Trends in childhood cancer incidence in Europe, 1970–99

Scepticism expressed by Peter Adamson and colleagues (Feb 26, p 753)[1] over the rising incidence of childhood cancer in Europe[2] encouraged us to submit additional evidence in support of our conclusions. On the basis of more than 100 000 childhood cancer cases from 34 population-based cancer registries operating in 15 countries for 15–30 years, we reported a 1% average annual increase in incidence ($p<0·0001$).[2]

The comparative rarity of cancer in children implies that small changes in rates are less likely to attain significance. Data pooled from many sources produced significant results, which were consistent across different regions, systems of health care, and cancer registration.

We are well aware of the complexity of the registration process and, consequently, of interpretation of results. We used specific methods to validate the records and check quality and completeness of registration. The proportion of cases registered from death certificate only, which escape usual registration paths and are thus an indicator of incompleteness of registration, was low, although it increased slightly over time despite improved survival (0·25% in the 1970s, 0·27% in the 1980s, and 0·30% in the 1990s).

Although improved registration would imply changes proportionate to the baseline incidence, average annual increase varied between −4·1% for unspecified tumours, 0·7% for leukaemias, and 2·3% for germ-cell tumours. Incidence increased more in infants (1·6%, $p<0·0001$) than in the age-groups 1–4, 5–9, and 10–14 years (0·9%, $p<0·0001$). The rates of change by age-group within the diagnostic groups varied further.

Other changes cannot be attributed to improved registration. Advanced diagnostic techniques contributed to enlarging the proportion of cases confirmed microscopically (94%, 95%, and 96% in the three decades, respectively), accompanied by a drop in the proportion of unspecified tumour types (11%, 5%, and 4%, respectively). The constant proportion of non-malignant tumours (3% in each decade) does not support a hypothesis of their more ready registration.

Although improved registration as an explanation of the incidence trend cannot be excluded, our data do not support it. Substantial changes occurred in Europe over the decades studied. For example, infant mortality decreased,[3] which might have increased the proportion of particularly susceptible individuals at risk of contracting various diseases early in life, including cancer. Parental age and the proportion of children who were first-born increased,[3] and both of these factors have been linked to several childhood neoplasms.[4] Increases in mean birthweight were reported,[5] and high birthweight has been associated with selected childhood cancers.[4]

Although reporting of children with cancer might have improved since the 1970s, especially in infants, nobody can confirm or exclude with certainty incompleteness in a cancer registry, since no equivalent independent data source exists. Adamson and colleagues' suggestion that current data should be used as the "baseline" for future assessments rather unreasonably implies that attaining reliability in a cancer registry takes 15–30 years. Moreover, given the financial and legal constraints increasingly imposed on cancer registration, the present quality might not persist. Serious consideration of the reported increase might lead to identification of possible causes; ignoring it as an artifact means wasting the important message generated by the cancer registries—the most reliable source of information on cancer burden in a population.

We declare that we have no conflict of interest.

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1 Adamson P, Law G, Roman E, Assessment of trends in childhood cancer incidence. *Lancet* 2005; **365:** 753.
2 Steliarova-Foucher E, Stiller C, Kaatsch P, Coebergh J-W, Lacour B, Parkin M. Geographical patterns and time trends of cancer incidence and survival among children and adolescents in Europe since the 1970s (the ACCIS project): an epidemiological study. *Lancet* 2004; **364:** 2097–105.
3 European Commission. The health status of the European Union—narrowing the health gap. Luxembourg: Office for Official Publications of the European Communities, 2003.
4 Little J. Epidemiology of childhood cancer. IARC Scientific Publications No149. Lyon: International Agency for Research on Cancer, 1999.
5 Meeuwisse G, Olausson PO. Increased birth weights in the Nordic countries: a growing proportion of neonates weigh more than four kilos. *Lakartidningen* 1998; **95:** 5488–92 (in Swedish).

Malaria: yet another war for Afghanistan

Jan Kolaczinski and colleagues (Feb 1, early online publication)[1] rightly point out that artemisinin-based combination therapy (ACT) is the treatment of choice according to 2003 WHO recommendations. However, its use is closely tied with cost and availability issues.[2] Locally made artemisinin is only manufactured by a few companies and artesunate is still not available in Pakistan. ACT would prove to be a utopian target for Afghanistan in the current situation. It could probably only be made cost-effective if there were an adequate support system for definitive diagnosis of malaria.[3]

Under the present circumstances it is imperative that focus is maintained on simpler and longer lasting measures for malaria control. We believe that a national nutrition programme for chil-