

## **Author's response to reviews**

**Title:** Age at disability onset and self-reported health status

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Melissa Norton, MD  
BioMed Central Ltd., Middlesex House  
34-42 Cleveland Street  
London W1T 4LB, UK

RE: MS: 1298858595120503 "Age at disability onset and health-related quality of life."

Dear Dr. Norton:

Thank you for the opportunity to revise our manuscript entitled, "Age at disability onset and health-related quality of life". The manuscript has been edited in general terms for issues of clarity and consistency of language, as well as for specific issues raised by individual reviewers. Please find below a detailed response to reviewers and a list of edits made to the original. All authors have reviewed and commented on this revision. If you need further information or have any concerns, please do not hesitate to contact me.

Best Wishes,

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**Reviewer Susan Kinne:**

Major Compulsory Revisions

1. *I do not understand what is gained by referring to self rated health status (the dependent variable) as "HRQoL".* Thanks for bringing this very important point to our attention. We revised the manuscript to clarify the argument referring to self rated health status, our dependent variable, as "HRQoL." Since HRQoL usually falls conceptually under a multi-domain measure, we followed the reviewer's suggestion and rephrased our wording of the HRQoL to accurately reflect our dependent variable of self-reported health status. We have also modified the title of the manuscript to reflect this sentiment, "Age at disability onset and self-reported health status."

## Reviewer Denis Evans:

### Major Compulsory Revisions

1. *The major problem is a conceptual one. The manuscript addresses age and other factors related to disability onset, implying a longitudinal view with the ability to detect and study the beginning or onset of disability. A major challenge is that the data available are not longitudinal, but cross-sectional. Except for a one-sentence notation of this conceptual problem in the Discussion Section (p. 11), the manuscript does not refer to it.* We appreciate this comment which addresses the limitation of causal inference due to the cross-sectional nature of our data. We acknowledge that this retrospective “cohort” of age at disability onset represents a proxy for long term follow up. The design of this study could be conceptually termed a retrospective cohort. That is, the onset precedes the current outcome, and we reproduced the length of time since disability onset. This classification is, however, dependent on the cross sectional sampling of the BRFSS, and this is a limitation. In addition, the range of disability duration covered in this sample is considerably larger than would be feasible in all but the largest prospective studies. The retrospective “cohort” drawn from the cross-sectional data provides a means to begin studying the issue, laying the groundwork for prospective studies in the future. This has been clarified in the Methods section (p. 7), and discussion of the issue on page 11 has been expanded.
2. *...Needs description of the years the respondent had been living with the disability, etc...the measures for doing so need to be specified clearly, and the validity of these measures defended.* We have added a description of the measure of duration of disability, and how it was used to calculate age and disability onset, to the Methods section (p. 7). Thank you for raising this point, which we agree required clarification. We appreciate your questions as to defending the validity of these measures. We are unaware of any published studies that have examined the validity of the disability duration question used on the BRFSS. As with the other self-reported information in the BRFSS and other survey data sources, we are reliant on the respondents’ estimates of the duration of their disabilities. This is a limitation, added to the discussion. The implications for longitudinal research are key to future directions.

### Minor Essential Revisions:

1. *Clarify that these results are from a model predicting health status from all of the listed predictor variables considered simultaneously in Table 2.* We changed the title of Table 2 to “Model of Predictors of fair/poor general health from the 1998-2000 BRFSS\*” to specify that the results are from a model predicting health status from the listed predictor variables.

2. *More description of RDD, sampling, and analysis is needed.* A brief description of the sampling method has been added on page 5. On page 8, we have added a sentence specifying that stratification and weighting variables were included in the analyses as design variables. The BRFSS web site is the key resource, but the methods and quality reports are very extensive and probably beyond a simple summary for this article. We have cited the web resources in addition to the added information in methods.