Reviewer's report

Title: A large community outbreak of waterborne giardiasis - delayed detection in a non-endemic urban area

Version: 3 Date: 6 April 2006

Reviewer: James Stuart

Reviewer's report:

General

This report describes a major outbreak of giardiasis in Norway. The outbreak is well documented. The paper is of importance to other countries who may consider themselves at low risk from this parasite.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

1. Please can the authors be explicit about recruitment and analysis of the case control study, and discuss non-response biases. 27 cases and 54 controls were included in the matched analysis. However in Table 3 it becomes apparent that 83 cases were recruited. (i) This is a big loss to the study (ii) I can see why cases without controls were excluded but it is surprising that there are exactly 2 controls for each case. I would have expected a substantial proportion of cases to have 1 control and also to be included in the analysis. (iii) I did not see mention of the number of cases who met the case definition for the case control study nor of the number of controls approached.

2. The dose response relationship with drinking water could do with more discussion. To a non-resident of Norway the reported volume of water consumption by cases and controls is high. This may be normal in this setting but it would be good to know if consumption by controls is close to expected levels e.g. is there data from national consumer surveys? Is there any possibility of bias. Did cases know that water was the suspected source at the time they were interviewed? Could this have influenced response? Cases were correctly asked about water consumption before illness but was this emphasised strongly? Could they have been reporting a high current consumption if they had been advised to drink more water during their diarrhoeal illness?

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

The different shading of the map is not clear in black and white.

In the abstract more than 90% acquired infection abroad, in the background this figure is more than 80%.

In the case definition, for residence in Bergen during incubation period, please define period used for the study and whether residence was required for some or all of the time.
For estimate of excess prescriptions, it would help to state (f true) that there was no seasonal variation in prescribing outside the outbreak period.

There are different time periods and different definitions used for different analyses. This is a bit confusing. Please could the authors check carefully e.g water supply attack rates are Aug – Nov in text and Sept – Nov in Table.

Discretionary Revisions (which the author can choose to ignore)

Supermarket A has a high level of statistical significance in the univariate analysis. Presumably this disappears in the multivariable analysis. Is there an obvious explanation?

As early warning another measure might be to suggest that laboratories test for rare organisms such as Cryptosporidium and Giardia in the event of an outbreak of diarrhoeal illness that is not explained by the usual pathogens.

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:

'I declare that I have no competing interests'