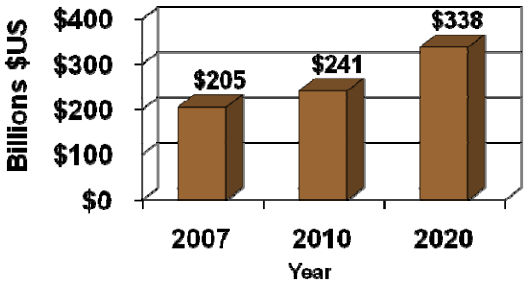
National Diabetes Prevention Initiative

The Problem

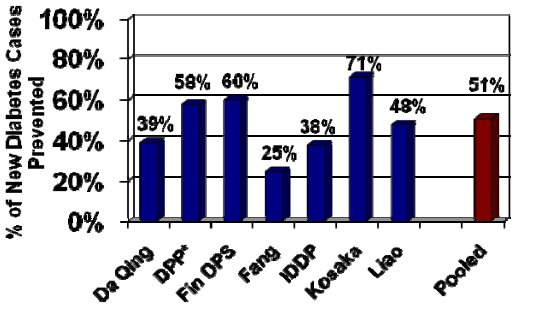
- 24 million U.S. adults have diabetes;[1] at least 1 in 3 Americans born today will develop diabetes in their lifetime[2]
- Diabetes imposes an enormous and growing health and economic burden in the U.S.
- With current growth trends, the costs of diabetes are expected to reach $338 billion by 2020[3]



Projected Total Direct Medical Costs for Patients with Diabetes, Year 2007 $US (Billions)

Potential Solutions

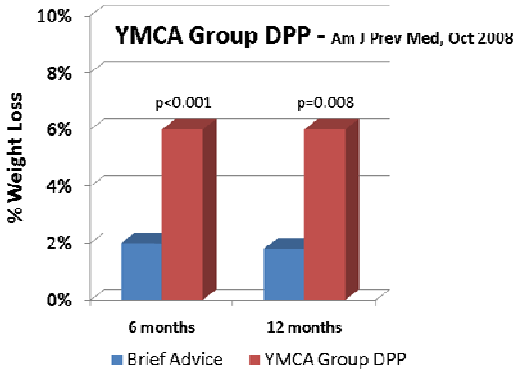
- 90 to 95% of persons with diabetes have type 2 diabetes, which usually begins when the body becomes resistant to the hormone insulin
- Rapid increases in type 2 diabetes have been tightly linked to the obesity epidemic[4, 5]
- The vast majority of new cases of type 2 diabetes in the U.S. today are preventable
  - Before adults develop type 2 diabetes, most have a condition known as PRE-diabetes[6, 7]
  - PRE-diabetes can be identified by a simple blood glucose test – a test already paid for by Medicare and other major health payers in the U.S.[8, 9]
  - Several large research studies,[10] including the U.S. Diabetes Prevention Program (DPP)[11] have now shown that over HALF of new cases of type 2 diabetes can be avoided by structured lifestyle intervention programs that help individuals with PRE-diabetes to lose just 11 – 15 pounds and to participate in daily physical activity such as brisk walking



Randomized Trials of Lifestyle Interventions to Prevent Type 2 Diabetes

Implementation and Sustainability

- Structured lifestyle interventions that achieve just modest weight loss still require resources, and cost has been a barrier to offering these interventions to over 50 million Americans who have PRE-diabetes today
- Multiple prediction models have now demonstrated that a structured lifestyle intervention to prevent diabetes can be COST SAVING within 2 to 3 years time if the direct costs of the intervention can be reduced to $250 - $300 per year[12]
  - Preventing diabetes AVOIDS high future healthcare costs
  - Preventing diabetes improves work productivity and reduces absenteeism[13]
- Emerging research and demonstration projects developed by Indiana University researchers show that a carefully designed group lifestyle intervention can be delivered for less than $250 per year in community settings and can achieve similar weight loss results as more costly programs in adults with PRE-diabetes[14]



- No research is currently available to know if less intensive intervention strategies or programs targeting lower risk individuals are of equal cost-effectiveness[15]

Critical Elements for Success

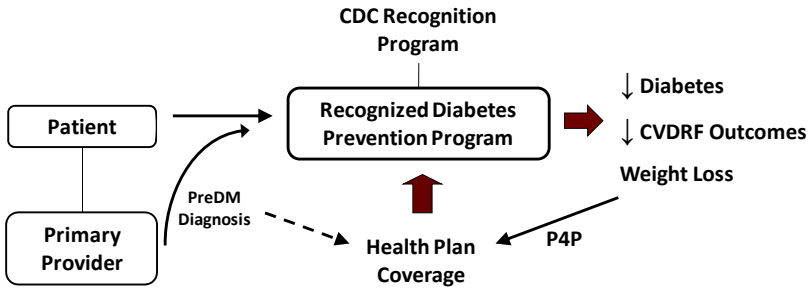
- Success in preventing diabetes on a national scale will require

- Initiatives in or linked to healthcare settings to identify PRE-diabetes[16]
- Linkages with cost-effective & scalable community-based prevention programming[17]
- Quality monitoring mechanisms to assure ongoing program fidelity and outcomes
- Novel payment systems that reward the type of services rendered as well as the outcomes achieved.[18]

- Ongoing evaluation of ways to continue optimizing reach and outcomes

Proposed Model for a National Diabetes Prevention Initiative

- Develop a national infrastructure for a training, certification, and quality assurance program that is adapted from the Indiana University PLAN4WARD model and centered at the Centers for Disease Control and Prevention (CDC) to ensure consistent principles of type 2 diabetes prevention programming throughout the U.S.
- Work with CDC-funded state-based Diabetes Prevention and Control Programs (DPCPs) and YMCA of USA to identify and encourage community organizational partners to implement structured diabetes prevention programming at the local level.
- Collaborate with national organizations with a broad local delivery system, including facilities, staff and training capacities like YMCAs to identify workers in the community to complete CDC's training and recognition program for delivery of the DPP and then to provide train-the-trainer programs.



- Work with National Diabetes Education Program, National Commission on Quality Assurance, Medicare, and other health payers to design and implement a program to increase identification of PRE-diabetes and to monitor performance indicators in healthcare settings
- Enable CMS and FEHBP (and encourage other health payers) to provide payment for diabetes prevention services offered through a certified program, in a fashion that encourages ongoing identification of pre-diabetes in healthcare settings and rewards program outcomes such as weight loss and maintenance
- Designate an evaluation team through CDC to monitor and report program processes and outcomes

Cost Predictions

The following table includes predicted cost savings for a health plan with 1 million total adult members that offers payment for a group-based diabetes prevention program that achieves and maintains 11 pounds (5 kg) weight reduction for adults with prediabetes who are 50 years of age*

Percent of all PreDM Members Identified	N of PreDM Members Participating in Program (% of those identified)	Estimated Cases of Diabetes Prevented at 2 years	Total Direct Program Costs for Health Plan over 2 years	Health Care Costs Avoided after 2 years	Net Cost for Health Payer after 2 years (Savings if <$0)
50%	74,599 (50%)	6,560	$18,874,252	$30,212,595	-$11,338,343
50%	59,680 (40%)	5,347	$15,099,604	$24,170,400	-$9,070,796
50%	44,760 (30%)	4,084	$11,324,703	$18,127,800	-$6,803,097
50%	29,840 (20%)	2,772	$7,549,802	$12,085,200	-$4,535,398

*Predictions derived from CDC-RTI diabetes model assuming 29.8% of adult members have prediabetes (preDM) and program costs of$250 in year 1 and $125 for each subsequent year. For other key assumptions, see reference 12

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