



Acute Kidney Injury: A Quality Improvement Approach

Background

In 2014 Salford Royal NHS Foundation Trust launched a Trust-wide initiative to improve acute kidney injury (AKI) care. The improvement work is based on the Institute for Healthcare Improvement's Breakthrough Series Collaborative (BTS) model.

Learning sessions are used to:

- Learn AKI best practice and Quality Improvement (QI) theory
- Develop test of changes using Plan Do Study Act (PDSA) Cycles.

Figure 1

Think SALFORD

Institute AKI bundle in all patients with 26 mmol/L or 1.5 X rise in creatinine or oliguria (<0.5mls/kg/hr) for >6 hours.

Sepsis and other causes-treat

ACE/ARB and NSAIDS suspend/review drugs

Labs (Repeat Creatinine within 24 hours) & **L**eafllets (for patients)

Fluid assessment and response (History and examination, initiate fluid chart, measure daily weights - if hypovolaemic give bolus IV 250 mls and reassess)

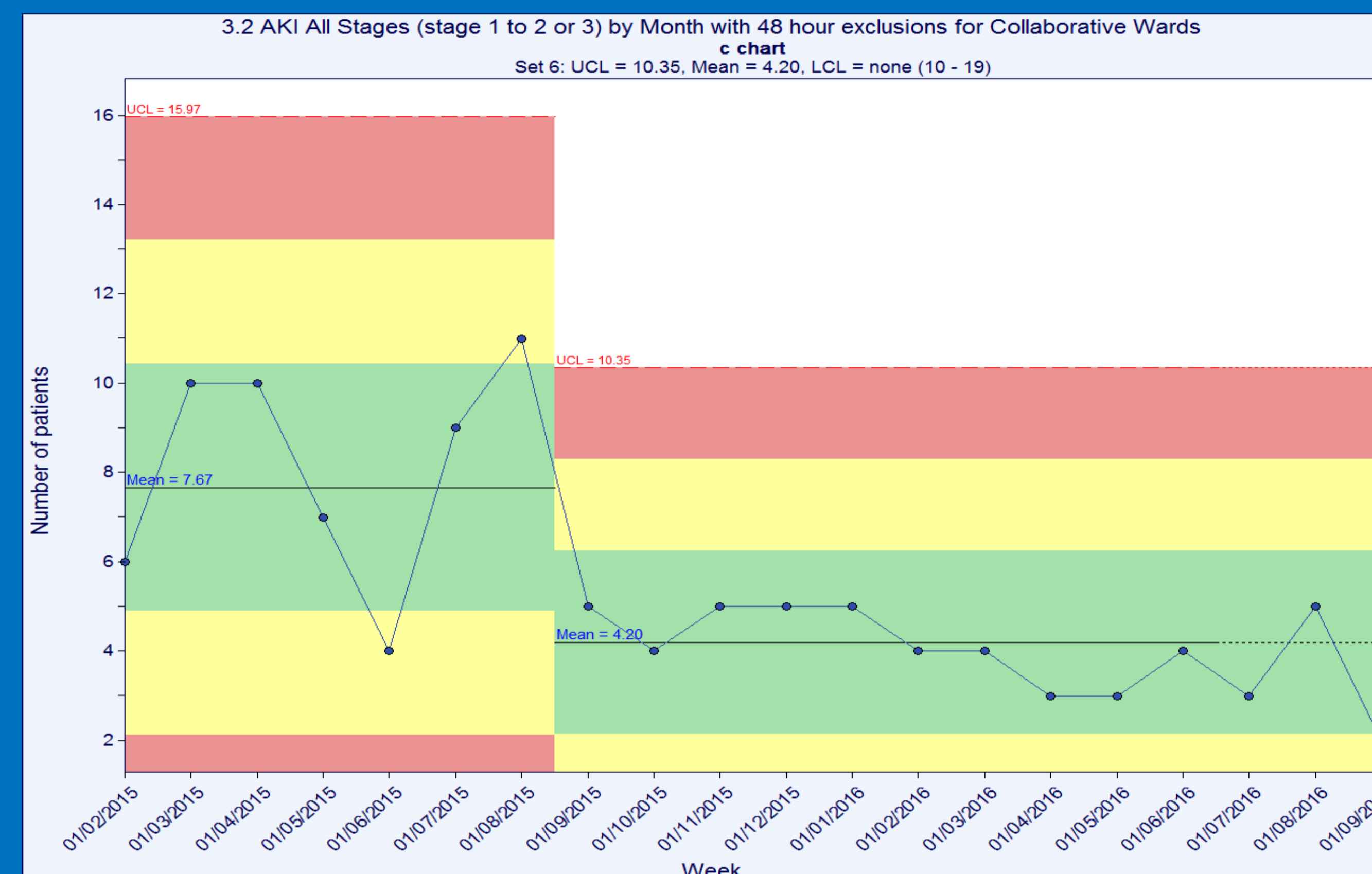
Obstruction USS should be performed within 24 hours in non-resolving AKI 3 (3 X rise in serum creatinine or >354 mmol/litre) of unknown cause

Renal /critical care referral Non resolving AKI 3, possible intrinsic renal disease requiring specialist treatment, CKD 4-5, renal transplant, severe AKI complications

Dip the urine and record it

Produced by the Salford Royal AKI Working Group in collaboration with the NIHR CLAHRC Greater Manchester

Figure 2



Improvement Work

Ten multidisciplinary teams from across the organisation are engaged in the collaborative.

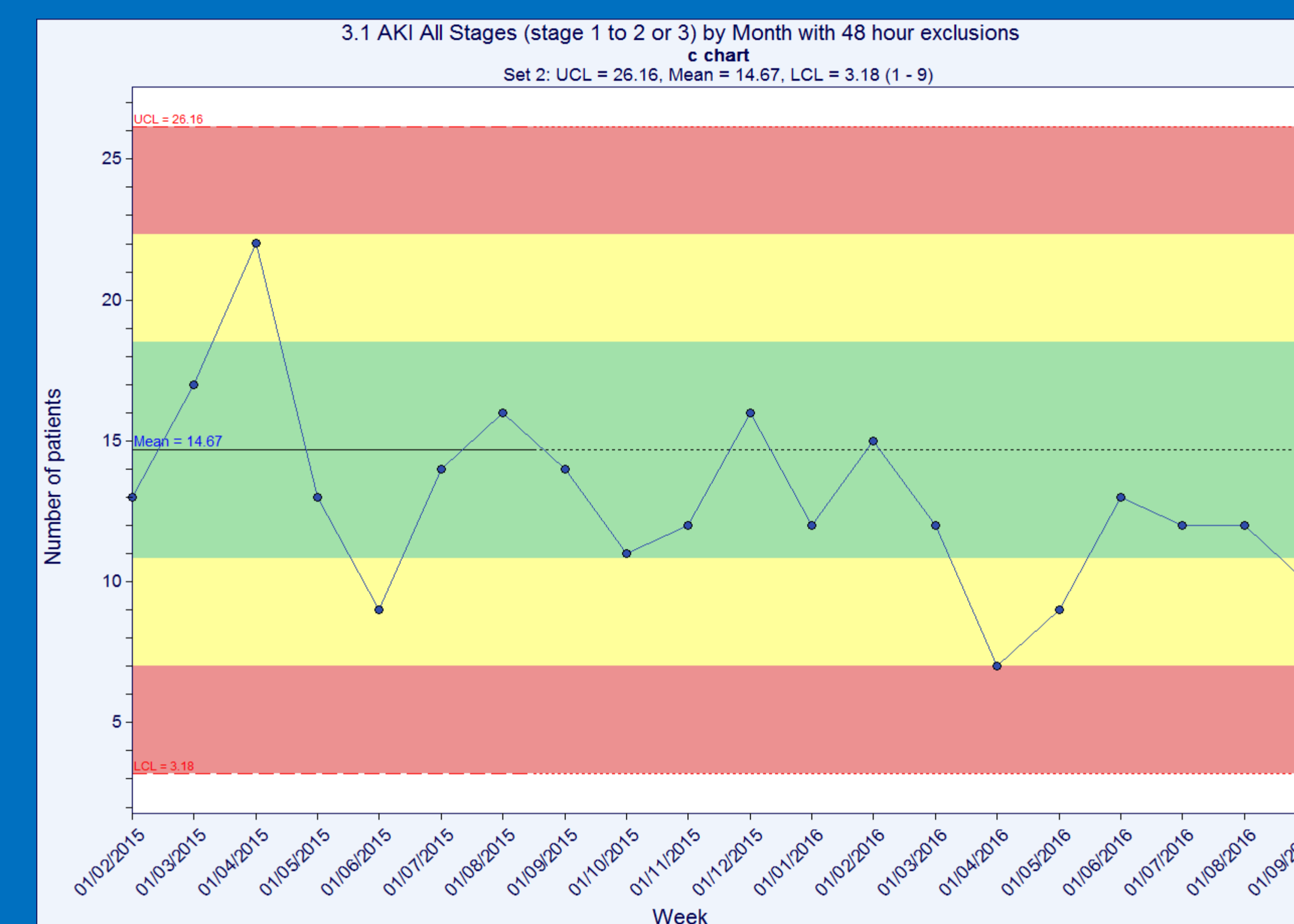
Between learning sessions, tests of change have been developed and refined with a focus on identification, communication and the reliable implementation of the 'SALFORD' bundle (Fig 1).

At the end of the collaborative a change package is then spread across the organisation.

Tests of change have focused around:

- 1) Putting the 'SALFORD' AKI best practice care bundle into practice
- 2) Putting the AKI algorithm and changes to the electronic patient record into practice.

Figure 3



Outcome Measures

The Statistical Process Control (SPC) chart (Fig 2) shows that there has been a statistically significant shift equalling a 48% reduction in AKI stage 1 progressing to stage 2 or 3 in the collaborative teams in the innovation period when compared with baseline.

When compared with the whole organisation (Fig 3) the data is showing normal variation and there is only a 19% reduction in AKI stage 1 progressing to stage 2 or 3 in the innovation period when compared with the baseline.

Further information can be obtained from:

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