Author's response to reviews

Title: Does comorbidity explain the ethnic inequalities in cervical cancer survival in New Zealand? A retrospective cohort study

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Author's response to reviews: see over
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Dr Christina Chap
Executive Editor
BioMed Central

Re: MS: 1119583359408355 “Does comorbidity explain the ethnic inequalities in cervical cancer survival in New Zealand? A retrospective cohort study” Naomi Brewer, Barry Borman, Diana Sarfati, Mona Jeffreys, Steven T Fleming, Soo Cheng and Neil Pearce

Dear Dr Chap,

Thank you for accepting, in principle, our manuscript for publication in BMC Cancer and for sending us the further comments from the three reviewers.

We here respond to these comments.

Reviewer 1: Mette Nørgaard

Reviewer 1 raises four minor comments for us to consider:

1. *I appreciate the sensitivity analysis including women with missing stage. However, I think the description of this analysis should be placed in the Material and Method section instead of the results section."

We have moved the description of the sensitivity analysis from the Results section into the Methods section.

2. “*I am not convinced that there is a major contrast between the estimates adjusted with the selected diseases and the estimates with the validated instrument. If the authors want to stress such contrast, it should be clearer how this finding influences the conclusion of the study."

We consider that there is a reasonably substantial difference between the two sets of findings. The adjustment for the Elixhauser measure hardly changed the estimates at all (compared with the unadjusted estimates). As we noted, the largest change was for Pacific women where the hazard ratio (HR) fell from 1.95 (1.21-3.13) to 1.92 (1.20-3.09), representing a decrease in the excess mortality risk of 3%. The adjustment for each of the individual conditions also generally made no difference, and the conditions that did make a reasonable difference did not make as large a difference as the adjustment for all 12 conditions together. As we noted in the paper, when adjustment was made for all 12 of the individual comorbid conditions; the HR for Māori women fell from 1.56 (1.19-2.05) to 1.44 (1.09-1.89), representing a 21% decrease in the excess mortality risk; the HR for Pacific women fell from 1.95 (1.21-3.13) to 1.62 (0.98-
2.68), representing a 35% decrease in the excess mortality risk. In our view, a change of 3% compared with a change of 21% or 35% would appear to be a reasonably substantial difference.

3. “On page 6 Description of Charlson comorbidity index could be reduced and should be placed after description of Elixhauser Instrument since the latter is the one used in the main analysis.”

We have moved the description of the Charlson Comorbidity Index so that it follows that of the Elixhauser instrument. However, the description of the Charlson Comorbidity Index is only one sentence long and we therefore consider it unnecessary to reduce its length, particularly since it is used in the supplementary tables.

4. “Page 16 Conclusion. “It is therefore possible that other factors…” could be reduced to “Other factors, including..., may play a role.””

We have deleted the words ‘It is therefore possible that’.

**Reviewer 2: John Condon**

Reviewer 2 is positive about the paper and “strongly recommend[s] that the supplementary tables be published as web-based tables as requested by the authors”.

**Reviewer 3: Lois Ramondetta**

Reviewer 3 is also positive about the paper.

We thank the reviewers for taking the time to reconsider our paper, and we hope that the revised manuscript is now acceptable for publication.

Thank you once again for considering this manuscript.

Yours sincerely,

Naomi Brewer