

The Renal Association UK Renal Registry



Survival and Cause of Death in Adult Patients Receiving Renal Replacement Therapy

Plain English Summary

This paper describes the survival of adult patients on renal replacement therapy (RRT) in 2016. 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.

Definitions

We refer to results as 'age adjusted'. This means that the result takes into account the average age of adult patients on RRT in the UK (60 years). 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. This is the middle result of the data we are looking at. 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 survivors who survived the first 90 days of starting RRT. We report this as the risk of dying is particularly high during this time-frame.
- '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 (the first 90 days). 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 2015, 7,626 new patients started RRT. Age-adjusted 90-day survival was similar to 2014, with nearly 97 out of every 100 patients alive at 90 days. One year after 90-day survival for new patients was the same as in 2014 (90 out of 100 people).

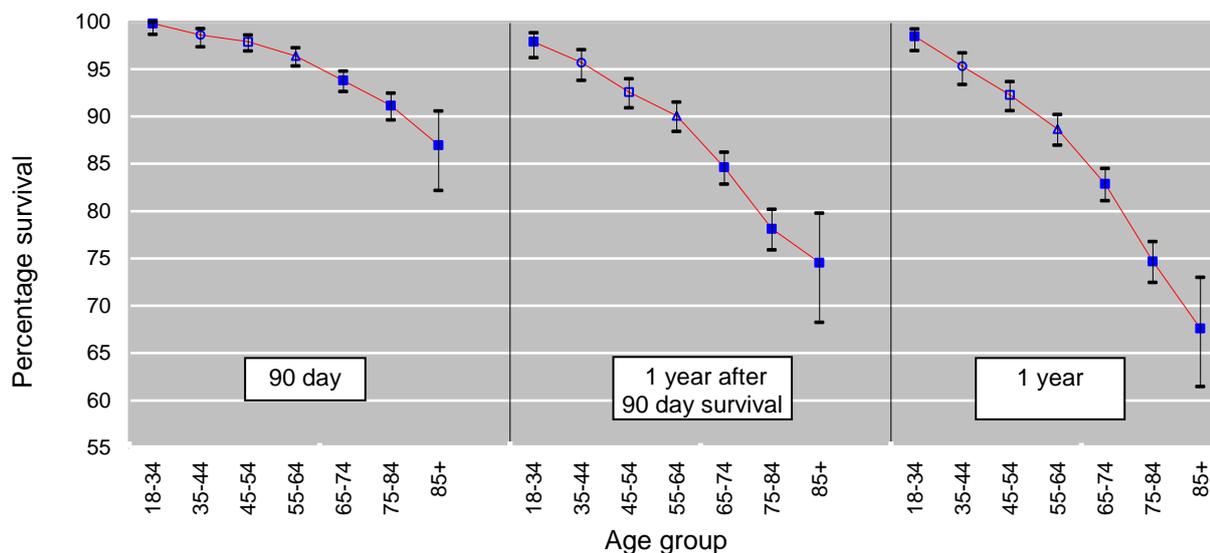
When looking at survival by age, both 90-day survival and one year after 90-day survival is higher in younger patients (18-64 years), but survival is worse as people get older (figure 1). For example, 93 out of 100 patients aged 18-64 years will be alive one year after the initial 90-day period, compared with 81 out of 100 patients aged 65 or older. There was no difference in survival between men and women.

When comparing patients with and without diabetes, 90-day survival for patients with diabetes was better than for patients without diabetes. This finding was the same for all age groups. However, longer term survival in both the 18-44 and 45-64 age group was higher in non-diabetic patients. Survival for older patients aged 65 or older 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 at the start of the year (haemodialysis (HD) or peritoneal dialysis (PD)). For patients on HD, 88 out of 100 were alive one year after 90 days; while 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 during that year.

Overall, long-term survival is improving for all age groups. This was more obvious for older age groups (over 65 years), where there was a larger improvement. 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 6 years compared to 3.5 years for patients aged 65-74 years. For patients with diabetes, 73 out of 100 patients aged 18-44 years were alive after five years, compared with 90 out of 100 non-diabetic patients. This survival difference was less noticeable between patients with and without diabetes as patients got 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 2015, approximately 26,500 adults in the UK were on dialysis treatment for kidney failure. Overall, one-year survival for dialysis patients has been very similar in recent years. Adjusting for age, 88 patients out of 100 were alive at one year, which was similar to the previous year.

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

We compared the risk of death after 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 21 times higher than the general population. Patients aged 85 years and over on RRT are only 1.5 times more likely to die than the general population.

Causes of death for people receiving RRT

In the first 90 days of RRT, the most common cause of death (for all age groups) was heart disease. Heart disease was also the main cause of death for patients under 65 who survived on RRT for more than one year. Despite being the most common cause of death, the number of patients dying of heart disease is falling over time. For older patients, the number of patients dying of heart disease was similar to the number of patients who stopped treatment, which is becoming more common as a cause of death in older patients.

Conclusion

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

For the full annual report chapters, please visit www.renalreg.org/reports/2017-twentieth-annual-report/