



## Effective Health Care

### Behavioral Health Programs for Diabetes Mellitus Nomination Summary Document

#### Results of Topic Selection Process & Next Steps

- The topic, *Behavioral Health Programs for Gestational, Type 1 DM and Type 2 Diabetes Mellitus*, will go forward for refinement as an update to or expansion of an existing comparative effectiveness or effectiveness review. The scope of this topic, including populations, interventions, comparators, and outcomes, will be further developed in the refinement stage.
- When key questions have been drafted, they will be posted on the AHRQ Web site and open for public comment. To sign up for notification when this and other Effective Health Care (EHC) Program topics are posted for public comment, please go to <http://effectivehealthcare.ahrq.gov/index.cfm/join-the-email-list1/>.

#### Topic Description

**Nominator(s):** Individual

**Nomination Summary:** The nominator is interested in whether there is a standard of care or set of best practices associated with behavioral health interventions for type 1 and type 2 diabetes mellitus (DM) and gestational diabetes (GD) that could be replicated in community health centers across the nation.

##### **Staff-Generated PICO**

**Population(s):** Children and adolescents with type 1 DM and/or their families; adults with type 1 DM; children and adolescents with type 2 DM and/or their families; adults with type 2 DM; and pregnant women with GD. Subgroups of particular interest include newly (within one year) diagnosed patients, patients with good-to-excellent control (HbA1c <7), and patients with poor control (HbA1c >7).

**Intervention(s):** For each of type 1 DM, type 2 DM, and GD - behavioral health programs involving any of the following: cognitive behavioral therapy (CBT), relaxation-based interventions, behavioral diet/exercise interventions, blood glucose awareness training, and diabetes self-management education (DSME).

**Comparator(s):** Usual care or other behavioral intervention(s)

**Outcome(s):** For each of type 1 DM and type 2 DM - Glycemic control (i.e., based on hemoglobin [Hb] A1C), other diabetes-related outcomes such as episodes of hypoglycemia, and complications including kidney disease, amputation, blindness, cardiovascular outcomes (e.g., heart disease, stroke), comorbidities (e.g., depression, anxiety), adherence to treatment, and quality of life (e.g., health-related Quality of Life, life satisfaction, well-being, or psychosocial adaptation to illness)

For GD – Same outcomes as for type 1 DM and type 2 DM plus complications of pregnancy for mothers (e.g., high blood pressure, eclampsia, preeclampsia, future diabetes) and babies (e.g., preterm birth, hospitalization or stay in the intensive care unit, excessive birth weight, hypoglycemia )

**Key Questions from Nominator:** What are the best practices for behavioral health programs for type 1 DM, type 2 DM, and GD? Does educational counseling help patients improve glucose control and adherence to treatment?

## Considerations

- The topic meets all EHC Program selection criteria. (For more information, see <http://effectivehealthcare.ahrq.gov/index.cfm/submit-a-suggestion-for-research/how-are-research-topics-chosen/> .)
- Diabetes is characterized by high levels of blood glucose caused by defects in insulin production, insulin action, or both.
- Diabetes affects 25.8 million people, or 8.3% of the U.S. population. Patients can obtain education and training on managing the disease from structured diabetes behavioral health programs. Behavioral interventions can also include Cognitive Behavioral Therapy, relaxation-based interventions, behavioral diet/exercise interventions, and blood glucose awareness training.
- Three relevant AHRQ systematic reviews were identified:
  - An archived 2004 AHRQ report entitled: *Use of Behavioral Therapies for Treatment of Medical Disorders: Part 1 – Impact on Management of Patients with Diabetes Mellitus*. This report was designed to answer the following question: Do behavioral interventions for individuals with diabetes result in improved physical health outcome(s), compared with control interventions?
  - A 2008 AHRQ report entitled: *Diabetes Education for Children with Type 1 Diabetes Mellitus and Their Families*. Key questions are listed below:
    1. What is the evidence that diabetes education on day-to-day management of diabetes improves metabolic control (as determined by HbA1c, numbers of diabetes-related hospitalizations, frequency of diabetic ketoacidosis [DKA] and numbers of episodes of hypoglycemia)?
    2. What is the evidence that medical nutrition therapy education on day-to-day management of diabetes improves HbA1c values and results in less variability in blood glucose levels?
    3. What is the evidence that diabetes education results in improved long-term management of diabetes, including better adherence to recommendations made in clinic and decreased hospitalizations and emergency department (ED) visits for diabetes-related complications?
    4. What is the evidence that diabetes education programs improve knowledge about diabetes management?
      - a. What is the evidence that this knowledge increases the child's self-confidence in his or her ability to handle the disease and has a positive impact on the child's quality of life (QOL) and other psychosocial issues (e.g., school absences, school performance, adherence to a medical regimen)?
      - b. What is the evidence that this knowledge improves long-term metabolic control (i.e., decreases or prevents diabetes-related complications), as shown in the Diabetes

Control and Complications Trial (DCCT) (as measured by retinal, renal, cardiovascular, and neurological evaluations), in children of families who receive these diabetes education or medical nutrition therapy program services compared to children of families who do not receive these services?

5. What is the evidence that training in intensive diabetes management (consistent with DCCT, including blood glucose monitoring at least four times a day, three or more daily insulin injections or use of an insulin pump and education on when and how to adjust insulin doses) conducted in the practitioner setting yields:
    - a. Improved metabolic control, (as determined by HbA1c values, numbers of diabetes-related hospitalizations, frequency of DKA and numbers of episodes of hypoglycemia)?
    - b. A decrease in or prevention of diabetes-related complications (as measured by retinal, renal, cardiovascular, and neurological evaluations), as demonstrated by DCCT?
- A 2011 AHRQ Report entitled: *Lifestyle Interventions for Four Conditions*. Key questions are listed below:
    1. What is the evidence on the effectiveness on lifestyle interventions for breast cancer, prostate cancer, metabolic syndrome, and type 2 diabetes mellitus?
    2. What is the generalizability of the evidence to the Medicare population (> 65 years)?
    3. What is the evidence on whether specific components of the interventions, composition of the team, and/or patient characteristics contribute to better outcomes?
- Since the publication of these systematic reviews there is new published evidence on this topic warranting an update and/or expansion of these reviews. Research on behavioral interventions for women with GD, however, is limited.