A national quality improvement programme to improve survival after emergency abdominal surgery: the EPOCH stepped-wedge cluster RCT

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Plain English summary

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Background

Emergency abdominal surgery can result in poor outcomes for patients. Around 30,000 patients have this surgery each year in the NHS and 1 in 10 will die within 30 days. There are wide variations in care between hospitals, and researchers have already studied the effect of quality improvement (QI) programmes to encourage the use of routine treatments known to help these patients. These studies suggest improved patient survival, but most used poor-quality research designs, which could produce misleading results.

What we did

We studied whether or not a large national QI programme for patients undergoing emergency abdominal surgery would improve survival. Our research was designed to resolve problems that may have previously caused misleading results. This involved placing hospitals into small groups, or clusters, and launching the QI programme every 5 weeks in one cluster selected at random. We also interviewed and observed staff participating in the study to understand how the programme worked and used an economic analysis to establish whether or not the programme offered value for money.

What we found

We included 15,873 patients aged ≥ 40 years in 93 NHS hospitals. Medical teams engaged positively with the QI programme, but had limited time and resources to implement all the suggested changes. As a result, there were only small changes in patient care and the QI programme did not improve survival. There were wide variations between hospitals in which aspects of patient care teams tried to change. Our analysis of the associated costs suggested that the programme may not be cost-effective, although this was subject to considerable uncertainty.

What this research tells us

Despite the early success of small projects, we found no survival benefit from a national QI programme for patients undergoing emergency abdominal surgery. Our research suggests that insufficient staff time may have been a critical factor, but there are other possible reasons. Similar programmes will succeed only if staff have the time and resources needed to deliver them.
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