Title: Under-treatment of elderly patients with ovarian cancer: A population-based study

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Author's response to reviews: see over
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Dear Editor in Chief,

Please find enclosed a revised version of our article entitled “Under-treatment of elderly patients with ovarian cancer: a population based study” which we would like to re-submit for publication in *BMC cancer*.

We would like to thank the editor for the constructive critique. We have taken the editor’s comments on board, and have made the appropriate changes in the revised manuscript (modifications shown in blue). You will find below our responses, detailing the relevant modifications made.

We hope that this paper will now be considered suitable for publication, and we look forward to hearing from you again in due course.

Yours sincerely,

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**Editor’s comments:**
The authors have now supplied results on net survival which are very similar to their findings for overall survival - suggesting that deaths from causes other than ovarian cancer have not materially affected the results. However on closer inspection of the results for survival it seems that no adjustment has been made for grade or stage. Presumably the question of interest here is whether older women who present with a similar stage (and grade) at diagnosis have a poorer prognosis (possibly due to under treatment)? It is clear from the tabulations in the paper that age is associated with both tumour stage and grade and, as such, comparisons of survival (whether presented as overall or net survival) should adjust for these confounders.

The authors must provide measures of adjusted survival (e.g. by use of Cox models) in order to properly assess whether under treatment in the elderly is likely to be having an impact on survival. Without such estimates it is impossible to interpret differences in survival by age.

**Response:**
In accordance with the editor’s comment, we analyzed survival using a multivariate Cox model, with adjustment for age and other confounding factors, notably stage and grade histology. The results of this analysis showed that older age and advanced disease (stage III or IV) were associated with a significant increase in the risk of death, whereas application of standard (guidelines-recommended therapy) had a significant protective effect (i.e. reduces the risk of death). Taken together with the previous results, this suggests that under-treatment has a role in outcome in this patient population.

We have described the multivariate survival analysis using Cox’s proportional hazards model in the “methods” section. The results of this analysis are given in the results section, and a new table (now numbered Table 6) has been added showing the results of the Cox model.