Reviewer’s report

Title: The cost-effectiveness of incentive-based active case finding for tuberculosis (TB) control in the private sector Karachi, Pakistan

Version: 1 Date: 10 Apr 2019

Reviewer: Justin Ingels

Reviewer's report:

1. As a follow-up to my major concern with the first review, it is clear to me that an inappropriate comparison is being made between alternatives in this decision analytic model. The key purpose of cost-effectiveness analysis is to inform a particular decision with the appropriate set of mutually exclusive alternatives. Nearly always, one of the alternatives should be "existing care" or the "status quo" which is the PCF alternative in this scenario. Any alternatives included as comparisons to "existing care" should be defined and include a complete strategy for which the decision maker would select if they determined this alternative was worthwhile (i.e. cost-effective in this case). The alternative as described in this article is ACF alone. That is not really what is happening in this scenario or in any other real-world scenario. In fact, the relevant alternative should be ACF with PCF or ACF as an extension of PCF. The authors themselves recognize this in the Discussion (page 17, lines 10-12): "Essentially, PCF provides certain level of coverage in TB programs and then ACF is needed to reach more people and to reach them earlier." Both of the articles cited by the authors as "consistent with results from other countries" are cost-effectiveness analyses where the appropriate comparison is made, (1) PCF alone vs. PCF with ACF added on (2). For one article, the authors are explicit that they are considering what would happen to those individuals identified by ACF if ACF did not exist and only PCF existed. In this case, many of those individuals are still identified (though not all) and the analysis is the additional costs of ACF compared to PCF and the estimated additional effects due to ACF compared to a counterfactual where ACF was not in place. The other article does a similar thing by considering a cohort of individuals that move through a world where PCF only exists and one in which ACF exists on top of PCF. Neither article attempts to take a situation where both PCF and ACF exist and compare the patients directly that are identified by each and draw a conclusion about the cost-effectiveness of ACF. That scenario is problematic for several reasons: (1) a very different group of individuals are being compared to one another, this was part of my issue raised first in my previous review, (2) this does not match the reality of the study, other similar studies compare periods where ACF was not in place to periods where ACF was in place OR similar areas where both PCF and ACF are in place to areas where only PCF is in place, (3) this does not match the true decision making context which is either just stick with PCF as existing care or decide to fund ACF on top of PCF, this analysis as constructed attempts
to say ACF dominates PCF as a strategy but that is not a fair comparison as constructed and does not match the decision making context.

2. With respect to Figure 3, net benefits are plotted rather than the ICER and there is no mention of net benefits anywhere in the article. This may be difficult for the average reader to understand. If the authors chose an ICER plot from their options in TreeAge and marked the same cost (where the ICER line crosses a WTP of $150), this would likely be easier to understand for the average reader.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

No

**Does the work include the necessary controls?**
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Unable to assess

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