Author's response to reviews

Title: Adult Vaccination Coverage Levels Among Users of Complementary/Alternative Medicine--Results from the 2002 National Health Interview Survey (NHIS)

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Author's response to reviews: see over
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RE: MS 1341980068154919 *Adult Vaccination Coverage Levels Among Users of Complementary/Alternative Medicine--Results from the 2002 National Health Interview Survey (NHIS)*

Dear Editor, BMC Complementary and Alternative Medicine,

We were pleased to hear that our manuscript had completed the external peer review process with an encouraging review.

The reviewer comments were very helpful and allowed us to improve the manuscript. We have revised the manuscript and have tried to address the reviewers’ suggestions and criticisms. Below, we provide a point-by-point response to the comments; we place reviewer comments in italics followed by our response in normal type.

Finally, during the review process Karen A. Lees was married and changed her name. We have updated the author byline to reflect her new name, Karen A Cullen.

Thank you for the helpful reviews and the opportunity to resubmit our manuscript

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Reviewer 1
1. Conclusion section of abstract and manuscript should start with a summary statement about the most major finding.

We have added a summary statement to the conclusion section of the abstract and manuscript.

2. Vaccination rates are not demographic variables so would make the necessary change in table title.

We have changed the title of Table 2 to: Demographic characteristics and vaccination status by Complementary/Alternative Medicine (CAM) use, 2002 National Health Interview Survey

Reviewer 2
No changes suggested

Reviewer 3
Major Compulsory Revisions
1. The sample size of the study should be given in the abstract.

We have revised the first sentence of the methods section of the abstract to include the sample size:
“Data from the 2002 National Health Interview Survey, limited to 30,617 adults that provided at least one valid answer to the CAM supplement, were analyzed.”

2. Immunization coverage is not described consistently, e.g. terms such as coverage rates, vaccination rates or immunization rates imply the number of vaccinations in a population at risk for a given time. This may not be correct in the context of the study, as the text implies the proportion of vaccinated persons among the general population. Some clarification is needed here.

Throughout the manuscript we use the term ‘vaccination coverage levels’ when describing the proportion of respondents who received the vaccine in question. There were a few occasions where we used the term ‘vaccination rates’ and have made the necessary corrections.

3. What exactly means ‘practitioner based’? Are these board certified primary care or CAM providers?

CAM therapies were classified according to Barnes et al (citation #2 of the manuscript). To be more specific, non-practitioner-based CAM therapies do not require the services of a provider, whereas a provider is needed for practitioner-based CAM therapies. In the methods section, we clarified the source used for the classification of CAM therapies.

4. Were all respondents able to differentiate between a ‘flu shot’ or a ‘pneumonia shot’. How were these questions validated?
In the methods section under the ‘Vaccination status’ section, we state that vaccination status is self reported by the respondent and not verified by a medical provider. Since vaccination status is self reported, results may be biased. This bias is acknowledged in the limitation section of the discussion.

5. Multistage and cluster sampling does not necessarily imply the use of SAS or SUDAAN software. It would be more important to know how effects of clustering and multistage design were accounted for in the analysis; i.e. how exactly were standard errors of predictive margins calculated?

We used SAS and SUDAAN for this analysis in accordance with the NHIS data documentation guidelines. While other software packages can be used, we were most familiar with SAS/SUDAAN. More information on variance estimation in the NHIS can be found in NCHS’s report on the “Design and Estimation for the National Health Interview Survey, 1995-2004” (http://www.cdc.gov/nchs/data/series/sr_02/sr02_130.pdf). The standard errors of the predictive margins were calculated using Taylor series linearization methods in SUDAAN and were provided by SUDAAN in the output.

6. The data analysis section should provide a more specific description of the models that were used. Were all variables listed in table 2 used as explanatory variables? Some variables might be correlated or have collinear relationships. Were these issues assessed during model development?

As stated in the data analysis section of the methods section, the models adjusted for the demographic and healthcare utilization variables included in Table 2. For each model, we used SAS to assess for collinearity. We have added the following sentences to the methods section to clarify this:

“Independent variables were tested for joint collinearity using condition indices, a measure of multi-collinearity. Evaluation of condition indices indicated little collinearity among variables in the logistic regression models.”

7. In table 2 it is not clear what a ‘Usual source of care’ means and for non US readers it remains also unclear what HS and GED mean.

In table 2, we provided a footnote including the question used in the NHIS to assess having a usual source of care; we also clarified the meaning of HS and GED.

8. Vaccination coverage is obviously inversely related with insurance status. From a public health perspective, it might be important to have some knowledge about predictors of vaccination status in the population of the uninsured. There is therefore a potential need for stratification.

We agree that insurance status is an important variable with respect to assessing vaccination coverage. Hence, we adjusted for insurance coverage in all of our models.
Minor essential revisions

1. Results are given in the text with a +- ranges; what is the meaning of +- e.g. standard errors? Although the meaning of +- is given in the tables, the methods section should provide some information.

Under the data analysis heading of the methods section, we added clarification that we are reporting 95% confidence intervals.