

## Additional File 2

### Completed Review Analytic Framework, Key Questions, and Summary of Findings

#### Using qualitative comparative analysis in a systematic review of a complex intervention

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This appendix summarizes the key questions, analytic framework and high-level findings from the completed review that we used for application of QCA. The full evidence report citation is as follows:

Viswanathan M, Golin CE, Jones CD, Ashok M, Blalock S, Wines RC, Coker-Schwimmer EJ, Grodensky CA, Rosen DL, Yuen A, Sista P, Lohr KN. Closing the quality gap: revisiting the state of the science (vol. 4: medication adherence interventions: comparative effectiveness). *Evid Rep Technol Assess (Full Rep)*. 2012 Sep;(208.4):1-685. PubMed PMID: 24422970.

This report was also published as a manuscript length version as follows:

Viswanathan M, Golin CE, Jones CD, Ashok M, Blalock SJ, Wines RC, Coker-Schwimmer EJ, Rosen DL, Sista P, Lohr KN. Interventions to improve adherence to self-administered medications for chronic diseases in the United States: a systematic review. *Ann Intern Med*. 2012 Dec 4;157(11):785-95. Review. PubMed PMID: 22964778.

## **Key Questions**

This evidence synthesis had five Key Questions (KQs), three of which had sub-questions. These questions were:

KQ 1a: Among patients with chronic diseases with self-administered medication prescribed by a provider, what is the comparative effectiveness of interventions aimed at patients, providers, systems, and combinations of audiences in improving medication adherence?

KQ 1b: Is improved medication adherence associated with improvement in patient outcomes?

KQ 2a: Among patients with chronic diseases with self-administered medication prescribed by a provider, what is the comparative effectiveness of policy interventions in improving medication adherence?

KQ 2b: Is improved medication adherence associated with improvement in patient outcomes?

KQ 3a: How do medication-adherence intervention characteristics (e.g., mode of delivery, intervention target, intensity) vary?

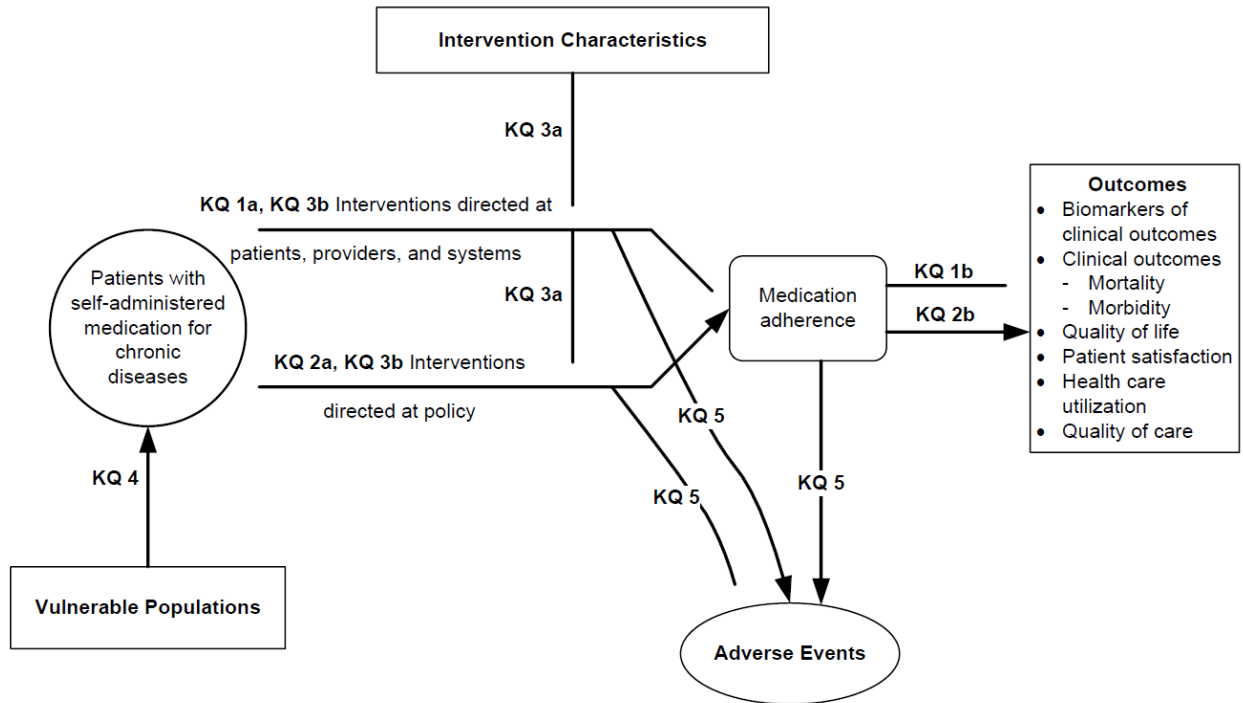
KQ 3b: To what extent do the effects of adherence interventions vary based upon their characteristics?

KQ 4: To what extent do the effects of adherence interventions vary based on differences in vulnerable populations?

KQ 5: What unintended consequences are associated with interventions to improve medication adherence?

## Analytic Framework

The analytic framework for the completed review is reprinted below (Figure 1 of the Evidence Report). Application of QCA was limited to KQ1a and KQ3.



Abbreviation: KQ = Key Question.

## Summary of Findings from Completed Review

- 67 eligible studies (61 trials and 4 observational studies)
- Studies included populations with diabetes, hyperlipidemia, hypertension, heart failure, myocardial infarction, asthma, depression, glaucoma, multiple sclerosis, musculoskeletal diseases, and multiple chronic conditions.
- Sixty-two trials of patient, provider, or systems interventions (KQ 1) evaluated 20 different types of interventions;
- The most consistent evidence of improvement in medication adherence across clinical conditions was for interventions that included case management, and educational interventions.
- Within clinical conditions, the strongest support was found for self-management of medications for short-term improvement in adherence for asthma patients; collaborative care or case management programs for short-term improvement of adherence and to improve symptoms for patients taking depression medications; and pharmacist led approaches for hypertensive patients to improve systolic blood pressure.