

# Colorectal Cancer Survival by Stage

## NCIN Data Briefing

### Background

All men and women in England, between 60 and 69 years, are being invited to be screened to detect colorectal cancer at an early stage. The stage of disease at diagnosis has a major impact on five-year survival rates. This briefing provides, for the first time, national population-based estimates for survival by stage of disease based on data collected by cancer registries.

### Survival from Colorectal Cancer

The overall five-year relative survival of colorectal cancer patients in England is 50.7%. There is, however, substantial variation by the stage of disease at diagnosis. 93.2% of patients diagnosed with the earliest stage of disease (Dukes A) survived five-years from diagnosis compared to only 6.6% of those with advanced disease which has spread to other parts of the body at diagnosis (Dukes D). Currently only around 13% of colorectal patients are diagnosed with a Dukes A cancer but this proportion should increase as a result of the national bowel cancer screening programme.

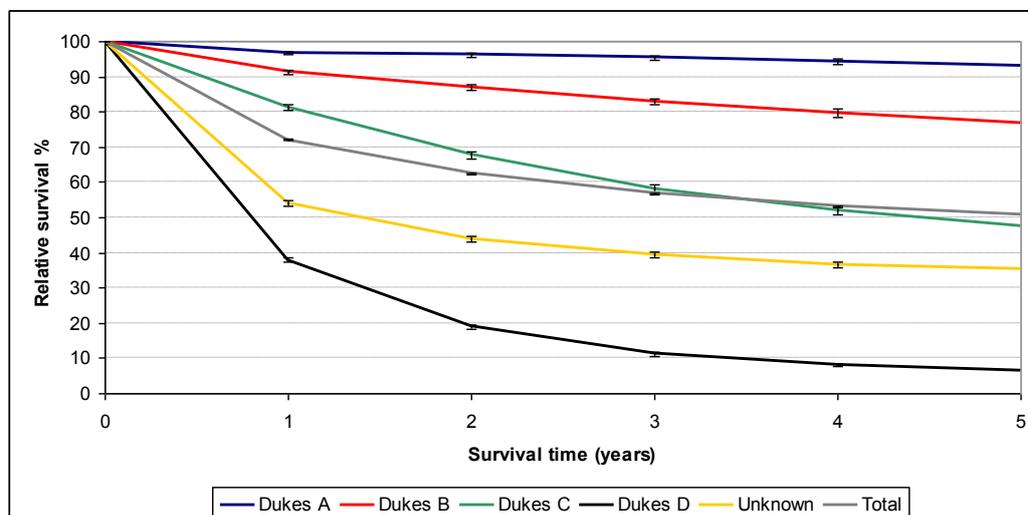
#### KEY MESSAGE:

*Early diagnosis of bowel cancer is vital to improve outcomes. Over 90% of patients diagnosed with the earliest stage of disease survived five-years from diagnosis compared to only 6.6% of those diagnosed with advanced disease which has spread to other parts of the body.*

### Number of cases (1996-2006) and five-year relative survival of colorectal cancer patients (diagnosed 1996-2002) by stage at diagnosis, England.

| Stage at diagnosis | Number of cases | Percentage of cases (%) | Percentage of cases excl. Unknown (%) | 5-year relative survival (%) | Confidence Interval (95%) |
|--------------------|-----------------|-------------------------|---------------------------------------|------------------------------|---------------------------|
| Dukes A            | 26,727          | 8.7                     | 13.2                                  | 93.2                         | 92.5 - 93.9               |
| Dukes B            | 74,784          | 24.2                    | 36.9                                  | 77.0                         | 76.4 - 77.5               |
| Dukes C            | 72,806          | 23.6                    | 35.9                                  | 47.7                         | 47.1 - 48.3               |
| Dukes D            | 28,377          | 9.2                     | 14.0                                  | 6.6                          | 6.1 - 7.0                 |
| Unknown            | 106,040         | 34.3                    |                                       | 35.4                         | 35.0 - 35.8               |
| <b>Total</b>       | <b>308,734</b>  | <b>100.0</b>            | <b>100.0</b>                          | <b>50.7</b>                  | <b>50.4 - 51.0</b>        |

### Five-year relative survival for colorectal cancer patients (diagnosed 1996-2002) by stage at diagnosis, England.



## Technical details

### Survival methods

The relative survival estimates shown are defined as the ratio of the observed probability of survival and the probability that would have been expected had the patients experienced the normal (background) mortality of the population in which they live, given the same distribution of factors such as age, sex and calendar period. Estimates were based on patients diagnosed from 1996 to 2006, with five-year estimates based on those diagnosed between 1996 and 2002. If patients had multiple colorectal cancers, their survival was calculated from the date of diagnosis of their first cancer. Background mortality was calculated by Government Office Region using life tables provided by the Cancer Research UK Cancer Survival Group at the London School of Hygiene and Tropical Medicine.

### Dukes' stage

If cancers were recorded with a stage other than Dukes (e.g. TNM), it was converted to a Dukes' stage. The stage describes how far cancer has spread anatomically. Dukes A means that the cancer is only in the innermost lining of the bowel or slightly growing into the muscle layer. Dukes B means the cancer has grown through the muscle layer of the bowel. Dukes C means the cancer has spread to at least one lymph node in the area close to the bowel. Dukes D means that the cancer has spread to somewhere else in the body.

During the time period considered, a substantial proportion of registrations (34%) were recorded with missing stage information. This varied significantly (between 22 and 54%) across the eight cancer registries in England. Analyses were repeated for a subset of the data supplied by three registries that had a minimum of 75% complete staging information and very similar results were reported.

After excluding cases with unknown stage at diagnosis, the distribution of patients by Dukes' stage was almost identical to that reported in the National Bowel Cancer Audit (Smith JJ *et al*, 2007; The National Bowel Cancer Audit Project 2007: Quality Improvement & Open Reporting. The Information Centre: London)

### FIND OUT MORE:

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



**NYCRIS is the NCIN Lead Cancer Registry for Colorectal Cancer**

**[infoan.nycris@nhs.net](mailto:infoan.nycris@nhs.net)**

### Other Useful Resources within the NCIN Partnership:

**Cancer Research UK CancerStats** – Key facts and detailed statistics for health professionals  
<http://info.cancerresearchuk.org/cancerstats/types/bowel>

The NCIN is a UK-wide initiative, working closely with cancer services in England, Scotland, Wales and Northern Ireland, and the NCRI, to drive improvements in standards of cancer care and clinical outcomes by improving and using the information it collects for analysis, publication and research. In England, the NCIN is part of the National Cancer Programme.