Author's response to reviews

Title: Multiple primary tumours: incidence estimation in the presence of competing risks

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Author's response to reviews: see over
Dear Sirs,

the reviewers raised a number of issues, mainly concerning the complexity of the topic, the methods proposed and the article’s structure. Having substantially accepted these criticisms, we decided to redraft the whole manuscript.

In particular, we dropped all non appropriate comparisons with the traditional SIR method. Although the proposed estimator is a ratio, it is here derived in a rather different way, and the readers can be confused comparing two intrinsically different methods.

In the latest version we presented the method starting from the simulation study, where in a controlled situation it is possible to better observe its advantages and limitations. Its application to breast cancer data is then proposed and discussed.

Although we are aware that more complex methods of analysis such as multivariate state-space models can best handle situations with multivariate duration, the available data at a population level are limited in information and cancer registries do not usually provide reliable and detailed information on treatment, risk or other underlying factors. Without such information, a more complex non-markov process cannot be specified. Therefore, we resorted to a simplified markov process with a limited number of states that can handle much of the real data coming from population-based cancer registries.

Finally, we also added more results coming from the proposed model such as mean duration and interval transition intensities.