Author's response to reviews

Title: Primary prevention of lead poisoning in children: A cross sectional study to evaluate state specific lead-based paint risk reduction laws in preventing lead poisoning in children

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Author's response to reviews: see over
Dear Dr. Braun,

Thank you very much for your comments. They were extremely helpful as they helped to refine the message of this study. To aid in your review, we’ve sent both a track changes as well as a clean version of the document. We really appreciated your attention to detail and hope that our response adequately satisfies your concerns.

Response to comments from reviewer Joseph Braun

Major Compulsory Revisions

Comment 1: I appreciate the authors adding a description of why they chose to study MS. While the efforts to adjust for so many confounders are commendable, I believe it would still be worthwhile to mention the potential for ecological confounding in the discussion.

Response 1: Thank you for your comment. The suggestion has been incorporated. Please see the discussion section of the paper.
Comment 2: I am still not convinced that the dust Pb measurements add much to the manuscript. The authors state that it was pertinent to have these measures since they are related to the risk of Pb poisoning and detection of subsequent cases. However, since dust Pb data were collected at different times relative to the identification of a contaminated dwelling in the different states, they do not represent the same construct and their measurement error in measuring is correlated with the primary effect of interest (state of residence). Thus, I strongly encourage the authors to drop Tables 5 and these analyses.

Response 2: Thank you for your comment. The suggestion has been incorporated. Table 5 has been omitted as have the discussion on dust lead loading.

Comment 3: There appears to be a substantial amount of missing data for the different covariates since the unadjusted model contains 292 addresses and the final model contains 115. Could the authors please comment on how this might affect their results? I suggest comparing characteristics of the residences and participants with and without complete data.

Response 3: Thank you for your comment. The suggestion has been incorporated. Please see the discussion section of the paper.

Minor Essential Revisions

Comment 1: The manuscript has a large number of tables and many seem unnecessary or overly complicated. I strongly suggest dropping Table 3 since there is not strong justification for providing this level of detail for one single covariate. Tables 4 could be simplified by dropping the p-value column. Table 6 is confusing. It is not clear if the ORs displayed are for the effect estimate of MA/OH vs. MS or the actual covariate. The last column heading says they are the former, but the footnote says they are the latter. I suggest simplifying the table by presenting the unadjusted and adjusted ORs. The effect estimates for the covariates is not as interesting for this particular paper.

Response 1: All suggestions have been incorporated.

Comment 2: The paragraph related to gentrification contains opinion and non-referenced observations (e.g., “urban blight” and “changing structure of inner city neighborhoods”) and does not seem directly relevant to the study at hand. I strongly suggest deleting this paragraph or substantially rewriting this paragraph so it does not have an editorial tone and only contains statements/evidence relevant to this study.

Response 2: Thank you for your comment. These findings have been seen in studies conducted in New York City as well as in Rhode Island. Please see the provided references within the text. Since many urban centers are undergoing gentrification, it is important to point out the changing structure of those likely to become lead poisoned in urban centers undergoing gentrification.

Comment 3: The first sentence of the methods is confusing as written.

Response 3: The sentence has been edited for clarity.
Comment 4: Please display the odds ratios in Figure 1 on the natural log scale.

Response 4: Interpreting the natural log may be difficult for the lay audience, including policy makers and legislatures, many of whom will be interested in the findings of this study.

We look forward to hearing from you soon. Please don’t hesitate to contact us if you have any additional concerns.

With Best Regards,

Chinaro Kennedy

Chinaro Kennedy, DrPH, MPH

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