

## Introduction of a dedicated Acute Injury Clinic to reduce hospital admissions, mortality and length of stay

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### Introduction

The 2010 NCEPOD report 'Adding Insult to Injury'<sup>1</sup> highlighted the need for Trusts across the United Kingdom to address under-treatment of Acute Kidney Injury (AKI).

Our STOP-AKI project was triggered following a trust mortality analysis. Following this project, it demonstrated an integrated, whole-system approach is necessary to improve AKI. These interventions delivered a 23.2% reduction in in-hospital mortality, a 25.9% reduction in 30 day AKI mortality and a 2.6 day improvement in length of stay (LOS), all of which were sustained over 33 months follow up<sup>2</sup>. Membership of AQuA ensured compliance with an AKI bundle for patients admitted with or who developed stage 3 AKI. Our trust has sustained its top ranking with AQuA throughout its membership.

Despite this success our LOS, mortality, and 30 day readmission offered some improvement, however these outcomes subsequently plateaued. Therefore in March 2019 we created a time sensitive AKI outpatient clinic; ensuring review of all patients with AKI stage 3 and non-resolving AKI stage 2. After 7 months we undertook a retrospective qualitative audit review of AQuA and trust data to establish the impact of the new service.

### Methods

We compared outcomes of all the patients who had attended AKI clinic (n=60) from March 2019 to September 2019; with a randomised comparison group of 60 patients (n=60) who met AKI clinic review criteria and were discharged from hospital between March 2018 and September 2018. Patients were matched for stage of AKI and demographics. The data obtained was derived from patient electronic records. We retrospectively analysed 30 day readmission, 30 day mortality, and hospital length of stay for both groups of patients.

### Results

Our results (see Table 1) demonstrate no 30 day readmissions for patients who attended AKI clinic. For the comparison group the readmission rate was 23% (43% of whom had an acute kidney injury on admission). Average LOS in the AKI clinic group was 12 days versus 15.7 days in the comparison group. 3 patients died in the AKI clinic group but >30 days. 35% of patients in the comparison group died, 29% of who died <30 days (incidentally these were the same patients who were re-admitted with an AKI).

### Conclusion

We have achieved a time sensitive dedicated clinical stream for AKI patients within our Nephrology service. Patients within this clinic have been monitored, medications recommenced education and shared care practices implemented and evaluated across primary care.

The increased risk of mortality remains evident over longer term follow up. Furthermore, AKI is associated with a 13-fold increase in the risk of subsequently developing End Stage Renal Disease<sup>3</sup>. This supports the need for long term follow up of AKI 3 patients in the Nephrology setting.

The AKI clinic has enabled a time sensitive review of discharged patients, and we have been able to prevent readmission, 30 day mortality, and reduce LOS. Although early indications are positive, further ongoing evaluation is required to see the longer term impact of this service.