Reviewer's report

Title: Cost-effectiveness analysis of PCR for the rapid diagnosis of pulmonary tuberculosis

Version: 2 Date: 3 February 2009

Reviewer: Stephen Weis

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Major Compulsory Revisions

The paper estimates the cost effectiveness of using PCR in the diagnosis tuberculosis. A weakness of this analysis is that using the results of an "in house" PCR make the results less generalizable to other situations. By definition "in house " PCR are not standardized.

Line 67-71: It appears that the authors used the wrong references i.e. references used do not support statements authors made? For example Perkins article actually states "a recent performance evaluation of six experienced Latin American laboratories showed poor and inconsistent performance of non-commercial polymerase chain reaction assays, casting further doubt on their appropriateness for disease endemic countries use. " Similarly the Brodie paper cited does not support the statement it is referenced to.

Line 119: What do the authors mean by "Running costs". Is this the cost more commonly referred to as "variable cost" associated with PCR?

Lines 121-123. "In the treatment costs analysis, the cost related to: a) the inadequate use of non anti-TB drugs; and b) the adverse effects of the inadequate use of anti-TB drugs for non-TB subjects were not included." It is not clear to the reviewer what these costs represent? Is this societal cost of death and impairment related to delay of treatment? Please clarify.

Lines 150-151. It is stated that an assumption is that a false negative patient transmit TB to 10 persons. The authors do not state how many of these are assumed to develop tuberculosis? This is a critical assumption that needs to be stated.

Table 2 C. Estimated costs incurred by patients, including costs for travel, food and income loss .

If i understand the design of the Table 2 there is an error as totals are both 11,667. That is the total for ZN plus PCR dot-blot but not the total of ZN plus culture.

Minor essential revisions

Line 50: "blot costs and ZN plus Culture (U$ 123,859 versus U$ 113,506)." i
believe the authors S left out after U

Line 51: "Costs per correctly diagnosed case were U$ 1023 and U$ 1136 for ZN plus culture" i believe the authors S left out after U

Line 62 : "The rapid clinical diagnosis and diagnosis is more challenging" is confusing use of words. Do the authors mean, "The rapid diagnosis is more challenging"?

Lines 80-82: "For regions with a high burden of TB and HIV, which urgently needed new strategies for TB control, there are scarce data on cost effectiveness analysis of the PCR technique for TB diagnosis in developing nations."

Do the authors mean "need new strategies"? Please clarify difference between "regions with a high burden of TB and HIV" and "in developing nations" in the same sentence.

Line 130: per pill, U$ 131 Should be per pill, US$ 131

Line 134: RX is not defined in abbreviation list. What does it mean?

Line 137: RX used again

Line 234 : Culture should not be capitalized

The references contain many errors a few examples are listed.

Line 362 :Methods for quantitative synthesis in medicine. . New York Oxford University this line has an extra period. Another citation error is that it was published by Oxford University Press in New York.


**Level of interest:** An article of limited interest

**Quality of written English:** Not suitable for publication unless extensively edited

**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'