Reviewer's report

Title: Effectiveness of IT-based diabetes management interventions: exploring mixed findings in the literature

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Reviewer: Donna Keyser

Reviewer's report:

- Major Compulsory Revisions

1. IT-enabled disease management is an important issue in advancing quality of care for chronic conditions, including diabetes and others, both in the US and elsewhere. However the rationale underlying this review is outdated, and as such, does not add to the current knowledge base on this topic, and in many ways detracts from it. The authors state that the aim of this review “was to determine the extent to which methodological issues could explain the inconsistent findings among studies that examined the effect of IT-based management interventions on diabetes outcomes.” However, there is a growing body of uncontested literature, including landmark studies, clearly illustrating that IT-enabled diabetes management does improve processes of care and reduce the rate of diabetic complications. These conclusions are based on evidence from systematic literature reviews and syntheses of numerous studies incorporating (1) a variety of technologies used by payers, providers (e.g., clinical decision support systems, diabetes registries), and patients (e.g., remote monitoring and self-management) and (2) a wide range of process and outcome measures (i.e., rates of eye exams, foot exams, and microalbuminuria screening and levels of HbA1c, systolic blood pressure-SBP, cholesterol). Indeed, as far back as 1999, the Health Care Delivery Work Group from the National Institutes of Health’s Behavioral Research and Diabetes Conference concluded that “clinical information systems are integral to the success of diabetes-management programs.”

2. The remaining gaps in the literature on this topic have little to do with the issues raised in this review, and more to do with the limited use of cost-benefit and cost-effectiveness measures. These shortcomings can also be attributed to methodological issues, such as brief study durations, a lack of generalizability of results to external settings and populations, and failure to account for factors such as identification, enrollment, and retention of patients. A literature review focused on these issues is what the field now needs.

3. The above fatal flaws notwithstanding, the article as now written contains a background section that does not clearly define the question being posed. The authors discuss the importance of type 2 diabetes, efforts to enhance diabetes disease management in Australia, barriers to the use of structured diabetes care management plans in Australia, the potential of IT to address some of these
barriers, and limited research on the impact of IT on diabetes management in Australia. However, the review focuses solely on non-Australian studies of both type 1 and type 2 diabetes, without providing appropriate context for the relevance of these findings to the problems described in the background.

4. It is invalid to conclude that due to the limitations of the studies reviewed, it is difficult to attribute the effectiveness of current IT-based interventions solely to the interventions, as the effectiveness (in terms of process and outcome measures) of such interventions has already been established by more systematic reviews and syntheses. What has not been established is that such interventions can generally reduce overall health spending (US Congressional Budget Office, 2004).

- Minor Essential Revisions

5. The methodology of the review is appropriate, although the content and findings do not advance current knowledge in the field (refer to comments 1, 2, and 4 above).

6. There is overlap and redundancy across the results and discussion sections, which make the flow of the arguments difficult to follow.

- Discretionary Revisions

7. The writing is acceptable, but some language and punctuation corrections would be required.