

# 30-Day Post-Operative Mortality after Colorectal Cancer Surgery in England

## NCIN Data Briefing

### Background

There is increasing demand for the NHS to publish clinical outcomes, such as post-operative mortality to inform patient choice. It is important to understand, however that surgery inevitably carries a risk and that risk will vary between individuals. This study examines how 30-day post-operative mortality varies across the English colorectal cancer population

### Methods

Information on patients receiving a major resection for colorectal cancer diagnosed between 1998 and 2006 and treated in the English NHS was obtained from the National Cancer Data Repository. Post-operative mortality was defined as death within 30 days of major resection. The percentage of individuals who died within 30-days of their surgery was calculated in relation to each year of diagnosis, age group, sex, Dukes' stage of the primary tumour at diagnosis, socio-economic deprivation category and co-morbidity group.

### Results

160,920 patients received a major resection over the study period. They were treated by 150 different surgical teams. The overall post-operative mortality rate was 6.7% but the rate improved over the study period from 6.9% in 1998 to 5.9% in 2006. (Figure 1).

Post-operative mortality significantly increased with age (Figure 2), co-morbidity (Figure 3), advancing Dukes' stage at diagnosis (Figure 4), in those residing in the most deprived areas (Figure 5) and in those patients who were treated as emergencies (Figure 6).

Post-operative mortality was lower in females compared to males (Figure 7) and in patients whose tumours were in the rectosigmoid junction and rectum when compared to those who had colonic tumours (Figure 8).

### Conclusions

The 30-day post-operative mortality rate is falling across England. There is, however, significant variation in post-operative mortality across the population with it being greater in the elderly, among men, the socioeconomically deprived, those with advanced stage disease at diagnosis or with additional co-morbidities and among those operated upon as emergencies.

#### FIND OUT MORE:

Northern and Yorkshire Cancer Registry and Information Service (NYCRIS)

NYCRIS is the lead Cancer Registry for colorectal cancer

<http://www.nycris.nhs.uk/research/leadrole/>



**Northern and Yorkshire  
Cancer Registry and Information Service**



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The National Cancer Intelligence Network is a UK-wide initiative, working to drive improvements in standards of cancer care and clinical outcomes by improving and using the information collected about cancer patients for analysis, publication and research. Sitting within the National Cancer Research Institute (NCRI), the NCIN works closely with cancer services in England, Scotland, Wales and Northern Ireland. In England, the NCIN is part of the National Cancer Programme.

Other useful resources within the NCIN partnership:

Cancer Research UK CancerStats –

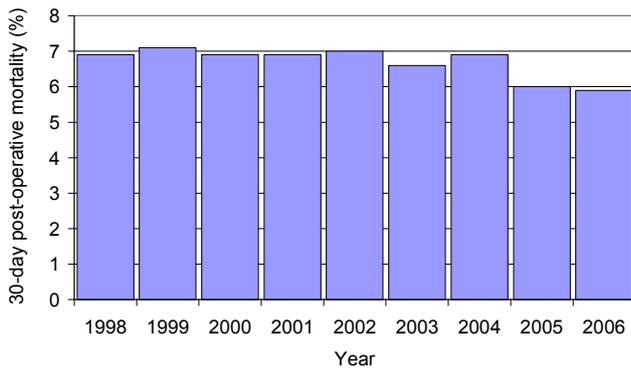
Key facts and detailed statistics for health professionals

<http://info.cancerresearchuk.org/cancerstats/>

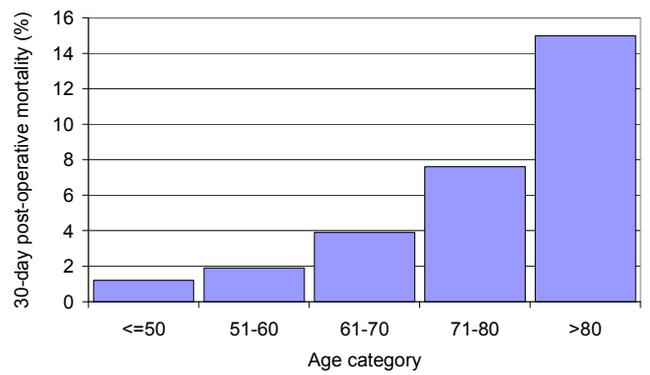
**CANCER RESEARCH UK**



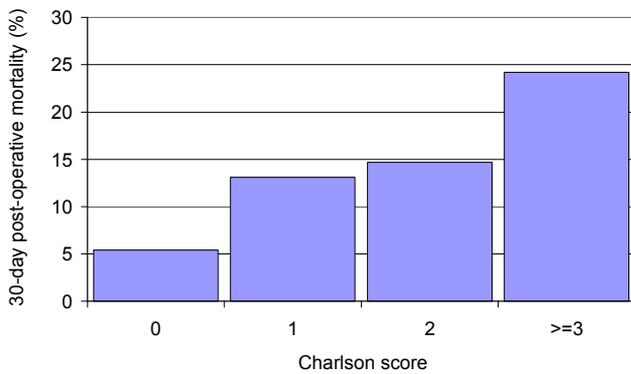
**Figure 1: 30-day post-operative mortality in relation to year of diagnosis**



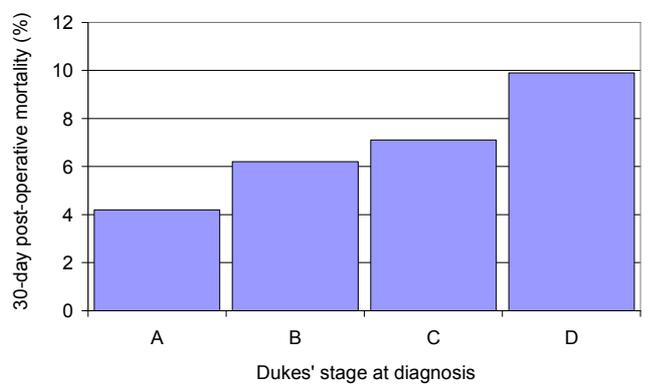
**Figure 2: 30-day post-operative mortality in relation to patient age**



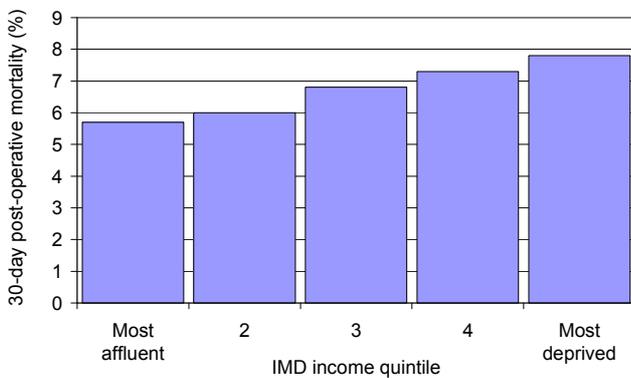
**Figure 3: 30-day post-operative mortality in relation to co-morbidity**



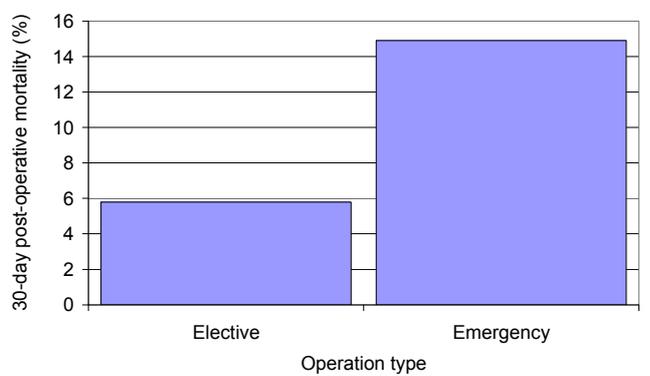
**Figure 4: 30-day post-operative mortality In relation to Dukes' stage at diagnosis**



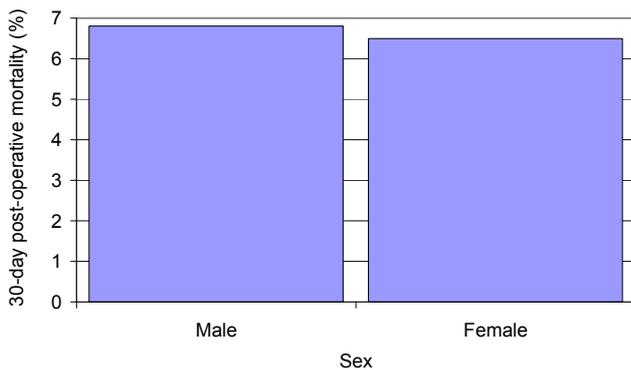
**Figure 5: 30-day post-operative mortality in relation to socioeconomic status**



**Figure 6: 30-day post-operative mortality in relation to operation type**



**Figure 7: 30-day post-operative mortality in relation to sex**



**Figure 8: 30-day post-operative mortality In relation to tumour site**

