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Cite this as: *BMJ* 2024;384:q504
http://dx.doi.org/10.1136/bmj.q504
Published: 13 March 2024

Cancer trends in the UK

Grounds for optimism but warning signs must not be ignored

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Cancer is a major public health problem in the UK, and in most high income countries. The disease is the leading cause of death in both men and women, and one in four people die prematurely from it at ages 30-69 years.[1] A comprehensive assessment of the evolution of cancer incidence and mortality rates over time is not straightforward because of multiple disease types, each with its own underlying causes and effective means of control. Such an overarching assessment, nonetheless, serves as a report card on national progress in cancer control by enabling three lines of inquiry. How have cancer rates changed? What factors drive these trends? And what can be done to reduce the future burden?

In their linked paper, Shelton and colleagues undertook such an investigation in the UK, reviewing the trends in 23 cancer types in adults aged 35-69, over a quarter of a century from 1993 to 2018.[2] The results were generally encouraging, reaffirming previous investigations.[3 4] Despite an ageing population, the number of cancer deaths in the UK has continually declined, while age standardised mortality rates per 100 000 for all cancers combined fell by 2% for men and 1.6% for women, per annum. Mortality rates for 14 cancer types in men and 17 types in women reduced significantly by at least 0.5% per year, 12 of which types are linked to smoking.[5]

Lung, colorectal, breast, and prostate cancer—responsible for about half of all newly reported cancers and cancer deaths in the UK—had significant declines of around 2-3% per annum, hastened by tobacco control (lung cancer), alongside earlier detection through screening or testing, and improved curative treatment (for colorectal, breast, and prostate cancer). The overlooked exception of lung cancer in women showcases the importance of a joint assessment of incidence and mortality. While incidence trends among women are only beginning to plateau, the corresponding mortality trends are starting to decline, suggestive of marginal gains arising from improvements in early detection and more effective treatment.

The authors note rising incidence rates of several cancers with diverse causes. Perhaps the most alarming are those cancers with poor prognosis that result in concomitant rises in mortality. For example, the 3% per annum increases in liver cancer mortality rates since the early 1980s parallel increases in incidence for both men and women. Alcohol consumption and excess body weight are key preventable risk factors for this disease and account for 4.1% of all cancers diagnosed in the UK in men and 6.3% in women.[6 7] A recent longitudinal study of UK Biobank participants suggests that excess body weight may amplify the effects of alcohol on cancer risk,[8] highlighting the importance of public health measures that help individuals limit alcohol intake and maintain a healthy weight.

Shelton and colleagues' focus on cancer trends among adults aged 35-69 years is understandable but may mask important changes in adult cancers in more specific age groups. For example, evidence is emerging of a rise in the incidence and mortality rates for colorectal cancer among adults younger than 50 years.[9-11] An upturn in risk among successive recent generations in some high income countries suggests that effects of risk factors during early life or young adulthood are critical. These may include a rising prevalence of obesity, physical inactivity, and the use of antibiotics affecting the gut microbiome.[12] Careful age and cohort specific analyses of trends across cancer types and populations are still needed to determine the extent of these early onset rises and their drivers.

Deliberations on progress made against cancer and the effectiveness of different strategies to control it will undoubtedly continue in both scientific and political arenas. Shelton and colleagues' findings are grounds for optimism in the UK, given steady declines in both cancer deaths and cancer mortality rates in both sexes. Resulting from a combination of multiple small and large breakthroughs in prevention, early detection, screening, and treatment, mortality from common cancer types is also declining in neighbouring countries, including France, Italy, the Netherlands, and Sweden today,[13] as it was 20 years ago.[3]

Will successes in cancer control continue for the next 20 years? Some early warning signs should raise alarm bells, including observational evidence of considerable heterogeneity in mortality trends in England at the district level,[14] and modelling evidence of excess cancer deaths in future years resulting from delays in diagnosis and treatment during the covid-19 pandemic.[15] The prospect of rising death rates from common cancers, including among younger (unscreened) age groups, are also of immediate concern. Effective interventions that increase awareness of modifiable risk factors for cancer—including, but not limited to, excess body weight and harmful alcohol consumption—must be urgently prioritised.

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Competing interests: The BMJ has judged that there are no disqualifying financial ties to commercial companies. The authors declare the following other interests: None. Further details of The BMJ policy on financial interests is here:

https://www.bmj.com/sites/default/files/attachments/resources/2016/03/16-current-bmj-education-coi-form.pdf.

Provenance and peer review: Commissioned; not externally peer reviewed.

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