A Novel Quality Improvement Project in Acute Kidney Injury in a Large Teaching Hospital.

from

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NIHR CLAHRC (National Institute for Health Research Collaboration for Leadership in Applied Health Research)

Summary of the area we needed to consider
Acute kidney injury (AKI) is a common condition that is associated with significant mortality and cost, according to the NCEPOD report of 2009. The Quality Improvement Collaborative in Salford Royal NHS Foundation Trust was established in 2014 to review and improve both the recognition and management of AKI.
What did you want to achieve from this work ?
This quality improvement project used the Institute for Healthcare Improvement's Breakthrough Series Collaborative Model to focus on reducing the incidence of AKI in hospital. Our aim was to reduce the incidence of overall acute kidney injury by 10%, to reduce the in-hospital acquired acute kidney injury by 25% and reduce the progression of AKI stage 1 to AKI stage 2 or 3 by 50% by December 2016.
Who was involved in this QI work?
• SRFT AKI working group • SRFTT AKI collaborative teams • Quality improvement team Salford Royal foundation trust and CLAHRC (Liam Doyle, Zoe Ashton, Delphine Corgie) • Peter Turkington – Project sponsor Several key stakeholders were identified within the workforce and these individuals were engaged through a series of workshops and collaborative meetings to help us realise the individual components of the driver diagram. QI Periodic "walk rounds" were conducted to support the ward staff and share good practice. As positive results filtered through, formal feedback was given through divisional meetings to colleagues within management roles and informal walk rounds to AKI nurse leads to filter back to the ward teams to bolster participation.
What did your project involve?
We used QI facilitators to drive improvement work as previously they have supported work with great success across our Trust QI collaboratives. The QI methods and tools used were based on the Institute for Healthcare Improvements Breakthrough Series Collaborative Model which used a multidisciplinary team approach on

several workshop days to design tests of changes, try PDSA (plan, do, study, act) cycles and develop storyboards.
These went on to inform several changes to the electronic patient records. An information banner was inserted into the electronic patient records, modifications made to the electronic admission document, post take ward round and discharge summary forms, and an AKI review template introduced.
A team of selected doctors, nurse champions pharmacists and quality improvement staff implemented an AKI bundle, based on the acronym 'SALFORD', to a group of collaborative wards that were supported with learning events.
An online educational package for AKI was designed and hosted on our Moodle site and to date this has been completed successfully by over 1000 staff members at Salford Royal NHS Foundation Trust.

What was the outcome of your QI work?

Though analysis of AKI alerts over the study period November 2015 to May 2016 shows there was an increase overall in AKI, especially AKI 1, there were several statistically significant results. Following the interventions made by the collaborative there was a 15.56% reduction in overall hospital acquired AKI, with a **22.32% reduction** on the collaborative wards. And although there was normal variation shown for the overall hospital rates of progression of AKI 1 to AKI 2/3 there was a **48.47% reduction** in AKI progression from AKI 1 to AKI 2/3 on the collaborative wards.

What impact on patient care have resulted from the changes made?

There was a significant reduction in AKI progression and through this program of work there is now a robust system in place for both recognition and investigation of AKI. This has generated a multidisciplinary change in practice with incorporation in the nurses "safety huddle", a dedicated part of the pharmacists workload for AKI medication review, specific documentation to support doctor's recognition of AKI and subsequent assessments. This has generated a significant reduction in hospital acquired AKI and AKI progression which will lead to a reduction in patient renal morbidity in the future and, yet to be analysed, will likely have contributed to a decreased length of stay and mortality.

What have you learnt from this QI work?

The most important lesson learnt is that the sustainability of the change and improvement is generated through an integration of highlighting AKI recognition and building redundancy into the system. As we move to the spread phase the ongoing challenges will be to create buy-in from the remaining wards and build sufficient checks and redundancies into the system so that when the AKI collaborative stop the quarterly sessions, the ward visits for support and the repeated reminders, AKI will continue to be recognised and managed in an appropriate and timely fashion.
This is the first quality improvement project of its kind focused on AKI in the Trust. It has achieved statistically significant reductions of hospital acquired AKI and AKI progression particularly on the collaborative wards and is a testament to an effective quality improvement programme that is universally applicable in the challenge of tackling AKI. The ongoing challenge will be to spread and sustain the standard achieved to date and to generate a robust system that will recognize the patients at risk and improve both short term and long term outcomes for patients.

Describe the whole process in three words…
Collaborative Innovative Safety
Contact details for more information about the QI project
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