Reviewer's report

Title: Conventional and Molecular Epidemiology of Tuberculosis in Manitoba

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Reviewer: Richard Long

Level of interest: A paper of considerable general medical or scientific interest

Advice on publication: Unable to decide on acceptance or rejection until the authors have responded to the compulsory revisions

The authors have presented a summary of the molecular epidemiology of tuberculosis in a prairie province of Canada. The analysis is comprehensive; isolates from all culture-positive cases have been DNA fingerprinted and compared. Other data acquisition appears to be very complete, with the exception of conventional epidemiology where a limited amount of information is provided. The results are important especially given the remarkable dominance, and the demographic and geographic distribution, of a single strain of M. tuberculosis. Suggestions for revision follow.

1. The conventional epidemiology data is limited to the contacts of cases that were in cluster FP1. It would appear that a sizable proportion of the members of this cluster (72 or 44%) were not connected by contact, with another member of the cluster. How do the authors interpret this? Is this another example of the limitations of conventional epidemiology? Are some of the cases considered reactivations and source cases? Are these strains thought to be indigenous?

2. Almost all of the culture-positive Canadian-born Treaty cases (159/163 or 97.5%) outside of Winnipeg appear to be coming from a small number of northern reserves (9 of 139 or 6.5% of the total number of reserves) and of the FP1 strain. This same strain is dominating in Winnipeg. Can the authors shed any light on the relationship between these reserves and Winnipeg that might explain this distribution? Do the nine hyperendemic reserves account for a disproportionately large fraction of the Canadian-born Treaty reserve population? Is the Canadian-born Treaty population of Winnipeg known?

4. A few minor suggestions include (a) the elimination goal that was set for Canada and its provinces and territories was a 5% reduction in incidence per year (Health Canada. Proceedings of the National Consensus Conference on Tuberculosis: December 3-5, 1997. CCDR (Supplement) 1998; 24S2). The First Nations and Inuit Health Branch of Health Canada has set an elimination date of 2010 (Working Group on Tuberculosis, Medical Services Branch. National Tuberculosis Elimination Strategy. Ottawa, June 10th, 1992). (b) the authors need to indicate the year of the population estimates given at the beginning of the Methods (c) can the authors indicate how many IS6110 bands were in the FP1 strain, whether it was a drug-susceptible strain and whether or not the fingerprint data in general is from initial isolates - i.e. those take at the time of diagnosis. (d) at the outset of the discussion the authors are comparing Manitoba to the major immigrant receiving provinces of Canada - Ontario, BC and Quebec.

Competing interests:
None declared.