

## The impact of an AKI improvement programme and an AKI nurse on outcomes in a busy district general hospital

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Southend University Hospital is a 600-bedded busy district general hospital. We initiated an acute kidney injury quality improvement programme with the introduction of electronic AKI alerts in 2016. The programme consisted of a simple, standardised pathway which follows the “STOP” AKI framework. In 2018 we appointed an AKI nurse to help educate all healthcare staff and ensure consistent pathway implementation. The aim of the programme was to reduce the numbers of AKI 1 and 2 from progressing to a 2 or a 3. We defined this as AKI progression.

We have recoded 14151 episodes on AKI from April 2016 to December 2019. 702 AKI was detected on ITU patients and were excluded, leaving 13,449 episodes for further analysis. 5030 (37%) were from the community (including acute areas such as acute medical ward and A+E) and 8419 were in-patient episodes (63%). AKI stages 1, 2 and 3 were 3894 (77%), 758 (15%) and 378 (8%) respectively from the community; and 6468 (77%), 1217 (14%) and 734 (9%) respectively from in-patients.

The rate of progression for community acquired episodes was 1.5% vs. 6.4% for in-patient episodes. 30-day mortality in the community AKI was 20% for community episodes compared with 25% for in-patient episodes. Figure 1 the trend in overall 30-day mortality (red line) and the numbers of AKI episodes (blue bar chart). There appears to be a seasonal variation to AKI episodes, with associated increase in mortality during winter months. There was a trend downwards in the setting on increasing numbers of AKI (bar chart) with a clear shift early 2019 following the appointment of the AKI nurse.

The robust implementation of a pathway and an AKI nurse showed a trend towards improving 30-day mortality even in the face of increased winter pressures and limited resources. The AKI nurse is a key tenant of improving AKI care and should be part of any improvement programme or future studies.