

# The Renal Association

## UK Renal Registry



### Anaemia Management in UK Adult Dialysis Patients in 2016

#### **Plain English Summary**

Anaemia can be caused by having too few red blood cells, or not enough haemoglobin (Hb) in those red blood cells. Erythropoietin (EPO) is a substance made by healthy kidneys to stimulate the bone marrow to make more red blood cells. Levels of EPO can fall in kidney disease leading to anaemia. Iron is a major component of red blood cells and low levels of iron can also cause anaemia. Patients with kidney disease are at risk of low iron levels because kidney disease can affect the way the body handles iron as well as for reasons such as blood loss on dialysis and during blood tests.

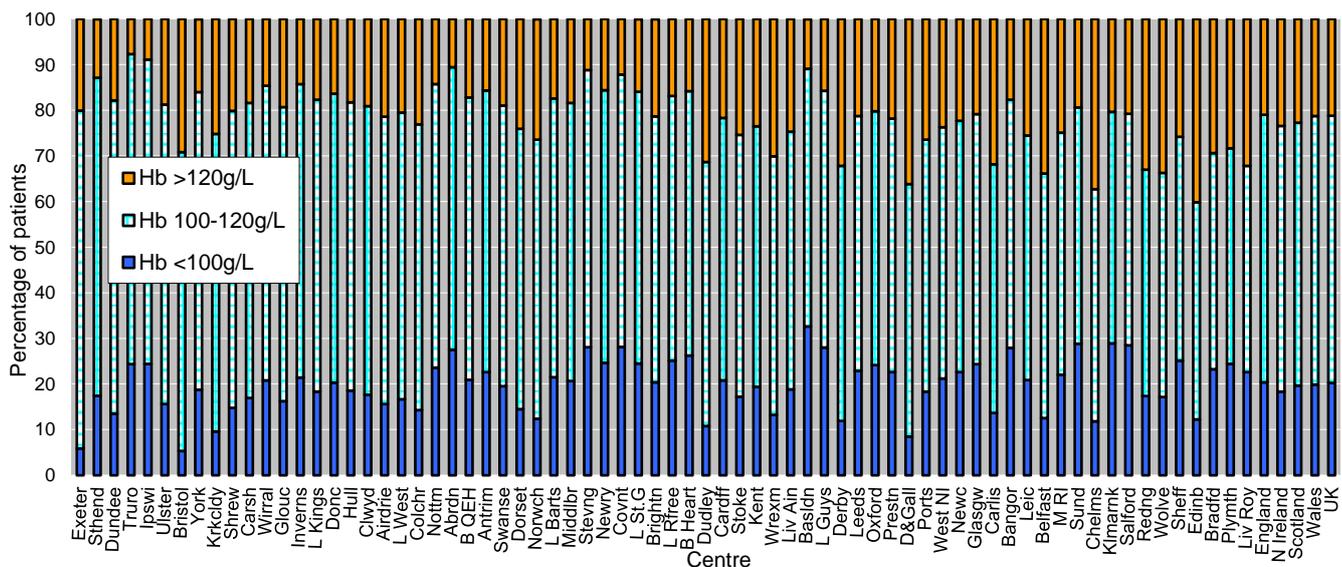
Anaemia has been shown to affect a patient's quality of life. It is also associated with an increased risk of heart complications and of needing a hospital admission. Anaemia in kidney patients can worsen kidney function. It is managed by giving patients iron and/or by using EPO treatments to stimulate red blood cell production (known as erythropoietin stimulating agents - ESAs). Monitoring anaemia is done using different blood tests including:

- Haemoglobin levels. National Renal Association (RA) guidance for adults with kidney disease suggests medical teams try to aim for levels of between 100 and 120g/L. Both low and high levels (when on ESAs) of haemoglobin are known to cause problems for adults with kidney disease.
- Ferritin levels. Ferritin is a measure of the body's iron storage levels (although there are other measures which may be better but not routinely collected). National guidelines suggest we should aim for ferritin levels of 100µg/L or more.

In 2016, haemoglobin levels for most patients on HD and PD were above the RA minimum standard of 100g/L (80% for HD and 79% for PD). A higher percentage of stable patients (80%) than new patients (47%) had a Hb greater than or equal to 100g/L. Since the early 2000's, the percentage of both new and stable dialysis patients with Hb greater than or equal to 120g/L has fallen. This was probably an effect of guideline changes. These changes were made because several studies in the early 2000's suggested evidence of an increased risk of strokes in the groups with higher Hb values when on ESAs.

Figure 1 shows the percentage of HD patients who had Hb less than 100g/L (the bars at the bottom of the graph), between 100 and 120g/L (the bars in the middle), and above 120g/L (the bars at the top). The centres are sorted by the proportion of patients with Hb levels between 100 and 120g/L (the target range). The graph is useful as it allows you to see the proportion of each centre's patients with Hb levels outside of the target range.

**Figure 1. Distribution of haemoglobin in patients treated with HD by centre in 2016**

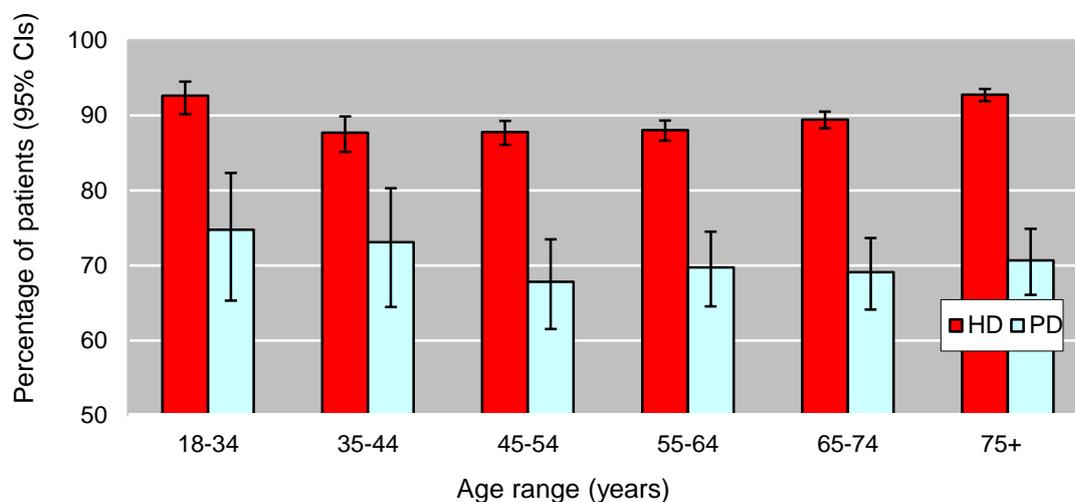


The average (median) Hb value for patients on HD was 111g/L with an inter quartile range of 102-119g/L. This means that when the Hb values for all the patients are sorted from lowest to highest, a quarter of people have values of 102g/L or less, a quarter are between 102g/L and 111g/L, a quarter are between 111g/L and 119g/L and a quarter are above 119g/L. The values were similar for patients on PD – average (median) 111g/L with an IQR of 102-120g/L.

In 2016, a high number of patients reached the target level of ferritin (more than or equal to 100µg/L): 94% of HD patients and 88% of PD patients. Big differences were seen between renal centres when looking at patients with very high ferritin levels (>800µg/L). This is probably due to the current uncertainty about the safety of high levels.

Data on erythropoietin stimulating agents (ESAs) use was less reliable and therefore information from fewer than 40 renal centres was used. On average, 90% of people on HD and 70% of people on PD were on ESA treatment. Figure 2 shows these percentages by age group. The median ESA dose prescribed was higher for HD than PD patients (7,750 vs 4,500IU/week). There was a lot of inconsistency between renal centres in the average ESA dose used for dialysis patients.

**Figure 2. Percentage of dialysis patients on ESA, by age group and treatment type (2016)**



For the full annual report chapters, please visit [www.renalreg.org/reports/2017-twentieth-annual-report/](http://www.renalreg.org/reports/2017-twentieth-annual-report/)