Author’s response to reviews

Title: Clinical Characteristics Associated with the Onset of Delirium among Nursing Home Residents

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2 January 2018

Giuseppe Bellelli, M.D.
BMC Geriatrics

Dear Dr. Bellelli,

Re: Manuscript ID BGTC-D-17-00532R1: Clinical Characteristics Associated with the Onset of Delirium among Nursing Home Residents

Thank you very much for your response in regard to the above manuscript. We have now revised the manuscript and respond to the reviewers’ helpful suggestions as follows.
Reviewer 1 (Dr. Kenneth Boockvar):

1. Respectfully, we have decided not to change the term “incidence” to “frequency” but have made reference to frequency in the manuscript. Dr. Boockvar is correct that time is not precisely standardized in the denominator, however we use the term “incidence” and not “incidence rate”. The term incidence is the number of new cases per population at risk in a given time period, where the given time period can be any period defined by episode (e.g., length of stay) or time. Our time period is defined by the nursing home stay (admission to discharge). We have reviewed our use of the term with another biostatistician.

2. We have looked into Canadian nursing home data and the number of older adults living in assisted facilities has stayed relatively unchanged in the past 5 years. We have removed this statement because we agree that it may cause confusion depending on the jurisdiction and statistic (e.g., population rate v.s. gross figures, etc.).

3. As suggested, we dropped the term “census-level”. Our intent was to imply that the data were complete for all residents in these homes, but we now think it is superfluous.

4. As suggested, we have corrected the time period.

5. As suggested, we have clarified the inclusion criteria. In Southern Ontario, Canada, it is very unlikely for individuals to have more than one nursing home stay given the very long wait-time, and so we didn’t specify that condition in the manuscript.

6. Our selection criteria are based on previous studies using the MDS 2.0 data base and the original MDS database validation. We have included the reference in the manuscript.

7. As suggested, we have defined the variables in the “Variables” section and we have explicitly stated they were all extracted from the MDS 2.0.

8. We did not make changes to the statement because the MDS 2.0 requires “resident complains or shows evidence of pain” for pain symptoms. As suggested, we have
removed the term “acute pain” from the manuscript. The MDS 2.0 does not include a visual analogue scale, though the MDS 3.0 (used only in the United States) may include it.

9. As suggested, we have clearly described the CAM algorithm and the MDS items that correspond to the CAM items.

10. As suggested, we have included the number of residents excluded with each exclusion criteria under the Methods section under the heading ‘population’.

11. As suggested, we have outlined the endpoint under “Dependent Variable” under the Methods section.

12. As suggested, we have changed the term “incidence” to “frequency” where appropriate throughout the manuscript

13. As suggested, we have removed the term “acute pain” and have defined “pain” in the Methods section

14. As stated by the reviewer, we do not know if delirium or the associated factors came first. Therefore, we did not use the term “predictor” in the manuscript and we have explained in the discussion section that we were only looking at associations

15. As suggested, we have incorporated this reference.

Reviewer 2 (Dr. Antonio Cherubini):

1. We have addressed our exclusion criteria of moderate to severe dementia in our Methods section. It is based on previous studies and the published MDS validation studies and the references have been included.
2. As suggested, we have included the number of residents excluded with each exclusion criteria under the Results section.

3. As suggested, we have made revision to the caption of Table 1.

We have made every attempt to keep the additions requested by the reviewers as brief as possible.

We hope these changes will meet with your approval and look forward to your response in due course.

Yours sincerely,

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Andrew P Costa, PhD