

Wide variation in bowel cancer rates after colonoscopies in England

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Bowel cancer survivor John Barnes. Credit: University of Leeds

Substantial variation exists between colonoscopy providers in rates of bowel cancer up to three years after colonoscopy in England, finds a study published by *The BMJ* today.

The findings show that, reassuringly, the rates of post-[colonoscopy bowel cancer](#) have significantly reduced and are now amongst the lowest rates seen worldwide, indicating the overall high quality of camera tests for [bowel](#) cancer in England.

What needs addressing is the variation between providers with some having much lower, and some much higher rates. The lowest rates were seen by dedicated bowel cancer screening providers and some of the higher rates by private providers on behalf of the NHS.

By reducing this variation, and lowering rates further, many cancers could be prevented or diagnosed at an earlier stage, say the researchers.

Bowel (colorectal) cancer is a major public health problem in the UK, with over 40,000 new cases diagnosed and 16,000 deaths each year. A person's risk depends on their age, sex, genetics and lifestyle.

Colonoscopy is the main test for bowel cancer. Like most tests, it is not always 100% accurate and cancers can appear within months or years after a negative result. These are called post-colonoscopy [colorectal cancers](#) or PCCRCs.

The British Society of Gastroenterology says PCCRCs should be used as a benchmark for the quality of a colonoscopy service, and the World Endoscopy Organisation (WEO) has recently developed a way to compare performance between providers.

Using this method, a team of UK researchers set out to compare PCCRC rates between all providers in England to measure variation in colonoscopy quality.

Their findings are based on more than 120,000 individuals undergoing colonoscopy in England between 2005 and 2013 and subsequently diagnosed with colorectal cancer. The proportion of those diagnosed six months to three years after the colonoscopy were identified to calculate a PCCRC-3yr rate.

After taking account of potentially influential factors such as age, sex, and medical history, the PCCRC-3yr rate declined from 9.0% in 2005 to 6.5% in 2013.

However, rates for colonoscopies performed within the NHS Bowel Cancer Screening Programme (BCSP) were better (lower) at 3.6% than those performed by independent providers (9.3%) which are increasingly being used to meet the rising demand for colonoscopy.

The researchers say that, if this lower rate had been achieved over the entire study period, "more than 3,900 cases of colorectal [cancer](#) could have been prevented or diagnosed earlier."

Rates were also higher among women, people aged 80 or over, and those with [inflammatory bowel disease](#).

This is an observational study so can't establish cause, and the researchers point to some limitations in the data, which may have affected the accuracy of the calculations.

Nevertheless, they say this is a large, nationally representative study, and the variation between providers remained after further analyses, suggesting that the findings withstand scrutiny.

They conclude: "PCCRC is largely avoidable and targeted improvement is required to reduce this variation and drive down PCCRC-3yr rates further. This will result in earlier diagnosis and improve mortality from this preventable disease."

In an accompanying study, researchers in Germany say that for people with a previous negative colonoscopy test result, colonoscopy screening every ten years, as currently recommended in the USA and Germany, appears to be adequate.

Thomas Heisser and colleagues analysed the results of 28 studies and found that while neoplasms (unusual tissue growths) were detected in more than 20% of patients within five years of a negative colonoscopy, advanced neoplasms were rare even after 10 years (2.1% in men, 1.8% in women).

They acknowledge that their analysis was limited to observational studies, so results may be prone to bias, but say the findings indicate that current guidelines recommending a 10-year screening interval after a negative colonoscopy test may be adequate.

Further study into longer screening intervals and differences in risk by gender is also needed to help people make screening decisions, they add.

"These studies provide welcome appraisals of colonoscopy performance and both were dependent on good quality data infrastructure," write Ethna McFerran at Queen's University Belfast and colleagues in a linked editorial.

They point out that the inconsistencies "seem linked to training and accreditation processes and are therefore amenable to improvement." And they say both studies "reinforce the need for strategic investment in appropriate data infrastructure, coupled with clear communication with

all decision makers, including patients."

More information: Variation in post-colonoscopy colorectal cancer across colonoscopy providers in the English National Health Service: population-based cohort study, *BMJ* (2019).

www.bmj.com/content/367/bmj.l6090

Outcomes at follow-up of negative colonoscopy in average risk population: systematic review and meta-analysis, *BMJ* (2019).

www.bmj.com/content/367/bmj.l6109

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