Reviewer’s report

Title: Gene-environment Interaction Effects on Lung Function- A Genome-Wide Association Study within the Framingham Heart Study

Version: 2 Date: 16 November 2013

Reviewer: Lisa Maier

Reviewer’s report:

The authors have taken great care in revising the manuscript based on the suggestions and comments from both reviewers. They have addressed all concerns and have rewritten the discussion to be more consistent with the presented results. The paper is an important contribution to our beginning to understand the impact of exposure and genetics on lung function. We suggest the one following clarification before publication.

1) Discretionary Revisions:
1) The authors should clearly state that they are only using the spirometry results from Exam 8 in the Offspring cohort because that is the only visit that corresponds with the occupational data. They explain this in their response to comments but it is not included in the revised text. This would address some of the questions about why they chose not conduct longitudinal analysis.

2) To clarify, we had suggested that an overall description of study design would be helpful. The authors responded that they reported the design of the Framingham Heart Study with a reference. However, it would be beneficial to have an overall description of the study design that the author’s used for their own study.

3) The authors suggested in the review response that they would consider analyzing longitudinal lung function. This should be suggested as a future direction in the discussion.

4) In the introduction, the second from last paragraph should read “To date, few studies have… instead of “few study has …”

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests