Reviewer's report

Title: Birth cohort effect on LTBI prevalence, United States

Version: 1 Date: 30 March 2010

Reviewer: Albert Nienhaus

Reviewer’s report:

In the paper “Birth Cohort Effect on LTBI Prevalence”, Winston and Navin observe a prevalence rate in older age groups that is lower than expected under the assumption of life-long positivity for the Tuberculin Skin Test (TST). This can be explained by waning immune response with age. For the analysis, data from the National Health and Nutrition Examination Survey (NHANES) was used.

The question posed by the authors is well defined and the methods are appropriate and well described. Analysis is performed with pre-existing survey data which is appropriate to answer the study question.

The paper is well organized and the data is shown in a concise and informative manner.

The discussion and conclusions are well balanced and adequately supported by the data. However, it might be reasonable to discuss the potential influence of BCG vaccination on the results. A fraction of the decreased prevalence of a positive TST might be explained by the waning effect of BCG vaccination on the TST.

The limitations of the work are clearly stated. However, it might be a good idea to mention that LTBI was diagnosed by the TST and not by Interferon-γ release assays (IGRA). Due to the low specificity of the TST, LTBI prevalence could have been overestimated.

The literature used is well cited.

The title is informative and well chosen. The abstract is well written, which is also true of the whole article.

There are two minor discretionary revisions that I want to address:

Results: first paragraph, second sentence: I had to read this sentence several times before I understood it. Did I get it right? “Out of 7386 persons with a TST results in the 1999-2000 NHANES 1710 were born before 1947”

In Table 1 the expression “vary by sample year” is not clear to me. Did I overlook the explanation or should an explanation be added?

Level of interest: An article of importance in its field

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