Title: The prevalence of clinically-relevant comorbid conditions in patients with COPD: a cross-sectional study using data from NHANES 1999-2008

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Author's response to reviews: see over
Dear Editorial Team,

We greatly appreciate the opportunity to revise our manuscript for consideration in BMC Pulmonary Medicine, and the careful and thoughtful attention to our work by the reviewers and editors.

We believe all of the comments have improved the manuscript.

Thank you for your time and consideration.

Our detailed responses follow.

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Reviewers’ comments to author:

Reviewer 1:

Schnell and colleagues present a ms entitled "The prevalence of clinically-relevant comorbid conditions in patients with COPD: a cross-sectional study using data from NHANES 1999-2008".

The research topic is of interest. Methods are sound. The limitations of this study (no spirometry) are adequately discussed. In general, the ms is very well written. The presented results confirm previous studies in the field and underline the need to implement comorbidities of COPD in decision making and guideline development.

We appreciate the careful view of our manuscript.

Reviewer 2:

1. I believe doctor’s diagnosed COPD is a relevant outcome, but it is different from what most readers understand by the term COPD. Potential consequences for the presented analysis are not discuss adequately; i.e. it is not unlikely that comorbidities are more common in the COPD group reporting a doctors diagnosis than in those with undiagnosed COPD. This should be dealt with in the discussion, if possible, with some estimation based on the subsample with spirometry data. Further, the authors should use the term “doctor’s diagnosed COPD” in title, conclusions of abstract and discussion, figure titles etc – within reasonability, throughout the manuscript. If the definition is thus made clear throughout the paper and the possibility for differential bias discussed, I think a validation analysis is not essential.

We have made the suggested change and added “physician-diagnosed” to the title, abstract, tables, and conclusion to clarify our definition of COPD; we have also added this phrase to other key places in the manuscript. We have elected to forgo adding
spirometry data as a subsample, but have, as asked, added text further discussing the potential for differential bias in physician-diagnosed COPD compared to those without COPD (limitations section).

2. In tables 1 and 2 it is correct to state the number included in analysis, but the number represented by this should be excluded from the tables. This could rather be included in foot-notes, revised to reflect that the sample is not globally representative, but concerns non-institutionalized civilians in the US.

We have made the suggested change.

3. Figures 1-3 are rather busy but could easily be made more accessible; i.e. they would be easier to read if women are illustrated with open symbols and men with closed symbols. It is not entirely clear what is compared with what.

We have made the suggested change to the symbols. We appreciate the reviewer’s concern surrounding clarity of the comparisons; these figures are not comparisons per say; they provide a visual illustration of the high prevalence of comorbidities in patients with physician-diagnosed COPD. We have clarified this in the results.

Discretionary Revisions:

4. Would it be possible to extend table 2 with age- and sex adjusted p-values?

We appreciate the suggestions; we have chosen not to add age-and-sex-adjusted p-values to table 2, as we feel these would make the table more difficult to digest.

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We greatly appreciate the thoughtful critiques of our manuscript and have revised it accordingly. We believe the peer review and editorial review have improved our work.

Thank you for your attention and time.

Sincerely,

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