Author's response to reviews

Title: Treating cutaneous leishmaniasis patients in Kabul, Afghanistan: cost-effectiveness of an operational program in a complex emergency setting.

Authors:

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Version: 3 Date: 7 December 2006

Author's response to reviews: see over
Dear Dr Phillips,

Thank you for sending us your and the reviewers’ additional comments on our manuscript MS 1767261107111933 [Reithinger and Coleman. Treating cutaneous leishmaniasis patients in Kabul, Afghanistan: cost-effectiveness of an operational program in a complex emergency setting].

We hope we have now satisfactorily addressed Dr Vos’s concern with regards to lesion duration. In light with his comments we have now used an arbitrary number of 12 months to describe the natural course of L. tropica and CL disease. We agree with Dr Vos that it is probable that the lesion duration follows a lognormal distribution and the data from our prevalence study (Ref. 2) appear to indicate this. However, fitting a lognormal distribution to our data would have given an underestimate of the natural lesion duration. We agree that this approach is a caveat of our study – we fully emphasize so in the discussion of the manuscript and illustrate in the Tornado Diagram (Figure 2) what the cost-effectiveness range would be if lesion duration was longer than the set 12 months.

We also have now included an expanded sentence explaining the use of triangular distributions in our calculations and hope that this addresses Dr King’s comment.

May we re-iterate that, in the context of complex emergencies, cost-effectiveness analyses of health intervention are rarely being done. Also, this is the first study to evaluate the cost-effectiveness of cutaneous leishmaniasis treatment.

Should you have any further query, please do not hesitate to contact me.

On behalf of all authors, I look forward to hearing from you soon.

Best regards,

Richard Reithinger, PhD
Epidemiologist
Clinical Trials Area
Reviewer 1 (Theo Vos, TV) made a total two comments:

Major comment

1. TV noted that a major weakness of the study remains the estimate of duration of untreated cutaneous leishmaniasis. While TV stated that the reported range of durations from the cross-sectional survey would underestimate the distribution of true duration it does not mean that the authors have modelled an underestimate. It is very likely to be quite an overestimate, as referenced cross-sectional survey reports a range of 0.01-8 years duration with mean of 0.75 years. TV stated that the published range and mean of the distribution resembles a lognormal distribution (which can be described e.g. with parameters mu of 3.2 and sigma of 0.97 if measured in weeks). If we assume incidence has remained stable over last year(s) the mean true duration would be higher than 0.75 years but not likely to exceed 1.5 years. using the values in the tornado diagram that would mean the true CE ratio would be between $750 and $1500 and would alter conclusions drastically.

We agree, using the triangular distribution, a probable overestimate of true natural lesion duration was estimated.

In light with TV’s comments we have now used an arbitrary number of 12 months to describe the natural course of L. tropica and CL disease. This represents a conservative estimate following discussion with HNI medical staff. We agree with TV that it is probable that the lesion duration follows a lognormal distribution and the data from our prevalence study (Ref. 2) appear to indicate this. However, fitting a lognormal distribution to our data would have given an underestimate of the natural lesion duration. We agree that this approach is a caveat of our study – we fully emphasize so in the discussion of the manuscript and illustrate in the Tornado Diagram (Figure 2) what the cost-effectiveness range would be had lesion duration been set as longer than 12 months.

Minor comment

2. TV noted that Fig 1 still refers to SSG rather than pentavalent antimonials

This has been amended in the revised version of the manuscript.

Reviewer 2 (Charles King, CK) made a total four comments:

Minor comments

1. CK noted that on page 7, the word ‘data’ is plural (singular = datum), and so should take the 3rd-person plural verb form ‘were’ instead of ‘was’.

This has been amended in the revised version of the manuscript.
2. **CK noted that on page 12, the word ‘high-lightening’ should be ‘highlighting’**.
This has been amended in the revised version of the manuscript.

3. **CK noted that on page 21, the choice of the triangular distribution for modeling is still not justified—why not use a normal distribution or a gamma distribution?**
   We have reformulated the sentences justifying the use of the triangular distribution in the legend of Table 2. It now reads: This is standard practice in cost-effectiveness analyses (Ref. 22) to estimate parameter inputs for which the variation is known (minimum and maximum estimates, Kabul estimate), but for which the precise nature of the distribution is not.
   We also modeled drug efficacy and compliance input parameters using a normal distribution, but no significant difference was observed on DALY estimates.

4. **Ck noted that Figure 2 is mislabeled as Figure 1 and that its title should be something like ‘Tornado diagram of the impact of variation of model input parameters on cost-effectiveness estimates for treatment of cutaneous leishmaniasis’. Also, given our tendency to read left-to-right, and to match the left-right orientation of the bars in the tornado diagram, C suggested to invert the ranges listed for the first 4 parameters,**
   This has been amended in the revised version of the manuscript.