Reviewer’s report

**Title:** A framework for the improved use of routine health system data to evaluate national malaria control programs: evidence from Zambia

**Version:** 2  
**Date:** 29 May 2014

**Reviewer:** Patricia Graves

**Reviewer’s report:**

Comments on revision of paper by Bennett et al

This paper was even more interesting and clearer the second time around. Overall the authors have responded very well to the comments and I thank them for taking the comments seriously. I appreciate the additional information added in response to all the reviewers’ reports, including the all cause morbidity, the validity checks, the methods used to estimate ITN ownership and use by district, the proportions of missing data and the adjustments for missing testing values.

I still have some lingering doubts about the amount of data that had to be corrected or imputed, and the rather convoluted ITN coverage estimation which went from HH survey ITN household ownership to modeling ITNs per person and then back to nets per HH again in the final models. I find the word ‘only’ a bit surprising in the sentence ‘we only imputed 21% of total case values and 37% of confirmed case values’ in the Additional file, para 2. These seem like fairly high proportions, although I can understand that doing imputation at the facility level rather than the district would lead to such proportions of missing data.

In general though the results are more clearly explained and have become more convincing. Now that the methods have been clarified further, I think the readers can judge for themselves.

Some minor points of clarification (especially point 3):

1. In the Results under ‘Measures of contextual and potential confounding factors’ para 4 that starts ‘To evaluate reporting rates over time...’ the first sentence is confusing. Can you say ‘as a proportion of the total number of facilities SUPPOSED to report per district’ or just ‘as a proportion of the total number of facilities per district’? (If I understand correctly).

2. In Results Para 1: could you say ‘the percent of ‘expected reports of values’ per year’ rather than ‘the percent of possible values reported’ (again if I understand correctly). -anything is possible, but I assume you mean the maximum possible facility month reports by each outcome?

3. In Results Para 2 last sentence, it is stated that total case incidence decreased over time in Eastern Province. I am not seeing that Trend in Figure 4, please clarify. Do you mean Southern?

**Level of interest:** An article of importance in its field
Quality of written English: Acceptable

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