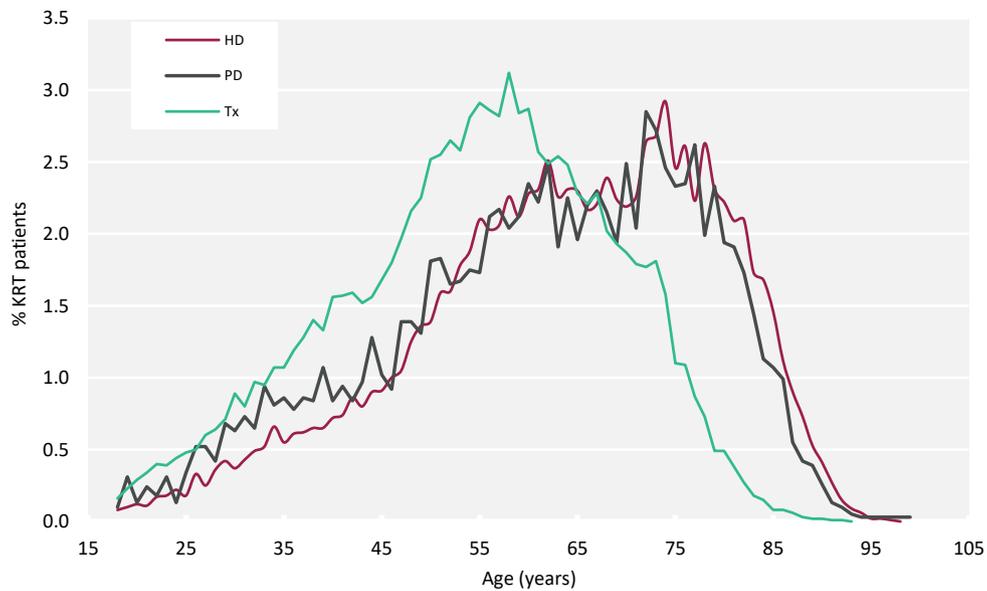


Figure 3.6 Age profile of adult patients prevalent to KRT on 31/12/2020 by KRT modality

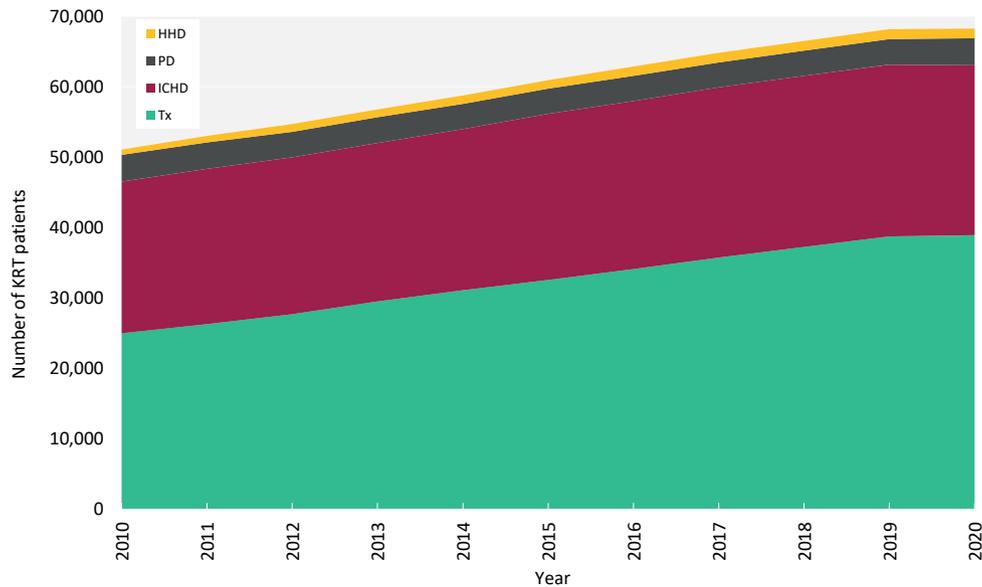


Figure 3.7 Growth in numbers of prevalent adult KRT patients by treatment modality between 2010 and 2020

Table 3.4 Change in adult KRT prevalence rates by modality between 2016 and 2020

Year	Prevalence (pmp)					% growth in prevalence				
	HD	PD	Dialysis	Tx	KRT	HD	PD	Dialysis	Tx	KRT
2016	486	70	555	659	1,214					
2017	490	68	557	687	1,244	0.9	-3.0	0.4	4.2	2.5
2018	490	68	558	711	1,269	-0.0	1.2	0.1	3.5	2.0
2019	489	69	558	736	1,294	-0.1	1.0	0.0	3.5	1.9
2020	483	72	555	735	1,290	-1.3	4.7	-0.6	-0.0	-0.3
Average annual growth 2016-2020						-0.1	1.0	-0.0	2.8	1.5

pmp – per million population

In table 3.5, for each PRD category, the proportion of patients on each treatment modality 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 3.6 shows changes in PRDs between 2011 and 2020, in particular the increase in diabetes.

Table 3.5 Treatment modality of adult patients prevalent to KRT on 31/12/2020 by primary renal disease (PRD)

PRD	N on KRT	% KRT population	Modality (%)		
			HD	PD	Tx
Diabetes	12,244	18.4	55.1	7.3	37.5
Glomerulonephritis	13,039	19.6	26.7	4.6	68.7
Hypertension	4,225	6.3	43.7	7.2	49.0
Polycystic kidney disease	7,018	10.5	21.0	3.8	75.2
Pyelonephritis	6,392	9.6	28.8	3.7	67.5
Renal vascular disease	1,801	2.7	64.2	10.2	25.6
Other	12,178	18.3	35.4	4.5	60.1
Uncertain aetiology	9,640	14.5	38.0	6.1	55.9
Total (with data)	66,537	100.0	36.9	5.5	57.7
Missing	1,712	2.5	58.9	10.8	30.3

Table 3.6 Change in primary renal disease (PRD) of adult patients prevalent to KRT between 2011 and 2020

PRD	Year									
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Diabetes	15.9	16.3	16.6	16.8	17.2	17.4	17.7	18.1	18.4	18.4
Glomerulonephritis	19.4	19.5	19.6	19.5	19.5	19.5	19.5	19.5	19.5	19.6
Hypertension	6.1	6.3	6.3	6.3	6.3	6.2	6.3	6.2	6.4	6.3
Polycystic kidney disease	10.1	10.0	10.2	10.2	10.3	10.3	10.3	10.3	10.4	10.5
Pyelonephritis	11.8	11.6	11.4	11.1	10.8	10.6	10.3	10.0	9.8	9.6
Renal vascular disease	3.5	3.4	3.2	3.1	3.0	3.0	3.0	2.9	2.8	2.7
Other	16.3	16.5	16.7	17.1	17.3	17.6	17.9	18.2	18.2	18.3
Uncertain aetiology	17.0	16.5	16.1	15.9	15.6	15.3	15.0	14.8	14.6	14.5
Missing	0.6	0.6	0.7	0.7	0.8	0.8	1.1	1.3	1.7	2.5

The percentages in each PRD category add up to 100% in each year; the percentages with missing PRD data are shown separately.

The treatment modality distribution for prevalent adult KRT patients was further divided by treatment location for HD patients – hospital unit, satellite unit or home – and for PD patients by type of PD – automated PD (APD) and continuous ambulatory PD (CAPD).

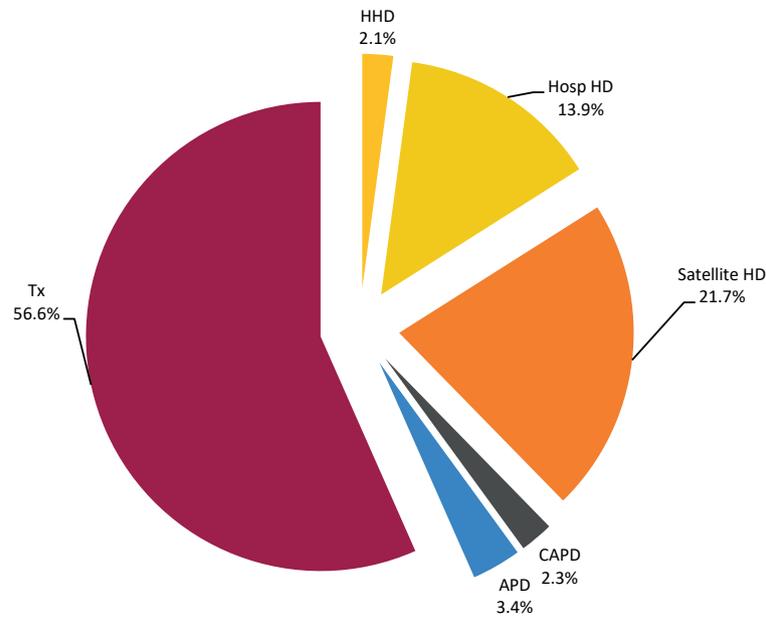


Figure 3.8 Detailed treatment modality of adult patients prevalent to KRT on 31/12/2020

No Scottish centres were included because data on satellite HD were not available.

APD – automated PD; CAPD – continuous ambulatory PD.

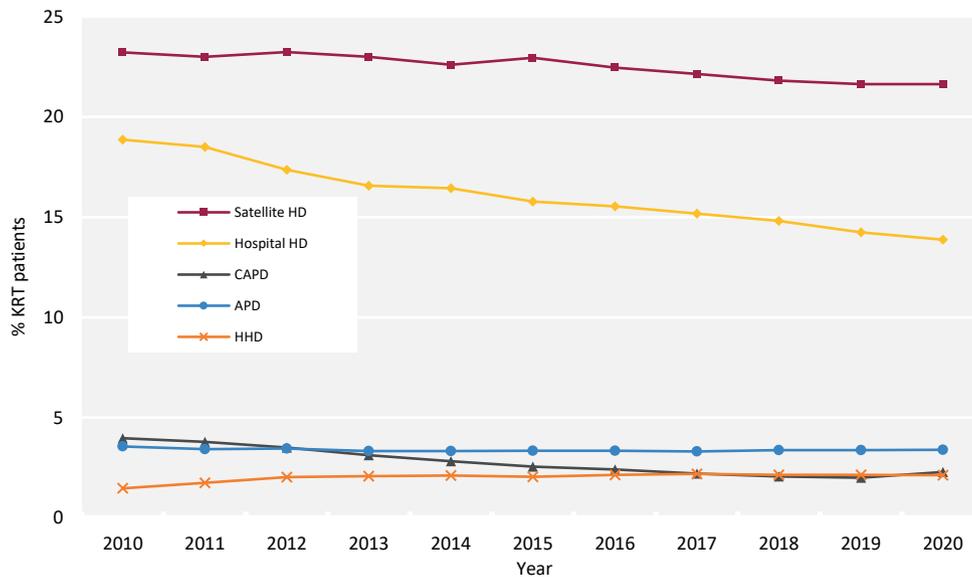


Figure 3.9 Detailed dialysis modality changes in prevalent adult KRT patients between 2010 and 2020

No Scottish centres were included because data on satellite HD were not available.

The denominator includes patients with a Tx.

APD – automated PD; CAPD – continuous ambulatory PD.

Table 3.7 Adult patients prevalent to dialysis on 31/12/2020 by detailed dialysis modality and centre

Centre	N on dialysis	% Tx wait-listed <65 yrs	% Tx wait-listed ≥65 yrs	% on HD				% on PD		
				All HD	HHD	Hospital	Satellite	All PD	CAPD	APD
ENGLAND										
Bham	1,658	32.9	3.3	83.8	4.6	26.1	53.1	16.2	2.8	13.3
Bradfd	310	27.7	6.0	91.6	1.9	76.5	13.2	8.4	3.2	5.2
Brightn	522	28.0	4.6	87.4	5.9	39.9	41.6	12.6	8.1	4.6
Bristol	549	31.0	3.1	87.6	3.1	14.2	70.3	12.4	7.3	5.1
Camb	327	25.0	2.6	91.7	8.0	36.1	47.7	8.3	7.0	1.2
Carlisle	145	31.9	7.9	77.9	1.4	44.8	31.7	22.1	6.2	15.9
Carsh	1,011	28.4	4.7	87.8	2.8	25.2	59.8	12.2	4.2	7.9
Colchr	151	20.5	0.9	100.0	0.0	76.8	23.2	0.0	0.0	0.0
Covnt	464	40.4	6.5	81.7	4.3	77.4	0.0	18.3	18.3	0.0
Derby	377	29.5	4.0	81.4	16.7	55.2	9.6	18.6	10.3	8.2
Donc	201	28.2	6.5	90.6	2.5	48.3	39.8	9.5	4.0	5.5
Dorset	348	33.6	10.5	90.2	4.6	21.6	64.1	9.8	3.2	6.3
Dudley	250	30.4	2.7	87.2	3.6	27.2	56.4	12.8	8.8	4.0
EssexMS	535	28.9	3.7	84.3	5.2	72.2	6.9	15.7	8.6	7.1
Exeter	565	30.8	4.7	85.0	3.5	12.7	68.7	15.0	6.6	8.5
Glouc	256	29.5	6.5	88.3	0.0	80.1	8.2	11.7	1.2	10.6
Hull	416	23.2	5.6	86.3	1.7	42.1	42.6	13.7	7.2	6.5
Ipswi	170	17.5	4.7	81.2	1.8	73.5	5.9	18.8	8.8	8.8
Kent	504	28.0	6.6	87.7	3.6	28.8	55.4	12.3	10.5	1.8
L Barts	1,227	39.8	6.9	78.2	2.0	31.0	45.2	21.8	8.3	13.5
L Guys	805	29.5	7.0	92.1	6.0	14.8	71.3	8.0	1.1	6.8
L Kings	739	25.6	6.9	86.3	3.0	15.0	68.3	13.7	4.3	9.2
L Rfree	911	37.3	8.2	80.0	1.1	1.2	77.7	20.0	9.4	10.4
L St.G	372	37.9	8.8	87.1	1.6	15.1	70.4	12.9	2.2	10.0
L West	1,506	47.3	16.1	86.7	2.3	15.2	69.2	13.3	8.4	4.9
Leeds	635	38.4	12.8	89.9	3.5	10.9	75.6	10.1	2.7	7.4
Leic	1,116	31.0	7.1	90.0	4.4	16.0	69.6	10.0	2.2	7.9
Liv Ain	175	21.3	7.0	88.6	5.7	12.6	70.3	11.4	3.4	8.0
Liv Roy	387	26.6	12.7	93.0	9.8	23.0	60.2	7.0	2.6	4.4
M RI	659	37.5	11.8	87.3	10.6	14.9	61.8	12.8	4.4	8.4
Middlbr	370	34.9	5.5	92.4	4.9	27.0	60.5	7.6	7.6	0.0
Newc	417	28.7	9.6	89.0	3.6	59.5	25.9	11.0	1.4	9.6
Norwch	346	14.9	2.0	87.3	3.8	45.1	38.4	12.7	9.0	3.8
Nottm	476	33.2	5.2	80.0	6.7	29.2	44.1	20.0	4.2	15.8
Oxford	564	35.4	8.1	88.1	3.0	32.1	53.0	11.9	5.5	6.4
Plymth	186	25.0	13.2	82.3	0.0	78.0	4.3	17.7	5.9	11.8
Ports	790	33.9	10.7	87.2	10.5	16.1	60.6	12.8	4.9	7.9
Prestn	597	35.4	10.2	91.6	7.9	18.8	65.0	8.4	2.9	5.5
Redng	370	35.4	5.2	83.2	2.2	28.7	52.4	16.8	13.0	3.8
Salford	577	38.3	27.2	81.6	6.6	19.6	55.5	18.4	7.3	11.1
Sheff	686	30.9	7.7	88.8	8.9	43.7	36.2	11.2	2.5	8.5
Shrew	261	25.9	5.4	80.5	13.8	28.7	37.9	19.5	1.5	18.0
Stevng	598	35.7	7.8	95.8	5.2	46.0	44.7	4.2	1.5	2.7
Stoke	381	33.9	1.9	76.6	10.2	42.8	23.6	23.4	1.8	15.8
Sund	262	31.4	8.8	87.4	3.4	45.8	38.2	12.6	1.5	11.1
Truro	186	26.6	4.9	87.6	2.2	53.8	31.7	12.4	6.5	5.9
Wirral	217	27.2	10.7	93.1	3.2	39.6	50.2	6.9	0.9	6.0
Wolve	412	22.0	7.8	85.7	7.3	70.2	8.3	14.3	2.9	9.7
York	234	33.3	11.3	89.7	7.7	28.6	53.4	10.3	0.9	9.4

Table 3.7 Continued

Centre	N on dialysis	% Tx wait-listed <65 yrs	% Tx wait-listed ≥65 yrs	% on HD				% on PD		
				All HD	HHD	Hospital	Satellite	All PD	CAPD	APD
N IRELAND¹										
Antrim	128	22.6	1.0	90.6	3.1	87.5	0.0	9.4	3.1	4.7
Belfast	168	24.7	6.9	91.1	6.0	85.1	0.0	8.9	0.6	6.6
Newry	91	26.8	4.0	90.1	4.4	85.7	0.0	9.9	1.1	6.6
Ulster	99	31.8	.	97.0	0.0	97.0	0.0	3.0	0.0	1.0
West NI	128	25.9	1.4	94.5	2.3	92.2	0.0	5.5	1.6	3.9
SCOTLAND²										
Abrdn	216	32.4	11.7	89.8	0.9	88.9	0.0	10.2	7.4	2.8
Airdrie	222	44.3	14.0	87.4	0.0	87.4	0.0	12.6	6.3	6.3
D&Gall	67	42.9	10.3	85.1	1.5	83.6	0.0	14.9	3.0	11.9
Dundee	178	33.7	5.3	92.1	3.4	88.8	0.0	7.9	0.0	7.9
Edinb	323	40.7	11.9	90.1	0.9	89.2	0.0	9.9	4.3	5.6
Glasgw	605	46.3	17.0	92.6	1.8	90.7	0.0	7.4	1.2	6.3
Inverns	101	40.9	5.3	91.1	3.0	88.1	0.0	8.9	7.9	1.0
Klmarnk	188	25.3	13.3	85.6	7.5	78.2	0.0	14.4	1.1	13.3
Krkldy	155	20.6	12.6	96.1	1.9	94.2	0.0	3.9	1.3	2.6
WALES										
Bangor	109	29.8	4.8	83.5	11.9	51.4	20.2	16.5	6.4	10.1
Cardff	613	30.5	8.1	89.1	5.6	3.4	80.1	10.9	5.9	5.1
Clwyd	99	14.6	3.4	84.9	0.0	84.9	0.0	15.2	9.1	6.1
Swanse	497	30.9	7.2	88.1	8.9	47.3	32.0	11.9	6.0	5.8
Wrexm	146	26.5	7.7	82.2	4.8	63.0	14.4	17.8	0.7	17.1
TOTALS										
England	25,221	32.8	7.6	86.5	4.8	30.5	51.2	13.5	5.4	8.0
N Ireland	614	25.8	2.6	92.5	3.4	89.1	0.0	7.5	1.3	4.7
Scotland	2,055	38.8	12.8	90.6	2.1	88.5	0.0	9.4	3.2	6.2
Wales	1,464	29.3	7.1	87.4	6.7	33.3	47.3	12.6	5.7	7.0
UK	29,354	32.9	7.8	87.0	4.7	35.9	46.4	13.0	5.1	7.7

Blank cells – no data returned by the centre.

¹There were no satellite units in Northern Ireland.

²All HD patients in Scotland were shown as receiving treatment at home or in hospital because no data were available regarding satellite dialysis.

APD – automated PD; CAPD – continuous ambulatory PD.

The proportion of patients on HHD versus satellite HD is shown in figure 3.10, with the remaining patients on hospital HD.

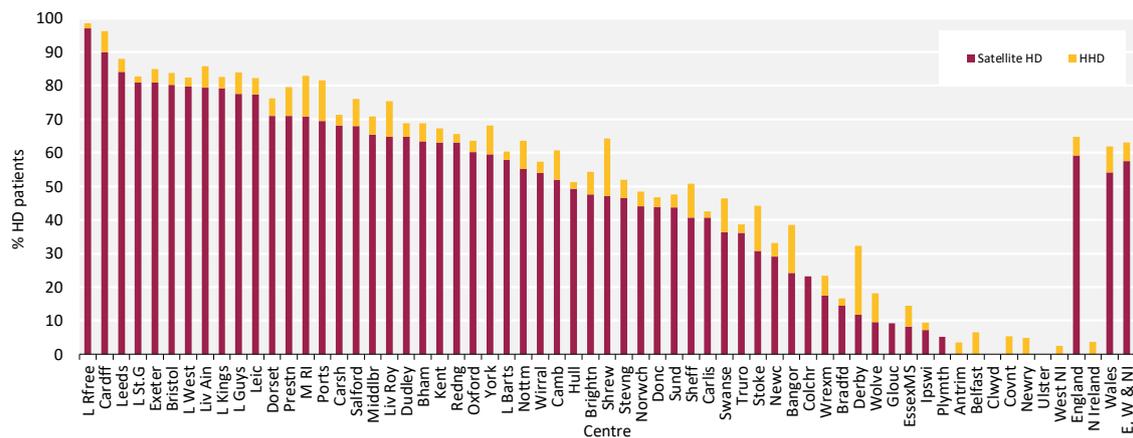


Figure 3.10 Adult patients prevalent to HD on 31/12/2020 treated with satellite HD or HHD by centre
There were no satellite units in Northern Ireland and Scottish centres were excluded because data on satellite HD were not available.

Dialysis access in prevalent adult dialysis patients

The type of dialysis access used by the prevalent dialysis population is described in chapter 5.

Survival in adult dialysis patients

Survival was analysed in prevalent patients receiving dialysis on 31/12/2019 and followed-up for one year in 2020. Survival in patients with a Tx is presented in chapter 4.

Survival analyses, where stated, were adjusted to age 60 years to allow comparisons between centres with different age distributions. Centre-specific survival rates were further adjusted for not only age (figure 3.11), but also sex and comorbidities for centres with at least 85% completeness (figure 3.12). UKRR comorbidity data were augmented using diagnostic and procedure codes from Hospital Episode Statistics (HES) in England and Patient Episode Database for Wales (PEDW) in Wales (see appendix A for details). Centres are identifiable from the x-axis by using the number of prevalent dialysis patients by centre in table 3.8.

Table 3.8 1 year adjusted survival (age and case-mix) of adult patients prevalent to dialysis on 31/12/2019 by centre

Centre	Age-adjusted survival				Case-mix adjusted survival ¹			
	N on dialysis	1 yr (%)	Lower 95% limit	Upper 95% limit	N on dialysis	1 yr (%)	Lower 95% limit	Upper 95% limit
D&Gall	60	88.5	75.1	92.9				
Clwyd	88	84.8	77.4	92.0	88	87.2	79.9	93.6
Newry	90	87.5	77.5	92.0	86	86.1	79.7	93.6
Bangor	93	91.6	77.7	91.9	93	93.2	80.1	93.5
Inverns	109	85.1	78.4	91.5				
Ulster	118	89.8	78.8	91.4	115	87.8	81.1	93.1
Wrexm	130	86.1	79.2	91.2	130	87.7	81.7	92.9
Carlisle	136	87.2	79.4	91.1	132	88.1	81.7	92.8
West NI	138	92.6	79.4	91.1	124	90.1	81.5	92.9
Antrim	141	90.3	79.5	91.0	129	89.3	81.6	92.9
Krkldy	144	86.6	79.6	91.0				
Colchr	145	91.9	79.6	91.0	144	93.2	82.1	92.7
Plymth	159	88.1	80.0	90.8	157	91.1	82.4	92.5
Klmarnk	165	87.7	80.1	90.7				
Ipswi	169	88.8	80.2	90.7	164	90.4	82.5	92.5
Liv Ain	170	83.3	80.2	90.7	170	87.0	82.6	92.4
Truro	174	87.9	80.3	90.6	173	90.2	82.7	92.4
Dundee	183	86.6	80.5	90.5				
Abrdn	204	87.7	80.8	90.3				
Donc	204	86.9	80.8	90.3	201	88.6	83.2	92.1
Airdrie	210	83.4	80.9	90.3				
Wirral	215	84.9	81.0	90.2	214	88.3	83.4	92.0
Belfast	217	88.0	81.0	90.2				
York	225	89.1	81.1	90.2	225	90.7	83.5	92.0
Glouc	242	83.8	81.3	90.0	239	86.2	83.7	91.9
Dudley	243	86.2	81.3	90.0	243	88.6	83.7	91.8
Sund	271	80.6	81.6	89.9	271	86.2	84.0	91.7
Shrew	273	84.7	81.6	89.9	273	87.1	84.0	91.7
Bradfd	297	82.2	81.8	89.7	295	85.2	84.2	91.6
Dorset	326	89.8	82.1	89.6	326	90.6	84.4	91.4
L St.G	328	91.2	82.1	89.6	316	92.5	84.4	91.5
Edinb	338	84.7	82.2	89.5				
Norwch	344	86.4	82.2	89.5	343	87.4	84.5	91.4
Derby	348	89.1	82.2	89.5	348	90.9	84.6	91.4
Stoke	348	87.2	82.2	89.5	346	89.2	84.6	91.4
Redng	351	86.9	82.2	89.5	351	89.4	84.6	91.3
Hull	371	85.3	82.4	89.4	370	87.5	84.7	91.3
Middlbr	371	82.8	82.4	89.4	371	86.2	84.7	91.3
Wolve	380	85.2	82.4	89.4	379	87.7	84.8	91.2
Newc	382	88.1	82.4	89.4	382	90.7	84.8	91.2
Camb	392	88.8	82.5	89.3	376	88.8	84.7	91.3
Liv Roy	417	84.0	82.6	89.2	412	88.2	84.9	91.1
Covnt	422	88.1	82.6	89.2	416	89.4	84.9	91.1
Nottm	447	85.3	82.7	89.1	446	87.7	85.1	91.0
Kent	458	85.3	82.8	89.1	458	86.9	85.1	91.0
Swanse	487	83.7	82.9	89.0	487	86.7	85.2	90.9
Brightn	492	84.4	82.9	89.0	481	85.6	85.2	91.0
Essex MS	501	88.5	83.0	89.0	498	90.1	85.3	90.9
Oxford	504	87.6	83.0	89.0	495	90.0	85.3	90.9
Bristol	521	88.5	83.0	89.0	519	90.5	85.3	90.9
Exeter	525	88.0	83.0	88.9	522	89.2	85.3	90.9
Salford	528	83.0	83.0	88.9	527	86.1	85.4	90.9
Stevng	535	87.6	83.1	88.9	533	89.6	85.4	90.8
Prestn	557	83.3	83.1	88.9	537	86.2	85.4	90.8

Table 3.8 Continued

Centre	Age-adjusted survival				Case-mix adjusted survival ¹			
	N on dialysis	1 yr (%)	Lower 95% limit	Upper 95% limit	N on dialysis	1 yr (%)	Lower 95% limit	Upper 95% limit
Glasgw	582	84.9	83.2	88.8				
Cardff	607	82.8	83.3	88.8	607	85.6	85.6	90.7
M RI	608	86.8	83.3	88.8	598	89.1	85.6	90.7
Leeds	609	86.3	83.3	88.8	608	88.6	85.6	90.7
Sheff	622	86.4	83.3	88.7	622	88.1	85.6	90.7
L Kings	675	87.1	83.4	88.7	670	89.5	85.7	90.6
Ports	700	84.2	83.5	88.6	692	87.4	85.8	90.6
L Guys	721	89.4	83.5	88.6	720	90.8	85.8	90.5
L Rfree	867	86.0	83.8	88.4	851	88.2	86.1	90.4
Carsh	941	86.8	83.9	88.3	915	87.7	86.1	90.3
Leic	1,061	86.6	84.0	88.2	1,055	88.2	86.3	90.2
L Barts	1,244	85.8	84.2	88.1	1,228	88.0	86.5	90.1
L West	1,504	85.6	84.4	87.9	1,438	87.6	86.6	89.9
Bham	1,628	87.4	84.5	87.8	1,622	89.1	86.7	89.9

Centres are ordered by increasing number of patients.

¹Centres excluded if <85% comorbidity data were available – this included Belfast and all Scottish kidney centres.

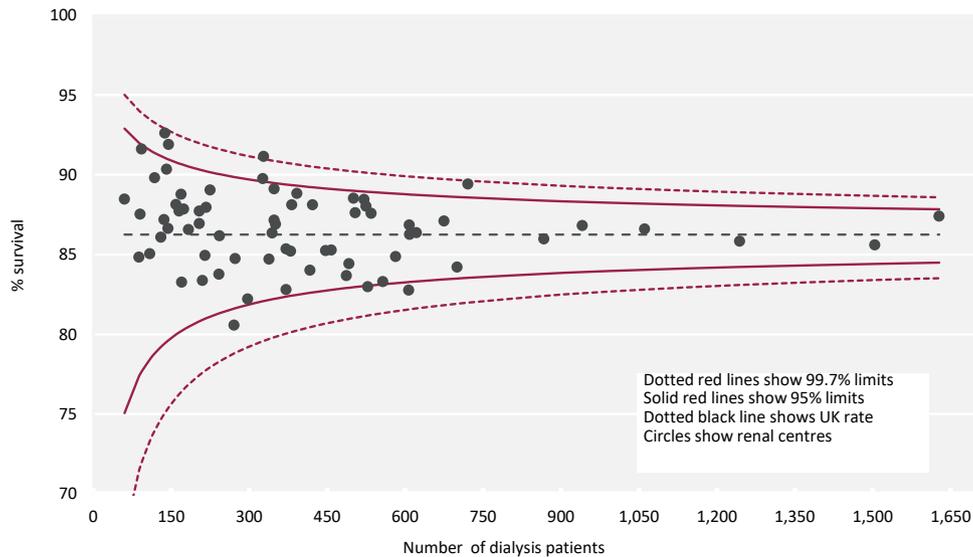


Figure 3.11 1 year survival (adjusted to age 60 years) of adult patients prevalent to dialysis on 31/12/2019 by centre

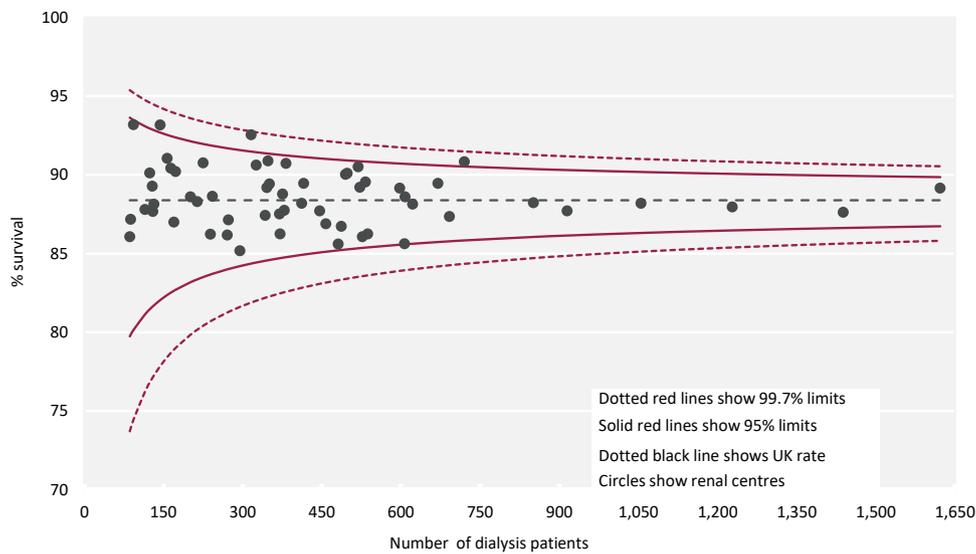


Figure 3.12 1 year survival (adjusted to 60 years, male and median comorbidity score) of adult patients prevalent to dialysis on 31/12/2019 by centre

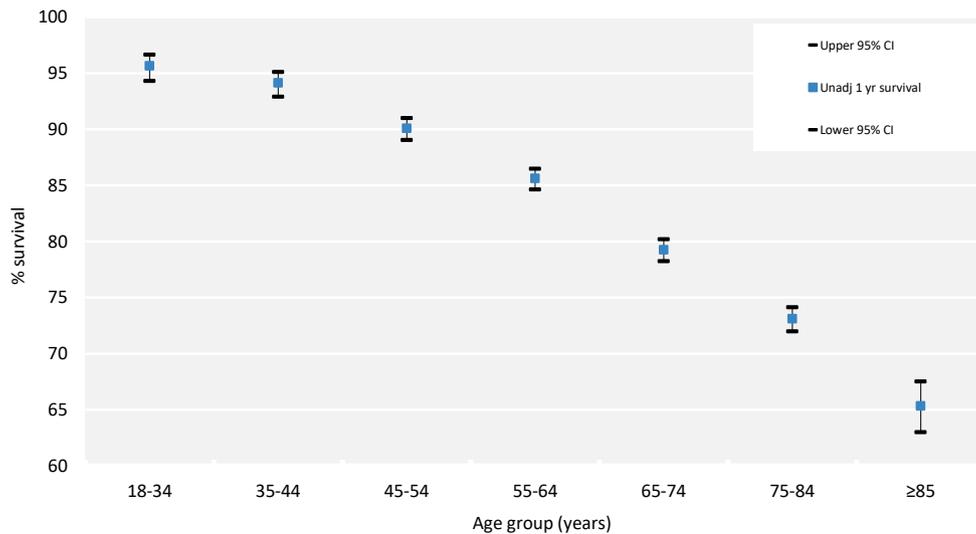


Figure 3.13 1 year survival (unadjusted) of adult patients prevalent to dialysis on 31/12/2019 by age group
CI – confidence interval

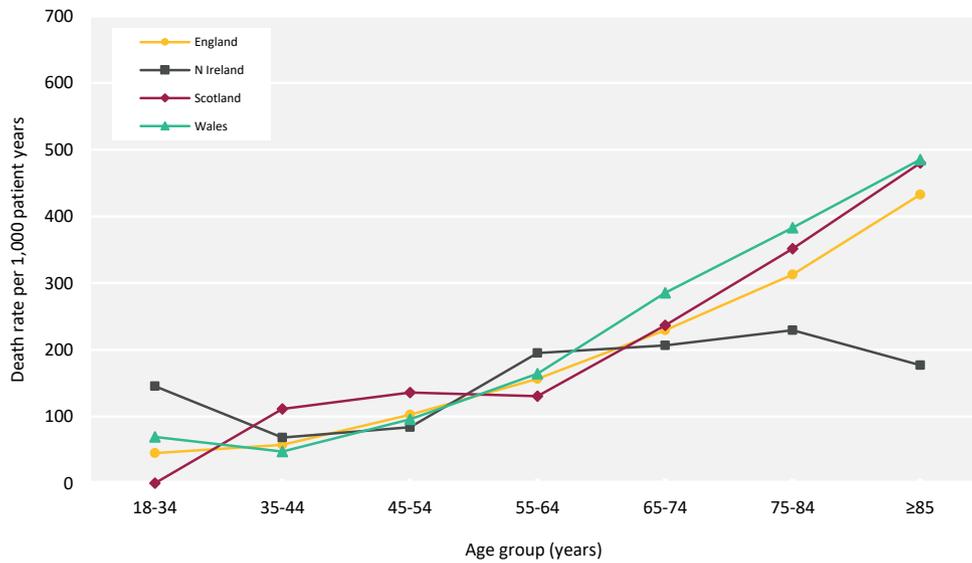


Figure 3.14 1 year death rate per 1,000 patient years for adult patients prevalent to dialysis on 31/12/2019 by country and age group

The serial one year death rate in prevalent adult dialysis patients by country is shown in figure 3.15, adjusted to age 60 years.

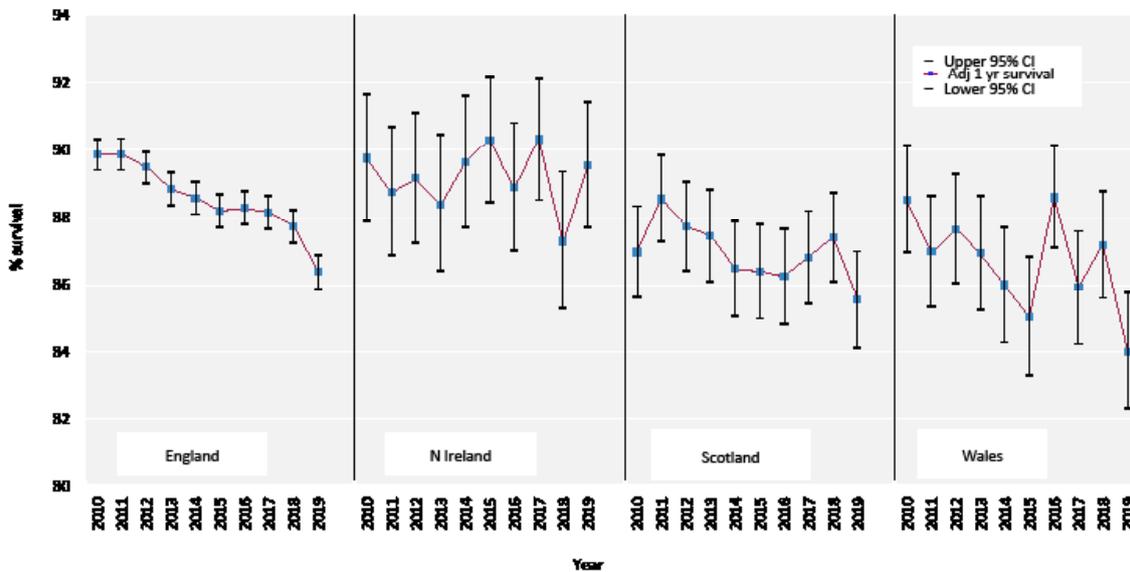


Figure 3.15 1 year survival (adjusted to age 60 years) for prevalent adult dialysis patients by country between 2010 and 2019

CI – confidence interval

The relative risk of death by age group for prevalent KRT patients compared to the general population’s risk of death, calculated using Office for National Statistics UK population and deaths data, is shown in table 3.9.

Table 3.9 Death rate by age group for adult patients prevalent to KRT on 31/12/2019 followed-up for 1 year compared with the general population and with previous analyses in the 1998–2001 cohort

Age group (yrs)	UK population mid-2020 (thousands)	UK deaths in 2020	Death rate per 1,000 population	Expected number of deaths in UKRR population	UKRR deaths in 2020	UKRR death rate per 1,000 prevalent KRT patients	Relative risk of death in 2020	Relative risk of death 1998–2001 cohort
20-24	4,133	1,450	0.4	0	11	12	32.9	41.1
25-29	4,477	2,065	0.5	1	22	13	28.5	41.8
30-34	4,522	3,079	0.7	2	45	18	26.4	31.2
35-39	4,404	4,646	1.1	4	65	19	18.2	26.0
40-44	4,092	6,407	1.6	6	104	26	16.3	22.6
45-49	4,304	10,595	2.5	14	208	37	15.1	19.0
50-54	4,616	16,690	3.6	27	335	45	12.5	12.8
55-59	4,511	24,155	5.4	44	498	60	11.3	10.1
60-64	3,856	32,500	8.4	66	739	95	11.3	10.4
65-69	3,355	44,044	13.1	91	861	125	9.5	7.9
70-74	3,364	69,684	20.7	136	1,084	166	8.0	7.2
75-79	2,404	87,252	36.3	172	1,065	225	6.2	5.3
80-84	1,726	112,712	65.3	198	1,005	331	5.1	4.0
≥85	1,659	269,973	162.7	236	622	429	2.6	3.0
Total	51,423	685,252	13.3	996	6,664	104	6.7	7.7

Cause of death in adult KRT patients

Cause of death was analysed in prevalent patients receiving KRT on 31/12/2019 and followed-up for one year in 2020. The proportion of KRT 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.

Table 3.10 Cause of death in adult patients prevalent to KRT on 31/12/2019 followed-up in 2020 by age group

Cause of death	KRT all ages		KRT <65 yrs		KRT ≥65 yrs	
	N	%	N	%	N	%
Cardiac disease	755	17.4	280	21.8	475	15.6
Cerebrovascular disease	124	2.9	48	3.7	76	2.5
Infection	1,258	29.0	380	29.6	878	28.8
Malignancy	335	7.7	118	9.2	217	7.1
Treatment withdrawal	552	12.7	81	6.3	471	15.4
Other	982	22.7	288	22.5	694	22.7
Uncertain aetiology	329	7.6	87	6.8	242	7.9
Total (with data)	4,335	100.0	1,282	100.0	3,053	100.0
Missing	2,330	35.0	746	36.8	1,584	34.2

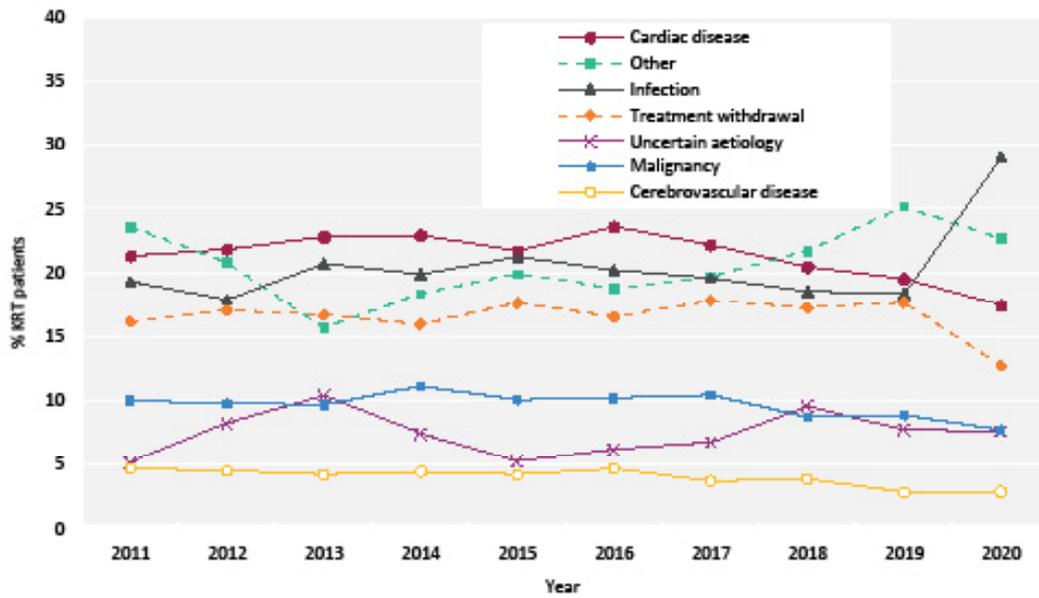


Figure 3.16 Cause of death between 2011 and 2020 for adult patients prevalent to KRT at the beginning of the year

