Reviewer's report

Title: Health impacts of the July 2010 heat wave in Quebec, Canada

Version: 2 Date: 25 November 2012

Reviewer: Ray Copes

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MINOR ESSENTIAL REVISIONS

1) p.4 Analysis Periods - Please clearly identify what the 'certain thresholds' to define the heat waves were for each of the RSSs. (If these are included in Table 1, it isn't clear).

2) p.4 Analysis Periods - Can you provide some information on how much variation there was in temperature within each of the RSSs? How many weather stations are there in the RSSs? Can you make some statement as to whether they reflect temperature in populated versus unpopulated parts of the RSS?

3) p.5 Results/Health Impacts - The increase of 33% in crude death rate is much lower than the 60% (based on 1981-2005) that was apparently used to define the heat wave (as stated in 'Analysis Periods'), please include more discussion of reasons for this in the Discussion section.

4) p.5 Results/Health Impacts - The 33% increase in mortality is quite pronounced compared with the 4% increase in emergency room visits. There seems to be some variation in this across the RSSs. According to Table 3 some of the RSSs had no increase (or a non-significant decrease) in emergency room visits. Are there local factors that would explain some of the variation across the RSSs? It would be useful to include some discussion of this in the paper.

5) p.5 Health Impacts - There is a typo. Should be: 2005-2009

6) p.6 Discussion - The figures on ownership of air conditioning in Quebec households are interesting and highly relevant to interpreting the data. Is information available on ownership of air conditioning for each of the RSSs, or some other regional basis within Quebec? If so, it would be useful to include this and discuss whether it aids in interpreting the results.

DISCRETIONARY REVISIONS

7) p.8 Discussion, Deaths - It is surprising that the >65 age group didn't show a greater increase in deaths. Was this consistent across all RSSs? It would be helpful to present the data in Table 3 by the 3 age strata. This might best be communicated in a bar chart, with the death rates for the 3 age strata presented for each of the RSSs.
Level of interest: An article whose findings are important to those with closely related research interests

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