Reviewer's report

Title: Pretest expectations strongly influence interpretation of abnormal laboratory results and further management

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Reviewer: William Hamilton

Reviewer's report:

Thank you for asking me to referee this interesting paper. It addresses an important question: do doctors in primary care act in a Bayesian fashion? This is not how the authors have structured their paper, and the way they have done it is fine. However, as the results suggest that GPs do act in a Bayesian fashion - even if they do not make formal calculations - I would have expected more about Bayes' theorem in the introduction.

The only major point I wish to make is that the analysis is arguably too simple. Some of the tests will have yielded a continuous variable (haemoglobin for example). It is very likely that the distribution of haemoglobin results is different fro the two groups (low pre-test and high pre-test). It is likely that more of the values in the low pre-test are very close to the reference threshold supplied by the laboratory. Thus if GPs were arbitrarily assigning a different threshold for abnormality, then more of the low pre-test group would be normal by the GPs personal threshold. Is it possible to test this point with either haemoglobin, glucose, or perhaps creatinine?

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

'I declare that I have no competing interests'