Reviewer’s report

Title: Direct and indirect costs of tuberculosis among immigrant patients in the Netherlands

Version: 1 Date: 24 February 2009

Reviewer: Delphine Antoine

Reviewer’s report:

Reviewers report
Title of article reviewed: Public Health direct and indirect costs of tuberculosis among immigrant patients in the Netherlands
Date: 23 February 2009
Reviewer: Delphine Antoine

General:
There is very little information on direct and indirect cost of TB incurred by immigrants in low incidence settings where immigrants often represent a large proportion of TB cases and have higher TB rates than nationals. This article provides estimates of direct and indirect cost of TB for immigrants in the Netherlands. The article reads well and the background and methods are clear. The main finding of the paper is to demonstrate that immigrant patients have extra expenditures for TB treatment and care in a setting where treatment costs are covered by medical insurance. However, the results and discussion sections require further work in order to highlight the public health relevance of the findings. It is, in particular, very difficult to interpret the results without information on average income in the country and without any discussion on how the results compare with the situation for non-immigrant TB patients.

Major Compulsory Revisions:
Background: At least one sentence on the overall TB situation in the Netherlands should be added for readers who may not be familiar with the TB situation in The Netherlands.

Methods: Methods of sampling should be clarified. It is mentioned that the study was conducted in 14 municipal health services and 2 specialized hospitals. How were these MHS and hospitals chosen? What proportion of the total number of MHS and hospitals in the country do they represent and how do they compare?

Results: the total number of patients who fulfilled the study criteria should be added as well as the proportion of those who did consent to participate and of those who did not). This may be discussed according to results and possible limitations.

In addition to number of Euros, cost should be provided as proportion or rate compared to overall income.
Time lost should be compared to time between first symptom and end of treatment (if information was collected). Time loss may be linked to drug susceptibility or other clinical characteristics. Was this information collected? If yes, this should be added. If not, information based on NTR should be included in the discussion section as immigrants are usually more likely to have resistant TB and therefore to have a longer treatment.

Discussion/Conclusion:
The paper should discuss possible differences between income in immigrants and in the non immigrant population and on possible differences of impact of TB cost on income. This is briefly mentioned but should be discussed more. Additional information on income in the Netherlands should be added enabling readers to compare information on income provided in the paper and to their own national situation. (For example, how does the yearly household income of 12 000 euros compare with other populations or with the average income in the Netherlands?)

The conclusion should not be only a summary of main findings but should also include the public health relevance of the findings and maybe some TB control recommendations.

Abstract should be revised according to the changes of the paper.

Minor Essential Revisions:
Background: 3rd sentence: I am not sure to understand what the authors mean by “sub clinical phase” in the sentence. Do you mean pre diagnostic or pre-treatment start phase? In tables 3, pre diagnostic period is mentioned.

Methods
Indirect cost section: Last 2 sentences should be in the result section.

Results: Section on Direct patient cost, sentence starting “Patient delay…”, do you mean diagnostic delay or treatment delay? This should be clarified

Tables:
Table 1: The use of “representativeness” in the title, the way ORs were calculated give the impression that the study population is a sample directly derived from the population described in the first column. This is not the case and therefore the table 1 is based on the assumption that TB cases notified to the NTR in 2005 are comparable to 2007 and could be considered as the study population. This should be clear in the methods.

I am not a statistician and I am not familiar with the use of OR to compare sample and population data. Therefore I would suggest checking the validity of my comments with a statistician. However, I am not sure that the word “representativeness” used in the title and in methods section is appropriate. In addition, my understanding is that representativeness refers to variables and time and not to the sample in general.

Only the results of CI (of the OR) are used in the text (statistical significance of comparison) corresponding to the result of a P value. You may have chosen to
calculate the OR due to some limitations in the use of statistical test in such situation. However, I would suggest getting the view of a statistician to ensure consistency between the text, table 1 and the title of Table 1.

Discretionary Revisions:
Methods: First sentence, second paragraph of study design and population, “who were on treatment”, I would suggest to add “for TB” or “anti-TB treatment”
Figure 1: I would suggest using a bar chart with one bar per type of cost (travel, medication etc.)

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:
I declare that I have no competing interests