

## Acute and chronic kidney disease preceding dialysis initiation – an audit of UK Renal Registry data

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### Introduction

Kidney replacement therapy (KRT) is used to treat kidney failure following acute kidney injury (AKI) or progressive chronic kidney disease (CKD). The UK Renal Registry now holds data for patients known to renal units with CKD stage 4 or 5 and individuals whose blood results indicate a probable AKI (thus triggering an 'AKI-alert'). Alongside capture of KRT initiation, these data provide a more comprehensive picture of advanced kidney disease in the UK than has before been possible.

Reported here is the first audit of these AKI-alert, CKD and KRT data. The following question was asked of UKRR records restricted to centres providing analysable CKD and AKI-alert data from mid-2016:

“Amongst individuals who started KRT in 2017, who had previously been reported to the UKRR in the CKD or AKI-alert data, and what were their clinicodemographic features and outcomes?”

### Methods

Six UK renal centres (Coventry, Derby, Gloucester, Leicester, Middlesbrough and Portsmouth) have provided both CKD and AKI-alert data since mid-2016. All individuals reported to have initiated their first-ever KRT in these centres during 2017 (including individuals coded as receiving 'acute' dialysis) were included. Routine UKRR data were used to describe their clinicodemographic features and outcomes, stratified by whether they had been reported to the UKRR in CKD and AKI-alert data in the six months preceding initiation.

### Results

In 2017, 1,143 people started kidney replacement therapy across the six units.

- 400 (35.0%) featured in the CKD dataset in the 6-months before initiation, but had no AKI-alert,
- 9 (0.8%) had one or more AKI-alerts, but were not in the CKD dataset,
- 299 (26.2%) were in the CKD dataset and had one or more AKI-alerts,
- 435 (38.1%) were in neither the AKI nor the CKD dataset before initiation.

Peritoneal dialysis and pre-emptive transplantation were commonest amongst individuals who were in the CKD dataset, and scarcest amongst individuals in neither dataset. Individuals in neither dataset had the highest rates of mortality, but also the highest rates of recovery. Diabetes was coded as the primary renal diagnosis least commonly for individuals who had not been reported to the UKRR preceding KRT initiation.

### Conclusion

A more comprehensive picture of UK advanced kidney disease is available than ever before, but it remains incomplete. Even with records restricted to centres providing the most complete CKD and AKI-alert data, over one third of individuals who started KRT in 2017 had not previously been reported to the UKRR. More work is needed to better understand the reasons for incomplete capture of pre-KRT nephrology care and

acute kidney injury. Potential explanations for these findings include suppression of AKI-alerts by reporting units/laboratories, missing baseline renal function tests at reporting laboratories, completeness of CKD reporting and use of a six-month window in this analysis (a limitation of the data available). Work is underway using Hospital Episode Statistics to supplement and triangulate the presented data.