Reviewer's report

Title: The evolution of mobile apps for asthma: an updated systematic assessment of content and tools

Version: 1 Date: 15 January 2015

Reviewer: Maureen R George

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Summary: This is a systematic review of 147 English language asthma apps available on the two leading platforms. Note: Tables AF6 – AF11 were referenced but not available to review. An excel file was referenced but was not available for review.

The following are Major Compulsory Revisions

Introduction
I think the introduction would benefit from some additional data on the overall number of health and fitness apps, the frequency of health app downloads compared to other apps, and persistence of use after downloaded. (IMS Institute for Healthcare Informatics and the Pew Research Internet Project)

Data analysis
Please clarify if demo vs. full is or is not equivalent to free vs. paid. If not, was the default to use the paid version for analysis? I don’t see demo vs. full used in Table 1.

Results
Could you provide data on number of apps focused at children with asthma and their caregivers vs. adults with asthma?

Was the accuracy of app features, such as inhaler videos, assessed? Please discuss.

Evidence-based recommendations: If an app recommended that exposure to poor air quality be avoided, was that somehow a mark against the app? Same question for flu vaccine. These could hardly be considered ill- advised recommendations considering the strength of evidence in support of each (e.g., increased acute health care utilization in individuals with respiratory disorders in regions experiencing ozone alert days). In addition, is the point you are making about the lack of evidence regarding mold and cockroach avoidance/remediation because the app was presuming this was good for all individuals with asthma regardless of their particular sensitivities? If so, this should be clarified. Again there is good evidence that in mold allergic and pet allergic individuals that multilevel remediation is effective.

Therapeutic tools: Can you provide some examples of recommendations made for acute asthma management that were not evidence-based?
Software issues: Again refer readers back to supplemental table that defines these technical issues.

Can you make provide a table of the apps most highly-rated, understanding that none were perfect? This would be the greatest help to the reader- particularly considering that 90% of patients said they would use an app on prescription.

Discussion

Please add to the discussion the benefits and shortcomings of independent certifiers of content, e.g., Happtique’s Health App Certification Program and the NHS Health Apps Library. Discuss the role that professional medical societies could/should play in reviewing and recommending quality apps.

I would also add something about app development without patients and clinician input.

It seems to me that very few asthma apps are developed for adults with asthma-if this is true based on this research, please add to your discussion.

Please add a paragraph on the limitations of this systematic review-limited to English-language. Android and Apple iOS, etc.

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests