

## **Re: Cellular Telephone Use and Cancer Risk: Update of a Nationwide Danish Cohort**

Schüz et al. (1) recently reported in an update of a cohort study (2) of 420 095 cellular telephone subscribers that were followed from 1995 through 2002 for cancer incidence no increased risk for brain tumors, salivary gland tumors, eye tumors, or leukemias, endpoints of primary interest. The authors concluded “the narrow confidence intervals provide evidence that any large association of risk of cancer and cellular telephone use can be excluded”.

The authors should be aware of the fact that however narrow the confidence intervals are, such a conclusion cannot be defended if the risk estimates are biased. Several sources of bias have been discussed in the article, however, the most important one has not been properly considered. The cohort was selected from the database of subscribers of the two Danish operating companies. It comprises 58% of subscribers at time of inclusion, 80% of residential subscribers. Average duration since first subscription until end of follow up of cohort members was 8.5 years, however, given the trend of subscriptions between 1982 and 1995 average duration since first subscription for those 42% that were left out is more than 11 years. Moreover, subscription rate steeply increased after 1995 from about 16% to about 80% in 2002. Average duration since first subscription of all mobile phone subscribers not in the cohort is about 5 years. Hence comparison of the cohort to the Danish population is severely biased. In the analysis cancer cases of cohort members were subtracted from the total number, however, given the fact that the majority of subscribers were left out (90% of customers in 2002, and more than 75% of those with 5 years or more since first subscription) the population used for comparison contains also the majority of cancer deaths that may be associated with mobile phone use, if there is such an association. Considering for example the standardized incidence ratio (SIR) for glioma, with 257 observed and 253.9 expected cases, correcting for estimated 29% subscribers in the reference population with 5 or more years of mobile phone use and an actually increased risk of 2.0 yields a significantly increased SIR of 1.3 for the study cohort. Considering further sources of bias in this investigation (3, 4) all of which tending to dilute an existing risk, an association of mobile phone use and brain tumors cannot be ruled out, and is rather corroborated by this large cohort study.

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### **References**

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