

# The Renal Association UK Renal Registry



## Survival and Causes of Death in Adult Patients Receiving Renal Replacement Therapy in 2015

This paper describes the survival of adult patients on renal replacement therapy (RRT) in 2015. RRT is a term used to describe treatments that take over the role of the kidneys. This includes dialysis (blood cleaning) and kidney transplantation. We report the survival of patients according to the length of time they have been on RRT, their age and other important health features (such as if a person is diabetic). We also describe their cause of death.

### Descriptions used in chapter

In this chapter, we refer to results as 'age adjusted'. This means that the result takes into account the average age (60 years) of adult patients on RRT in the UK. It means that we can fairly compare results across regions as well as different periods of time.

In some cases, we report the median of the results. The median is the middle value in a set of numbers arranged from lowest to highest. Using the median instead of the average value gives a more precise picture of the data when there are unusually high or low values present.

Survival on RRT is reported for two different time periods:

- '90-day survival' refers to the proportion of patients who survived the first 90 days from starting RRT. We report this as the risk of dying is particularly high during this initial period.
- 'One year after 90 days' refers to patients who have survived the first 90 days of RRT and looks at their survival a year after the high-risk period. As other registries do not collect data until patients have been on dialysis for a minimum of 90 days, this result allows comparison with other countries.

### Patients starting treatment for RRT (dialysis and transplant)

In 2014, 7,251 new patients started RRT. Age-adjusted 90-day survival was similar to the previous year, with about 97 out of every 100 patients alive at 90 days. One year after 90-day survival for new patients was similar to 2013 (90 versus 91 out of 100 people).

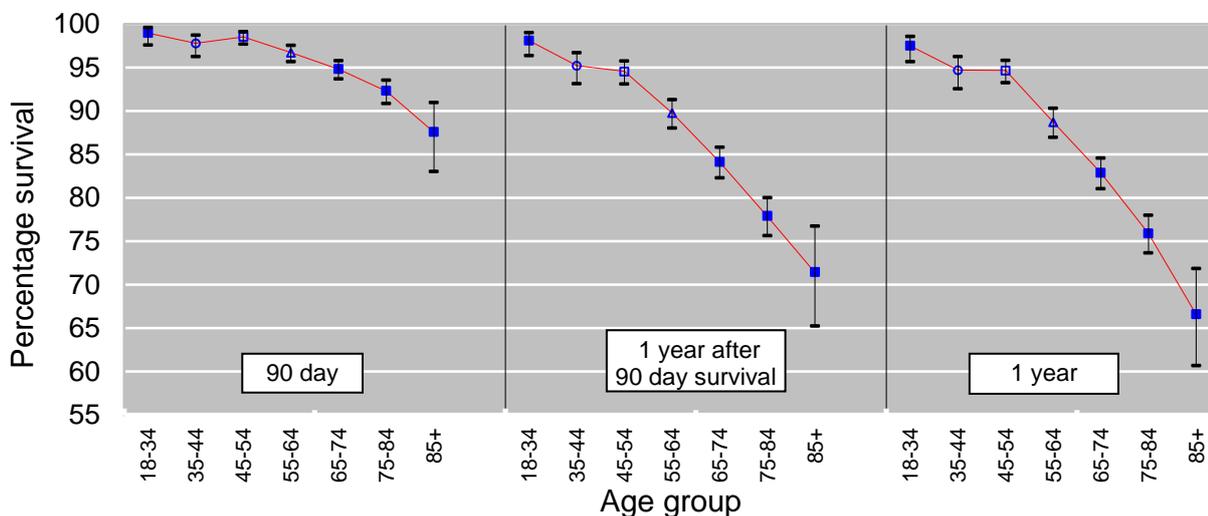
When looking at survival by age, both 90-day survival and one year after 90-day survival was higher in younger patients (18-64 years), falling as people get older (figure 1). For example, 93 out of 100 patients aged 18-64 years will be alive one year after the initial 90-day period, compared with 81 out of 100 patients aged 65 or older.

There was no difference in survival between men and women.

When comparing patients based on diabetic status, 90-day survival for diabetic patients was better than those without diabetes. This finding was seen across all age groups. However, longer term survival in the 18-44 age group was higher in non-diabetic patients. Survival for older age groups was similar, whether the patient had diabetes or not.

One-year after 90-day survival was investigated for patients according to the type of dialysis used (haemodialysis (HD) or peritoneal dialysis (PD)). For patients on HD, 88 out of 100 were alive one year after 90 days, whilst for PD patients 93 out of 100 were alive. This is not a truly fair comparison as we know PD patients are often younger and are more likely to receive a kidney transplant.

Overall, long-term survival is improving for all age groups. This is more obvious for older age groups (65 years and older), where a larger improvement was seen. It is not possible to explain what is causing this. More than half of patients aged 45-54 years at the start of RRT were alive ten years later. The median survival for patients aged 55-64 years at start of treatment was about six years compared to three and a half years for patients aged 65-74 years. For diabetic patients, 72 out of 100 patients aged 18-44 years were alive at five years, compared with 90 out of 100 non-diabetic patients. For diabetic patients, this survival difference is less noticeable between the age groups as patients get older.



**Figure 1.** Survival by age group of new patients starting RRT

#### Patients already receiving dialysis (transplant patients not included in this section)

At the end of 2014, approximately 26,500 adults in the UK were receiving dialysis treatment for kidney failure. Overall, one-year survival for dialysis patients is improving year on year. Adjusting for age, 88 patients out of 100 were alive at one year, which is similar to the previous year.

#### Risk of death for all RRT patients compared to the general population

We compared the risk of death at one year for people receiving RRT with the risk of death for people in the general population of the same age. For patients aged 35-39 years the risk of death was 22 times higher than the general population. Patients aged 85 years and over are two times more likely to die than the general population.

#### Cause of death for people receiving RRT

In the first 90 days of RRT, the most common cause of death (across age groups) was heart disease. Heart disease was also the main cause of death for patients under 65 who survived for more than one year. However, the number of patients dying of heart disease has been falling over time. For older patients, stopping treatment was the main cause of death. This cause of death is becoming more common in older patients.

#### Conclusion

Survival for patients on RRT remained stable compared with the previous year. Overall, long-term survival is improving, with advances seen in older (65+ years) patients. Despite this, there is still much work to be done to improve the survival time of patients, particularly for diabetic patients. Heart disease remained a common cause for death, although stopping treatment has become a main cause of death in the older population. When comparing kidney centres, differences were seen in age-adjusted survival. This may be for several reasons, for example some centres may look after more patients with other complex medical problems. Unfortunately, due to missing data, we were unable to take this into account for a fair comparison of hospital performance.

For the complete annual report, please visit the UK Renal Registry website:

[www.renalreg.org/reports/2016-nineteenth-annual-report/](http://www.renalreg.org/reports/2016-nineteenth-annual-report/)