Dear Sirs:

Re: "Population-Based Laboratory Surveillance for Giardia sp. and Cryptosporidium sp. Infections in a Large Canadian Health Region."

All of the concerns of the reviewer's have been addressed in this letter and appropriate revisions have been made to the manuscript. We appreciate the prompt and constructive review of our manuscript.

Reviewer #1

Major Compulsory Revisions:

1. This is a population-based study where incidence is calculated as the number of cases identified as the numerator and the population size of the Calgary Health Region as the denominator. In this calculation an assumption is made that cases of disease will be identified by the presence of a positive test. It an accepted limitation of this method that patients that do not have a test performed will not be identified leading to an underestimation of disease. Even so, this is a well-recognized and accepted standard for population-based studies (See references below). We have added commentary to the first paragraph of the discussion to this effect.

References:


Minor Revisions: These have been modified in the original document as requested.

Reviewer #2

Major Compulsory Revisions:

1. Subject Originality: Although we agree with the reviewer that enteric parasitic infections are well documented as major problem in developing countries, there is a paucity of good quality data from North American populations, particularly Canada. This study is the first population-based report of the two most important enteric parasites in Canada. We therefore challenge the reviewer's assertion that this work is not original.

2. a) Methods: We appreciate the reviewers concern that with repeated stool sampling and testing of each patient we may increase the sensitivity of detection of Giardia and/or Cryptosporidium. We have added comments to the manuscript to indicate that our study may somewhat underestimate the true incidence of disease in our population (See first paragraph of the Discussion). b) Statistical: We have added the mid-study population to the Methods section as requested (2001 population 958,610). The yearly populations used during the study period are fully referenced in the Methods section (see Analysis). The study period is outlined in the Methods (May 1, 1999 and April 30, 2002). Because this study did not commence at the start of the calendar year, data are reported based on study year. We did not report calendar year because this would have provided a biased rate(s) because of seasonality of infection.

3. This is a population-based study that utilized a well-established methodology and statistical analysis. We refer the reviewer to the following references of similarly designed studies.

References:


4. Objective: We stated that the objective was to identify the incidence and demographic risk factors for
disease in a general Canadian population. We have modified the title to better reflect these objectives. We agree that there are other demographic factors other than age and gender although we believe it is appropriate to refer to these collectively as 'demographics.'

5. This has been changed in the article throughout as suggested.

6. The Calgary Health Region (CHR) is a well defined and relatively geographically isolated single payer type health system. We did not have exact addresses for all patients and applied a CHR definition that may have mis-classified a small proportion of cases (i.e. <10%). Patients were only included if they belonged to the Calgary Health Region according to this operational definition and therefore we believe they were well defined. We have modified the limitations paragraph in the Discussion section accordingly.

7. We utilized a population-based surveillance design where only positive cases were included. We refer the reviewer to references in section #3 above to further support this methodology.

8. As stated and referenced in the Methods section, a laboratory-based surveillance cohort design was utilized.

9. These data are displayed in detail in Figures 2 and 4.

10. We detail the relationship between outbreak and demographic factors in the second paragraph of the Results section under the Cryptosporidiosis sub-section.

11. We do not understand the reviewers concern.

12. Patients were identified uniquely by date of birth and name in all cases and by health care/hospital number in the majority. These were used to generate unique study identifiers.

13. Among adults greater than 20 years of age there was excess occurrence of disease as compared to the general population based on age and gender category as shown in Figures 2 and 4.

14. The Discussion provides an analysis of all of the Results in context with the published literature. The first paragraph discusses the occurrence of disease, the second paragraph compares our results with other regions in North America, the third and fourth paragraphs compare and contrast the epidemiological features of Giardia and Cryptosporidium, the fifth paragraph discusses the methodological aspects of the study, and final paragraph discusses the limitations of the results.

A copy of the revised manuscript has been uploaded to the Biomed Central website. If further clarification is required please contact me.

Yours truly,

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Deirdre Church MD PhD FRCPC
Tel: (403) 770-3281
Fax: (403) 770-3347
Email: Deirdre.church@cls.ab.ca