Reviewer's report

Title: Using sequence data to identify alternative routes and risk of infection: A case-study of Campylobacter in Scotland

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Reviewer: Jonas Waldenström

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In my opinion, this is a thorough and solid manuscript addressing a relevant and exciting theme. In layman’s words: who gets which campy, and why? To aid them in their quest, the authors have been using multilocus sequence typing (MLST) and then applied epidemiological and probabilistic software to the resulting data. The results point to different routes and sources of infection for different groups of humans. This is not terribly unexpected, but it takes good data at hand to be able to make such structured comparisons.

I have mainly, minor essential revision comments:

Page 8, line 144. You refer to Ogden et al for the rational of lumping sheep and cattle into one category. Wouldn’t it be better to first run the analysis with sheep and cattle as separate categories, and then if no differences were seen, lump them?

Page 5, line 73 and elsewhere. I would like the authors to keep a more stringent naming of the bacterium in question. Campylobacter is a genus name and not a synonym for C. jejuni. Check the manuscript throughout.

Page 5, line 77 and elsewhere. It is bacterial isolates that are typed by multilocus sequence typing (MLST) into sequence types (STs). Strains are something else. Furthermore, one usually doesn’t talk about ST groups: a ST is the distinct allelic profile from 7 loci. Increased levels of complexity are single-locus variants, double-locus variants and clonal complexes. I would suggest to look over this paragraph again. Similarly, the first line of the discussion states that MLST is a technology, but it is at most a genetic typing method.

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.