Reviewer’s report

Title: Automated tailoring of clinical audit and feedback: Adapting feedback messages for individual differences in barriers to behavior change

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Reviewer: Ralph Gonzales

Reviewer’s report:

The authors propose that an automated tailoring audit-and-feedback (AF) system will improve the impact and effectiveness of AF programs. The authors provide a nice review of the AF literature, and apply the COM-B framework as one method for identifying potential barriers that would be targeted by an automated system. In their example of AF for unnecessary antibiotic treatment of acute respiratory infections, they then propose 6 TDF constructs (2 per COM-B category) that a supervisor would need to assess in order to determine which type of tailored data visualization technique they would use with their individual physicians. I’m not sure the example of promoting antibiotic stewardship is the most appropriate b/c the factors influencing the decision to prescribe are so complex. It might be better as a "debate" for this type of intervention to choose an example that is more straightforward and influenced mostly by self-efficacy.

Major Compulsory Revisions

1. The validity of their argument—that automated tailored AF will improve effectiveness—is not based on any empirical evidence. Specifically, the greatest concern is for the proposed data visualization techniques that are proposed to be tailored to specific TDF constructs. Can the authors cite any evidence, even if indirect, that these different forms of data representation are more effective than others? But also of concern is whether a supervisor can accurately assess a given individual physician’s attitudes and beliefs about appropriate antibiotic prescribing without direct interview such as academic detailing (see below).

2. The generalizability of this program is actually quite limited… as it only applies to situations where a supervisor who is conducting the AF can speculate as to which COM-B barriers exist for each individual physician. This is quite time-intensive, and begs the question that if this is the standard—how will this be better than academic detailing which encompasses much of the same techniques… except that academic detailing typically has greater engagement between the supervisor and the individual physician regarding the barriers and facilitators to behavior change.

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:

No competing interests