

DIABETES BASKET OF CARE SUBCOMMITTEE

Report to:

Minnesota Department of Health

June 22, 2009

BASKET TOPIC DETERMINED BY BASKET OF CARE STEERING COMMITTEE:

Diabetes

BASKET NAME AS DETERMINED BY BASKET OF CARE SUBCOMMITTEE:

Prediabetes

SCOPE STATEMENT: ¹

Management of adults (ages 18 to 70 years of age) with prediabetes, currently defined as:

Impaired Fasting Glucose (IFG)

IFG=FPG 100 mg/dl (5.6 mmol/l) to 125 mg/dl (6.9 mmol/l)

or

Impaired Glucose Tolerance (IGT)

IGT= 2-h plasma glucose 140 mg/dl (7.8 mmol/l) to 199 mg/dl (11.0 mmol/l)

Rationale for Scope Selection:

The subcommittee referred to current ADA acceptable laboratory measurements for the establishment of prediabetes acknowledging this is an evolving area and may change in the very near future. In determining the scope, the subcommittee considered other high risk populations that would benefit from inclusion in this prediabetes basket i.e. women with a history of gestational diabetes, patients with positive family history of diabetes, etc. that would not be included using the current defined laboratory values. The subcommittee further discussed current algorithms used to predict risk of type 2 diabetes including the QDScore and the ADA risk assessment and acknowledged that these require further validation. Therefore, no attempt was made to include other high risk populations in this initial prediabetes basket despite the acknowledgment of benefit to other high risk population of patients that will not be covered using the laboratory values as defined.

BASKET OF CARE COMPONENTS:

Basket components were identified based on current literature, existing guidelines, current standards of practice and in some cases evidence informed consensus.

Description	Timeframe
Lab Monitoring	Frequency
<ul style="list-style-type: none"> Monitoring for the development of type 2 diabetes in those with prediabetes (Refer to Appendix A for specific criteria) 	Yearly
Management²	Frequency
<ul style="list-style-type: none"> Patients will be referred to a program that includes goals and curriculum similar to the Diabetes Prevention Program (DPP) for weight loss of 5-10% of body weight and for increasing physical activity to at least 150 minutes per week of moderate activity such as walking. (Refer to Appendix B for core curriculum). 	16-week initial program, preferably delivered within a 24-week timeframe
<ul style="list-style-type: none"> Follow-up counseling on program content (weight, exercise, and cardiovascular risk reduction) based on individual patient need and circumstance. 	Minimum 3 per year ³

Notes:

1. Scope

The subcommittee considered other high risk populations that would benefit from inclusion in this prediabetes basket i.e. women with a history of gestational diabetes, patients with positive family history of diabetes, etc. that would not be included using the current defined laboratory values. The subcommittee discussed current algorithms used to predict risk of type 2 diabetes including the QDScore and the ADA risk assessment and acknowledged that these require further validation. Therefore, no attempt was made to include other high risk populations in this initial prediabetes basket despite the acknowledgment of benefit to other high risk population of patients that will not be covered using the laboratory values as defined.

2. Management

The definition of intervention program is based on the goals of the Diabetes Prevention Program (DPP). In addition to lifestyle counseling associated with the program, those who are at very high risk for developing diabetes (combined IFG and IGT plus other risk factors such as A1c > 6%, hypertension, low HDL cholesterol, elevated triglycerides, or family history of diabetes in a first degree relative) and who are obese and under 60 years of age, metformin may be considered. Also, close attention should be given to, and appropriate treatment given for, other cardiovascular risk factors (e.g., tobacco use, hypertension, dyslipidemia).

3. Follow-up Frequency

The subcommittee acknowledged the need for ongoing follow-up and support both in the year the intervention program is completed as well as beyond. While the basket includes a minimum of 3 follow-ups in the year of the program, the subcommittee agreed that further follow-up in subsequent years would also be beneficial in order to provide ongoing lifestyle counseling and support. This subsequent follow-up was not included in the basket assuming the basket of care is limited to a one year time period.

Components considered but not included:

- Screening to detect prediabetes and type 2 diabetes in asymptomatic individuals. This was encouraged instead to be done in conjunction with other preventive care services.

Components in initial basket that were deleted or modified for final draft:

- None. Following MDH approval, this basket was developed outside of the initial timeframe and original resources intended to establish one diabetes basket of care. This basket is in addition to a basket of care developed for type 2 medically complicated diabetes. Therefore, this basket was developed without the opportunity for public comment and no changes were made to the original work.

OPPORTUNITIES FOR INNOVATION INCLUDE:

- The subcommittee agreed that prediabetes represents a significant public health issue and that an approach involving the creation of a basket is just one potential activity directed at this issue. The subcommittee believes there is great opportunity for innovation in this basket including such things as new partnerships within the community, alternatives to face-to-face service, greater coordination of care by the diverse health care disciplines involved in diabetes care, etc.

ADDITIONAL CONSIDERATIONS

- The subcommittee acknowledged an opportunity exists to coordinate this Basket of Care with the basket for Preventive Care for Adults.
- The subcommittee agreed that issues related to prediabetes represent a significant public health issue and that an approach involving creation of a basket is just one potential activity directed at this issue.

JUNE 4, 2009 STEERING COMMITTEE REVIEW AND COMMENT:

- Acknowledged prediabetes as a public health issue and worthy of a basket as a possible strategy in addressing issue.
- Acknowledged potential overlap with this and preventive adult basket.

APPENDIX A

CURRENT CRITERIA FOR THE DIAGNOSIS OF DIABETES AS DEFINED BY THE AMERICAN DIABETES ASSOCIATION:

1. FPG \geq 126 mg/dl (7.0 mmol/l). Fasting is defined as no caloric intake for at least 8 h.*

OR

2. Symptoms of hyperglycemia and a casual (random) plasma glucose \geq 200 mg/dl (11.1 mmol/l). Casual (random) is defined as any time of day without regard to time since last meal. The classic symptoms of hyperglycemia include polyuria, polydipsia, or unexplained weight loss.

OR

3. 2-h plasma glucose \geq 200 mg/dl (11.1 mmol/l) during an OGTT. The test should be performed as described by the World Health Organization using a glucose load containing the equivalent of 75-g anhydrous glucose dissolved in water.*

* In the absence of unequivocal hyperglycemia, these criteria should be confirmed by repeat testing on a different day

APPENDIX B

DIABETES PREVENTION PROGRAM (DPP) 16-SESSION CORE CURRICULUM

Session 1. Welcome to the Lifestyle Balance Program

Build commitment to the DPP lifestyle change program by recording personal reasons for joining the DPP and perceived benefits to self, family, and others. Highlight the two study goals: 7% weight loss and 150 minutes of weekly physical activity and review key aspects of the relationship between the lifestyle coach and participant in working towards these goals. Introduce self-monitoring of food intake.

Session 2. Be a Fat Detective

Introduce regular self-monitoring of weight at home. Help participants find the main sources of fat in their diet through self-monitoring fat grams using the “DPP Fat Counter” and by reading food labels. Assign a fat gram goal based on starting weight.

Session 3. Three Ways to Eat Less Fat

Practice self-monitoring skills, including weighing and measuring foods and estimating portion size of foods. Teach three ways to eat less fat: eat high-fat foods less often, eat smaller portions, and substitute lower fat foods and cooking methods.

Session 4. Healthy Eating

Emphasize the importance of a regular meal pattern and eating slowly. Use the Food Guide Pyramid (USDA) as a model for healthy eating and compare personal eating patterns to these recommendations. Recommend specific low-fat, low-calorie substitutes at each level of the Food Pyramid.

Session 5. Move Those Muscles

Introduce physical activity and begin to build to 150 minutes of physical activity over the next 4 weeks, using activities such as brisk walking. Begin self-monitoring of physical activity as well as food intake. Review personal activity history and likes and dislikes about physical activity. Encourage attendance at group supervised activity sessions.

Session 6. Being Active: A Way of Life

Help participants learn to find the time to be physically active each day by including short bouts (10–15 min) and healthy lifestyle activities, e.g., climbing stairs and walking extra blocks from the bus stop. Teach the basic principles for exercising safely, what to do in the event of injury, and knowing when to stop.

Session 7. Tip the Calorie Balance

Teach the fundamental principle of energy balance and what it takes to lose 1–2 lbs per week. For those individuals who have made little progress with weight loss, assign self-monitoring of calories as well as fat grams or provide a structured meal plan at reduced calorie levels.

Session 8. Take Charge of What's Around You

Introduce the principle of stimulus control. Identify cues in the participant's home environment that lead to unhealthy food and activity choices and discuss ways to change them.

Session 9. Problem Solving

Present the five-step model of problem solving: describe the problem as links in a behavior chain, brainstorm possible solutions, pick one solution to try, make a positive action plan, evaluate the success of the solution. Apply the problem-solving model to eating and exercise problems.

Session 10. The Four Keys to Healthy Eating Out

Introduce four basic skills for managing eating away from home: anticipating and planning ahead, positive assertion, stimulus control, and making healthy food choices.

Session 11. Talk Back to Negative Thoughts

Practice identifying common patterns of self-defeating, negative thoughts and learn to counter these thoughts with positive statements.

Session 12. The Slippery Slope of Lifestyle Change

Stress that slips are normal and learning to recover quickly is the key to success. Teach participants to recognize personal triggers for slips, their reactions to those slips, and what it takes to get back on track.

Session 13. Jump Start Your Activity Plan

Introduce the basic principles of aerobic fitness: frequency, intensity, time, type of activity (FITT). Teach participants to measure their heart rate and perceived level of exertion as a way of determining the appropriate levels of activity. Discuss ways to cope with boredom by adding variety to the physical activity plan.

Session 14. Make Social Cues Work for You

Present strategies for managing problem social cues, e.g., being pressured to overeat, and help participants learn to use social cues to promote healthy behaviors, e.g., making regular dates with a walking partner or group. Review specific strategies for coping with social events such as parties, vacations, and holidays.

Session 15. You Can Manage Stress

Highlight the importance of coping with stress, including stress caused by the DPP, by using all of the skills previously taught, e.g., positive assertion, engaging social support, problem solving, planning, talking back to negative thoughts, and being physically active.

Session 16. Ways to Stay Motivated

Enhance motivation to maintain behavior change by reviewing participants' personal reasons for joining DPP and by recognizing personal successes thus far. Introduce other strategies for staying motivated including posting signs of progress, setting new goals, creating friendly competition, and seeking social support from DPP staff and others.

SUPPORTING REFERENCES:

ACE/AACE Consensus Statement – Diagnosis and Management of Prediabetes in the Continuum of Hyperglycemia. Endocrine Practice, Vol 14 No. 7 October 2008 933.

Adapting the Diabetes Prevention Program Lifestyle Intervention for Delivery in the Community: The YMCA Model. Ronald T. Ackermann and David G. Marrero. The Diabetes Educator 2007; 33; 69

American Diabetes Association Standards of Medical Care in Diabetes-2009. Diabetes Care, Volume 32, Supplement 1, January 2009.

Cost-Effectiveness of Screening for Pre-Diabetes Among Overweight and Obese U.S. Adults. Hoerger, et. al. Diabetes Care, Volume 30, Number 11, November 2007.

The Diabetes Prevention Program (DPP). Diabetes Care, Volume 25, Number 12 December 2002.

An Evaluation of Cost Sharing to Finance a Diet and Physical Activity Intervention to Prevent Diabetes. Akermann, et.al. Diabetes Care, Volume 29, Number 6, June 2006.

Primary Prevention of Cardiovascular Disease and Type 2 Diabetes in Patients at Metabolic Risk: An Endocrine Society Clinical Practice Guideline. J Clin Endocrinol Metab, October 2008, 93(10):3671–3689.

Review: lifestyle of pharmacological interventions prevent or delay type 2 diabetes in impaired glucose tolerance. BMJ 2007; 334:299.

Predicting risk of type 2 diabetes in England and Wales: prospective derivation and validation of QDScore. BMJ 2009; 338:b880 doi:10.1136/bmj.b880.

High-Risk Individuals' Willingness to Pay for Diabetes Risk-Reduction Programs. Diabetes Care, Volume 29, Number 6, June 2006.

Reduction in the Incidence of Type 2 Diabetes with Lifestyle Intervention or Metformin. N Engl J Med, Vol 346, No. 6- February 7, 2002.

Prevention of Type II diabetes in subjects with impaired glucose tolerance: the Diabetes Prevention Study (DPS) in Finland. Diabetologia (1999) 42; 793-801.

Prevention of Type 2 Diabetes Mellitus By Changes in Lifestyle Among Subjects With Impaired Glucose Tolerance. N Engl J Med, Vol. 344, No. 18 -May 3, 2001.

Lifestyle Risk Factors and New-Onset Diabetes in Older Adults. Arch Intern Med, Vol 169 (No.8) – April 27, 2009.