

Acute Kidney Injury Days or Time to Recovery: A novel sensitive metric for AKI improvement

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Introduction

- Acute kidney injury (AKI) is a common condition with significant morbidity and mortality.
- AKI affects 1 in 5 UK hospital patients
- The NCEPOD audit in 2009 identified serious deficiencies in AKI management
- Most hospitals in the UK have now implemented AKI improvement programmes using various measures to monitor impact
- We tested the hypothesis that the time to recovery from AKI (AKI days) will constitute a new sensitive marker for the impact of interventions on AKI care.

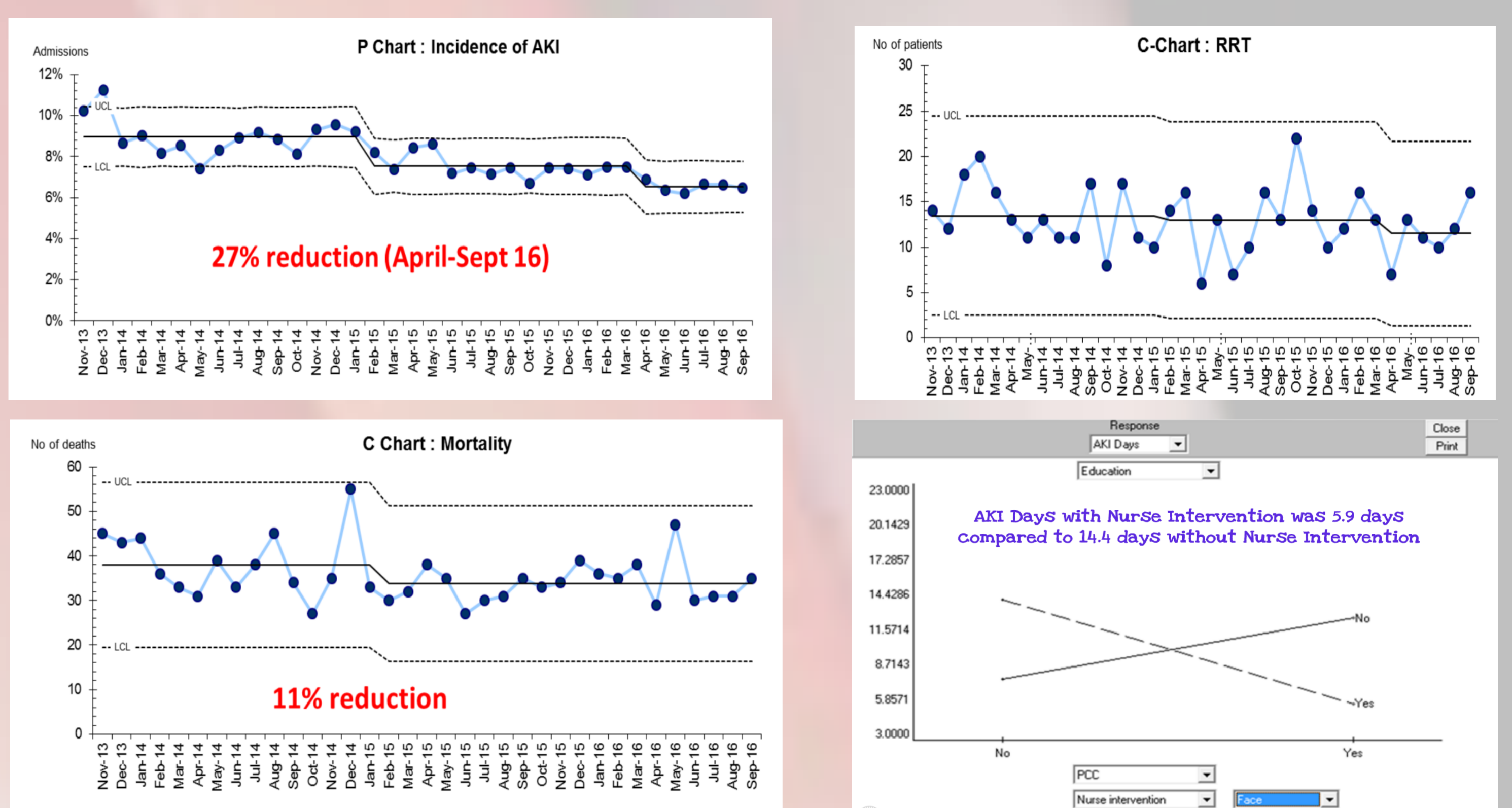
Commonly used outcome measures and their shortcomings



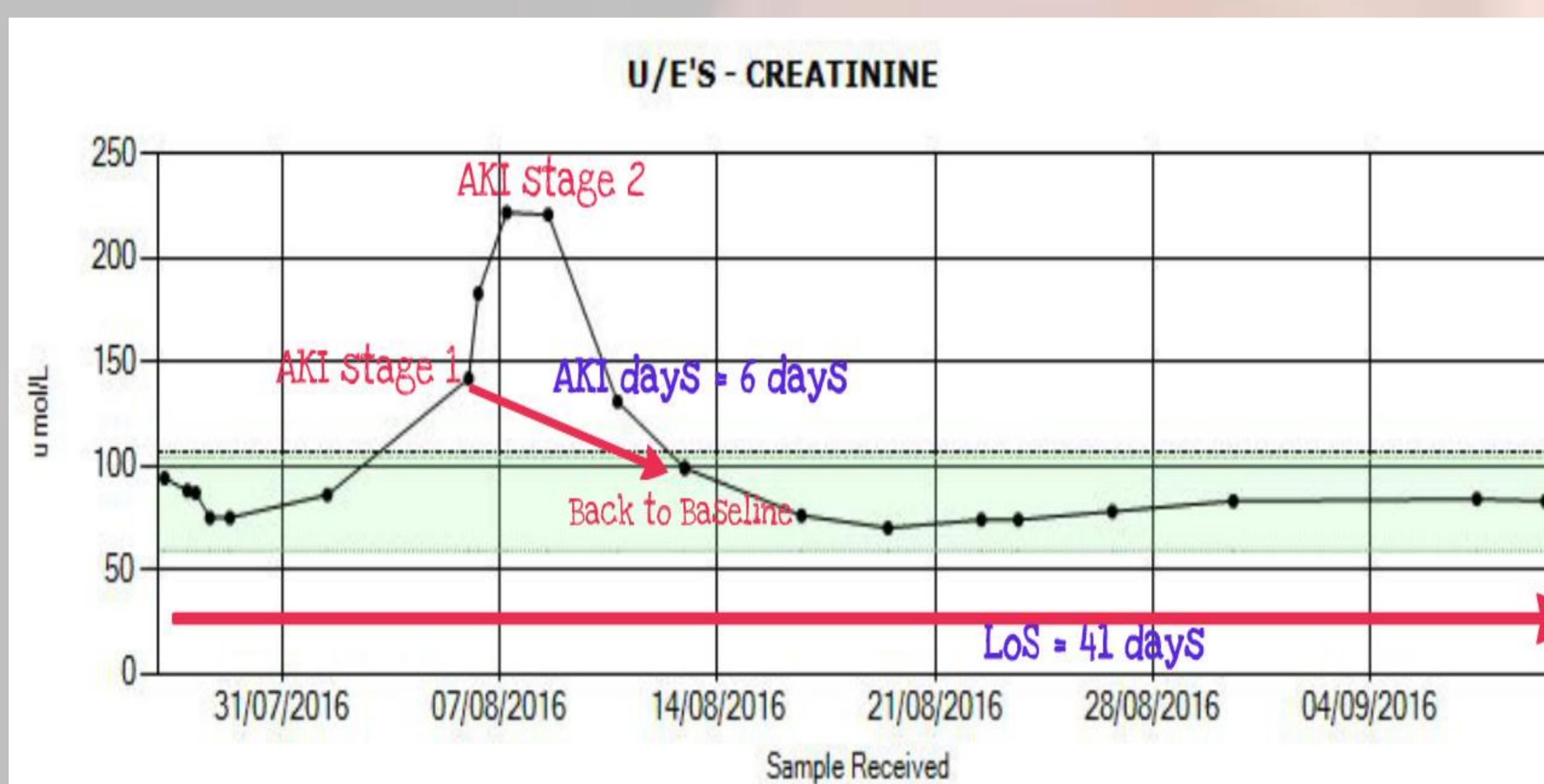
Method

- As part of multifaceted quality improvement programme we recorded attainments in 5 outcome and 4 process measures
- Data for all measures were continuously monitored on statistical process control charts month by month
- A 3 month factorial design experiment was conducted to study the impact of the various interventions
- 9622 cases of AKI recorded from November 2013 to September 2016
- 7172 patients had baseline creatinine and had AKI days measured

Results of commonly used measures

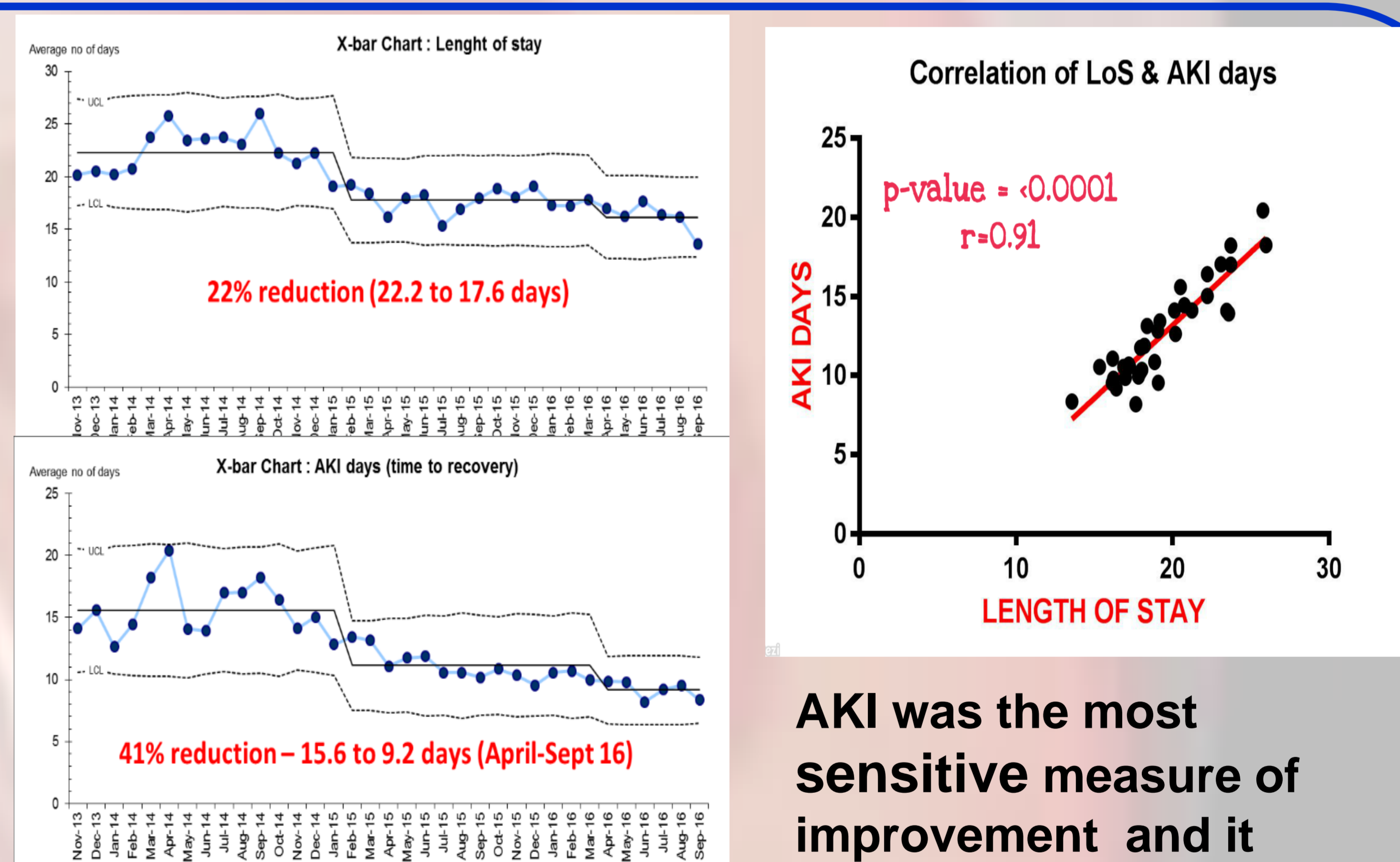


What is an AKI day?



The AKI days is defined as the difference between the first date of a blood test which triggered an AKI alert, to the date that the patient recovered or creatinine was less than 50% from the baseline or no more AKI alert is triggered

Reduction in AKI days



AKI was the most sensitive measure of improvement and it correlates with LoS

Conclusion

Our study clearly shows AKI days is a very sensitive measure of improvement in AKI care. Whilst traditional markers such as LoS and mortality may still show improvements, they may be influenced by other factors such as social needs and other competing improvement programmes. We propose AKI days to be a new outcome marker to measure AKI improvement programmes

What Next?

Further work is underway to look at any relationship between AKI days and hard outcomes measures such as death and incidence of CKD or ESRD post AKI