Reviewer’s report

Title: Reduction of antibiotic prescriptions for acute respiratory tract infections in primary care: a systematic review

Version: 0 Date: 19 Aug 2017

Reviewer: Kathryn Suh

Reviewer's report:

This systematic review attempts to better define a challenging problem in primary care - that is, improving antibiotic prescriptions for common infections (in this case respiratory tract infections). This is a difficult issue to study, as the authors note, due to the extreme heterogeneity in both practice as well as study designs. At times, as written, it is unclear if the participants are the primary care practices or the patients in these practices. It is unfortunate that your scope of review could not be broadened beyond the databases specified as this would have strengthened your results and conclusions, and may also have increased the generalizability of your findings.

The manuscript does require further proofreading by someone fluent in written English (there are minor grammatical, punctuation and formatting errors throughout - e.g. use of abbreviations without defining them at the first use, e.g. POCT, CRP, RADT; using numerals vs. spelling out numbers below ten [e.g. six vs. 6]; starting sentences with numerals [e.g. 17 instead of seventeen]; formatting of references as they are cited in the text; use of “und” instead of “and”).

Specific Comments:

Methods

- Lines 128-132 belong in the Results

- Methods should include a more detailed description of the types of participants (e.g. patients, practices) and types of interventions that were eligible for inclusion. Some of these details are included in the Results section rather than the Methods section

- Outcomes, both primary and secondary, should be defined in the Methods section (they are first mentioned in the Results, lines 185-202); for the primary outcome of 10% reduction in prescribing, how was this determined / why is this felt to be clinically important/significant? (from the Discussion it seems that 10% reduction was selected only after review of eligible
studies); the Results also refer to rates of "inappropriate" antibiotics but how inappropriateness was assessed or defined is not clear

- Please comment on handling of missing data in the Methods

- Was this systematic review registered?

Results

- Line 186: I am not clear about the meaning of the word "registered" in this context - could this be better defined or explained for the reader? (it is not a word that is commonly used when describing antibiotic prescriptions)

- Line 204, re: inappropriate antibiotics - see comment above

- Lines 213-219 are a bit confusing to read; similar to use of the term "inappropriate antibiotics" it is not clear exactly what is meant by "non-indicated" antibiotics and, later, "inadequate" antibiotic prescribing

- Results of many secondary outcomes (as stated in the Methods) are not described

Discussion

- please elaborate on possible limitations / bias due to omission of other papers in other databases. Given that you have observed such variable differences in prescribing rates in the studies that were included, I would wonder how inclusion of papers from other world regions might have influenced your findings.

Minor Comments:

- Perhaps write out the inclusion and exclusion criteria (lines 111-121) rather than listing these with bullets (it would read more fluently, in keeping with the remainder of the manuscript)
- The paragraph starting on line 143 might be better titled "Data Analysis" (?)

- e.g. line 310, line 348, line 498 - would include the reference in brackets when referring to specific studies

- Lines 344, 345 - "significantly" is written twice

- Consider replacing "percentage points" with "percent"

- Tables: add definitions for T0, T1, T2 to Table legends; in Table 2, there is a typographical error in the heading in the last column

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