Author's response to reviews

Title: Predictors of inhospital mortality and re-hospitalization in older adults with community-acquired pneumonia: a prospective cohort study

Authors:

Binod Neupane (binodn@gmail.com)
Stephen D Walter (walter@mcmaster.ca)
Paul Krueger (paul.krueger@utoronto.ca)
Tom Marrie (tmarrie@dal.ca)
Mark Loeb (loebm@mcmaster.ca)

Version: 4 Date: 23 February 2010

Author's response to reviews:

February 22, 2010

Dear Editor,

Thank you for your consideration of our manuscript “Predictors of mortality and re-hospitalization in older adults with community-acquired pneumonia: a prospective cohort study”. We have addressed the Editor’s and reviewer’s comments as follows:

1. Associate Editor's comments:

It is necessary to take into account the comments of reviewers. On the tables, I believe that Table 1 could be deleted because it is not used in statistical analysis. I have also a question: Regarding this population of older patients with CAP, why are there 60% of men then we expected in this age group to have a majority of women?

We agree and have deleted Table 1. The reason that there were 60% of men is because this was a cohort of hospitalized patients for community acquired pneumonia. Being male is a well documented risk factor for acquiring pneumonia (e. g Koivula et al. Risk factors for pneumonia in the elderly. Am J Med 1994; 96:313-320) so it is expected that there would be more males as cases.

Reviewer 1 comments:

I think that the low level of death within 30 days (6.8%) might explain the lack of impact on mortality of the socioeconomic or immunization status

We agree with the reviewer that a 6.8% event rate may have limited our ability to
detect some significant effects, however we don’t believe that the low death rate is a plausible explanation for the lack of significant effect of socioeconomic status given point estimates (estimates most likely to reflect the true value) of odds ratios 0.99 and 0.98. For immunization, we agree that this low event rate may have precluded detecting an effect for pneumococcal vaccine.

We have added the following to the text (Page 10, last 2 lines): “Moreover, the low rate of death at 30 days (6.8%) may have limited our ability to detect a significant protective effect of pneumococcal vaccine.”

Authors should explain why there are so many missing patients (n=207) in the re-hospitalization cohort

These 207 missing patients were to be assessed for the re-hospitalization cohort. Follow up contact was done by telephone by the research study nurse. The nurse was not able to successfully obtain a response from these patients after multiple messages were left. We acknowledge that this as a limitation of the study in the discussion (Page 12, last 5 lines).

“But, the effective sample size used for re-hospitalization was very small and as a consequence factors such as socio-economic status were not statistically significant even when the estimate of association was quite large. This is because we could not confirm re-hospitalization status for many participants who might either have moved out from their residential address or could not be contacted for other reasons.”

I am not sure that table 1 and table 3b are worth publishing. They are not useful to understand the main results

As suggested by the editor, we have deleted table 1. We prefer to keep table 3b since it highlights the multivariable analysis for rehospitalization.

there is a lack of data concerning E vitamin status. Is it possible to give more details on the length of supplementation? I would be more cautious on this result if details can not be given.

Unfortunately since this was self-reported use of vitamin E, it was not possible to obtain accurate information on the length of supplementation. We agree that it is important to be cautious about the result. To this end, we have added the following text to the discussion (Page 10, lines 3-4):

“The fact however that these results are based on self-reported use of Vitamin E is an important limitation.”
I think that the authors should insist on the fact that they assess mortality at day 30. That means that comorbidities appear to be predictors of "early" death or "in-hospitalisation" death.

We agree and have made following changes to the text to reflect this:

“inhospital” has been added to the title before “mortality” and before mortality in line 2 of the discussion.

Reviewer 2 comments:

Minor Essential Revisions

1. In the results section, (pages 8 and 9), the authors may not need to detail all the risk factors with their odds ratios and confidence intervals for the multivariable logistic regression models since they are provided in Tables 3a and 3b. Otherwise there is some redundancy between the text and the tables.

We agree with the reviewer and have removed the text outlining the negative results that appear in tables 3a and 3b.

2. In the discussion section, (page 10), the sentence starting with “Influenza and pneumococcal vaccination, lower functional status, or appropriate…” could be deleted. It doesn’t add anything extra to the discussion section since all of these risk factors are individually addressed in the paragraphs following.

We agree and have deleted this sentence.

Discretionary Revisions

3. In the Data subsection of the Methods section, (page 5) the authors describe using level of education as a proxy for socioeconomic status. Has this strategy been employed or validated in other studies?

Yes, it is common to use education as a proxy for socioeconomic studies for older adults.
4. In the Results section (page 8), the authors found “hip fracture” to be a significant risk factor for 30-day mortality in the multivariable model. Can the authors specify whether that was a history of hip fracture at any time or if there was a time frame within which the fracture had occurred (e.g. hip fracture within last 6 months). It would be interesting to know whether the majority of hip fractures were recent in time to the admission for community-acquired pneumonia.

It was a history of hip fracture at any time. We have clarified this in the text by adding “history of” prior to “hip fracture” in both the abstract and the text.

Sincerely,

Mark Loeb MD