PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (**http://bmjopen.bmj.com/site/about/resources/checklist.pdf**) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

TITLE (PROVISIONAL)	Validating a decision tree for serious infection: diagnostic accuracy in acutely ill children in ambulatory care.
AUTHORS	Verbakel, Jan; Lemiengre, Marieke; De Burghgraeve, Tine; De Sutter, An; Aertgeerts, Bert; Bullens, Dominique; Shinkins, Bethany; van den Bruel, Ann; Buntinx, Frank

VERSION 1 - REVIEW

REVIEWER	Sarah Neill School of Health University of Northampton UK
REVIEW RETURNED	26-Jun-2015

GENERAL COMMENTS	Well written paper which presents important findings in this area succinctly. I only have a couple of comments: 1. Check punctuation around in text references. Full stops often appear before a reference when they should be after the reference. 2. For the paper to be more accessible for readers who are not quantitative researchers it would be helpful to include somewhere - perhaps in the text box - definitions of sensitivity and specificity.

REVIEWER	Enitan Carrol Department of Clinical Infection, Microbiology and Immunology University of Liverpool Institute of Infection and Global Health Ronald Ross Building West Derby Street Liverpool
REVIEW RETURNED	29-Jun-2015

GENERAL COMMENTS	This is a very nice study evaluating a really important area of practice in primary care, the clinical assessment of a febrile child. It builds on previous work by the group. The large study size makes the analysis and results compelling. the manuscript is well written. The subgroup analysis is possible because of the large sample size and is helpful in evaluating the different clinical groups. The only limitation of the study is that it is restricted to under 5 years. Although most primary care and ED attendances are under 5 years, clinical decision tree analysis for older children is also helpful.

VERSION 1 – AUTHOR RESPONSE

• Referee 1:

Minor revisions:

- Comment 1: Check punctuation around in text references. Full stops often appear before a reference when they should be after the reference.

Response to comment 1: Thank you for your comment. Following your suggestion, we have checked whether all references were cited correctly according to the BMJ journals instructions: http://journals.bmj.com/site/authors/preparing-manuscript.xhtml#references, with reference numbers inserted immediately after punctuation.

- Comment 2: For the paper to be more accessible for readers who are not quantitative researchers it would be helpful to include somewhere - perhaps in the text box - definitions of sensitivity and specificity.

Response to comment 2: We agree with the reviewer's comment and have added a definition of sensitivity and specificity in the article summary: "Examining sensitivity and specificity, i.e. the proportion of true positives (sensitivity) and true negatives (specificity) that are correctly identified by the 4-step decision tree."

• Referee 2:

Minor revisions:

- Comment 1: This is a very nice study evaluating a really important area of practice in primary care, the clinical assessment of a febrile child. It builds on previous work by the group. The large study size makes the analysis and results compelling. The manuscript is well written. The subgroup analysis is possible because of the large sample size and is helpful in evaluating the different clinical groups. The only limitation of the study is that it is restricted to under 5 years. Although most primary care and ED attendances are under 5 years, clinical decision tree analysis for older children is also helpful.

Response to comment 1: Thank you for your comment. Although the median age of our population was 2 years of age (with an interquartile range from 1 to 4.1 years), we included children aged 1 month to maximum 16 year (as described in the methods-section, sub-section "patients"), which is identical to the age range of the original derivation study by Van den Bruel et al. 2007.
The analyses have been performed in the entire group, i.e. including children of all ages.
To clarify this, we have specified the total age range in the results-section (page 10): "total age range: 1 month to 16.9 years".