Reviewer’s report

Title: A Mobile Phone Application for the Assessment and Management of Youth Mental Health Problems in Primary Care: A Randomised Controlled Trial

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Reviewer: Kelly Kelleher

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This manuscript presents the results of a randomized trial of mobiletype software for monitoring of adolescent symptoms and functioning by cell phone. The trial addresses an important issue in that more and more care for adolescent mental health is conducted in the primary care setting and few tools have been consistently been effective for such practice. These are important public health issues as mental health, substance use and associated injuries are the predominant killers in this age group.

The manuscript has many strengths. First, the software is innovative and the concept is an important move towards patient centered care and self management, a critical task for adolescents forming their own identity. Secondly, the authors choose a very conservative test in some ways—they randomize patients within physician practices almost assuring themselves of contamination by changing physician practice. In fact, in post hoc analyses, they demonstrate that such was likely the case. This was also conservative in the fact that the control group was provided phones with complete assessments except for the mental health symptoms and awareness components. The repeated monitoring most certainly had an effect on the youths. Lastly, the authors spent a great deal of time on complex analyses and examination of clustering and other bias effects, even though their sample was very very small.

(Major) Several changes would strengthen the manuscript. First, the introduction focuses on screening and underrecognition. However, this intervention is only targeted for those who are identified and the discussion contains nothing about screening and early intervention. The intro should be re worked to focus on the stronger aspects of the software which are related to doctor patient communication and activation of adolescent patients.

(Major essential) Secondly, the authors spend too little time comparing how representative their clinicians and patients are, even though at the end they acknowledge they do not have some of the data. Still, there are ways to find out which clinicians participated by way of size of practice, location and other features. Similarly, knowing how these patients compare to others would be important. Also, because few effects were identified, the many charts could be eliminated and tables and text would suffice. Most importantly for sampling, the authors are underpowered to detect effects in a conservative design and likely understate the effects of the intervention. this is a potentially damaging statement
about the technology and communication enhancements between teens and docs. do the authors have any qualitative data to inform this issue?

(Minor essential): Two other questions seem important to clarify. First, it is not clear if parental consent was sought for non emancipated youths. Secondly, it is not clear if the mobiletype responses for the CONTROL youths were shared with the clinicians, even though they did not have depression, drug use, etc.

1. Is the question posed by the authors well defined? yes
2. Are the methods appropriate and well described? yes
3. Are the data sound? yes
4. Does the manuscript adhere to the relevant standards for reporting and data deposition? yes
5. Are the discussion and conclusions well balanced and adequately supported by the data? not completely
6. Are limitations of the work clearly stated? sampling problems and biases not adequately addressed.
7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished? limited information on engagement tools for primary care communication
8. Do the title and abstract accurately convey what has been found? yes
9. Is the writing acceptable? yes

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable