Author's response to reviews

Title: Changes in Glycemic Control from 1996 to 2006 among Adults with Type 2 Diabetes: A Longitudinal Cohort Study

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Author's response to reviews: see over
May 5, 2010

Re:
MS: 164522732308397
Changes in Glycemic Control from 1996 to 2006 among Adults with Type 2 Diabetes: A Longitudinal Cohort Study
Karen J Blumenthal, Mary E Larkin, Gail S Winning, David M Nathan and Richard W Grant

Dear Dr. Graham,

Thank you for the opportunity to once again revise our manuscript. We thank the reviewers for their helpful comments. Below we provide a point-by-point summary of our responses to the reviewer comments. We have also highlighted corresponding changes in the revised manuscript using “tracked changes”.

Sincerely,

Richard W Grant MD MPH
Corresponding author

Reviewer: Randie R Little
Reviewer's report:
Minor Essential Revisions:
1. NHANES is National Health and Nutrition Examination Survey (not National Health Assessment and Nutritional Examination Survey). Please revise.

-This has been corrected.

Discretionary Revisions:
1. I don’t think that your additional new sentence on pg 3 really adds anything. It is actually somewhat confusing.

-We have deleted this sentence.

2. Pg 5, middle paragraph: CVs are not calculated from "standards" since these standards/calibrators are being used to calibrate the assay. Also, this assay only uses a single point calibration (single standard) so I still think the CVs were not calculated from "standards". It would be best to leave off the "for low and high standards" and just include the CV being 2.5% for the assay. References 2 and 15 do not contain this information.

-We have deleted this phrase and removed the references.
Reviewer: Lawrence C Perlmuter
Reviewer's report:

The second reviewer raised 4 overall points:

1. Regression to the mean (RTM): We read with interest the tutorial by Barnet et al and find it to support our view that RTM is a not likely to be the explanation for our results. Per Barnet, RTM at the subject level “occurs when repeated measurements are made on the same subject or unit of observation. It happens because values are observed with random error. By random error we mean a non-systematic variation in the observed values around a true mean.” The separation of repeated measurements by 10 years (an elapsed time during which treatment/disease pathophysiology would predominate over random test variation) substantially attenuates any potential patient-level repeated measures RTM effect. RTM at the group level arises “by categorizing subjects into groups based on their baseline measurement.” Since we did not select the baseline cohort for the main analysis by extreme of baseline measurement, the main analysis at the group level is not likely to be driven by RTM.

2. Correlations among variables: The reviewer raises an interesting additional set of analyses that could be done. We agree that further analyses would be of interest but we maintain that these are beyond the scope of the current paper.

3. Confusion about Figure 2. The data in the solid line do not include the data in the broken line. These are 2 separate cohorts (solid line = the 1772 patients seen in both the baseline and follow-up year, dashed line = the 1296 patients seen at baseline but not at the final year). We have clarified this distinction in the figure legend.

4. English and education as variables. We are unclear how the language variable could be treated “more comprehensively.” As is typical for clinical care-derived data, we did not have detailed patient-level information about educational attainment. Language status was included in the multivariate models and in the Table 1 univariate descriptions.

Minor Point: Figure 2#caption ...(“number of ....”
This has been fixed