

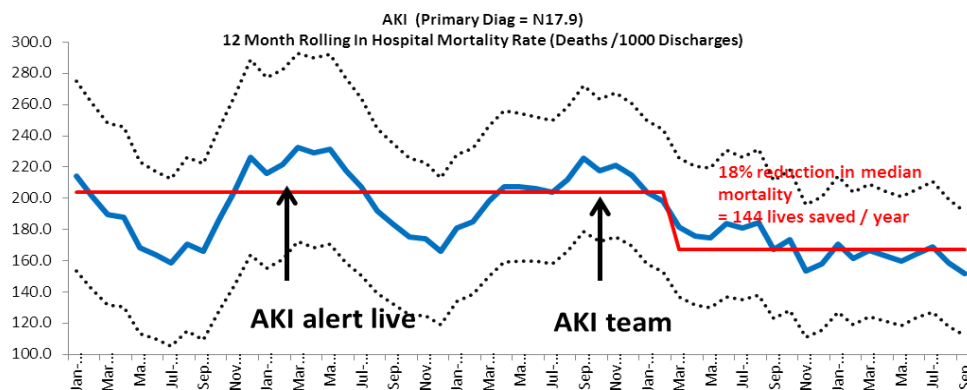
An integrated Acute Kidney Injury service to reduce mortality and improve patient outcome, a single centre experience.

Introduction: There is high incidence of acute kidney injury (AKI) in hospitalised patients. This is associated with increased morbidity and mortality but also increasing health care costs. Our team has been at the forefront of developing an innovative and integrated hospital AKI care service over last 5 years including i) development of an automated AKI alert systems and collaboration with NHS England in developing National AKI alert algorithm¹. ii) Hospital AKI team with 12 hour 7 days a week AKI specialist nurse cover for stage 2 &3 alerts, iii) AKI clinic to avoid unnecessary admission and promote early discharge with appropriate follow up iv) development of Cheshire and Mersey AKI guideline and 'AKI care bundle' v) 'AKI workshop' for increasing awareness and vi) community AKI project' in collaboration with primary care.

Method: We set up an audit to monitor patient outcome in terms of mortality and length of stay for hospitalized patients since 2012 with the introduction of AKI alert system. We introduced consultant led hospital AKI team supported by AKI nurse practitioners to provide seven day care since 2013. We also introduced a comprehensive 'AKI care bundle' in 2013 and 'AKI Clinic' to allow appropriate investigation, management and follow-up of patients with post AKI and also to facilitate early hospital discharge.

Results:

The integrated AKI services has been successful in terms of overall quality improvements including early identification of AKI cases with alert system and a coordinated response by hospital AKI team along with the support of AKI clinic and educational activities. There is a reduction in length of stay (LOS) of patients by 24 % (median LOS 6.0 days in 2014-15 vs. 7.9 days in 2013-14), equates to £200k cost saving per year. We have also achieved 18 % reduction of crude mortality from AKI cases throughout the trust identified by coding. (graph 1). The introduction of AKI alerts alone did not alter the mortality but when combined with the Hospital AKI team support and AKI care bundle, there was a sustained statistically significant improvement with mortality rate. (graph 1)



Graph 1: Mortality with primary diagnosis AKI (Jan 2011 – Sept 2015, per 1000 discharges)

CONCLUSIONS: AKI remain a challenge for clinicians with significant morbidity and mortality risks. An integrated AKI service has helped us to improve patient outcome through early identification and quick response leading to a reduction in the progression of AKI cases, reduced length of stay and reduction in mortality.

Re: ¹Ahmed S, Curtis S, Hill C, Hine T. *Nephron Clin Pract.* 2014;128(1-2):166-70