



Letters

Comparing survival rates between different registries can be difficult

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EDITOR—The paper by Stotter et al is an important reminder of the need for caution when comparing incidence and survival rates between different populations.¹ At the Thames Cancer Registry we have developed a method of estimating completeness of ascertainment as a function of time since diagnosis.² As part of this procedure, Kaplan-Meier estimates of survival are calculated, and we have included cases registered solely on the basis of information from their death certificates, assuming that their survival will be the same as that of cases in whom the initial registration was made from the death certificate but subsequent tracing of records has led to further information and a “proper” date of diagnosis.

Using data on all registered cancer cases with a date of diagnosis (or date of death for those cases registered on the basis of death certificates only) in 1992, and calculating survival with and without inclusion of these cases by the above method, gives an estimate of five year survival rate of 37% when the cases registered on the basis of their death certificate only are omitted and 30% when they are included (figure). This is in line with the findings of Berrino et al,³ who showed that the percentage reduction in estimated survival resulting from the inclusion of such cases is generally of the same order as the proportion of such cases in the sample. The rate of cases registered on the basis of their death certificate only in the Thames Cancer Registry in 1992 was 19%.



Estimated survival of patients diagnosed as having cancer in 1992 including and excluding cases registered solely on basis of information from death certificates

A large rate of cases in whom the initial registration was made from the death certificate but additional information used to gain further information and the date of diagnosis—which implies that many cases become known to the registry only when they die—tends to bias survival estimates downwards, as it leads to less complete registration in young patients and those with cancers associated with good long term survival. This effect can be seen when comparing completeness estimates in patients with lung cancer (94% complete two years after diagnosis) and melanoma (64%).²

It is important to know the rates of types of registrations when comparing survival rates between different registries.

References

1. Stotter A, Bright N, Silcocks PB, Botha JL. Effect of improved data collection on breast cancer incidence and survival: reconciliation of a registry with a clinical database. *BMJ* 2000;**321**: 214. (22 July.)
2. Bullard J, Coleman MP, Robinson D, Lutz J-M, Bell J, Peto J. Completeness of cancer registration: a new method for routine use. *Br J Cancer* 2000;**82**:1111–1116.
3. Berrino F, Sant M, Verdecchia A, Capocaccia R, Hakulinen T, Estève J, Berrino F, Estève J, Coleman MP. Basic issues in estimating and comparing the survival of cancer patients. In: Berrino F, Sant M, Verdecchia A, Capocaccia R, Hakulinen T, Estève J, eds. *Survival of cancer patients in Europe: the EURO CARE study*. Lyons: International Agency for Research on Cancer, 1995:1–14. (IARC Scientific Publication No. 132.)