Emergency Laparotomy Quality Improvement Project in a Medium-Sized District General Hospital

Aim of Project:
To reduce 30 day mortality from emergency laparotomy surgery from 11.4% to less than 9% by March 2016

1. Context:
The Royal Bournemouth & Christchurch NHS Foundation Trust (RBCH) is a medium-sized hospital performing 150-200 emergency laparotomies each year, on a population with a higher than average proportion of elderly patients. The project team established in December 2014 is sponsored by the medical director, led by a consultant anaesthetist, and team members include anaesthetists, surgeons, nurses, geriatricians, junior doctors, IT, theatre staff, and improvement management support.

2. Problem:
The RBCH Emergency Laparotomy Quality Improvement Programme (QIP) analysis of National Emergency Laparotomy Audit (NELA) November 2014 results indicated that our performance was merely average; not a situation we aspired to be in! The Organisational Audit report also suggested that we were lacking with regards to certain infrastructural components such as defined policies for care of high-risk patients. Our crude mortality rate was 11.4%, but high-achieving centres had a rate around 5%.

3. Assessment of problem and analysis of its causes:
Detailed analysis of the NELA data indicated opportunities for focused investigation around:
- so screening/urgent senior review
- antibiotics administered within 1 hour in septic patients
- urgent CT scan where appropriate (dependent on senior review)
- theatre within 3/6 hours of decision to operate, with preoperative risk scoring used
- multi-disciplinary team (MDT) meetings to discuss high-risk elderly patients
- consultant surgeon/anaesthetist in theatre
- goal-directed fluid therapy
- critical care postoperatively

Staff groups were involved in reviewing the data analysis during the weekly project group meetings. We put together an Acute Abdomen Pathway document which was launched in February 2015, as a basic management plan to help our junior staff in particular. It also functioned as a repository for our NELA data.

4. Strategy for change:
The improvement process is based on the Trust’s agreed QI model. Emphasis has been placed on trying to improve our performance on the process measures listed above. We have carried out Plan-Do-Study-Act (PDSA) cycles to look at compliance with our request to hold MDT meetings in high-risk elderly patients, and also looking at how well our Pathway document was being filled in.

5. Measurement of improvement:
We know that we have consistent data of very high quality, and this has been commended by NELA. Regular interrogation highlights changes in our performance, enabling us to adapt our processes rapidly and responsively.

6. Effects of changes:
Since we started the project our crude mortality rate has dropped to under 5%. In order for this figure to be considered statistically significant we need to collect data for a longer period.

7. Lessons learnt:
The Pathway document underwent several evolutionary steps. However, despite our best efforts we found that the document simply was not being filled in for every patient. We listened to feedback from the junior doctors using the Pathway and concluded that a modified version of our existing hospital admission document, together with an adapted Surgical Note and Anaesthetic Chart would better suit our aims.

8. Messages for others:
Be prepared to respond to feedback from the key stakeholders; this will promote wider engagement. Don’t expect good results straightaway, but learn from both your successes and your failures. Be doggedly persistent and don’t give up; when people can see your efforts producing improvement they will want to get involved.

9. Please declare any conflicts of interest below:
no conflicts of interest.

In-hospital mortality (crude)

It is a challenge to get people to understand that the information we gain from this project is to be used constructively; to help us improve, rather than a tool to criticise individual practice. However, since we have started getting positive results we have found that the level of engagement has improved.