No evidence of 'gaming' after death rates for bowel surgeons published

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There is no evidence that publishing patient death rates for individual bowel surgeons in England has led to risk averse behaviour or 'gaming' of data, finds a study published by *The BMJ* today.

In fact, the results show that the introduction of public reporting of individual surgeons' outcomes coincided with a substantial reduction in mortality for patients having non-emergency ("elective" or "scheduled") bowel cancer surgery.

Similar improvements were not found for emergency surgery, suggesting that improvements in care before, during and after major bowel surgery—only possible for elective procedures—may explain the findings.

When patient death rates for individual surgeons were first published in June 2013, the move was hailed as a major breakthrough in transparency that would drive up standards of care in England.

But critics argue that public reporting of outcomes encourages risk averse behaviour, whereby surgeons are less likely to offer surgery to patients at higher risk, and manipulation of data to increase patients' predicted risk or to make patients ineligible for public reporting, often referred to as "gaming."

So far, the evidence that public reporting leads to improvements in the quality of patient care is surprisingly weak, and its effect has been

studied only in cardiac surgery and almost exclusively in the US.

So a team of UK researchers led by Kate Walker from the London School of Hygiene & Tropical Medicine, decided to look for evidence of risk averse behaviour, manipulation of data, and change in death rates immediately before and after the introduction of surgeon specific outcome reporting in colorectal cancer surgery across the NHS in England.

They analysed data for over 111,000 patients included in the National Bowel Cancer Audit (NBOCA) diagnosed with colorectal cancer from April 2011 to March 2015.

To investigate risk averse behaviour, they compared the proportion of patients who had elective surgery, predicted 90 day mortality, and observed 90 day mortality, before and after the introduction of public outcome reporting.

After factors that could have affected the results, such as patient characteristics and tumour grade, were taken into account, the researchers found that the proportion of patients with colorectal cancer who had major surgery did not change after the introduction of public outcome reporting (63.3% before compared with 63.2% after).

The proportion of urgent or emergency procedures—and therefore ineligible for public reporting—also did not change after the introduction of public reporting (15.5% before compared with 15.6% after).

The predicted 90 day mortality remained the same (2.7%), but the observed 90 day mortality fell from 2.8% before to 2.1% after. Further analysis showed that this reduction was over and above the existing downward trend in mortality before the introduction of public reporting.

The authors outline some strengths of the study, noting the large sample size which represents 92% of all colorectal cancer patients admitted to an English NHS hospital. However, they point out that this is an observational study, so no firm conclusions can be drawn about cause and effect—and say that using a "before-after" design is a potential weakness as changes may occur in the quality of data over time.

Nevertheless, they say their study "provides unique evidence that the introduction of public reporting of outcomes for individual colorectal cancer surgeons has not led to a decrease in the number of patients at high risk undergoing a major resection and has coincided with an improvement in 90 day mortality for eligible patients."

These findings suggest that public reporting for individual clinicians "seems to have triggered an improvement in outcomes after elective procedures that can be achieved only through the involvement of the entire clinical team," they conclude.

More information: Effect of public reporting of surgeons' outcomes on patient selection, "gaming," and mortality in colorectal cancer surgery in England: population based cohort study, *The BMJ*, www.bmj.com/content/361/bmj.k1581

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