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Dr Jennifer Sargent
Senior Editor, *Nature Medicine*

Dear Jennifer:

Thank you for the review of our paper "Anomalously warm temperatures are associated with increased injury deaths" (NMED-L98528) and for the possibility of appealing the decision to reject the paper.

We acknowledge, and are happy, that the three Reviewers collectively seem to have had expertise in the different substantive and methodological aspects of the paper. Our appeal of the decision is therefore premised on the fact that the comments were addressable in substantive, methodological and presentation revisions while maintaining the paper's novel scope and interesting findings. The one comment that we have not addressed in practice raised an entire new research activity, albeit an interesting one.

We provide details on the revised analyses in our responses to the Reviewers' comments. In summary, we have done substantial additional work and have:

- 1) Better motivated why analysing the impacts of temperature and climate should go beyond the "standard" focus on cardiorespiratory and parasitic diseases and investigate injuries (Reviewer 1).
- 2) Changed the source of temperature data from ERA-Interim to ERA5 (Reviewer 1) noting that despite the comment's strong language, ERA5 was released only while our analysis was well underway.
- 3) Changed the baseline period for calculating average temperature using which anomaly is calculated (Reviewer 1). We can easily de-trend the temperature data before calculating the average but as we outline in the Responses, the actual data are more suitable.
- 4) Changed the temperature increase for which excess deaths are calculated to be consistent with the Paris Climate Agreement (Reviewer 1).
- 5) Taken out the few "irrelevant" or "less relevant" ICD codes as appropriately flagged by Reviewer 2.
- 6) Calculated anomaly at the county level before aggregating to state level (Reviewer 2). That we did not shift the entire analysis to county level is due to a combination of small number of events and especially computational constraints, even on our powerful "high-performance computing clusters" in terms of running our models on 3000+ counties.
- 7) Changed our spatial model from a CAR prior to a BYM prior that relaxes the assumption of local smoothing (Reviewer 2).

- 8) Taken up the suggestions for additional and sensitivity analyses, and clarifications of statistical methods, raised by Reviewer 3.

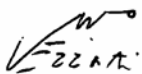
We have not analysed the potential “modifiers” of the effects of temperature (Reviewer 2), for the simple reason that collating the required data and running the models could involve months of additional work and a substantially longer paper. In fact, we have in the past done an entire paper on variations of effect sizes (Bennett et al Nature Climate Change 2014). That being said, if this expansion of scope is needed for the story of the paper we would be happy to do the work (assuming that the resultants models are stable and computationally feasible).

Being a novel paper that falls outside the traditional works in this area, we had expected comments that would strengthen our work during the peer review. We also continue to believe that the paper presents a fresh perspective and approach, and interesting results, on how climate change may affect an important public health outcome. Our methodology – leveraging anomalous temperature – is much closer to what we expect as the global climate changes than the traditional time-series analysis of daily temperature variations. For this reason, we expect that the paper’s influence to encompass both our current risk assessment of climate change and future research in this area.

The revised main paper, excluding the introductory paragraph, is ~1,440 words, with an additional ~2,050 words in Methods. It contains five figures, with an additional figure and 4 tables designated as online supplementary materials.

We thank you again for giving us the opportunity to appeal the decision and look forward to your response.

Sincerely,

A handwritten signature in black ink, appearing to read 'Majid', with a stylized flourish above the name.

Majid