Reviewer’s report

Title: Improving Proteinuria Screening with Mailed Smartphone Urinalysis Testing in Previously Unscreened Patients with Hypertension: a Randomized Controlled Trial

Version: 0 Date: 17 Feb 2019

Reviewer: Claudio Rigatto

Reviewer's report:

This lucid and very well written manuscript describes an individual level RCT of a smartphone based home urinalysis test for proteinuria screening in high risk community dwelling patients. Despite several limitations which are well discussed in the manuscript, the investigators did manage to show a ~50% increase in proteinuria screening (29% vs 18%) in the intervention group. Disappointingly, few patients testing positive were subsequently confirmed with quantitative ACR testing.

The paper has several strengths including a well-executed RCT design, relatively large N, a well written manuscript and a cogent and balanced discussion.

I have a few thoughts for the authors, more in the spirit of intellectual dialogue than criticism/revision:

1. I would have liked to see a broader discussion on implications for future research in the discussion, as I think this study has several important lessons in this regard.

2. The first lesson is the importance of waived consent in the execution of such a study. In future every effort should be made to obtain this waiver, as the yield without it is predictably low. This may require changes to existing rules in the case of low risk interventions such as this.

3. Then second lesson is the importance of a single step testing process in this environment. It does not surprise me that the uptake of ACR screening following Dip + status was low. From the end user perspective, if a home tester, who, out of preference or necessity has gone to the trouble of mastering and doing the test, however simple, is then required to attend the lab for further testing, all perception of value invested in the home test is lost. The home test must be as definitive as possible to avoid attrition at this step. Quantitative ACR testing is a must in future endeavours of this kind.

4. Although the above points are briefly made under limitations, I would have preferred the authors to have given them more relevance, perhaps in a paragraph highlighting future research implications.
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Yes: This paper has several important implications for future rigorous research of this type as indicated in my comments below

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