Reviewer's report

**Title:** Examining health promotion interventions for patients with chronic conditions using a novel patient-centered complexity model: protocol for a systematic review and meta-analysis.

**Version:** 1 **Date:** 22 January 2013

**Reviewer:** Michael Goldstein

**Reviewer's report:**

The protocol for a systematic review submitted by the authors addresses an important gap in the research literature on health risk behavior change interventions in health care settings. As the authors of the protocol submission point out, previous reviews health behavior change interventions in patients with chronic disease have found small or inconsistent effects on some behavioral outcomes, particularly physical activity and diet. Moreover, because the interventions employed in many health behavior change interventions have multiple components, the relative contribution of each of these elements to outcomes is unclear. Also, previous reviews have not assessed the impact that the presence of multiple chronic conditions (versus a single condition) may have on the impact of health behavior interventions in patients with chronic conditions.

The authors’ proposed protocol attempts to address these methodological issues in two principal ways. First, the authors propose to assess impact of interventions in patients with single conditions versus patients with multiple chronic conditions. Second, they plan to apply the Cumulative Complexity Model (CCM), a model of patient complexity, in an attempt to understand how interventions are perceived by patient across 2 dimensions; how the interventions impact patient workload and how they enhance patient capacity to address the health behavior and manage their condition.

Though the research questions posed by the authors are important and timely, I have several concerns about the methods that are proposed by the authors to address the research questions that they pose. Many of these are addressable.

These concerns are presented below:

1. (Major Revision) Details of how interventions will be coded according to the CCM are vague and the criteria used to make these assignments (increased, decreased and neutral effect on both workload and capacity) seem highly subjective; more details on the methods are needed;

2. (Major Revision) Though the authors propose to measure interrater reliability for coding interventions according to the CCM model, the authors do not report any previous data regarding the reliability and validity of the strategy the authors propose to use. (For example, is there any relationship between a coder’s assessment of whether an intervention enhanced patient capacity and the
3. (Major Revision) The authors state they will assess intervention workload and capacity at 3 points in time (immediate, proximal, and distal), yet no definitions or specific time periods are provided and it is not clear how the analysis will address changes in workload and capacity across these time periods. As the authors point out the dynamic interplay of workload and capacity over time (for example, increase initial workload from an intervention that leads to enhanced capacity at some follow-up point) is key to understanding how an intervention impacts these factors;

4. (Major Revision) The authors will include interventions that aim to address single as well as multiple behaviors. Previous research indicates smaller effect sizes when multiple health behaviors are targeted by an intervention. It is not clear whether and how the authors will address the single vs. multiple behavior interventions in their analysis plan;

5. (Major Revision) Similarly, the authors will include both provider facing and patient facing interventions in their review. It is not clear whether and how the authors will address patient facing vs provider facing interventions in their analysis plan;

6. (Major Revision) It is unclear how “presence of depression” will be operationalized in the coding process; might other mental health conditions also be considered, particularly since alcohol and tobacco are 2 of the 4 target behaviors;

Because of these concerns, particularly the limited detail provided regarding the methods to be used to rate and code interventions, I cannot be sure the study design will adequately test the proposed hypotheses. The authors might consider simplifying and limiting their review to interventions that address a single behavior (e.g., tobacco use), a specific intervention modality (e.g., patient-facing) to allow a more focused test of the CCM concepts of interest.

**Level of interest:** An article of importance in its field

**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 as specified in the questions above