Reviewer's report

Title: Correcting Misdiagnoses of Asthma: A Cost Effectiveness Analysis

Version: 2 Date: 16 February 2011

Reviewer: Eldon Spackman

Reviewer's report:

This study considers the cost-effectiveness of an asthma screening algorithm using data from a prospective longitudinal study in Canada.

Major compulsory revisions
1. The study objectives are to show the cost-effectiveness of screening, but only costs are considered. The authors should make clear the effectiveness assumptions that are being made.
2. Patients were supposed to live 50 years from the time of first diagnosis. This assumption should be justified and tested in the sensitivity analysis.
3. It would also be helpful to know for how many patients the year of diagnosis was imputed, whether other methods of imputation were considered and the effects of the imputation on results compared to a complete case analysis.
4. The authors mention that drug costs collected from patients are subject to recall bias. What is the expected effect? Don't patients overestimate their prescription adherence? How will this affect your results? The expected effect of other limitations should also be stated.
5. Need to provide estimated resource use for each unit cost provided.

Minor essential revisions
6. The authors state the asthma treatments in the US are more expensive and therefore screening would be expected to generate even greater savings. Is screening not also more expensive, making the difference in savings ambiguous? Are you certain that it would generate greater savings?

Discretionary revisions
7. It is not clear from the methods how the authors calculated the probability that an asthmatic was on medication. Does figure 2 represent the survival function?
8. It would be informative to present the 95% CI around the average cost per patient of the asthma screening algorithm.
9. Is there a concern that by recommending screening more physicians will rely on screening rather than judgement and overall costs will go up?

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

Quality of written English: Acceptable
Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

In the past five years I have received consulting fees from pharmaceutical companies with asthma treatments.