

# The Renal Association UK Renal Registry



## Adequacy of Haemodialysis in UK Adult Patients in 2015: National and Centre-specific Analyses

Patients with kidney failure need to have waste products, like urea, removed from the body. This is done by dialysis. To find out if dialysis is removing enough urea, a blood sample is taken before and after the dialysis session. The urea in the two blood samples are then compared. This shows how much urea was removed during a dialysis session. The urea reduction ratio (URR) is often used to measure how well urea is removed from the blood by dialysis and is shown as a percentage. The UK Renal Registry (UKRR) receives URR information from all the renal units in the UK. It is important to report on URR to make sure that all renal units are providing adequate dialysis to patients. It is also important as the survival of patients with kidney failure treated by haemodialysis (HD) is affected by how well urea is removed from the blood. A small number of patients that perform their own dialysis at home (home haemodialysis) were excluded from this paper.

### ***URR information completeness***

Information for URR was available for 72.0% of all patients receiving HD in the UK in 2015. This compares to 71.9% in 2014. Seven centres (Ipswich, Manchester Royal Infirmary, Newcastle, Reading, Brighton, Shrewsbury and Sunderland) provided URR information for less than half of their patients. Eight other centres (Cambridge, Carshalton, London Barts, London King's, London Royal Free, London St Georges, Liverpool Aintree, and Liverpool Royal Infirmary) provided no information on URR and are not included in these results.

### ***Number of dialysis sessions per week and time per dialysis session***

Most patients on HD had dialysis three times a week, but there were big differences between renal units. Some renal units reported that over 12% of their patients had four or more dialysis sessions a week. Other centres reported that more than 10% of patients had two sessions a week.

Most patients dialysed between four and five hours each dialysis session, although again there were large differences between renal units in reported time per session.

### ***Changes in URR over time***

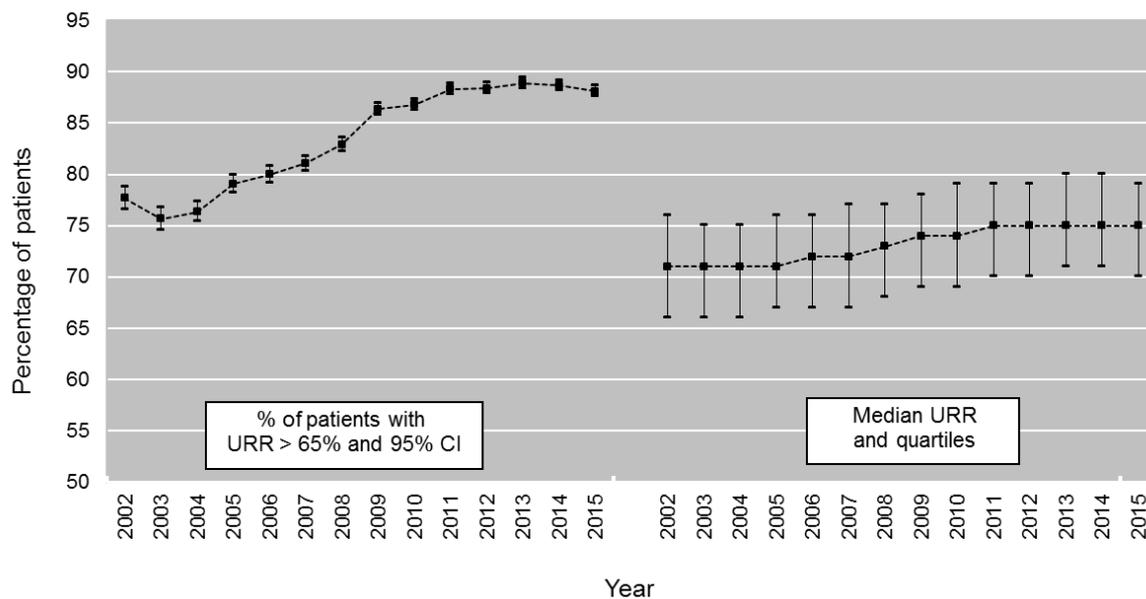
Clinicians recommend that URR should be greater than 65% when patients are on HD and dialysing three times a week, because this will help patients live longer and stay well. In 2015, 88% of HD patients had a URR greater than 65%, a big increase from the 78% seen in 2002 (see figure 1). More women than men reached the recommended URR level: 92% of women compared to 85% of men.

The average URR in 2015 was 75%. Women had a higher average URR than men: 78% for women compared to 74% for men. Average URR has increased from 71% in 2002 to 75% in 2015, but there has been no big increases in the average URR or in the percentage of patients reaching the recommended URR (greater than 65%) between 2011 and 2015 (see figure 1).

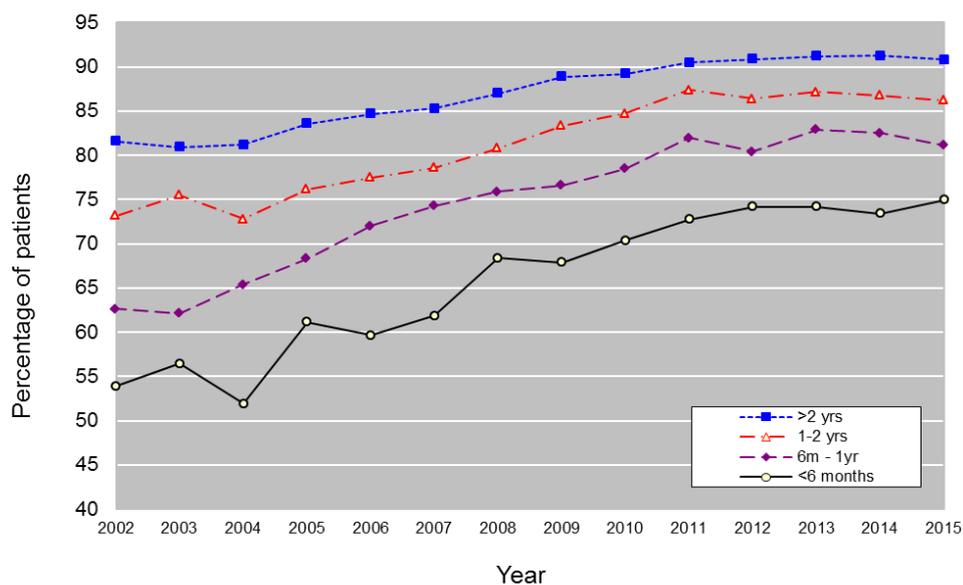
### ***Variation in the URR recommendation and time on dialysis***

More patients reached the recommended URR (greater than 65%) the longer they were on dialysis. Of those patients receiving renal replacement therapy (RRT) for more than two years, 91% reached the

recommended URR (figure 2). Of patients on RRT for six months, 75% reached the recommended URR of greater than 65%.



**Figure 1.** Change in the percentage of patients on HD with URR greater than 65% and the average URR between 2002 and 2015 (CI – confidence interval)



**Figure 2.** Percentage of patients on HD achieving URR greater than 65% by time on RRT between 2002 and 2015

**Conclusion**

The dose of dialysis given to patients, as measured by URR, has increased over the 10 years to 2015. Most patients in the UK reached the recommended target URR of greater than 65%, but there were large differences between renal centres.

For the full annual report chapters, please visit the UKRR website:  
[www.renalreg.org/reports/2016-nineteenth-annual-report/](http://www.renalreg.org/reports/2016-nineteenth-annual-report/)