Author's response to reviews

Title: On the estimation of heat-intensity and heat-duration effects in time series models of temperature-related mortality in Stockholm, Sweden

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Author's response to reviews: see over
Dear Editor,

We are grateful for the constructive comments from the reviewers and have made substantial revisions according to the comments raised. The revised manuscript has been submitted with changes marked from the previous version.

1. We have changed the title of the manuscript so that it is clear that the empirical results in this study are derived from Stockholm, Sweden.
2. In the revised manuscript we clearly and extensively explain how the heat wave indicator and heat wave duration variables are related to between lag effect modifications (see section “Why additional heat wave effects?”)
3. We realize the results section is compact with many results. However, in the discussion and conclusion section the most important outcomes from all the figures and tables are succinctly summarized. We believe the many results, figures and tables shown are a strength of the manuscript as the findings become more transparent.
4. One of the reviewers expressed that the results are weak as they depend only on one 5 day heat wave. This is not the case and we have tried to better explain this in the text. The approach estimates an average effect of all heat waves. In Table 2 we have presented the frequencies of heat waves and durations.
5. One of the reviewers suggested the use of AIC in this study was not very good. The AIC is the best measure we have for evaluating model fit. Our experience is that the AIC works well for this type of data, and that is based on simulated and empirical data.
6. The reviewers suggested that we study other groups as the additional heat wave effects have been found previously to differ in different groups of the population. We have added two more tables for the age 80+ and ages 45–79. The additional heat wave effects were a more important predictor of death in the youngest population (Tables 4–5).
7. We have added a table that describes the characteristics of the data (Table 1) and the heat waves (Table 2).