

DEPARTMENT OF HEALTH AND HUMAN SERVICES CENTERS FOR DISEASE CONTROL AND PREVENTION



# **Rolling Out the U.S. National Diabetes Prevention Program**

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The findings and conclusions in this presentation are those of the author and do not necessarily represent the views of the CDC.

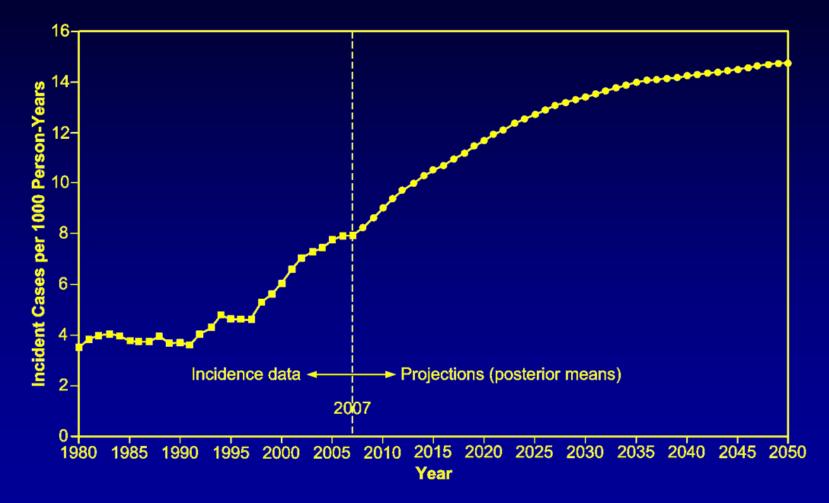
### SAFER • HEALTHIER • PEOPLE<sup>™</sup>



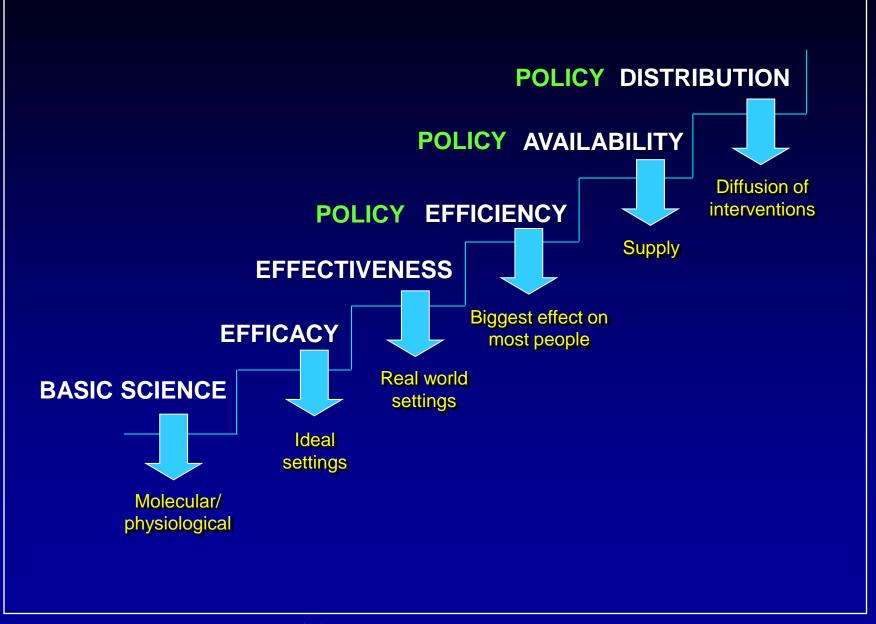
# 26 million with Diabetes

# 79 million with Prediabetes

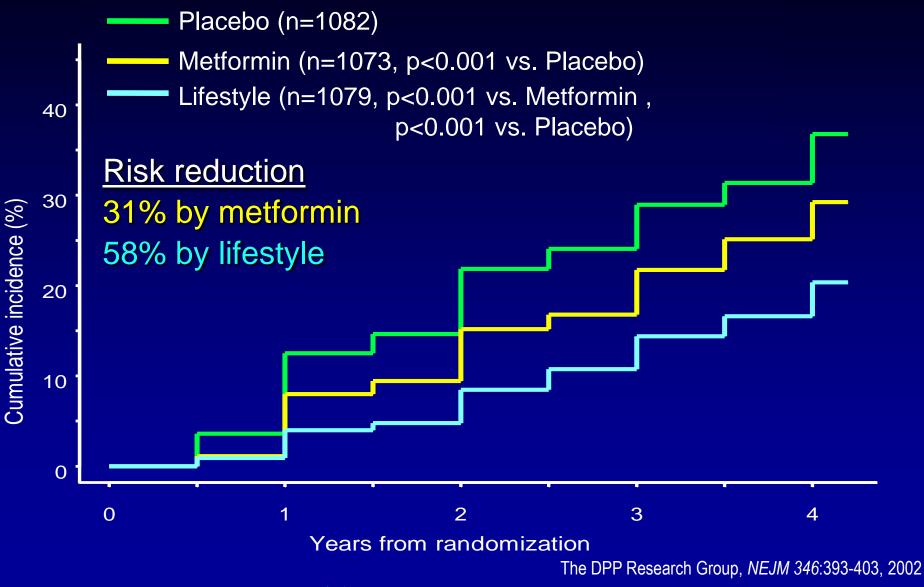
## Incidence of diagnosed diabetes (1980– 2007) and projected incidence (2008–2050)



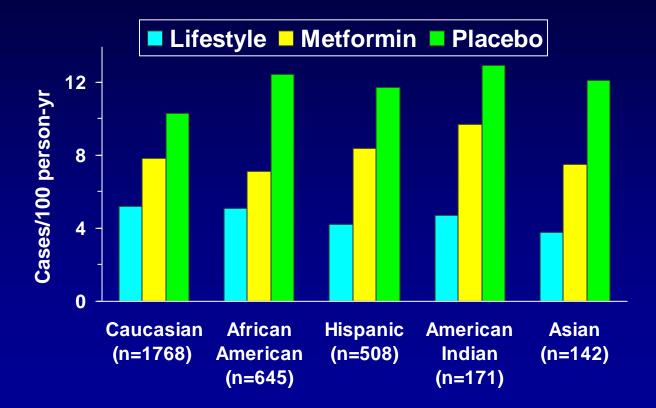
Source: http://www.pophealthmetrics.com/content/8/1/29



# **DPP Incidence of Diabetes**



# **DPP Intervention Impact by Ethnicity**



The DPP Research Group, NEJM 346:393-403, 2002

### Further Benefits of Lifestyle Intervention: Other CVD risk factors are also improved

•  $\uparrow$  BP was present in 30% of subjects at entry - then  $\uparrow$  in placebo and metformin groups, significantly  $\downarrow$  with lifestyle

TG levels \$\prod\_\$ in all treatment groups, but \$\prod\_\$ significantly more with lifestyle intervention

Lifestyle intervention significantly ↑ HDL level and ↓ LDL

At 3 yr F/U the use of meds in the lifestyle group was 27–28%
 ↓ for hypertension and 25% ↓ for hyperlipidemia compared with placebo and metformin groups

DPP. Diabetes Care 28:888–894, 2005 DIVISION OF DIABETES TRANSLATION • WWW.CDC.GOV/DIABETES

# Longer-term impact?

### Diabetes Prevention Program Outcomes Study

- After 3 years a group version of the core lifestyle intervention was offered to placebo and metformin groups, as well as the original lifestyle group, including 4 group "BOOST" sessions each year
- During the total 10-year follow-up, the incidences of type 2 diabetes was still reduced by 34% in the lifestyle group and by 18% in the metformin group

Lancet 2009; Published Online October 29,2009
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### **Summary of Benefits of DPP Lifestyle Program**

- Treating 100 high risk adults (age 50) for 3 years...
  - Prevents 15 new cases of type 2 diabetes<sup>1</sup>
  - Prevents 162 missed work days<sup>2</sup>
  - Avoids the need for BP/Chol pills in 11 people<sup>3</sup>
  - Adds the equivalent of 20 perfect years of health<sup>4</sup>
  - Avoids \$91,400 in healthcare costs<sup>5</sup>

<sup>&</sup>lt;sup>1</sup> DPP Research Group. N Engl J Med. 2002 Feb 7;346(6):393-403

<sup>&</sup>lt;sup>2</sup> DPP Research Group. Diabetes Care. 2003 Sep;26(9):2693-4

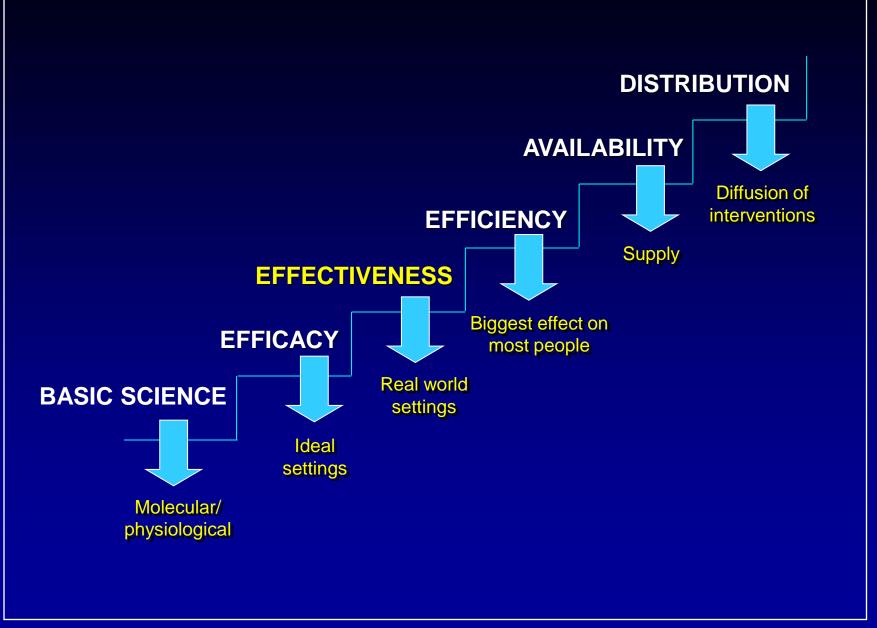
<sup>&</sup>lt;sup>3</sup> Ratner, et al. 2005 Diabetes Care 28 (4), pp. 888-894

<sup>&</sup>lt;sup>4</sup> Herman, et al. 2005 Ann Intern Med 142 (5), pp. 323-32

<sup>&</sup>lt;sup>5</sup> Ackermann, et al. 2008 Am J Prev Med 35 (4), pp. 357-363; estimates scaled to 2008 \$US

# Cost of DPP 1-1 Format

- First 12 months cost = \$1,400 per participant
- Total 3 year cost = \$2,780 per participant
- With inflation, three year costs of this program in 2010 exceed \$3,500 per participant



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### US Research Studies that have Translated the Diabetes Prevention Program (DPP)Trial Lifestyle Intervention

							During "Core" Intervention				
First author, reference number DPP <sup>3</sup>	N* (% pre- diabetic) 1079 (100)	Loss to Follow -up (%) 6.5	Age 50.6	Men (%) 32	Mean BMI 33.9	# Core Sessions (wks) 16 (24)	Mean Sessions Attended (%) 15 (95%)	Wt loss (kg) 6.5	Wt loss (%) 7	≥ 7% loss (%) 50	≥ 5% loss (%) nr
	~ /						~ /				
Ackermann <sup>13</sup>	46 (100)	15	56.5	50	32.0	16 (20)	9 (57)	5.5	6	36	59†
Amundson <sup>18</sup>	295 (52)	17	53.6	20	35.9	16 (16)	14 (91)	6.7	6.7	45	67
Aldana <sup>24</sup>	35 (89)	5	nr	34	32.0	16 (24)	11 (67)	2.9	3.3	nr	nr
Pagoto <sup>25</sup>	118 (nr)	17	48.7	28	43.3	16 (16)	13 (81)	5.6	4.6	30	49
Boltri <sup>14</sup>	8 (100)	0	nr	nr	31.6	16 (24)	10 (65)	3.4	3.6	nr	nr
Seidel <sup>19</sup>	88 (42)	22	54	16	nr	12 (14)	9 (75)	nr	nr	26	46
Wolf <sup>15</sup>	73 (0)	26	53.4	38	37.6	12 (52)	7 (58)	2.4	4.9	nr	20
Kramer <sup>20</sup>	93 (46)	22	54.8	19	35.7	12 (14)	8 (67)	3.4	3.5	24	52
McBride <sup>22</sup>	40 (70)	8	51.9	41	37.4	12 (12)	nr	5.0	4.6	nr	nr
McTigue <sup>23</sup>	72 (nr)	7	53	16	38.9	12 (52)	nr	5.2	nr	27	nr
Whittemore <sup>17</sup>	31 (nr)	22	48.2	10	40.0	11 (36)	8 (69)	nr	nr	nr	25
Cramer <sup>21</sup>	27 (0)	nr	nr	nr	nr	7 (28)	nr	2.5	2.7	nr	nr
Davis-Smith <sup>16</sup>	10 (100)	10	nr	30	35.7	6 (6)	5 (78)	4.0	3.8	nr	nr

\*In lifestyle arm of study. nr = not reported. †Personal communication with Dr. Ronald Ackermann.

# **Cost of Group-Based Format**

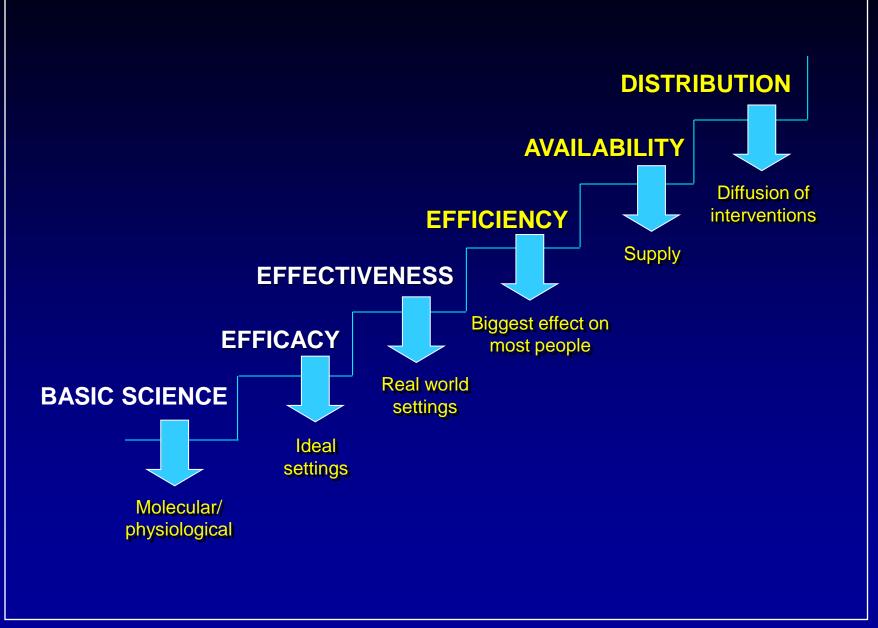
\$275 -\$325 per participant when using trained Y staff (Ackermann, et al)

 \$550 per participant when using CDEs (Amundsen, et al)

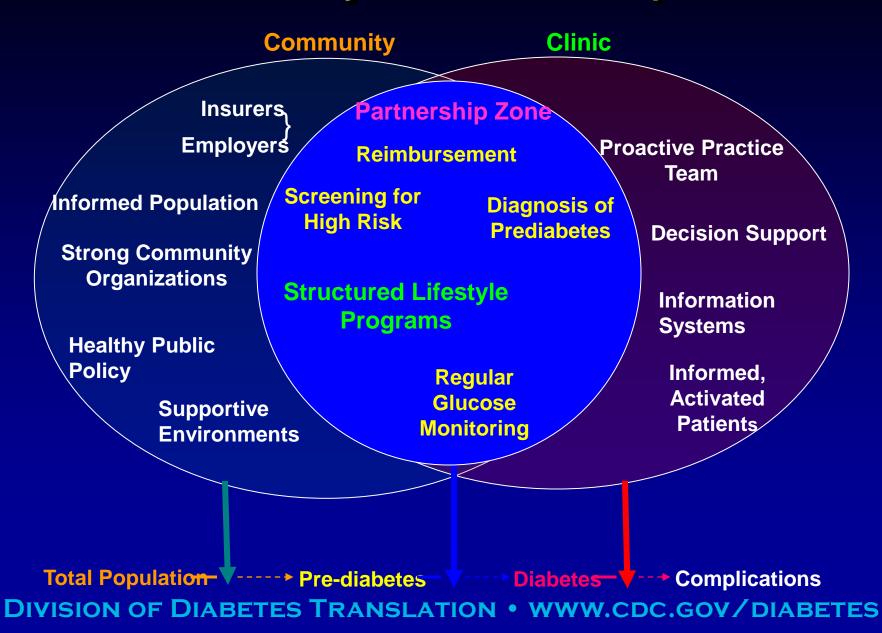
# Q. How much should the lifestyle intervention cost in order to save money?

Direct Healthcare Costs For Persons with Pre-Diabetes :								
			If they get the	Costs avoided each				
Age	Year	Usual Care	DPP	year				
50	1	\$2,496	\$2,228	\$268				
51	2	\$2,514	\$2,217	\$297				
52	3	\$2,556	\$2,207	\$349				
53	4	\$2,546	\$2,254	\$292				
54	5	\$2,567	\$2,235	<mark>⊿</mark> \$332				

### A. About \$300 per year



### Prevention of Type 2 Diabetes The Community – Clinic Partnership Model



### **National Diabetes Prevention Program**

## Goal:

Systematically scale the translated model of the Diabetes Prevention Program (DPP) for high risk persons in collaboration with community-based organizations that have necessary infrastructure, health payers, health care professionals, public health, academia, and others to reduce the incidence of type 2 diabetes in the United States.

# **Health Reform**

- In March 2010, Congress passed legislation that specifically addresses diabetes prevention through H.R. 3590 — the Patient Protection and Affordable Care Act, SEC. 399V-3
- National Diabetes Prevention Program
  - The legislation authorizes CDC to manage the National Diabetes Prevention Program
  - Establish a network of evidence-based lifestyle intervention programs for those at high risk of developing type 2 diabetes

# **Health Reform**

- Specifically, the legislation states that the program shall include:
  - A grant program for community-based diabetes prevention program model sites
  - A program within the CDC to determine eligibility of entities to deliver community-based diabetes prevention services
  - A training and outreach program for lifestyle intervention instructors
  - Evaluation, monitoring and technical assistance, and applied research carried out by the CDC

### Principles Considered in Developing the National Diabetes Prevention Program

- Diabetes risk must match program cost
- Program must be effective
- Program must be economically sustainable
- Program must be available

### NATIONAL DIABETES PREVENTION PROGRAM

### Components

### Training: Increase Workforce

Train the workforce that can implement the program cost effectively Recognition Program: Quality

Implement a recognition program that will:

- Assure quality
- Lead to reimbursement
- Allow CDC to develop a program registry

Intervention Sites: Deliver Program

Develop intervention sites that will build infrastructure and provide the program

### Health Marketing: Support Program Uptake

Increase referrals to and use of the prevention program

# Current Status of the National Diabetes Prevention Program

- Training = CDC contracted with Emory University to establish the Diabetes Training and Technical Assistance Center (DTTAC) and developed Master Trainer curriculum and unified Lifestyle Coach curriculum – info posted on website July 2011
- Recognition Program = CDC and partners developed the standards for program recognition – going through final approval process and CDC should begin accepting applications later in 2011

# Current Status of the National Diabetes Prevention Program (cont)

- Intervention Sites/Payment = Y, UnitedHealth Group (UHG), Medica inaugural participants in the National Diabetes Prevention Program
  - Currently 122 sites for program delivery

Health Marketing = CDC contracted with MACRO to do formative PR/marketing work that will be used to develop messaging and tools – focus groups have been conducted

# Conclusions

Strategies to prevent type 2 diabetes need to use a "tiered" approach that provides proven structured programs for high-risk adults in concert with more general, population-wide initiatives/policies to support healthy eating and physical activity

There is sufficient evidence to implement proven, cost-effective type 2 diabetes prevention program

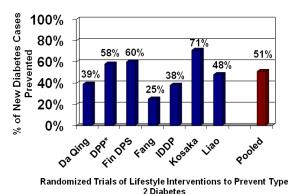
### **CDC Division of Diabetes Translation**

### Primary Prevention of Type 2 Diabetes in High Risk Persons:

### Translating Established Science into Sustainable Programs on a National Scale

#### Background

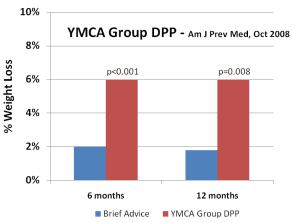
- The majority of new cases of type 2 diabetes in the U.S. today are preventable.
  - Before adults develop type 2 diabetes, <u>all</u> have a condition known as prediabetes [1, 2].
  - Nearly 30% of U.S. adults currently have prediabetes [2].
  - Prediabetes is identified by a simple blood glucose test – already paid for by Medicare and other major health payers [3, 4].
  - National and international randomized trials,
     [5] including the U.S. Diabetes Prevention Program (DPP)[6], have established that in persons with prediabetes HALF of new cases of type 2 diabetes can be avoided by structured lifestyle intervention programs.



 These programs help individuals with prediabetes lose just 5% – 7% of their body weight.

#### Implementation and Sustainability

- Structured lifestyle interventions that achieve even modest weight loss still require resources, and cost has been a barrier to offering these interventions to the 79 million Americans who have prediabetes today.
- Rigorous economic models have demonstrated that structured lifestyle interventions 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/participant/year[7]
  - Preventing diabetes reduces high future healthcare costs



- Preventing diabetes increases work productivity and reduces absenteeism[8]
- Emerging demonstration projects developed by Indiana University researchers show that community-based group lifestyle programs can be delivered for less than \$250/participant/year, with weight losses very similar to those in the large randomized trials [9].
- No research is currently available to know if less intensive intervention strategies targeting lower risk individuals are effective in preventing diabetes [10].

### **Critical Elements for Success**

- Success in preventing type 2 diabetes on a national scale will require:
  - Linkages with health care settings that identify and refer prediabetic persons to community-based programs [11]
  - Linkages with cost-effective & scalable community-based lifestyle programs to receive referrals [12]
  - Quality monitoring mechanisms to assure ongoing program fidelity and outcomes
  - Blended payment systems linked to community- and clinic-based services and outcomes achieved [13]
- Ongoing evaluation of ways to optimize reach and outcomes

### Model for a National Diabetes Prevention Program in High Risk Persons

- Develop infrastructure and implementation process for a national training program that will help train the work force to deliver the program across the country.
- Develop a recognition program managed by the Centers for Disease Control and Prevention (CDC) to help ensure program quality and **CDC** Recognition Program utilization of evidence-based Diabetes prevention programming At Risk **Recognized Diabetes CVDRF Outcomes Populations** Prevention Program throughout the U.S., and Weight Loss provide public reporting. PreDM Diagnosis **Health Care** P4P

**Health Plan** 

Coverage

 Work with cities, academia, payers, employers, CDCfunded state, based Diabeter

funded state-based Diabetes Prevention and Control Programs, other government agencies, YMCA of USA, and other community organizations with necessary infrastructure to identify and encourage community organizational partners to implement structured diabetes

System

prevention programming at the local level. Enable Center for Medicare and Medicaid Services (CMS) and encourage other health payers to provide payment for diabetes prevention services offered through a CDC-recognized program, in a fashion that encourages ongoing identification and referral of prediabetes and rewards program outcomes such as weight loss and maintenance.

• Use health marketing and other strategies to increase identification of prediabetes and increase referrals to CDC-recognized programs. Develop and test messages that will resonate with those at high risk for diabetes and health care professionals to increase program participation and maintenance.

#### **Economic Predictions**

The following table shows predicted economic benefits for a health plan with 1 million total adult members that offers payment for a group-based diabetes prevention program that achieves and maintains 5% – 7% weight loss 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	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)
	identified)				
50%	identified) 74,599 (50%)	6,560	\$18,874,252	\$30,212,595	-\$11,338,343
50% 50%		6,560 5,347	\$18,874,252 \$15,099,604	\$30,212,595 \$24,170,400	-\$11,338,343 -\$9,070,796
	74,599 (50%)	,			

\*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 [7]

#### Accomplishments

- Contracted Emory University, School of Public Health to develop the Diabetes Training and Technical Assistance Center (DTTAC). The purpose of DTTAC is to develop a Master Trainer Curriculum to train Lifestyle Coaches in delivery of the evidence-based structured lifestyle intervention for type 2 diabetes prevention in high risk persons.
- Hosted, with NIH and Indiana University, a primary prevention meeting for policy makers, payers, academia and others to discuss practical approaches and policies to expand and sustain prevention of type 2 diabetes in high-risk persons.

The discussions focused on exploring the enabling and limiting factors in reimbursement and general sustainability of primary prevention programs. This meeting initiated conversations that led to UnitedHealth Group funding intervention sites at the YMCA as part of the National Diabetes Prevention Program.

- Contracted Macro International to develop audience-based, tested communication strategies for high risk populations and health care providers to increase awareness and generate urgency regarding the importance of primary prevention of type 2 diabetes.
- Entered into a cooperative agreement with the YMCA of the USA to provide some start-up funding for the National Diabetes Prevention Program.
- Signed an MOU with UnitedHealth Group (UHG) that clarifies how we work together to implement the National Diabetes Prevention Program.
- UHG and the YMCA have recently announced an agreement in which UHG will reimburse the YMCA to deliver an evidence-based diabetes prevention curriculum. Reimbursement to the YMCA is on a pay for performance design.
- Authorizing language for elements of the National Diabetes Prevention Program is included in the Patient Protection and Affordable Care Act.

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#### Understanding the Economics of Primary Prevention of Type 2 Diabetes in High-Risk People

#### **Division of Diabetes Translation**

#### National Center for Chronic Disease Prevention and Health Promotion

#### **Centers for Disease Control and Prevention**

#### July 2010

#### Background

By 2050, 48.3 million U.S. residents are expected to have diagnosed diabetes.<sup>1</sup> Diabetes is a very costly disease. In 2007, average health care costs for a person with diabetes were more than \$11,700 per year, but only \$5,100 for a person without diabetes.<sup>2</sup>

Five international studies conducted in China, Finland, Japan, India, and the United States<sup>3-7</sup>— all of which included people at high risk for developing diabetes (i.e., "prediabetes," clinically defined as having "Impaired Glucose Tolerance," "Impaired Fasting Glucose," or "High-Risk Hemoglobin A1C") — have established that type 2 diabetes can be prevented or delayed through structured lifestyle intervention programs aimed at modest weight reduction and modest increases in physical activity.

In the largest trial of lifestyle and diabetes prevention ever conducted, the U.S. Diabetes Prevention Program (DPP) showed that a structured lifestyle intervention — that achieved a 5%–7% weight loss and an increase in physical activity (primarily brisk walking) to 150 minutes/week — reduced the 3-year risk of developing type 2 diabetes by 58%. The impact of the lifestyle intervention was similar regardless of race, ethnicity, or gender.

The DPP lifestyle intervention was delivered in a 1-coach-to-1-participant format. The lifestyle coaches that delivered the intervention were clinical staff, such as psychologists, nurses, dietitians and exercise physiologists. This was a very expensive approach; during the first 12 months of the DPP lifestyle program, the cost was \$1,400 per participant, with a total 3-year cost of \$2,780 per participant.<sup>8</sup> With inflation, the 3-year costs of this program in 2010 exceed \$3,500.

Economists estimate the health impact of an intervention using "Quality-Adjusted Life-Years" or *QALYs*. A QALY is a year of life that is adjusted for the quality of life lived during that year. For example If two people each live 1 year, but one person is in perfect health and the other person has diabetes, the person in perfect health will have lived for 1 QALY, while the person with diabetes will have lived for less than 1 QALY.

On the basis of these costs, and the impact of the lifestyle intervention on increasing the length and quality of high-risk peoples' life-years ("Quality-Adjusted Life-Year" or *QALY*), it was estimated that every additional 1-QALY produced by the DPP lifestyle intervention would cost a health payer an additional \$34,540. This is the cost-effectiveness of the DPP lifestyle intervention in the DPP research trial.<sup>9</sup>

#### Cost-Effective, Cost Neutral, and Cost Saving

The over-arching goal for public health translation of diabetes prevention is to ensure that biologically effective lifestyle programs can be provided to the large high-risk population at a sustainable economic cost. Given the current economic reality of health care in the United States, it is unlikely that new health interventions, such as diabetes prevention, will be paid for by 3<sup>rd</sup> party payers (private health insurers, employers, or federal, state, and local governments) unless these new interventions pay for themselves by reducing future health care costs.

A diabetes prevention program that is <u>cost-effective</u> requires *additional* money to improve health, and thus adds to the total cost of health care. This is because the cost of the program itself is more than the health costs that are saved by preventing or delaying diabetes in the future. Cost effective interventions are those that cost money, but the benefit is viewed as being worth the cost. Some decision-makers may value the health benefits afforded by the program and may be willing to pay these additional costs.

A diabetes prevention program that is <u>cost-neutral</u> pays for itself because the cost of the program equals future health costs that are avoided by preventing diabetes and its complications.

A diabetes prevention program that is <u>cost-saving</u> decreases health costs because the cost of the program is less than future health costs that are avoided by preventing diabetes and its complications.

Therefore, the goal of public health translation of the DPP lifestyle intervention is to reduce costs of the intervention, while maintaining biological effectiveness, to achieve cost neutrality or cost savings.

#### Can the cost of the DPP lifestyle intervention be reduced?

The easiest ways to reduce the cost of the DPP lifestyle intervention are to conduct the lifestyle program in group sessions of 8–12 people and use less expensive staff to deliver the intervention.

In a recent study conducted by Indiana University, the DPP lifestyle intervention was modified for group sessions using lifestyle coaches from the staff of a local YMCA. The coaches were trained by an experienced behavioral scientist who was a coinvestigator on the original DPP research trial.<sup>10</sup> In this translation study, the 1-year cost of the intervention (including supplies, personnel time, and program administration) was estimated at \$275–\$325 per participant, or only about one-fifth of the 1-year cost of the DPP research trial.<sup>11</sup>

#### Can the effectiveness of the DPP lifestyle intervention be maintained?

In the original DPP research trial, the lifestyle intervention included 16 "core" sessions that were held over a period of 6 months, each lasting about 1 hour, and emphasizing specific behaviors to reduce fat and caloric intake and to increase daily physical activity. Following the 16-session core phase, a less intensive "maintenance" phase began, in which participants met with a lifestyle coach once a month with follow-up phone calls between meetings. For most participants, the majority of weight loss occurred during the core phase of the lifestyle intervention. During the core phase average weight loss was 7% of starting body weight and 50% of participants lost  $\geq$  7% of starting weight.<sup>7</sup>

In the Indiana University DPP translation study, the average weight loss during the 16-session core phase of the lifestyle intervention was 6% of starting body weight and 36% of participants lost  $\geq$  7% of starting weight; this 6% weight loss was maintained after 1 year.<sup>10</sup> In a translation study conducted by the Montana State Health Department, the 16-session DPP core phase was delivered to overweight or obese adults with high blood pressure, prediabetes, and a variety of other high risk conditions. Sessions were offered in groups, but the lifestyle coaches were locally trained registered dietitians and diabetes educators. In this study, average weight loss was 6.7% with 45% of participants losing  $\geq$  7% of starting weight.<sup>12</sup> The program's cost per participant was \$557.<sup>13</sup>

These studies indicate that the DPP lifestyle intervention can be provided to high-risk participants at a greatly reduced cost while maintaining biological effectiveness.

#### How much should a lifestyle intervention cost to prevent diabetes in high-risk people?

As described earlier, a lifestyle intervention would ideally cost the same or less than the future costs of diabetes that are avoided when diabetes is prevented or delayed.

No controlled trial of diabetes prevention has ever followed high risk participants for their entire lifetimes to measure the difference in lifetime health costs between those who received a lifestyle intervention and those who did not. Therefore we currently depend on mathematical models to predict the impact of diabetes prevention on health costs occurring over varying time periods in the future.

Here is a table based on the results from a mathematical model used to estimate the impact of the DPP on future health care costs over a 5-year period <sup>14</sup>

#### Predicted effect of DPP lifestyle intervention on health care costs

in high-risk people starting at age 50 over the next 5 years

Age	Year	Costs* With No Intervention	Costs With Lifestyle Intervention	Costs Avoided	Cumulative Costs Avoided
50	1	\$2,496	\$2,228	\$268	\$268
51	2	\$2,514	\$2,217	\$297	\$565
52	3	\$2,556	\$2,207	\$349	\$914
53	4	\$2,546	\$2,254	\$292	\$1,206
54	5	\$2,567	\$2,235	\$332	\$1,538

\* Costs are in Year 2008 \$.

This table indicates that the annual health care costs for a 50-year-old person with prediabetes are \$2,496. If this person received the DPP lifestyle intervention, it is predicted that, after 1 year, their health care costs would be reduced by \$268. If the person continued to receive the DPP lifestyle intervention each year for the next 4 years, it is predicted that their annual health care costs would be reduced be reduced by \$268.

Therefore, to pay for itself over a 5-year period, this economic analysis suggests that a lifestyle intervention to prevent diabetes in high risk persons should cost about \$300 - \$350 per participant per year.

#### Why is being "high risk" so important for the economics of diabetes prevention?

The biologic and economic effects of the DPP lifestyle intervention apply <u>only</u> to people at high risk of developing type 2 diabetes (i.e., people with "prediabetes"). Prediabetes is associated with annual risks of developing diabetes that are 10–15 times higher than people with normal glucose levels.

People with normal glucose levels generally have lower annual health care costs than people with prediabetes. In addition, they are much less likely to experience substantial increases in near-term health care costs due to the development of diabetes. Because their "risk" for future diabetes-related health costs is lower, there is less chance of saving money with diabetes prevention programs for people with normal glucose levels.

Even the translated DPP lifestyle intervention is still somewhat resource-intensive and it does not make economic sense to offer this intervention to people with normal glucose levels. Relatively few of these people will develop diabetes. Although investment of scarce health care resources in a lifestyle intervention for these people may improve their health in different ways, this investment is unlikely to significantly reduce their future health care costs.

However, some people with currently normal glucose levels will eventually develop diabetes. Some people who currently have normal glucose levels will eventually develop prediabetes and then go on to diabetes. However, we do not have ways to reliably identify these people. This is why the American Diabetes Association recommends that adults with normal glucose levels have their blood tested for diabetes or prediabetes every few years; if they develop prediabetes, then they can be linked to a prevention program.

#### How much money could be saved by preventing diabetes in high-risk people?

As discussed above, a cost-saving program costs less than the future costs it is able to avoid. Future avoidable costs can be either medical or non-medical.

Examples of areas where medical costs might be avoided when diabetes is prevented or delayed include additional health care visits, devices and supplies, new medications to treat diabetes, increases in medications to treat other conditions, and hospital care for diabetes complications.

Examples of areas where nonmedical costs might be avoided include fewer missed workdays because of illness or higher on-the-job productivity from better general health.

From the economic model above, a program could save medical costs if it costs less than \$270 after year 1 and less than \$914 after year 3. Estimates of 3-year total costs of the Indiana University and YMCA lifestyle program are currently about \$480. Thus, if offered to an overweight adult with prediabetes at age 50, this model could save an average of \$434 (\$914–\$480) in medical costs alone during the first 3 years.

With millions of American adults meeting criteria for prediabetes today, one can foresee the potential for cost-savings when programs are effectively designed and scaled to efficiently reach the population of people at high risk for diabetes.

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### U.S. National Diabetes Prevention Program

The National Diabetes Prevention Program is designed to bring evidence-based lifestyle interventions for preventing type 2 diabetes to communities. It is based on the NIH-led Diabetes Prevention Program (DPP) research study and subsequent translation (real-world) studies. The intervention in these studies emphasize improving dietary choices, increasing physical activity, coping skills, and group support to help participants lose 5% to 7% of their body weight and get at least 150 minutes per week of moderate physical activity. This intervention shows these measures can reduce the risk of developing type 2 diabetes by 58 percent in people at high risk of the disease.

In March 2010, Congress passed legislation that specifically addresses diabetes prevention through H.R. 3590 — the Patient Protection and Affordable Care Act, SEC. 399V-3. National Diabetes Prevention Program. The legislation authorizes CDC to manage the National Diabetes Prevention Program and establish a network of evidence-based lifestyle intervention programs for those at high risk of developing type 2 diabetes. Specifically, the legislation states that the program shall include:

- 1. A grant program for community-based diabetes prevention program model sites;
- 2. A program within the CDC to determine eligibility of entities to deliver communitybased diabetes prevention services;
- 3. A training and outreach program for lifestyle intervention instructors; and
- 4. Evaluation, monitoring and technical assistance, and applied research carried out by the CDC.

CDC's Division of Diabetes Translation's is taking a strategic approach to creating the National Diabetes Prevention Program. This approach includes the core elements of:

- **Training:** Helping train the work force that can implement the program cost effectively. To help do this, CDC has established the Diabetes Training and Technical Assistance Center at Emory University.
- **Program recognition:** Setting standards that will help ensure program quality and consistency which are necessary components for effectiveness and reimbursement.
- Intervention sites: Implementing sites that will deliver the intervention to reduce new cases of type 2 diabetes.
- **Health marketing:** Raising awareness among both health care providers and high-risk populations to increase referral and use of the program.

The National Diabetes Prevention Program provides a critical opportunity for collaboration among federal agencies, community based organizations, health payers, health care professionals, academia and others to reduce new cases of type 2 diabetes in the United States. The inaugural partners of the National Diabetes Prevention Program are the Y (also known as YMCA of the USA) and United HealthGroup (UHG). As the recognition program is implemented, more organizations will become involved in delivering the program intervention. As of January, 2011, programs are currently being offered through the Y's in these locations:

- Cincinnati, Columbus and Dayton, Ohio
- Fort Wayne, Bloomington and Indianapolis, Indiana
- Minneapolis, Willmar, Alexandria and St. Paul, Minnesota
- Phoenix and Tucson, Arizona
- Atlanta, Georgia
- New York City and Rochester, New York
- Birmingham, Alabama
- State of Delaware
- Tampa and Jacksonville, Florida
- Louisville, Kentucky
- Providence, Rhode Island
- Seattle, Washington

In addition, the Y will be offering the program at these sites in early 2011:

- Livingston, New Jersey
- Savannah, Georgia
- New Haven, Connecticut
- Boise, Idaho
- Eugene, Oregon
- Venice, Florida
- La Crosse, Wisconsin
- Lawrence, Massachusetts
- Lexington, Kentucky
- Marshalltown, Iowa
- Natrona Heights, Pennsylvania
- Spokane, Washington

For more information, please visit <u>www.cdc.gov/diabetes</u>. Sign up to receive periodic email updates from CDC's National Diabetes Prevention Program at <u>http://www.cdc.gov/diabetes/projects/prevention\_program.htm</u>.