Reviewer’s report

Title: What's in your wallet? A cluster randomized trial of the effects of showing comparative patient out-of-pocket costs on primary care prescribing for uncomplicated hypertension.

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Reviewer: Leif Solberg

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This paper is a well-written description of a thoughtful and well-conducted and important randomized trial. However, in order to be useful, it needs additional information, different formatting and analyses of results, and an even more thoughtful Discussion section than is currently present. Here are some of the concerns that it raised for me:

1. The reader needs more contextual information about:
   a. The rules about patient-responsible costs?
   b. Whether the insurance for eligible patients is the same or different for different individuals in regard to what is covered and how co-pays and deductibles are calculated. If there are differences, does the MOXXI calculation of OOP costs individualize its estimates for the computer alerts?
   c. The pre-existing frequency of other alerts presented to these clinicians and the extent to which they had alert-fatigue that would reduce the impact of a new one.

2. It is one thing to say this is a test of an alert built into the computer, but you have told us nothing about the implementation of this new system. Since you are submitting this to IS, surely you should provide us with information about whether the technological changes for the trial were the only changes made or were there training, supervisory, incentives, champions, etc. involved in implementing these changes.

3. It sounds like individual physicians were randomized without regard for the likely clustering of their practice settings, clustering that might produce contamination or reinforcement of responses to the randomized study arms. Why isn't that a consideration in blurring the very few differences you found between the two groups?

4. In the Background section, you describe efforts by governemnts and payers to introduce user fees to discourage the use of marginal therapies, with minimal effets. However, at least in the US, nearly all such efforts have lacked such discrimination between marginal and more
cost-effective therapies. Except for restrictive formularies, they have generally relied on bureaucratic processes to make it harder to prescribe some kinds of meds.

5. Since the trial is intended to test the impact of the alerts on physician and patient behaviors, shouldn't the tables and analyses focus on the change in each outcome variable rather than simply on the adjusted risk ratio of the post-intervention results? Shouldn't this be a differences in differences analysis presented in tables that show both pre and post values along with changes?

6. Did the 76 included physicians constitute the entire eligible pool or are they a sample that might not be representative?

7. The first sentence in the Results suggests that the average practice size is smaller than in the US -67,000 patients per 79 physicians or about 850 patients apiece. However, Table 1 shows it to be closer to 1300 - what is the difference? Incidentally, the practice size for the control group has an extra digit

8. What was the pre-study adherence for both groups of patients, so we can see if the trial changed that?

9. Finally, and most importantly, you never discuss the most striking results of the trial:

a. Even though there was a significant change in adjusted risk ratio for diuretics and only other anti-hypertensives among incident cases, there was no effect on either total costs or OOP costs.

b. Moreover, both arms of the trial appear to have decreased both total and OOP costs by about 25%. Is that a Hawthorne effect, or was that due to other changes in the environment during the trial? Shouldn't it be at least noted and discussed?

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