Author's response to reviews

Title: Evaluation of a web-based intervention to reduce antibiotic prescribing for LRTI in six European countries; quantitative process analysis of the GRACE/INTRO randomised controlled trial.

Authors:

Lucy Yardley (L.Yardley@soton.ac.uk)
Elaine Douglas (Elaine.Douglas.11@ucl.ac.uk)
Sibyl Anthierens (Sibyl.Anthierens@ua.ac.be)
Sarah Tonkin-Crine (S.K.Tonkin-Crine@soton.ac.uk)
Gilly O'Reilly (G.O'Reilly@soton.ac.uk)
Beth Stuart (bls1@soton.ac.uk)
Adam W Geraghty (A.W.Geraghty@soton.ac.uk)
Emily Arden-Close (E.J.Ardon-Close@soton.ac.uk)
Alike W van der Velden (A.W.vanderVelden@umcutrecht.nl)
Herman Goosens (Herman.Goossens@uza.be)
Theo JM Verheij (t.j.m.verheij@umcutrecht.nl)
Chris C Butler (butlerCC@cardiff.ac.uk)
Nick A Francis (francisna@cardiff.ac.uk)
Paul Little (P.Little@soton.ac.uk)

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Referee 1.

The paper provides an innovative methodology and shows a new use of tools to assess a relatively commonplace issue in the field. The methods appropriate and well described, and all statistics seem to be thoughtfully and thoroughly presented.

Minor Essential Revisions

1. The title should and indeed many of the references within the manuscript should refer specifically to prescribing for LRTI or "chesty cough," which would be more accurate.

We have added 'for LRTI' to the title as requested, but do already specify LRTI eight times in the paper, including three times in the abstract (twice in the first paragraph) and twice in the first paragraph of the paper, as well as describing it as 'chesty cough' at that point.

2. The epidemiology in the introduction refers to good papers, but a few more references about the public health impact in the participating countries could be important. For example, one wonders what is different between prescribing in in
England and Poland (as surely there might be large differences in GP and patient perception)?

In the second paragraph of the introduction we now refer to evidence that many of the factors influencing prescription seem surprisingly similar across Europe, despite differences in the prescribing context.

3. The authors should use caution to recommend that their results indicate a "roll out" for other European countries. More discussion should reflect upon the differences in the participating countries, which could then indicate that there might be regional similarities (i.e. some research has shown that southern EU and northern EU countries tend to have differential behaviours and outcomes). Representative national studies in Germany, for example, have found that patient education isn't as important as continuing medical education for MDs about specific diagnoses - and readers may well wonder about the generalizability of the booklet to other countries.

This is a very helpful suggestion, and in the Implications for Research and Practice section we have made our suggestions that the intervention could be rolled out more cautious, we discuss differences in the healthcare contexts in different European countries, we highlight the need to ensure that interventions are designed to suit different local contexts and we note that different elements of our complex intervention may have been more helpful in different countries (or for different GPs).

4. The LifeGuide software, STAR and COMMON SENSE models are referenced, but a sentence or two more on each could help to better orient the reader with these.

We have added a sentence to briefly explain the relevance of each of these, see p. 8.

Language acceptable

Referee 2.

An interesting study.

The study would have been strengthened from a pre-intervention survey to be able to measure the effect of the intervention.

We agree that this would have been useful, and now note that this was a limitation of our design.

Needs some language correction

This referee does not specify what corrections are needed, and we note that
Referee 1 considered the language acceptable.