Reviewer’s report

Title: Q fever in the Netherlands: public perceptions and behavioural responses in three different epidemiological regions: a follow-up study

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Reviewer: Agnieszka Rychwalska

Reviewer’s report:

The authors present results of a survey on public awareness of Q-fever in the Netherlands and health related behaviors in regions of varying incidence of the disease. While the gathered data is valuable, especially considering the large response rate in follow-up surveys that enable analyzing time trends of measured variables, the analysis shows some major shortcomings.

Major Compulsory Revisions

1. In general, the paper lacks any in-depth analysis that would enable explaining and understanding of the observed trends and regional differences in the measured variables. The main results reported are that awareness and related health behaviors grow after the major outbreak of the disease and drop in the following years, with the high incidence region scoring higher than medium and low incidence regions in most variables. Given that (as the authors report in the introduction) the outbreak was followed by high media coverage (“the public were informed through targeted mailings, publications, and the news media”, Background section, pp. 3) that moreover differed between regions according to incidence levels (“patients (...) that lived in high-risk areas were offered Q fever vaccinations”, Background section, pp.3) the results and conclusions presented are rather trivial. The only result that the authors find surprising is that Q-fever related anxiety and perceived susceptibility remained low. However, they do not attempt any in-depth analysis of the data that would help explain this or the other results. With such a high sample (almost 1000 participants completing all 3 rounds of the survey) many research questions could be posed that would truly enhance our understanding of how the public reacts to zoonotic diseases, e.g.:

a. How does better knowledge (as measured) influence anxiety, perceived susceptibility, self-efficacy, etc.?

b. How does contact with the disease (as measured by question 7) affect knowledge, willingness to take counter-measures, etc.?

c. What are the best predictors (in the first survey run) of higher propensity to take counter measures, higher self-efficacy, etc. as measured in the follow-ups?

d. How the age/education/employment affect knowledge, anxiety, etc.? (results are not presented, although hinted at)

e. Does anxiety predict the willingness to take counter-measures, etc.?

f. Does the general pattern baseline – grow – drop observed for many variables
mean that the variables drop to the baseline (2009) or remain higher? (this could be answered by a repeated measures AOV instead of pairwise comparisons)

The data gathered is sufficient for these and any other complementary analyses. Without such more in-depth analysis the results presented so far do not merit publishing.

Minor Essential Revisions

2. The best part of the results section describes (almost line by line) what is already presented in the tables. In most part, this is redundant – it would be enough to underscore the most important general trends / results and instead present additional analyses here (see comment 1).

3. In Figure 3 the regions are not labeled with regards to incidence (only “1”, “2”, “3”) and the reader has to guess which is the highest and which the lowest incidence region.

4. The results on confounding factors in the regional differences analysis are not presented while they could in fact be an interesting part of the analysis. Are the confounding factors correlated with each other? How do they influence the measured variables?

Judging by the data in table 1, region 3 with the low incidence (as such serving as a baseline here) is markedly different from the others – it has the youngest, highly educated population, with lowest unemployment and highest “single” marital status. All this suggest that the region differs also on other dimensions (rural/industrial?) What was the motivation for choosing this region as a low incidence baseline if it is so much different from the others? More explanation should be given.

5. When discussing the surprisingly low anxiety and perceived susceptibility levels the authors should include information on the population in the studied regions. The number of cases diagnosed in a particular region with respect to the total population of that region is what describes the actual probability of infection; NOT the number of cases in the region compared to the total number of cases in the country. The actual probabilities (as roughly assessed by the public) might influence anxiety levels and presenting them could help explain the results.

Discretionary Revisions

6. When describing the limitations of the study it could be noted that samples drawn from panel participants are generally considered “heavy internet users”. In most cases this does not influence the results, but when analyzing the perceived amount of information received these participants might be biased due to their generally larger information seeking/information exposure behaviors.

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