



## Background on Prediabetes

- Prediabetes refers to blood glucose levels that are higher than normal, but not high enough to be called diabetes.
- In Minnesota, over one million people have prediabetes.
- Prediabetes often precedes the development of Type 2 diabetes and can begin long-term damage to the heart, circulatory system, eyes and kidneys and increases the risk of heart disease and stroke.
- Associated risk factors include: advanced age, being overweight or obese, high blood pressure, abnormal lipid levels, family history of type 2 diabetes, ethnicity, history of gestational diabetes or 9+ lb baby and inactivity.

Diagnostic Criteria for Prediabetes		
Condition	Test	Results
Impaired Glucose Tolerance (IGT)	2-Hour Oral Glucose Tolerance Test	140–199 mg/dL
Impaired Fasting Glucose (IFG)	Fasting Plasma Glucose	100–125mg/dL <i>After 8-hour fast</i>

## Risk of Diabetes Progression

- The risk of progressing to diabetes depends on the type of prediabetes that a person has (IFG only, IGT only, or both), as well as other diabetes risk factors.
- Individuals with prediabetes who are older, overweight, and have a family history of diabetes or gestational diabetes are more likely to progress to diabetes.
- Individuals with prediabetes are 5-15 times more likely to develop type 2 diabetes than are people with normal glucose values.
- Individuals with both IFG and IGT develop diabetes approximately twice as often as individuals with just one of the two conditions.

## Success of Primary Prevention

- Progression to diabetes is not inevitable!
- Weight loss and increased physical activity can prevent or delay diabetes and even return blood glucose levels to normal.
- The CDC claims that people with prediabetes who lose at least 7% of their body weight and engage in moderate physical activity for at least 150 minutes per week can prevent or delay diabetes and even return their blood glucose levels to normal.
- Clinical research shows intensive lifestyle interventions are the most effective way to prevent or delay type 2 diabetes.
- The most widely cited multi-site study, the Diabetes Prevention Program (DPP) conducted in 2000-2001, offered a lifestyle intervention to patients diagnosed with pre-diabetes and proved extremely successful in preventing/delaying the onset of diabetes in these high risk patients. Key findings included weight loss, increased physical activity and a 58% reduction in the 3-year onset of diabetes.

### ***Basis for the I CAN Prevent Diabetes Intervention***

*David Marerro, PhD, a Principal Investigator from the DPP study, has agreed to provide a standardized DPP-based facilitator training for our Minnesota program on Dec 10-12, 2007. One of the original DPP sites was conducted by Dr. Marerro and Ronald Ackerman, MD, MPH at the Indiana University School of Medicine. They later conducted other studies in low-income neighborhoods in Indianapolis to compare results when replacing the 16-week individual counseling sessions with 16-week group sessions (with group sizes around 10-12). Their results, not yet published, demonstrate an impact very similar to the DPP and form the basis of the I CAN Prevent Diabetes program.*

## **I CAN Prevent Diabetes Objectives**

- Identify and enroll individuals diagnosed with prediabetes in an intervention program.
- Set up pilot sites in Steps communities to demonstrate that the DPP can be delivered effectively in community settings.
- Offer 2-3 group sessions in each community with 10-12 participants per group.
- Train 3 or more professionals/ para-professionals in each community.
- Offer standardized DPP 16-week group curriculum lead by trained facilitators in non-clinical community settings.
- Collect and report data to assist Steps in evaluating the I CAN Prevent Diabetes program.

## **I CAN Prevent Diabetes Protocol**

- Individuals and Communities Acting Now to Prevent Diabetes (I CAN Prevent Diabetes) is a 16-week, community- and evidence-based, lifestyle intervention that offers education and support for persons diagnosed with prediabetes.
- It is a collaboration between state and local public health, community centers and clinics/health care providers.
- The program is being offered as a pilot in four Minnesota communities beginning in 2008.
- For physicians wishing to have their patients participate in I CAN Prevent Diabetes, we will provide an information and enrollment form to distribute to eligible patients.
- Patients are eligible that meet all of the following criteria:
  - ~ Receives a clinical diagnosis of prediabetes and,
  - ~ Is at least 18 and,
  - ~ Is otherwise healthy enough for moderate exercise.
- The program is being offered in the community to increase participation and place minimum time demands on clinic staff.
- To track the program's success and encourage sustainability, it is vital to link individual lab values with data collected during the intervention.
  - ~ Patient information will be collected from the clinic pre and post intervention.
  - ~ Data will be collected, reported to the State Steps Evaluator, and formatted to remove patient identifiers and comply with HIPPA and clinic consent protocols.
- At the end of the 16 week program, participants will return to their physician/provider for follow-up and on-going care and Steps will provide clinics with a summary of findings.
- This pilot will allow us to learn what is needed to establish future sustainable community prediabetes interventions for underserved and high risk populations.

## **Importance of Prevention**

- National estimates
  - ~ 41 million people have prediabetes
  - ~ Total cost of diabetes in US = \$132 billion/ year
- Minnesota estimates
  - ~ Total cost of diabetes in MN = \$2.3 billion/yr
  - ~ Diabetes prevalence has doubled in past 12 years
  - ~ Diabetes is the sixth leading cause of death in Minnesota

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