Survival is not the same as mortality!

It is unfortunate that the BMJ chose to comment on the analysis by Sir Richard Doll and Jill Boreham in the British Journal of Cancer(1) with a headline that bears little relation to the text of their news item.(2) As Doll and Boreham acknowledged, mortality is a function of both incidence and survival. It is not possible to draw conclusions about survival trends from an analysis restricted to mortality trends. For cancers for which survival has been low for many years (e.g. lung, stomach), mortality trends are largely determined by trends in incidence, and are a poor indicator of the quality of treatment. Survival trends also reflect more than just health service performance: for example, detailed studies by the EUROCARE Working Group suggest that patients in the UK are more likely to have advanced disease at the time of diagnosis.(3,4) If lower survival indicates delays in presentation, referral, diagnosis or treatment, rather than biologically more aggressive disease, there may be public health opportunities to improve outcome, alongside those from advances in therapy.

The online, unabridged version of the news item also states that survival comparisons may be unreliable unless carried out within controlled trials. Unfortunately, less than 5% of adult cancer patients in the UK are treated on trial protocols, and comparisons of mortality statistics are also subject to bias, which is why, for example, mass screening interventions are best tested in randomised controlled trials. Furthermore, the assignment and coding of the underlying cause of death are by no means free from error, and this can affect international comparisons of mortality.(5) Genuine concerns also exist about the validity of international comparisons of population-based survival,(6,7) but regardless of the UK’s position in any European “league table” of cancer survival, the fact that it has been possible to demonstrate a benefit of specialisation and multidisciplinary team working in the UK,(8) coupled with evidence of under-capacity,(9) suggest to us that the current programme of investment in, and re-organisation of, cancer services in the
UK is justified. It would be unfortunate if policy-makers were to conclude, from mortality comparisons alone, that this investment may be unnecessary. Some of us have argued previously that cancer control strategies are best informed by examining trends in incidence, survival and mortality alongside each other.(10) We continue to hold that view.

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