Reviewer's report

Title: X-ray screening at entry and systematic screening for tuberculosis control in a highly endemic prison

Version: 1 Date: 26 July 2013

Reviewer: Jean-Pierre Zellweger

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This is an very good paper, reporting very impressive prevalence data about TB in Brazilian prisons and the impact of a screening programme combining regular digital chest X-ray and passive screening.

No major comments, only some minor comments:

1. abstract: the first mention of Rio de Janeiro (RJ) should be in clear
2. abstract and method: the authors state that inmates with any radiological abnormality had a sputum examination. AS has been demonstrated in many studies, the yield of sputum examination is related to the nature and extension of the radiological abnormalities (see Graham S, IJTLD 2002;6(2):137-42 and Pinto LM, PLoS One 2013;8(1):e54235). Therefore, as the numbers are large, it would have been interesting to know if the yield of screening correlated with the extension of the radiological lesions (what about the granulomas and nodular lesions?). The inclusion of inmates with minimal lesions may be the reason for the low proportion of TB cases with a bacteriological confirmation (59.2% according to tab 3).
3. Were the Chest X-rays interpreted with a coding or scoring system (see Pinto, above, and Zellweger JP, IJTLD 2006;10(10):1123-26)?
4. Was the "short duration treatment" mentioned in the introduction standard, i.e. 2HRZE/4HR?
5. Who read the Chest X-rays?
6. Apparently, a large proportion of the inmates with abnormal Chest X-ray had no symptoms at entry screening. The authors should confirm in the discussion that a large proportion of them was put under TB treatment solely on the basis of chest X-ray findings. This may increase the prevalence rates.
7. A large proportion of inmates had a history of previous TB or TB treatment. Which proportion of them was MDR-TB?
8. As the authors rightly mention, the policy of systematic screening has a cost and does not replace other measures like improved ventilation of the cells and reduction of overcrowding (which is frequently not more than wishful thinking!). The authors should elaborate a little more about the costs of the different interventions.

Level of interest: An article of outstanding merit and interest 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'