

## *Chapter 6*

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# **Adults on peritoneal dialysis (PD) in the UK at the end of 2023**

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# Introduction

This chapter describes the population of adult patients with end-stage kidney disease (ESKD) who were receiving regular peritoneal dialysis (PD) in the UK at the end of 2023 (figure 6.1). This population comprises patients who were on PD at the end of 2022 and remained on PD throughout 2023, as well as patients who commenced/re-commenced PD in 2023. This latter group includes both incident kidney replacement therapy (KRT) patients who ended 2023 on PD and prevalent KRT patients who switched to PD from in-centre haemodialysis (ICHD), home haemodialysis (HHD) or a transplant (Tx) in 2023. Consequently, the cohort of patients receiving PD in a centre not only reflects differences in underlying population case-mix, but also differences in the rates of acceptance onto KRT, survival on PD, transplantation and haemodialysis (ICHD and HHD), and the care of patients on those other modalities, as described in other chapters of this report.



**Figure 6.1** Pathways adult patients could follow to be included in the UK 2023 prevalent PD 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 PD at the end of 2023 or if they had been on KRT for  $\geq 90$  days and were on PD 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 PD for which there are UK Kidney Association guidelines (table 6.1):

- **Complications associated with ESKD and PD:** these include anaemia, mineral bone disorders and metabolic acidosis.
- **Infections associated with PD:** rates of PD peritonitis are reported in this chapter. The four infections subject to mandatory reporting to the UK Health Security Agency (UKHSA) - methicillin-resistant *Staphylococcus aureus* (MRSA), methicillin-sensitive *Staphylococcus aureus* (MSSA), *Escherichia coli* bacteraemia and *Clostridium difficile* - will be added to the UKRR data portal ([ukkidney.org/audit-research/data-portals](http://ukkidney.org/audit-research/data-portals)) as new data become available.

# Rationale for analyses

The analyses begin with a description of the 2023 prevalent adult PD population, including the number on PD per million population (pmp).

The UK Kidney Association guidelines ([ukkidney.org/health-professionals/guidelines/guidelines-commentaries](http://ukkidney.org/health-professionals/guidelines/guidelines-commentaries)) provide audit measures relevant to the care of patients on PD, 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 6.1). 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. Detail about the completeness of data returned to the UK Renal Registry (UKRR) is available through the UKRR data portal ([ukkidney.org/audit-research/data-portals](http://ukkidney.org/audit-research/data-portals)). Audit measures that cannot be reported because the required data items were not collected by the UKRR are omitted.

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

As Colchester kidney centre did not have any PD patients they were excluded from some of the analyses, although their dialysis patients were included in the relevant dialysis population denominators.

Exeter and Manchester were unable to submit patient level data for 2023. Aggregate numbers by modality were provided, enabling inclusion in Tables 6.2 and 6.3. 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 PD on 30th September 2023, rather than 31st December 2023.

**Table 6.1** The UK Kidney Association audit measures relevant to PD 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                           | <a href="#">Table 6.5, figure 6.3</a>                                                         |
| PD (2017)                                                                                        | Plasma bicarbonate should be maintained in the normal reference range 22–30 mmol/L – 100%                              | <a href="#">Table 6.5, figure 6.5</a>                                                         |
| Anaemia (2020)                                                                                   | Proportion of patients with serum ferritin <100 µg/L at start of treatment with erythropoiesis stimulating agent (ESA) | <a href="#">Table 6.6, figure 6.9</a> (the UKRR does not hold treatment with ESA start dates) |
| Commentary on the NICE Guideline on Renal Replacement Therapy and Conservative Management (2020) | Number of patients withdrawing from PD as a proportion of all deaths on PD                                             | <a href="#">Table 6.8, figure 6.13</a>                                                        |

ESA – erythropoiesis stimulating agent

## Key findings

- 3,686 adult patients were receiving PD for ESKD in the UK on 31/12/2023, compared to 3,804 in 2022, which represented 5.1% of the KRT population.
- The median age of PD patients was 63.0 years and 60.4% were male.
- The median adjusted calcium for PD patients was 2.4 mmol/L and 13.2% were above the target range of 2.2–2.5 mmol/L.
- The median bicarbonate for PD patients was 25 mmol/L and 76.4% were within the target range of 22–30 mmol/L.
- The median haemoglobin for PD patients was 111 g/L and 10.1% had a ferritin <100 µg/L.
- The PD peritonitis rate in 2023 (England only) was 0.35/1 PD patient-year.
- Cause of death records from Civil Registration were used where the cause of death was missing in the UKRR data. This has resulted in improved completeness and changes in proportions of causes of death. The leading cause of death was cardiac disease in both younger patients and those ≥65 years at 17.4% and 21.8% respectively. Treatment withdrawal accounted for 9.4% of deaths in those ≥65 years, and infection around 16% in younger and 21% in older patients.

# Analyses

## Changes to the prevalent adult PD population

For the 67 adult kidney centres, the number of prevalent patients on PD 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 6.2** Number of prevalent adult PD patients and proportion of adult KRT patients on PD by year and by centre; number of PD patients as a proportion of the catchment population

| Centre   | N on PD |      |      |      |      | % on PD |      |      |      |      | Estimated<br>catchment<br>population<br>(millions) | 2023<br>crude<br>rate<br>(pmp) |
|----------|---------|------|------|------|------|---------|------|------|------|------|----------------------------------------------------|--------------------------------|
|          | 2019    | 2020 | 2021 | 2022 | 2023 | 2019    | 2020 | 2021 | 2022 | 2023 |                                                    |                                |
| ENGLAND  |         |      |      |      |      |         |      |      |      |      |                                                    |                                |
| Bham     | 257     | 268  | 276  | 280  | 250  | 7.8     | 8.2  | 8.4  | 8.3  | 7.3  | 2.10                                               | 119                            |
| Bradfd   | 34      | 26   | 37   | 40   | 31   | 4.6     | 3.6  | 5.0  | 5.1  | 3.8  | 0.51                                               | 61                             |
| Brightn  | 55      | 65   | 68   | 56   | 63   | 5.2     | 6.0  | 6.2  | 5.1  | 5.5  | 1.08                                               | 58                             |
| Bristol  | 63      | 68   | 77   | 62   | 65   | 4.2     | 4.6  | 5.1  | 4.1  | 4.3  | 1.27                                               | 51                             |
| Camb     | 28      | 26   | 29   | 28   | 29   | 1.9     | 1.7  | 1.8  | 1.7  | 1.8  | 0.99                                               | 29                             |
| Carlisle | 35      | 32   | 30   | 28   | 21   | 11.6    | 10.8 | 9.8  | 9.2  | 6.9  | 0.26                                               | 81                             |
| Carsh    | 72      | 121  | 132  | 128  | 125  | 4.0     | 6.5  | 6.9  | 6.6  | 6.2  | 1.68                                               | 74                             |
| Colchr   | 0       | 0    | 0    | 0    | 0    | 0.0     | 0.0  | 0.0  | 0.0  | 0.0  | 0.30                                               | 0                              |
| Covnt    | 81      | 83   | 80   | 80   | 75   | 7.5     | 7.5  | 7.1  | 7.1  | 6.5  | 0.81                                               | 93                             |
| Derby    | 62      | 69   | 67   | 59   | 64   | 9.5     | 10.2 | 9.7  | 8.2  | 8.7  | 0.58                                               | 111                            |
| Donc     | 25      | 19   | 13   | 15   | 20   | 7.3     | 5.6  | 3.8  | 3.9  | 5.2  | 0.38                                               | 53                             |
| Dorset   | 33      | 34   | 23   | 19   | 27   | 4.3     | 4.3  | 2.9  | 2.4  | 3.3  | 0.75                                               | 36                             |
| Dudley   | 36      | 32   | 40   | 30   | 33   | 9.8     | 8.6  | 9.9  | 7.8  | 9.0  | 0.35                                               | 94                             |
| EssexMS  | 85      | 83   | 92   | 82   | 115  | 10.0    | 9.4  | 10.3 | 9.2  | 11.8 | 1.01                                               | 114                            |
| Exeter   | 84      | 84   | 73   | 75   | 70   | 7.7     | 7.7  | 6.8  | 6.6  | 6.2  | 0.99                                               | 71                             |
| Glouc    | 31      | 30   | 36   | 30   | 34   | 5.8     | 5.7  | 6.6  | 5.4  | 6.1  | 0.53                                               | 65                             |
| Hull     | 49      | 57   | 52   | 56   | 54   | 5.4     | 6.2  | 5.7  | 6.0  | 5.6  | 0.81                                               | 67                             |
| Ipswi    | 42      | 33   | 34   | 22   | 15   | 9.8     | 7.7  | 8.1  | 5.6  | 3.8  | 0.32                                               | 47                             |
| Kent     | 50      | 62   | 72   | 74   | 57   | 4.4     | 5.4  | 6.0  | 6.1  | 4.6  | 1.08                                               | 53                             |
| L Barts  | 228     | 265  | 254  | 234  | 220  | 8.6     | 9.9  | 9.3  | 8.2  | 7.4  | 1.62                                               | 136                            |
| L Guys   | 53      | 64   | 70   | 47   | 45   | 2.3     | 2.8  | 3.0  | 2.0  | 1.9  | 1.01                                               | 45                             |
| L Kings  | 95      | 101  | 98   | 102  | 89   | 7.6     | 8.1  | 7.4  | 7.3  | 6.4  | 0.94                                               | 94                             |
| L Rfree  | 165     | 179  | 172  | 147  | 138  | 7.0     | 7.7  | 7.2  | 6.1  | 5.6  | 1.27                                               | 108                            |
| L St.G   | 43      | 48   | 53   | 61   | 57   | 5.0     | 5.6  | 6.1  | 7.1  | 6.5  | 0.67                                               | 85                             |
| L West   | 155     | 200  | 214  | 196  | 190  | 4.3     | 5.7  | 6.0  | 5.4  | 5.2  | 2.03                                               | 94                             |
| Leeds    | 67      | 64   | 52   | 54   | 56   | 3.9     | 3.7  | 2.9  | 2.9  | 2.9  | 1.40                                               | 40                             |
| Leic     | 126     | 120  | 138  | 151  | 160  | 4.9     | 4.6  | 5.2  | 5.5  | 5.7  | 2.18                                               | 73                             |
| Liv UH   | 57      | 57   | 56   | 60   | 55   | 3.8     | 3.9  | 3.8  | 4.1  | 3.7  | 1.27                                               | 43                             |
| M RI     | 76      | 84   | 96   | 91   | 101  | 3.7     | 4.2  | 4.6  | 4.3  | 4.5  | 1.37                                               | 74                             |
| Middlbr  | 32      | 28   | 20   | 23   | 14   | 3.4     | 3.0  | 2.1  | 2.4  | 1.4  | 0.82                                               | 17                             |
| Newc     | 59      | 46   | 58   | 43   | 51   | 5.0     | 3.8  | 4.7  | 3.5  | 4.0  | 0.96                                               | 53                             |
| Norwch   | 46      | 47   | 48   | 40   | 58   | 5.7     | 5.8  | 6.0  | 5.0  | 7.2  | 0.71                                               | 82                             |
| Nottm    | 76      | 95   | 103  | 94   | 88   | 6.2     | 7.9  | 8.5  | 7.8  | 7.4  | 0.93                                               | 94                             |
| Oxford   | 58      | 68   | 66   | 75   | 85   | 2.9     | 3.4  | 3.3  | 3.6  | 4.0  | 1.54                                               | 55                             |
| Plymth   | 42      | 33   | 34   | 45   | 35   | 7.9     | 6.1  | 6.3  | 8.3  | 6.4  | 0.41                                               | 85                             |
| Ports    | 87      | 101  | 90   | 107  | 94   | 4.6     | 5.3  | 4.6  | 5.4  | 4.6  | 1.79                                               | 53                             |
| Prestn   | 43      | 50   | 55   | 57   | 56   | 3.2     | 3.7  | 4.0  | 4.1  | 3.9  | 1.27                                               | 44                             |
| Redng    | 56      | 61   | 50   | 55   | 52   | 6.5     | 7.0  | 5.7  | 6.0  | 5.2  | 0.74                                               | 70                             |
| Salford  | 120     | 106  | 84   | 93   | 96   | 9.7     | 8.4  | 6.9  | 7.3  | 7.0  | 1.19                                               | 81                             |
| Sheff    | 60      | 77   | 80   | 82   | 70   | 4.0     | 5.2  | 5.3  | 5.5  | 4.7  | 1.12                                               | 62                             |
| Shrew    | 55      | 51   | 50   | 47   | 55   | 12.6    | 11.9 | 11.3 | 10.5 | 11.9 | 0.42                                               | 130                            |
| Stevng   | 37      | 25   | 37   | 43   | 37   | 3.8     | 2.6  | 3.6  | 4.0  | 3.3  | 1.15                                               | 32                             |

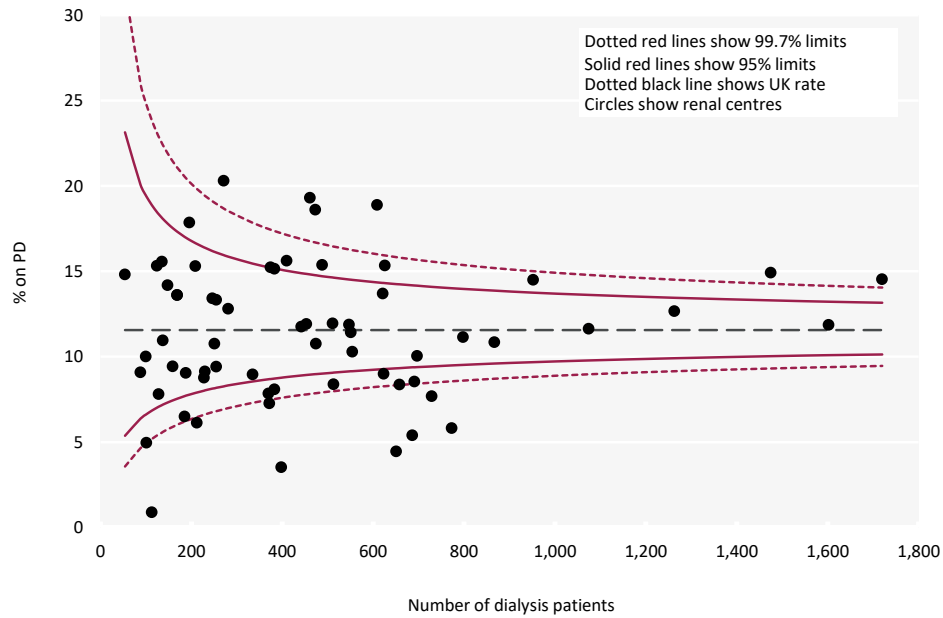
Table 6.2 Continued

| Centre    | N on PD     |              |              |              |              | % on PD    |            |            |            |            | Estimated catchment population (millions) | 2023 crude rate (pmp) |
|-----------|-------------|--------------|--------------|--------------|--------------|------------|------------|------------|------------|------------|-------------------------------------------|-----------------------|
|           | 2019        | 2020         | 2021         | 2022         | 2023         | 2019       | 2020       | 2021       | 2022       | 2023       |                                           |                       |
| Stoke     | 71          | 95           | 107          | 107          | 89           | 8.8        | 11.6       | 12.7       | 11.8       | 9.7        | 0.75                                      | 119                   |
| Sund      | 26          | 32           | 37           | 36           | 36           | 4.6        | 5.8        | 6.8        | 6.4        | 6.1        | 0.54                                      | 66                    |
| Truro     | 21          | 23           | 22           | 16           | 13           | 4.7        | 5.2        | 4.8        | 3.4        | 2.8        | 0.37                                      | 36                    |
| Wirral    | 18          | 18           | 20           | 16           | 17           | 4.3        | 4.3        | 4.8        | 4.0        | 4.4        | 0.48                                      | 35                    |
| Wolve     | 49          | 59           | 64           | 58           | 61           | 8.0        | 9.0        | 9.2        | 8.0        | 7.8        | 0.55                                      | 110                   |
| York      | 33          | 24           | 27           | 40           | 27           | 5.7        | 4.2        | 4.6        | 6.6        | 4.4        | 0.49                                      | 55                    |
| N IRELAND |             |              |              |              |              |            |            |            |            |            |                                           |                       |
| Antrim    | 19          | 12           | 18           | 20           | 15           | 6.7        | 4.2        | 6.1        | 6.5        | 4.8        | 0.25                                      | 60                    |
| Belfast   | 18          | 15           | 27           | 22           | 23           | 2.0        | 1.7        | 3.0        | 2.4        | 2.5        | 0.54                                      | 43                    |
| Newry     | 11          | 9            | 13           | 10           | 8            | 4.3        | 3.4        | 4.6        | 3.7        | 2.9        | 0.24                                      | 34                    |
| Ulster    | 8           | 3            | 3            | 5            | 5            | 4.3        | 1.5        | 1.5        | 2.4        | 2.4        | 0.21                                      | 24                    |
| West NI   | 14          | 7            | 6            | 7            | 1            | 4.3        | 2.0        | 1.8        | 2.0        | 0.3        | 0.25                                      | 4                     |
| SCOTLAND  |             |              |              |              |              |            |            |            |            |            |                                           |                       |
| Abrdn     | 21          | 21           | 19           | 27           | 21           | 3.8        | 3.7        | 3.3        | 4.6        | 3.5        | 0.50                                      | 42                    |
| Airdrie   | 21          | 29           | 28           | 25           | 24           | 4.0        | 5.6        | 5.6        | 4.8        | 4.2        | 0.47                                      | 51                    |
| D&Gall    | 8           | 9            | 7            | 8            | 8            | 5.3        | 5.7        | 4.5        | 5.5        | 5.5        | 0.12                                      | 66                    |
| Dundee    | 21          | 13           | 16           | 20           | 23           | 4.7        | 3.1        | 4.0        | 5.2        | 6.0        | 0.37                                      | 62                    |
| Edinb     | 40          | 32           | 32           | 38           | 30           | 4.5        | 3.6        | 3.5        | 3.9        | 3.0        | 0.85                                      | 35                    |
| Glasgw    | 45          | 45           | 38           | 36           | 29           | 2.4        | 2.4        | 2.0        | 1.9        | 1.5        | 1.38                                      | 21                    |
| Inverns   | 12          | 7            | 9            | 12           | 10           | 4.2        | 2.6        | 3.3        | 4.3        | 3.2        | 0.23                                      | 44                    |
| Klmarnk   | 24          | 27           | 33           | 31           | 32           | 6.6        | 7.3        | 8.9        | 8.2        | 8.1        | 0.29                                      | 110                   |
| Krkldy    | 12          | 5            | 6            | 12           | 12           | 4.1        | 1.7        | 2.1        | 4.2        | 4.2        | 0.28                                      | 44                    |
| WALES     |             |              |              |              |              |            |            |            |            |            |                                           |                       |
| Bangor    | 14          | 18           | 12           | 10           | 10           | 7.0        | 8.3        | 5.5        | 4.5        | 4.6        | 0.16                                      | 63                    |
| Cardff    | 63          | 67           | 58           | 53           | 59           | 3.6        | 4.0        | 3.4        | 3.0        | 3.2        | 1.16                                      | 51                    |
| Clwyd     | 13          | 13           | 11           | 12           | 19           | 6.3        | 6.4        | 5.4        | 5.9        | 8.6        | 0.18                                      | 105                   |
| Swanse    | 77          | 59           | 49           | 52           | 43           | 8.9        | 6.9        | 5.8        | 6.1        | 4.8        | 0.75                                      | 57                    |
| Wrexm     | 23          | 24           | 16           | 20           | 21           | 7.4        | 7.5        | 5.3        | 6.5        | 6.4        | 0.21                                      | 100                   |
| TOTALS    |             |              |              |              |              |            |            |            |            |            |                                           |                       |
| England   | 3176        | 3,413        | 3,486        | 3,384        | 3,293        | 5.5        | 5.9        | 5.9        | 5.6        | 5.4        | 45.78                                     | 72                    |
| N Ireland | 70          | 46           | 67           | 64           | 52           | 3.6        | 2.3        | 3.3        | 3.1        | 2.5        | 1.48                                      | 35                    |
| Scotland  | 204         | 188          | 188          | 209          | 189          | 3.8        | 3.5        | 3.5        | 3.8        | 3.4        | 4.48                                      | 42                    |
| Wales     | 190         | 181          | 146          | 147          | 152          | 5.7        | 5.5        | 4.5        | 4.4        | 4.3        | 2.46                                      | 62                    |
| <b>UK</b> | <b>3640</b> | <b>3,828</b> | <b>3,887</b> | <b>3,804</b> | <b>3,686</b> | <b>5.3</b> | <b>5.6</b> | <b>5.6</b> | <b>5.4</b> | <b>5.1</b> | <b>54.20</b>                              | <b>68</b>             |

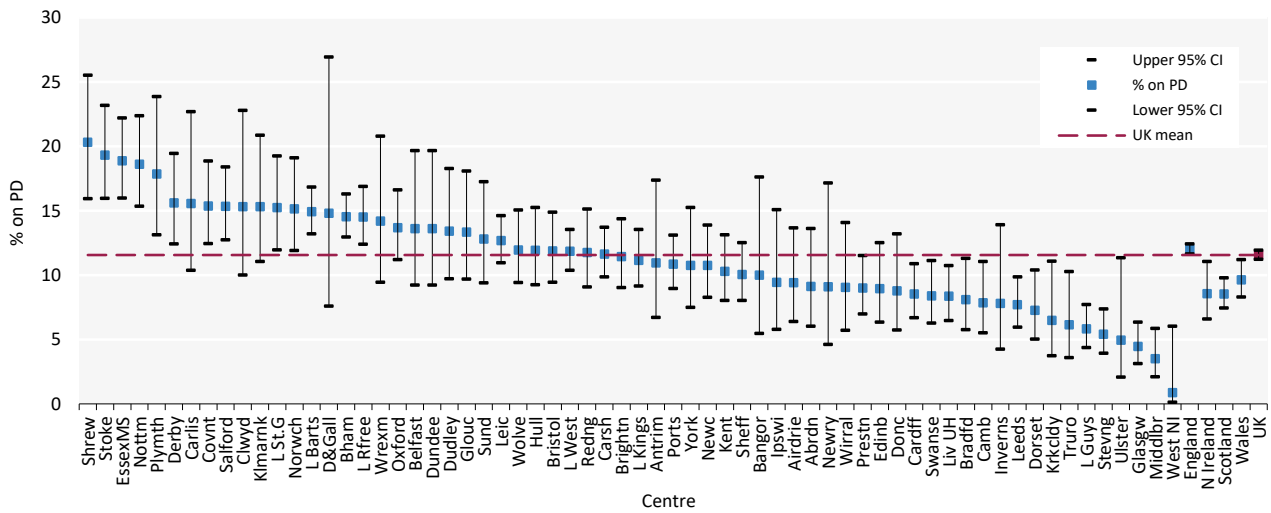
Country PD populations were calculated by summing the PD patients from centres in each country. Estimated country populations were derived from publicly available sources (see appendix A for details on estimated catchment population by kidney centre)

Exeter was unable to submit 2021 to 2023 patient level data, Manchester was unable to submit 2023 patient level data, but provided aggregate numbers of patients on KRT at the end of each year, by treatment modality

pmp – per million population



**Figure 6.2a** Percentage of adult patients prevalent to dialysis on 31/12/2023 who were on PD by centre



**Figure 6.2b** Percentage of adult patients prevalent to dialysis on 31/12/2023 who were on PD by centre  
CI - confidence interval

## Demographics of prevalent adult PD patients

The proportion of PD 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 6.3** Demographics of adult patients prevalent to PD on 31/12/2023 by centre

| Centre   | N on KRT | N on PD | % on PD | Median age (yrs) | % male | Ethnicity |         |         |         |           |
|----------|----------|---------|---------|------------------|--------|-----------|---------|---------|---------|-----------|
|          |          |         |         |                  |        | % White   | % Asian | % Black | % Other | % missing |
| ENGLAND  |          |         |         |                  |        |           |         |         |         |           |
| Bham     | 3,417    | 250     | 7.3     | 62.6             | 60.8   | 55.2      | 29.0    | 14.9    | 0.8     | 3.6       |
| Bradfd   | 824      | 31      | 3.8     | 60.8             | 48.4   | 67.7      | 29.0    | 0.0     | 3.2     | 0.0       |
| Brightn  | 1,145    | 63      | 5.5     | 69.0             | 66.7   | 90.0      | 6.7     | 1.7     | 1.7     | 4.8       |
| Bristol  | 1,522    | 65      | 4.3     | 66.5             | 61.5   | 87.5      | 6.3     | 3.1     | 3.1     | 1.5       |
| Camb     | 1,629    | 29      | 1.8     | 61.0             | 72.4   | 79.3      | 17.2    | 0.0     | 3.4     | 0.0       |
| Carlisle | 305      | 21      | 6.9     | 68.1             | 57.1   | 95.2      | 4.8     | 0.0     | 0.0     | 0.0       |
| Carsh    | 2,001    | 125     | 6.2     | 63.6             | 60.8   | 66.9      | 19.0    | 9.9     | 4.1     | 3.2       |
| Colchr   | 164      | 0       | 0.0     |                  |        |           |         |         |         |           |
| Covnt    | 1,158    | 75      | 6.5     | 63.6             | 56.0   | 83.8      | 12.2    | 2.7     | 1.4     | 1.3       |
| Derby    | 735      | 64      | 8.7     | 65.5             | 60.9   | 94.8      | 5.2     | 0.0     | 0.0     | 9.4       |
| Donc     | 387      | 20      | 5.2     | 53.4             | 65.0   | 95.0      | 0.0     | 0.0     | 5.0     | 0.0       |
| Dorset   | 816      | 27      | 3.3     | 61.7             | 59.3   | 96.3      | 3.7     | 0.0     | 0.0     | 0.0       |
| Dudley   | 368      | 33      | 9.0     | 57.5             | 60.6   | 66.7      | 27.3    | 6.1     | 0.0     | 0.0       |
| EssexMS  | 974      | 115     | 11.8    | 70.0             | 61.7   | 78.6      | 7.8     | 10.7    | 2.9     | 10.4      |
| Exeter   | 1,127    | 70      | 6.2     |                  |        |           |         |         |         |           |
| Glouc    | 560      | 34      | 6.1     | 64.8             | 61.8   | 88.2      | 8.8     | 0.0     | 2.9     | 0.0       |
| Hull     | 959      | 54      | 5.6     | 61.1             | 61.1   | 96.2      | 1.9     | 0.0     | 1.9     | 1.9       |
| Ipswi    | 397      | 15      | 3.8     | 77.0             | 53.3   | 71.4      | 0.0     | 7.1     | 21.4    | 6.7       |
| Kent     | 1,240    | 57      | 4.6     | 59.9             | 75.4   | 89.5      | 1.8     | 7.0     | 1.8     | 0.0       |
| L Barts  | 2,959    | 220     | 7.4     | 61.2             | 58.6   | 28.0      | 40.8    | 26.1    | 5.2     | 4.1       |
| L Guys   | 2,318    | 45      | 1.9     | 58.3             | 51.1   | 50.0      | 19.0    | 19.0    | 11.9    | 6.7       |
| L Kings  | 1,389    | 89      | 6.4     | 61.2             | 58.4   | 42.5      | 12.6    | 40.2    | 4.6     | 2.2       |
| L Rfree  | 2,475    | 138     | 5.6     | 63.6             | 60.9   | 36.4      | 24.2    | 18.2    | 21.2    | 4.3       |
| L St.G   | 878      | 57      | 6.5     | 63.4             | 68.4   | 47.1      | 27.5    | 13.7    | 11.8    | 10.5      |
| L West   | 3,681    | 190     | 5.2     | 67.3             | 57.4   | 36.3      | 39.5    | 16.8    | 7.4     | 0.0       |
| Leeds    | 1,906    | 56      | 2.9     | 57.7             | 55.4   | 76.4      | 16.4    | 7.3     | 0.0     | 1.8       |
| Leic     | 2,820    | 160     | 5.7     | 64.5             | 58.8   | 84.0      | 10.4    | 2.1     | 3.5     | 10.0      |
| Liv UH   | 1,503    | 55      | 3.7     | 54.6             | 69.1   | 83.7      | 7.0     | 4.7     | 4.7     | 21.8      |
| M RI     | 2,258    | 101     | 4.5     |                  |        |           |         |         |         |           |
| Middlbr  | 971      | 14      | 1.4     | 58.5             | 57.1   | 92.3      | 0.0     | 7.7     | 0.0     | 7.1       |
| Newc     | 1,287    | 51      | 4.0     | 55.7             | 58.8   | 86.3      | 11.8    | 0.0     | 2.0     | 0.0       |
| Norwch   | 808      | 58      | 7.2     | 67.1             | 74.1   | 92.5      | 5.7     | 0.0     | 1.9     | 8.6       |
| Nottm    | 1,195    | 88      | 7.4     | 59.7             | 72.7   | 79.5      | 7.2     | 4.8     | 8.4     | 5.7       |
| Oxford   | 2,132    | 85      | 4.0     | 64.4             | 68.2   | 80.9      | 16.2    | 1.5     | 1.5     | 20.0      |
| Plymth   | 549      | 35      | 6.4     | 67.0             | 60.0   | 94.3      | 5.7     | 0.0     | 0.0     | 0.0       |
| Ports    | 2,030    | 94      | 4.6     | 64.5             | 55.3   |           |         |         |         | 39.4      |
| Prestn   | 1,436    | 56      | 3.9     | 61.2             | 53.6   | 88.0      | 10.0    | 2.0     | 0.0     | 10.7      |
| Redng    | 994      | 52      | 5.2     | 58.0             | 61.5   | 72.5      | 20.0    | 2.5     | 5.0     | 23.1      |
| Salford  | 1,371    | 96      | 7.0     | 60.5             | 46.9   | 84.4      | 11.1    | 2.2     | 2.2     | 6.3       |
| Sheff    | 1,478    | 70      | 4.7     | 65.5             | 55.7   | 88.6      | 7.1     | 2.9     | 1.4     | 0.0       |
| Shrew    | 461      | 55      | 11.9    | 64.6             | 65.5   | 92.2      | 2.0     | 3.9     | 2.0     | 7.3       |
| Stevng   | 1,117    | 37      | 3.3     | 61.6             | 64.9   | 69.4      | 11.1    | 16.7    | 2.8     | 2.7       |
| Stoke    | 921      | 89      | 9.7     | 64.9             | 60.7   | 86.4      | 8.6     | 2.5     | 2.5     | 9.0       |
| Sund     | 590      | 36      | 6.1     | 62.3             | 55.6   | 94.4      | 2.8     | 0.0     | 2.8     | 0.0       |
| Truro    | 468      | 13      | 2.8     | 52.9             | 38.5   | 100.0     | 0.0     | 0.0     | 0.0     | 0.0       |
| Wirral   | 387      | 17      | 4.4     | 68.3             | 64.7   | 100.0     | 0.0     | 0.0     | 0.0     | 0.0       |
| Wolve    | 780      | 61      | 7.8     | 60.5             | 59.0   | 62.3      | 21.3    | 16.4    | 0.0     | 0.0       |

Table 6.3 Continued

| Centre    | N on KRT      | N on PD      | % on PD    | Median age (yrs) | % male      | Ethnicity   |             |            |            | % missing  |
|-----------|---------------|--------------|------------|------------------|-------------|-------------|-------------|------------|------------|------------|
|           |               |              |            |                  |             | % White     | % Asian     | % Black    | % Other    |            |
| York      | 610           | 27           | 4.4        | 59.5             | 70.4        | 96.0        | 0.0         | 0.0        | 4.0        | 7.4        |
| N IRELAND |               |              |            |                  |             |             |             |            |            |            |
| Antrim    | 311           | 15           | 4.8        | 77.0             | 53.3        |             |             |            |            | 33.3       |
| Belfast   | 938           | 23           | 2.5        | 65.4             | 56.5        | 100.0       | 0.0         | 0.0        | 0.0        | 17.4       |
| Newry     | 277           | 8            | 2.9        | 75.6             | 50.0        | 100.0       | 0.0         | 0.0        | 0.0        | 25.0       |
| Ulster    | 210           | 5            | 2.4        | 63.2             | 60.0        |             |             |            |            | 40.0       |
| West NI   | 357           | 1            | 0.3        | 86.2             | 0.0         | 100.0       | 0.0         | 0.0        | 0.0        | 0.0        |
| SCOTLAND  |               |              |            |                  |             |             |             |            |            |            |
| Abrdn     | 608           | 21           | 3.5        | 61.2             | 57.1        |             |             |            |            |            |
| Airdrie   | 565           | 24           | 4.2        | 72.0             | 50.0        |             |             |            |            |            |
| D&Gall    | 145           | 8            | 5.5        | 69.4             | 37.5        |             |             |            |            |            |
| Dundee    | 384           | 23           | 6.0        | 67.1             | 69.6        |             |             |            |            |            |
| Edinb     | 989           | 30           | 3.0        | 60.8             | 60.0        |             |             |            |            |            |
| Glasgw    | 1,934         | 29           | 1.5        | 60.8             | 72.4        |             |             |            |            |            |
| Inverns   | 310           | 10           | 3.2        | 62.1             | 70.0        |             |             |            |            |            |
| Klmarnk   | 394           | 32           | 8.1        | 61.4             | 46.9        |             |             |            |            |            |
| Krkldy    | 288           | 12           | 4.2        | 50.5             | 66.7        |             |             |            |            |            |
| WALES     |               |              |            |                  |             |             |             |            |            |            |
| Bangor    | 218           | 10           | 4.6        | 74.1             | 40.0        |             |             |            |            | 50.0       |
| Cardff    | 1,830         | 59           | 3.2        | 65.7             | 50.8        | 95.9        | 2.0         | 2.0        | 0.0        | 16.9       |
| Clwyd     | 222           | 19           | 8.6        | 66.3             | 84.2        |             |             |            |            | 31.6       |
| Swanse    | 901           | 43           | 4.8        | 63.4             | 72.1        | 97.5        | 2.5         | 0.0        | 0.0        | 7.0        |
| Wrexm     | 327           | 21           | 6.4        | 57.3             | 57.1        | 89.5        | 5.3         | 5.3        | 0.0        | 9.5        |
| TOTALS    |               |              |            |                  |             |             |             |            |            |            |
| England   | 61,500        | 3,293        | 5.4        | 62.8             | 60.5        | 69.9        | 16.6        | 9.3        | 4.1        | 6.3        |
| N Ireland | 2,093         | 52           | 2.5        | 75.4             | 53.8        | 97.4        | 2.6         | 0.0        | 0.0        | 25.0       |
| Scotland  | 5,617         | 189          | 3.4        | 62.8             | 59.3        |             |             |            |            |            |
| Wales     | 3,498         | 152          | 4.3        | 64.1             | 61.2        | 95.2        | 3.2         | 1.6        | 0.0        | 17.1       |
| <b>UK</b> | <b>72,708</b> | <b>3,686</b> | <b>5.1</b> | <b>63.0</b>      | <b>60.4</b> | <b>71.3</b> | <b>15.9</b> | <b>8.9</b> | <b>3.9</b> | <b>7.1</b> |

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

Breakdown by ethnicity is not shown for centres with <70% data completeness, but these centres were included in national averages

Exeter and Manchester were unable to submit 2023 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 6.4, with the mapping of disease codes into groups explained in more detail in appendix A. The proportion of PD 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 6.4** Primary renal diseases (PRDs) of adult patients prevalent to PD on 31/12/2023

| PRD                       | N on PD      | % PD population | Age <65 yrs  |              | Age ≥65 yrs  |              | M/F ratio |
|---------------------------|--------------|-----------------|--------------|--------------|--------------|--------------|-----------|
|                           |              |                 | N            | %            | N            | %            |           |
| Diabetes                  | 783          | 24.0            | 409          | 23.0         | 374          | 25.2         | 1.7       |
| Glomerulonephritis        | 555          | 17.0            | 397          | 22.4         | 158          | 10.6         | 1.7       |
| Hypertension              | 248          | 7.6             | 120          | 6.8          | 128          | 8.6          | 2.5       |
| Polycystic kidney disease | 260          | 8.0             | 174          | 9.8          | 86           | 5.8          | 1.0       |
| Pyelonephritis            | 185          | 5.7             | 90           | 5.1          | 95           | 6.4          | 1.2       |
| Renal vascular disease    | 139          | 4.3             | 33           | 1.9          | 106          | 7.1          | 2.0       |
| Other                     | 501          | 15.4            | 298          | 16.8         | 203          | 13.7         | 1.1       |
| Uncertain aetiology       | 591          | 18.1            | 254          | 14.3         | 337          | 22.7         | 1.5       |
| <b>Total (with data)</b>  | <b>3,262</b> | <b>100.0</b>    | <b>1,775</b> | <b>100.0</b> | <b>1,487</b> | <b>100.0</b> |           |
| Missing                   | 253          | 7.2             | 121          | 6.4          | 132          | 8.2          | 1.5       |

## Biochemistry parameters in prevalent adult PD patients

The UK Kidney Association guideline on chronic kidney disease (CKD) mineral bone disease contains only one audit measure, which is the percentage of patients with adjusted calcium above the target range. The UK Kidney Association guideline on PD contains one biochemical audit measure, which is the proportion of patients with bicarbonate in the target range.

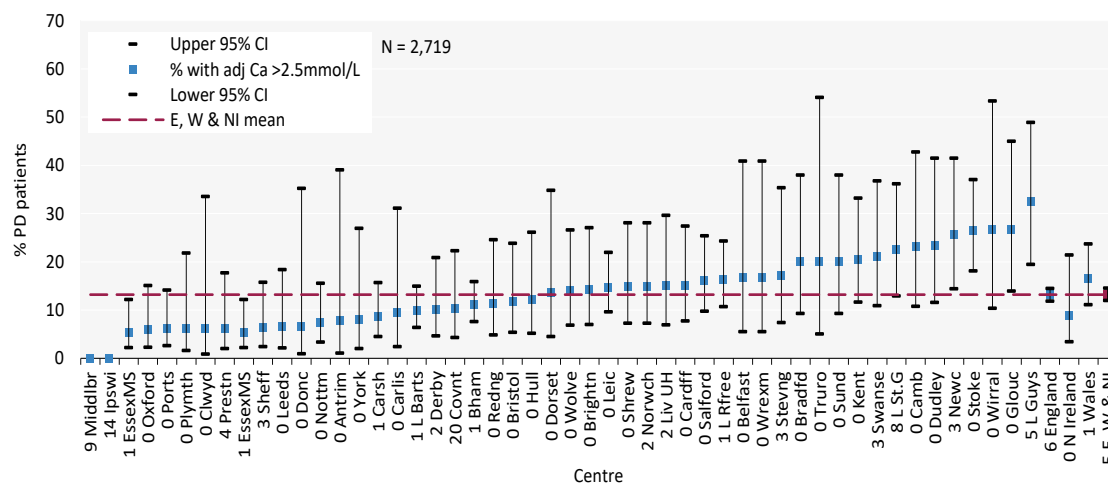
**Table 6.5** Median adjusted calcium (Ca) and percentage with adjusted Ca within and above the target range (2.2–2.5 mmol/L); and median bicarbonate and percentage with bicarbonate below, within and above the target range (22–30 mmol/L) in adult patients prevalent to PD on 31/12/2023 by centre

| Centre   | Adjusted calcium |                  |               |                     | Bicarbonate     |                |                  |                |                     |
|----------|------------------|------------------|---------------|---------------------|-----------------|----------------|------------------|----------------|---------------------|
|          | Median (mmol/L)  | % 2.2-2.5 mmol/L | % >2.5 mmol/L | % data completeness | Median (mmol/L) | % <22 (mmol/L) | % 22-30 (mmol/L) | % >30 (mmol/L) | % data completeness |
| ENGLAND  |                  |                  |               |                     |                 |                |                  |                |                     |
| Bham     | 2.4              | 79.2             | 11.1          | 98.7                | 21              | 61.7           | 38.3             | 0.0            | 76.4                |
| Bradfd   | 2.5              | 76.7             | 20.0          | 100.0               | 27              | 6.7            | 86.7             | 6.7            | 100.0               |
| Brightn  | 2.4              | 75.5             | 14.3          | 100.0               | 24              | 24.5           | 73.5             | 2.0            | 100.0               |
| Bristol  | 2.4              | 86.3             | 11.8          | 100.0               | 24              | 19.6           | 78.4             | 2.0            | 100.0               |
| Camb     | 2.4              | 69.2             | 23.1          | 100.0               | 26              | 3.9            | 88.5             | 7.7            | 100.0               |
| Carlisle | 2.3              | 81.0             | 9.5           | 100.0               | 23              | 14.3           | 76.2             | 9.5            | 100.0               |
| Carsh    | 2.3              | 78.1             | 8.6           | 99.1                |                 |                |                  |                | 0.0                 |
| Colchr   |                  |                  |               |                     |                 |                |                  |                |                     |
| Covnt    | 2.3              | 79.6             | 10.2          | 80.3                | 25              | 10.0           | 88.0             | 2.0            | 82.0                |
| Derby    | 2.4              | 86.4             | 10.2          | 98.3                | 23              | 28.3           | 71.7             | 0.0            | 100.0               |
| Donc     | 2.4              | 73.3             | 6.7           | 100.0               | 24              | 26.7           | 73.3             | 0.0            | 100.0               |
| Dorset   | 2.4              | 81.8             | 13.6          | 100.0               | 21              | 59.1           | 40.9             | 0.0            | 100.0               |
| Dudley   | 2.4              | 76.7             | 23.3          | 100.0               | 26              | 0.0            | 100.0            | 0.0            | 100.0               |
| EssexMS  | 2.4              | 90.4             | 5.3           | 99.0                | 26              | 7.5            | 91.5             | 1.1            | 99.0                |
| Exeter   |                  |                  |               |                     |                 |                |                  |                |                     |
| Glouc    | 2.4              | 70.0             | 26.7          | 100.0               | 24              | 30.0           | 70.0             | 0.0            | 100.0               |
| Hull     | 2.4              | 85.4             | 12.2          | 100.0               | 24              | 7.3            | 92.7             | 0.0            | 100.0               |
| Ipswi    | 2.3              | 91.7             | 0.0           | 85.7                | 22              | 50.0           | 50.0             | 0.0            | 85.7                |
| Kent     | 2.4              | 77.8             | 20.4          | 100.0               | 27              | 7.7            | 88.5             | 3.9            | 96.3                |
| L Barts  | 2.4              | 81.9             | 9.8           | 99.5                | 26              | 9.9            | 85.9             | 4.2            | 99.0                |
| L Guys   | 2.4              | 64.9             | 32.4          | 94.9                | 25              | 16.2           | 81.1             | 2.7            | 94.9                |
| L Kings  | 2.3              | 79.7             | 6.8           | 92.5                | 23              | 42.5           | 57.5             | 0.0            | 91.3                |
| L Rfree  | 2.4              | 75.9             | 16.4          | 99.2                | 25              | 18.1           | 79.3             | 2.6            | 99.2                |
| L St.G   | 2.4              | 67.4             | 22.5          | 92.5                |                 |                |                  |                | 0.0                 |

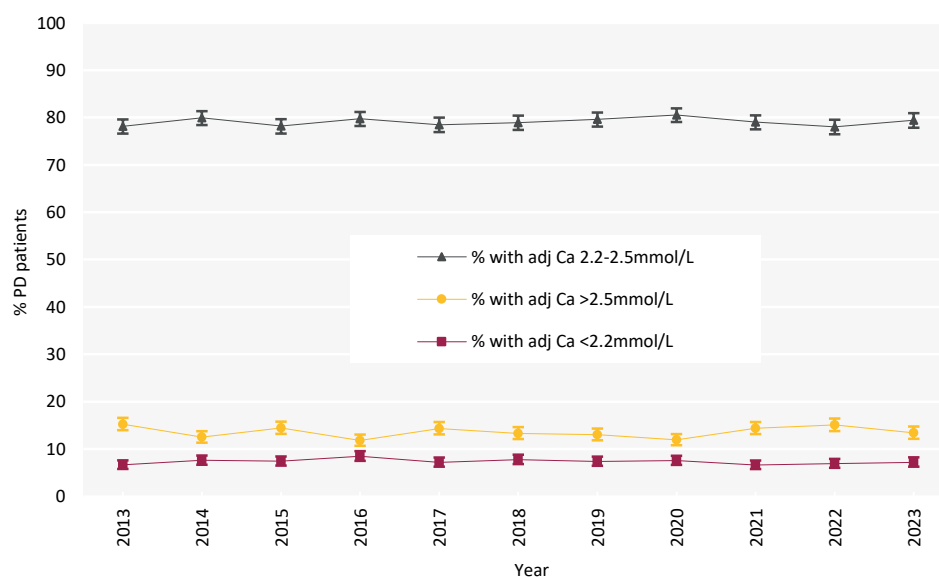
**Table 6.5** Continued

| Centre               | Adjusted calcium |                  |               |                     | Bicarbonate     |                |                  |                |                     |
|----------------------|------------------|------------------|---------------|---------------------|-----------------|----------------|------------------|----------------|---------------------|
|                      | Median (mmol/L)  | % 2.2-2.5 mmol/L | % >2.5 mmol/L | % data completeness | Median (mmol/L) | % <22 (mmol/L) | % 22-30 (mmol/L) | % >30 (mmol/L) | % data completeness |
| L West               |                  |                  |               | 33.7                |                 |                |                  |                | 30.1                |
| Leeds                | 2.4              | 91.3             | 6.5           | 100.0               | 27              | 4.4            | 84.8             | 10.9           | 100.0               |
| Leic                 | 2.4              | 78.3             | 14.7          | 100.0               | 24              | 12.4           | 84.5             | 3.1            | 100.0               |
| Liv UH               | 2.4              | 85.0             | 15.0          | 97.6                | 26              | 5.0            | 95.0             | 0.0            | 97.6                |
| M RI                 |                  |                  |               |                     |                 |                |                  |                |                     |
| Middlbr              | 2.3              | 70.0             | 0.0           | 90.9                | 27              | 10.0           | 90.0             | 0.0            | 90.9                |
| Newc                 | 2.4              | 71.8             | 25.6          | 97.5                | 25              | 12.8           | 87.2             | 0.0            | 97.5                |
| Norwch               | 2.4              | 83.0             | 14.9          | 97.9                | 23              | 32.6           | 67.4             | 0.0            | 95.8                |
| Nottm                | 2.4              | 90.1             | 7.4           | 100.0               |                 |                |                  |                | 37.0                |
| Oxford               | 2.2              | 63.6             | 6.1           | 100.0               | 23              | 32.3           | 64.5             | 3.2            | 93.9                |
| Plymth               | 2.3              | 84.4             | 6.3           | 100.0               | 22              | 46.7           | 53.3             | 0.0            | 93.8                |
| Ports                | 2.4              | 88.8             | 6.3           | 100.0               | 24              | 17.7           | 81.0             | 1.3            | 98.8                |
| Prestn               | 2.4              | 79.2             | 6.3           | 96.0                | 26              | 8.5            | 87.2             | 4.3            | 94.0                |
| Redng                | 2.4              | 79.6             | 11.4          | 100.0               | 25              | 15.9           | 84.1             | 0.0            | 100.0               |
| Salford              | 2.4              | 79.3             | 16.1          | 100.0               | 27              | 9.3            | 81.4             | 9.3            | 98.9                |
| Sheff                | 2.3              | 77.8             | 6.4           | 96.9                | 24              | 28.6           | 68.3             | 3.2            | 96.9                |
| Shrew                | 2.4              | 85.1             | 14.9          | 100.0               | 24              | 29.8           | 70.2             | 0.0            | 100.0               |
| Stoke                | 2.5              | 73.5             | 26.5          | 100.0               | 27              | 4.8            | 86.8             | 8.4            | 100.0               |
| Sund                 | 2.4              | 70.0             | 20.0          | 100.0               |                 |                |                  |                | 0.0                 |
| Truro                | 2.4              | 80.0             | 20.0          | 100.0               |                 |                |                  |                | 90.0                |
| Wirral               | 2.4              | 66.7             | 26.7          | 100.0               | 27              | 6.7            | 80.0             | 13.3           | 100.0               |
| Wolve                | 2.4              | 78.0             | 14.0          | 100.0               | 24              | 30.0           | 70.0             | 0.0            | 100.0               |
| York                 | 2.4              | 92.0             | 8.0           | 100.0               | 26              | 4.0            | 84.0             | 12.0           | 100.0               |
| N IRELAND            |                  |                  |               |                     |                 |                |                  |                |                     |
| Antrim               | 2.4              | 92.3             | 7.7           | 100.0               | 26              | 7.7            | 92.3             | 0.0            | 100.0               |
| Belfast              | 2.4              | 83.3             | 16.7          | 100.0               | 27              | 0.0            | 94.4             | 5.6            | 100.0               |
| Newry                |                  |                  |               | 100.0               |                 |                |                  |                | 100.0               |
| Ulster               |                  |                  |               | 100.0               |                 |                |                  |                | 100.0               |
| West NI              |                  |                  |               | 100.0               |                 |                |                  |                | 100.0               |
| WALES                |                  |                  |               |                     |                 |                |                  |                |                     |
| Bangor               |                  |                  |               | 100.0               |                 |                |                  |                | 100.0               |
| Cardff               | 2.4              | 77.4             | 15.1          | 100.0               | 24              | 22.7           | 70.5             | 6.8            | 83.0                |
| Clwyd                | 2.35             | 93.8             | 6.3           | 100.0               | 24              | 25.0           | 75.0             | 0.0            | 100.0               |
| Swanse               | 2.4              | 65.8             | 21.1          | 97.4                | 25              | 5.3            | 89.5             | 5.3            | 97.4                |
| Wrexm                | 2.4              | 77.8             | 16.7          | 100.0               | 27              | 5.6            | 83.3             | 11.1           | 100.0               |
| TOTALS               |                  |                  |               |                     |                 |                |                  |                |                     |
| England              | 2.4              | 79.5             | 13.1          | 94.3                | 25              | 21.3           | 75.9             | 2.8            | 83.0                |
| N Ireland            | 2.4              | 88.9             | 8.9           | 100.0               | 26              | 6.7            | 88.9             | 4.4            | 100.0               |
| Wales                | 2.4              | 76.1             | 16.4          | 99.3                | 25              | 13.6           | 80.8             | 5.6            | 92.6                |
| <b>E, W &amp; NI</b> | <b>2.4</b>       | <b>79.4</b>      | <b>13.2</b>   | <b>94.6</b>         | <b>25</b>       | <b>20.6</b>    | <b>76.4</b>      | <b>3.0</b>     | <b>83.7</b>         |

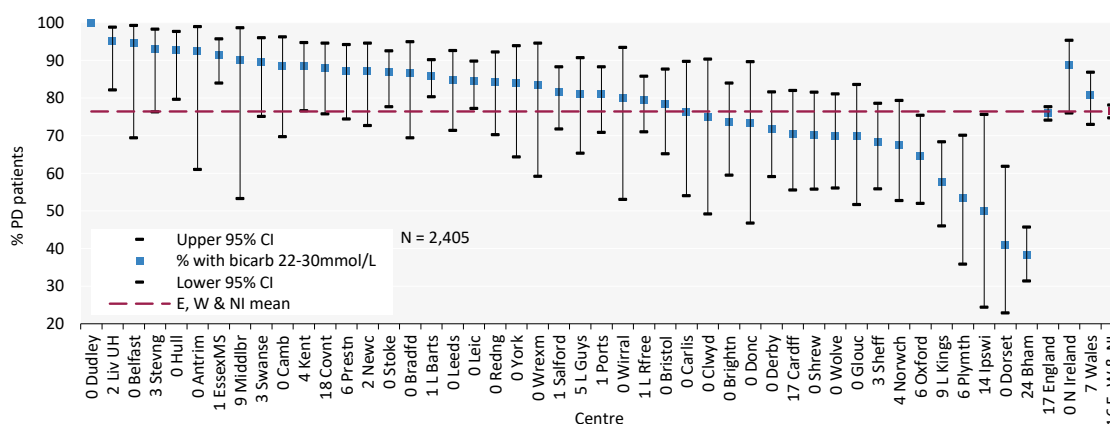
Blank cells – no data returned by the centre or <10 patients in the centre or data completeness <70%



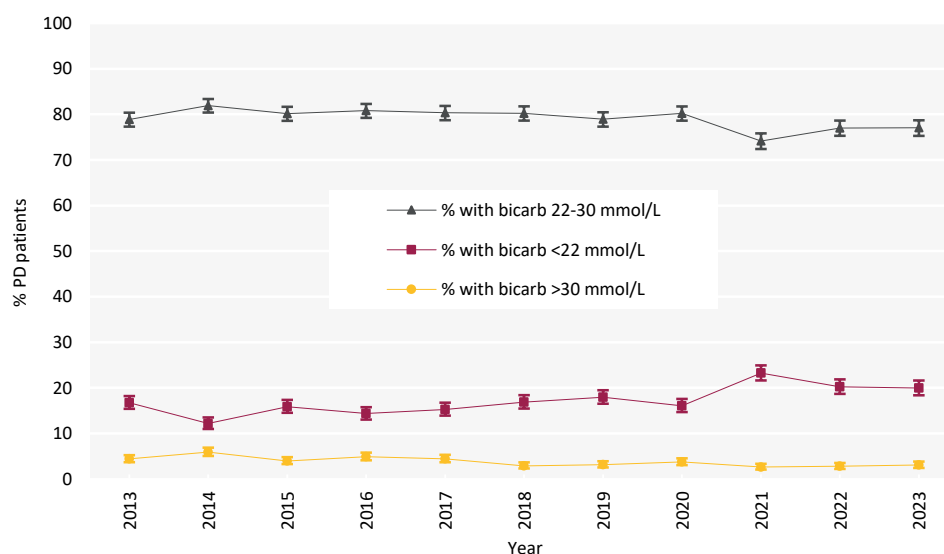
**Figure 6.3** Percentage of adult patients prevalent to PD on 31/12/2023 with adjusted calcium (Ca) above the target range (>2.5 mmol/L) by centre  
CI – confidence interval



**Figure 6.4** Change in percentage of prevalent adult PD patients within, above and below the target range for adjusted calcium (Ca 2.2–2.5 mmol/L) between 2013 and 2023



**Figure 6.5** Percentage of adult patients prevalent to PD on 31/12/2023 with bicarbonate (bicarb) within the target range (22–30 mmol/L) by centre  
CI – confidence interval



**Figure 6.6** Percentage of prevalent adult PD patients within, above and below the target range for bicarbonate (bicarb) 22–30 mmol/L) between 2013 and 2023

## Anaemia in prevalent adult PD 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 6.6.

**Table 6.6** Median haemoglobin and ferritin and percentage attaining target ranges in adult patients prevalent to PD on 31/12/2023 by centre

| Centre    | Haemoglobin  |            |            |                     | Ferritin      |             |                     |
|-----------|--------------|------------|------------|---------------------|---------------|-------------|---------------------|
|           | Median (g/L) | % <100 g/L | % >120 g/L | % data completeness | Median (µg/L) | % <100 µg/L | % data completeness |
| ENGLAND   |              |            |            |                     |               |             |                     |
| Bham      | 108          | 27.3       | 15.9       | 99.1                | 360           | 6.6         | 98.7                |
| Bradfd    | 118          | 10.0       | 40.0       | 100.0               | 357           | 3.3         | 100.0               |
| Brightn   | 108          | 16.3       | 22.4       | 100.0               | 331           | 4.2         | 98.0                |
| Bristol   | 111          | 11.8       | 21.6       | 100.0               | 230           | 13.7        | 100.0               |
| Camb      | 110          | 15.4       | 19.2       | 100.0               | 345           | 0.0         | 100.0               |
| Carlis    | 119          | 9.5        | 42.9       | 100.0               | 240           | 9.5         | 100.0               |
| Carsh     | 107          | 26.7       | 13.3       | 99.1                | 307           | 4.7         | 100.0               |
| Colchr    |              |            |            |                     |               |             |                     |
| Covnt     | 111          | 26.0       | 26.0       | 82.0                | 192           | 32.7        | 85.3                |
| Derby     | 115          | 13.3       | 38.3       | 100.0               | 424           | 3.4         | 98.3                |
| Donc      | 109          | 26.7       | 6.7        | 100.0               | 279           | 0.0         | 100.0               |
| Dorset    | 113          | 9.1        | 9.1        | 100.0               | 364           | 4.5         | 100.0               |
| Dudley    | 112          | 16.7       | 23.3       | 100.0               | 123           | 43.3        | 100.0               |
| EssexMS   | 111          | 18.1       | 21.3       | 99.0                | 280           | 25.5        | 99.0                |
| Exeter    |              |            |            |                     |               |             |                     |
| Glouc     | 108          | 23.3       | 13.3       | 100.0               | 236           | 10.3        | 96.7                |
| Hull      | 109          | 29.3       | 7.3        | 100.0               | 556           | 4.9         | 100.0               |
| Ipswi     | 111          | 16.7       | 8.3        | 85.7                | 412           | 8.3         | 85.7                |
| Kent      | 111          | 20.4       | 27.8       | 100.0               | 421           | 3.9         | 94.4                |
| L Barts   | 111          | 24.9       | 27.5       | 99.5                | 262           | 22.1        | 93.3                |
| L Guys    | 110          | 24.3       | 16.2       | 94.9                | 423           | 8.1         | 94.9                |
| L Kings   | 111          | 15.4       | 23.1       | 97.5                | 250           | 13.0        | 96.3                |
| L Rfree   | 115          | 12.9       | 31.0       | 99.2                | 588           | 4.3         | 98.3                |
| L St.G    | 106          | 32.0       | 16.0       | 94.3                | 416           | 4.2         | 90.6                |
| L West    |              |            |            | 34.3                |               |             | 25.9                |
| Leeds     | 108          | 26.1       | 15.2       | 100.0               | 444           | 6.5         | 100.0               |
| Leic      | 111          | 22.5       | 27.1       | 100.0               | 283           | 12.4        | 100.0               |
| Liv UH    | 110          | 22.5       | 15.0       | 97.6                | 387           | 10.0        | 97.6                |
| M RI      |              |            |            |                     |               |             |                     |
| Middlbr   | 115          | 10.0       | 40.0       | 90.9                |               |             | 63.6                |
| Newc      | 112          | 15.4       | 28.2       | 97.5                | 578           | 5.3         | 95.0                |
| Norwch    | 115          | 12.8       | 36.2       | 97.9                | 373           | 14.6        | 100.0               |
| Nottm     | 106          | 29.6       | 13.6       | 100.0               | 492           | 7.4         | 100.0               |
| Oxford    | 109          | 19.7       | 19.7       | 100.0               | 398           | 0.0         | 92.4                |
| Plymth    | 117          | 15.6       | 37.5       | 100.0               | 241           | 9.4         | 100.0               |
| Ports     | 114          | 11.3       | 23.8       | 100.0               | 488           | 7.7         | 97.5                |
| Prestn    | 109          | 28.6       | 26.5       | 98.0                | 425           | 4.1         | 98.0                |
| Redng     | 114          | 13.6       | 22.7       | 100.0               | 415           | 4.5         | 100.0               |
| Salford   | 110          | 23.0       | 19.5       | 100.0               | 458           | 5.7         | 100.0               |
| Sheff     | 113          | 19.0       | 30.2       | 96.9                | 631           | 3.2         | 95.4                |
| Shrew     | 113          | 21.3       | 23.4       | 100.0               | 288           | 14.9        | 100.0               |
| Stevng    | 105          | 41.4       | 17.2       | 96.7                | 560           | 6.9         | 96.7                |
| Stoke     | 112          | 14.5       | 26.5       | 100.0               | 407           | 1.2         | 100.0               |
| Sund      | 114          | 23.3       | 30.0       | 100.0               | 418           | 0.0         | 80.0                |
| Truro     | 105          | 40.0       | 10.0       | 100.0               |               |             | 90.0                |
| Wirral    | 108          | 26.7       | 6.7        | 100.0               | 514           | 0.0         | 100.0               |
| Wolve     | 114          | 28.0       | 28.0       | 100.0               | 206           | 20.0        | 100.0               |
| York      | 106          | 40.0       | 16.0       | 100.0               | 324           | 8.3         | 96.0                |
| N IRELAND |              |            |            |                     |               |             |                     |
| Antrim    | 111          | 0.0        | 7.7        | 100.0               | 465           | 0.0         | 100.0               |
| Belfast   | 113          | 22.2       | 38.9       | 100.0               | 364           | 16.7        | 100.0               |
| Newry     |              |            |            | 100.0               |               |             | 100.0               |
| Ulster    |              |            |            | 100.0               |               |             | 100.0               |

Table 6.6 Continued

| Centre    | Haemoglobin  |             |             |                     | Ferritin      |             |                     |
|-----------|--------------|-------------|-------------|---------------------|---------------|-------------|---------------------|
|           | Median (g/L) | % <100 g/L  | % >120 g/L  | % data completeness | Median (µg/L) | % <100 µg/L | % data completeness |
| West NI   |              |             |             | 100.0               |               |             | 100.0               |
| SCOTLAND  |              |             |             |                     |               |             |                     |
| Abrdn     | 114          | 21.1        | 21.1        | 100.0               |               |             |                     |
| Airdrie   | 110          | 28.6        | 14.3        | 100.0               |               |             |                     |
| D&Gall    |              |             |             | 100.0               |               |             |                     |
| Dundee    | 108          | 22.7        | 27.3        | 100.0               |               |             |                     |
| Edinb     |              |             |             | 0.0                 |               |             |                     |
| Glasgw    | 115          | 12.0        | 20.0        | 100.0               |               |             |                     |
| Inverns   |              |             |             | 100.0               |               |             |                     |
| Klmarnk   | 107          | 33.3        | 18.5        | 100.0               |               |             |                     |
| Krkldy    |              |             |             | 0.0                 |               |             |                     |
| WALES     |              |             |             |                     |               |             |                     |
| Bangor    |              |             |             | 100.0               |               |             | 100.0               |
| Cardff    | 113          | 20.8        | 30.2        | 100.0               | 206           | 30.6        | 92.5                |
| Clwyd     | 110          | 18.8        | 25.0        | 100.0               | 368           | 6.3         | 100.0               |
| Swanse    | 115          | 15.8        | 34.2        | 97.4                | 247           | 23.5        | 87.2                |
| Wrexm     | 111          | 22.2        | 22.2        | 100.0               | 485           | 0.0         | 100.0               |
| TOTALS    |              |             |             |                     |               |             |                     |
| England   | 110          | 21.7        | 22.6        | 94.7                | 365           | 9.6         | 92.7                |
| N Ireland | 111          | 8.9         | 22.2        | 100.0               | 407           | 8.9         | 100.0               |
| Scotland  | 111          | 22.9        | 19.1        | 77.1                |               |             |                     |
| Wales     | 114          | 18.7        | 31.3        | 99.3                | 302           | 19.8        | 93.3                |
| <b>UK</b> | <b>111</b>   | <b>21.4</b> | <b>22.8</b> | <b>94.0</b>         | <b>364</b>    | <b>10.1</b> | <b>92.9</b>         |

Blank cells – no data returned by the centre or <10 patients in the centre or data completeness <70%

Ferritin total for UK represents E, W and NI only

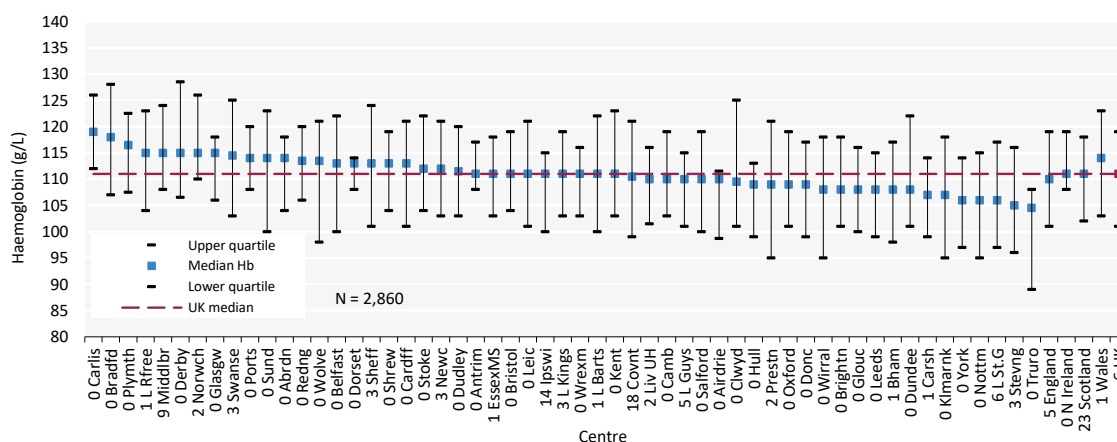
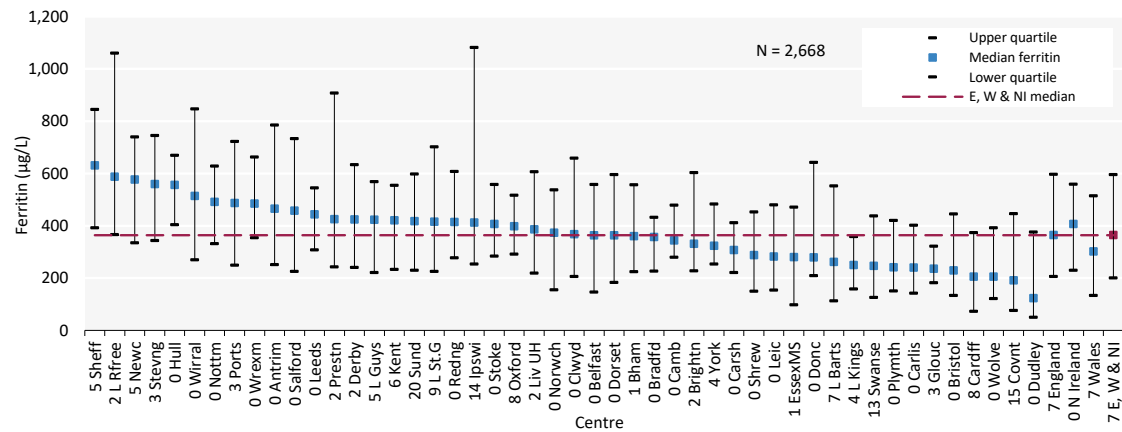
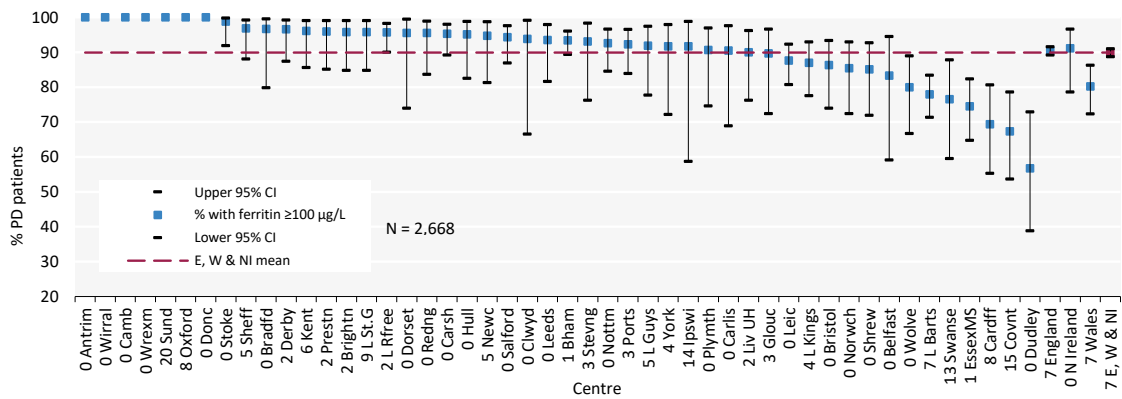


Figure 6.7 Median haemoglobin (Hb) in adult patients prevalent to PD on 31/12/2023 by centre

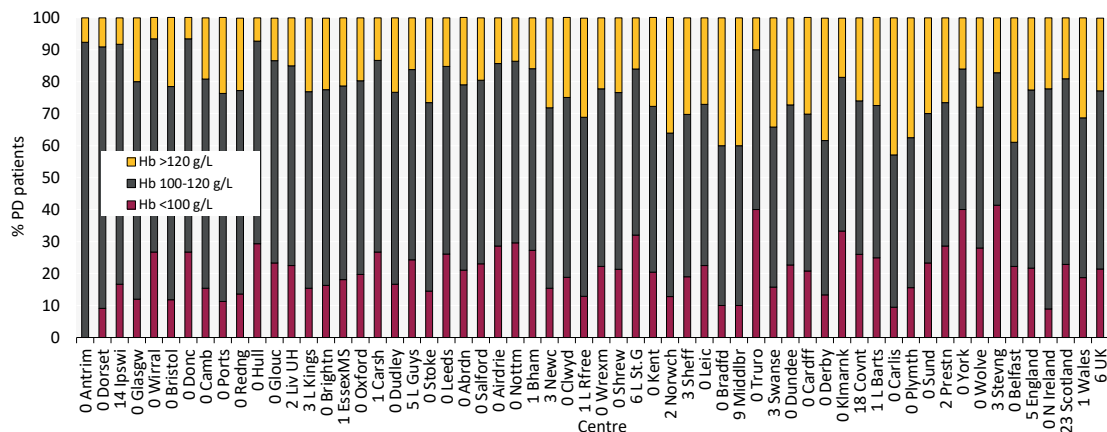


**Figure 6.8** Median ferritin in adult patients prevalent to PD on 31/12/2023 by centre

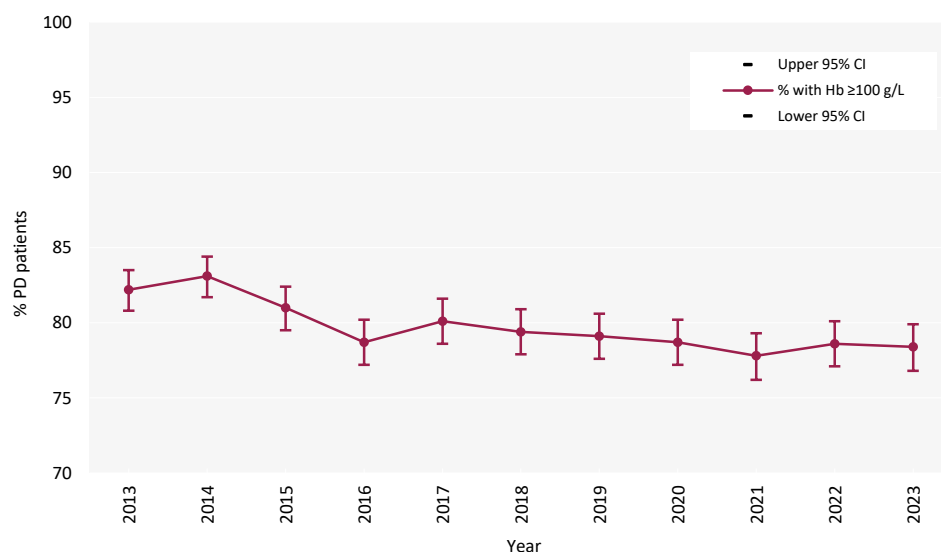


**Figure 6.9** Percentage of adult patients prevalent to PD on 31/12/2023 with ferritin  $\geq 100$   $\mu\text{g/L}$  by centre

CI – confidence interval



**Figure 6.10** Distribution of haemoglobin (Hb) in adult patients prevalent to PD on 31/12/2023 by centre



**Figure 6.11** Percentage of prevalent adult PD patients with haemoglobin (Hb)  $\geq 100$  g/L between 2013 and 2023  
CI – confidence interval

## Peritonitis in prevalent adult PD patients

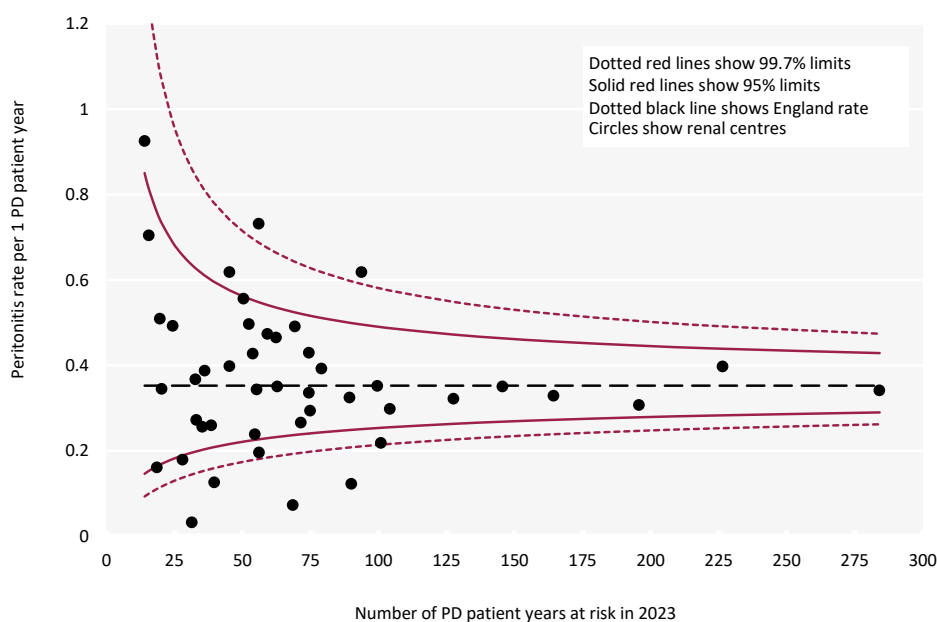
PD peritonitis infection rates are collected for English kidney centres by the UKRR in collaboration with NHS England for the Renal Dialysis Quality Dashboard ([ukkidney.org/audit-research/data-permissions/data/ukrr-nhs-england-quality-dashboard-dataset](http://ukkidney.org/audit-research/data-permissions/data/ukrr-nhs-england-quality-dashboard-dataset)) and are listed in the table below. The funnel plot (figure 6.12) shows each centre's 2023 peritonitis rate per one PD patient-year against the number of patient-years at risk to take into account the greater variation expected as centre size decreases.

**Table 6.7** Number of patient-years and peritonitis rate in adult patients receiving PD in 2023 by centre in England

| Centre  | PD patient years | Peritonitis rate per 1 PD patient year |
|---------|------------------|----------------------------------------|
| Bham    | 284              | 0.34                                   |
| Bradfd  | 35               | 0.26                                   |
| Brightn | 56               | 0.20                                   |
| Bristol | 69               | 0.49                                   |
| Camb    | 36               | 0.39                                   |
| Carlis  | 19               | 0.16                                   |
| Carsh   | 128              | 0.32                                   |
| Covnt   | 75               | 0.29                                   |
| Derby   | 74               | 0.43                                   |
| Donc    | 20               | 0.34                                   |
| Dorset  | 24               | 0.49                                   |
| Dudley  | 33               | 0.37                                   |
| EssexMS |                  |                                        |
| Exeter  | 72               | 0.27                                   |
| Glouc   | 39               | 0.26                                   |
| Hull    | 56               | 0.73                                   |
| Ipswi   | 28               | 0.18                                   |
| Kent    | 69               | 0.07                                   |
| L Barts | 226              | 0.40                                   |
| L Guys  | 45               | 0.40                                   |
| L Kings | 104              | 0.30                                   |
| L Rfree | 146              | 0.35                                   |

**Table 6.7** Continued

| Centre  | PD patient years | Peritonitis rate per 1 PD patient year |
|---------|------------------|----------------------------------------|
| L St.G  | 63               | 0.35                                   |
| L West  | 196              | 0.31                                   |
| Leeds   | 55               | 0.24                                   |
| Leic    | 164              | 0.33                                   |
| Liv UH  | 62               | 0.46                                   |
| M RI    | 89               | 0.32                                   |
| Middlbr | 16               | 0.70                                   |
| Newc    | 45               | 0.62                                   |
| Norwch  |                  |                                        |
| Nottm   | 94               | 0.62                                   |
| Oxford  | 79               | 0.39                                   |
| Plymth  | 40               | 0.13                                   |
| Ports   | 100              | 0.35                                   |
| Prestn  | 54               | 0.43                                   |
| Redng   | 52               | 0.50                                   |
| Salford | 90               | 0.12                                   |
| Sheff   | 74               | 0.34                                   |
| Shrew   | 59               | 0.47                                   |
| Stevng  | 50               | 0.56                                   |
| Stoke   | 101              | 0.22                                   |
| Sund    | 31               | 0.03                                   |
| Truro   | 14               | 0.93                                   |
| Wirral  | 20               | 0.51                                   |
| Wolve   | 55               | 0.34                                   |
| York    | 33               | 0.27                                   |
| TOTAL   |                  |                                        |
| England | 3,275            | 0.35                                   |



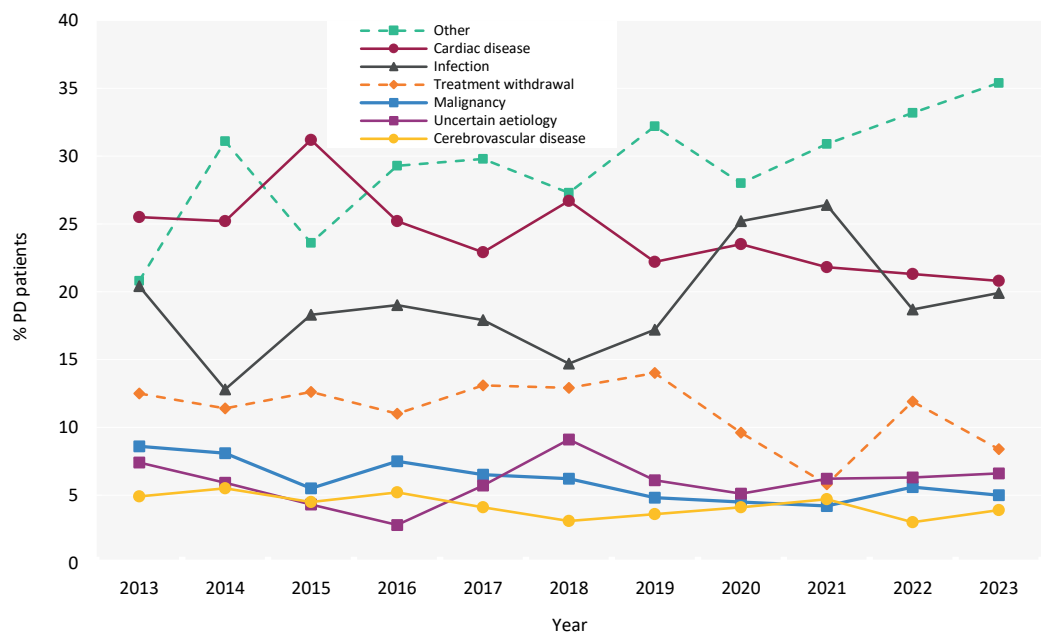
**Figure 6.12** PD peritonitis rates in adult patients receiving PD in 2023 per 1 PD patient-year by centre in England  
Please visit the UKRR data portal ([ukkidney.org/audit-research/data-portals](http://ukkidney.org/audit-research/data-portals)) to identify individual kidney centres

# Cause of death in adult PD patients

Cause of death was analysed in prevalent patients receiving PD on 31/12/2022 and followed-up for one year in 2023. The proportion of PD 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 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 6.8** Cause of death in adult patients prevalent to PD on 31/12/2022 followed-up in 2023 by age group

| Cause of death           | PD all ages |              | PD < 65 years | PD ≥ 65 years |
|--------------------------|-------------|--------------|---------------|---------------|
|                          | N           | %            | %             | %             |
| Cardiac disease          | 91          | 20.8         | 17.4          | 21.8          |
| Cerebrovascular disease  | 17          | 3.9          | 8.2           | 2.7           |
| Infection                | 87          | 19.9         | 16.3          | 20.9          |
| Malignancy               | 22          | 5.0          | 2.0           | 5.9           |
| Treatment withdrawal     | 37          | 8.5          | 5.1           | 9.4           |
| Other                    | 155         | 35.4         | 41.8          | 33.5          |
| Uncertain aetiology      | 29          | 6.6          | 9.2           | 5.9           |
| <b>Total (with data)</b> | <b>438</b>  | <b>100.0</b> | <b>100.0</b>  | <b>100.0</b>  |
| Missing                  | 36          | 7.6          | 6.7           | 7.9           |



**Figure 6.13** Cause of death between 2013 and 2023 for adult patients prevalent to PD at the beginning of the year