

Greater Manchester and Eastern Cheshire Strategic Clinical Networks
Prevention, management and post AKI care both in the community and hospital settings in the northwest of England

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Advancing Quality Acute Kidney Injury Abstract

Background

Advancing Quality (AQ), the flagship programme of the North West Quality Improvement Programme, Advancing Quality Alliance (AQuA) is an established approach to reducing variation and improving outcomes for patients in the North West of England. It aims to improve clinical care by producing and implementing evidence-based bundles of care across a collaborative network of hospitals.

Acute Kidney Injury (AKI) is a significant cause of morbidity and mortality – estimated 20% mortality in the NW of England. It is responsible for about 53,000 admissions and 10,000 in-hospital deaths per annum¹.

Early recognition and management through use of care bundles can reduce mortality however multiple national audits had demonstrated inadequate management.

Intervention & Measurement

The AQ AKI measure set was devised by a clinical expert group based on research/literature evidence produced by the British Medical Journal (Table 1).

The measure set was developed and launched in April 2015 and is consistent with recommendations from the National Institute for Excellence. Collaborative events were used to launch the measure set and share best practice between hospitals. Performance results were published on a monthly basis and shared with collaborating hospitals.

AKI-01	Urine Dipstick Test within 24 hours of 1 st AKI Alert
AKI-02	Stop Angiotensin Converting Enzyme (ACE) inhibitors and Angiotensin Receptor Blockers (ARBs) within 24 hours of 1st AKI Alert
AKI-03	Serum Creatinine test repeated within 24 hours of the 1st AKI Alert
AKI-04	Ultrasound Scan of urinary tract within 24 hours of 1st AKI Alert
AKI-05	Specialist Renal/Critical Care Discussion within 12 Hours of 1st AKI 3 Alert
AKI-06	Give patients written self-management information prior to discharge
AKI-07	Pharmacy medication review – data collection measure only

Table 1 AQ AKI Measure Set

The National AKI Algorithm was used to identify patients with AKI. Participating AQ Trusts submit these identified patients with AQ identifying the AKI stage 3 patients for care bundle compliance. The additional AKI stage 1& 2 patients are used to monitor stage progression of the disease for each locality. A standard data collection tool was used to assess management of patients with AKI stage 3 on a monthly basis. Care for AKI stage 3 patients was assessed by using performance on individual measures and an Appropriate Care Score (ACS) – the percentage of patients who received all eligible measures.

Results

Use of the AQ AKI measure set and a collaborative network in the NW region of England appears to have improved management and outcomes of patients with AKI. However long-term data is required and this is an interim analysis. AQ recognise that identifying this patient cohort has increased awareness to this disease and has supported improvement initiatives across the region in both primary and secondary care. AQ have been able to provide healthcare organisations with close to real-time data on key performance indicators on AKI management.

For the 12 month period from July 2015 to June 2016, just over 5,000 patients were eligible for the AQ measures. The 16.8% of patients who received all measures for which they were eligible had a mean length of stay 5 days shorter than patients who did not receive all the measures. If the remaining 83.2% of patients (n 4,201) had matched the shorter length of stay, a potential savings of over 21,000 might have been realised.

AQ AKI	Count	Bed Days	Avg Bed Days
Passed	851	12,662	14.9
Failed	4,201	83,684	19.9
Total	5,052	96,346	19.1

4201 * (19.9-14.9) = 21,177 bed days saved

Conclusion

Use of an evidence-based AKI bundle of care across a regional collaborative network of hospitals appears to have both directly and indirectly influenced the improvement in management and outcomes, in particular reduction in length of stay.

1. Calculated using 2015/2016 PbR data for non-elective inpatients coded with ICD10 code N17 at any time during their stay