Healthy People 2020 Spotlight on Health: Type 2 Diabetes Prevention

U.S. Department of Health and Human Services
Today’s Presentation

I. Overview of HP2020 & its Diabetes Objectives
II. Scope of Diabetes in U.S. and Key Findings of Diabetes Prevention
III. Roles of Clinicians & Communities in Addressing Diabetes
IV. Evidence-Based Community Example
V. Questions & Answers
Don Wright, MD, MPH
Deputy Assistant Secretary for Health (Disease Prevention and Health Promotion)
Director, Office of Disease Prevention and Health Promotion
U.S. Department of Health and Human Services
What Is Healthy People?

- A **national agenda** that communicates a vision for improving health and achieving health equity.

- Creates a comprehensive **strategic framework** uniting health promotion and disease prevention issues under a single umbrella.

- A set of science-based, **measurable objectives** with **targets** to be achieved by the year 2020.

- Requires tracking of **data-driven outcomes** to monitor progress and to motivate, guide, and focus action.
Overarching Goals

- Attain high quality, longer lives free of preventable disease, disability, injury, and premature death
- Achieve health equity, eliminate disparities, and improve the health of all groups
- Create social and physical environments that promote good health for all
- Promote quality of life, healthy development, and healthy behaviors across all life stages
How People Use Healthy People

- Data tool for measuring program performance
- Framework for *program planning and development*
- Goal setting and agenda building
- Teaching public health courses
- Benchmarks to *compare* State and local data
- Way to develop nontraditional *partnerships*
Topic Areas

- Access to Health Services
- Adolescent Health
- Arthritis, Osteoporosis, and Chronic Back Conditions
- Blood Disorders and Blood Safety
- Cancer
- Chronic Kidney Disease
- Dementias, including Alzheimer’s Disease
- Diabetes
- Disability and Health
- Educational and Community-Based Programs
- Early and Middle Childhood
- Environmental Health
- Family Planning
- Food Safety
- Genomics
- Global Health
- Health-related Quality of Life and Well-being
- Healthcare Associated Infections
- Lesbian, Gay, Bisexual, Transgender Health
- Nutrition and Weight Status
- Occupational Safety and Health
- Older Adults
- Oral Health
- Physical Activity
- Public Health Infrastructure
- Preparedness
- HIV
- Immunization and Infectious Diseases
- Injury and Violence Prevention
- Maternal, Infant, and Child Health
- Medical Product Safety
- Mental Health and Mental Disorders
- Health Communication and Health Information Technology
- Hearing and Other Sensory or Communication Disorders
- Heart Disease and Stroke
- Respiratory Diseases
- Sexually Transmitted Diseases
- Sleep Health
- Social Determinants of Health
- Substance Abuse
- Tobacco Use
- Vision
How People Use Healthy People

- Data tool for measuring program performance
- Framework for program planning and development
- Goal setting and agenda building
- Teaching public health courses
- Benchmarks to compare State and local data
- Way to develop nontraditional partnerships

Healthy People 2020 Spotlight on Health Webinar
Join us on November 13 for a Spotlight on Health Webinar focusing on Diabetes.

Get to know the Leading Health Indicators

**Suicide Rate**
In 2010, there were 12.1 suicides per 100,000 (age adjusted).

<table>
<thead>
<tr>
<th>2010</th>
<th>2020 Target</th>
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<tbody>
<tr>
<td>12.1</td>
<td>10.2</td>
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15.7% decrease needed

HHS Prevention Strategies
Healthy People supports prevention efforts across the U.S. Department of Health and Human Services (HHS) to create a healthier Nation.

Spotlight

**Healthy People 2020 Public Comment**
Participate in the Healthy People 2020 process and comment on proposed new objectives. Open November 13 to December 4, 2013.
**D-1** Reduce the annual number of new cases of diagnosed diabetes in the population

**Baseline:**
8.0 new cases of diabetes per 1,000 population aged 18 to 84 years occurred in the past 12 months, as reported in 2006–08 (age adjusted to the year 2000 standard population)

**Target:**
7.2 new cases per 1,000 population aged 18 to 84 years

**Target-Setting Method:**
10 percent improvement

**Data Source:**
National Health Interview Survey (NHIS), CDC/NCHS

**More Information:**
- Data for this objective
- The HP2010 objective with the same definition was 05-02. View on DATA2010
- Search PubMed for Literature Relating to this Objective
D-16 Increase prevention behaviors in persons at high risk for diabetes with prediabetes

D-16.1 Increase the proportion of persons at high risk for diabetes with prediabetes who report increasing their levels of physical activity

D-16.2 Increase the proportion of persons at high risk for diabetes with prediabetes who report trying to lose weight

D-16.3 Increase the proportion of persons at high risk for diabetes with prediabetes who report reducing the amount of fat or calories in their diet
Prevention Behaviors—Persons at High Risk for Diabetes, 2005-2008

NOTES: I = 95% confidence interval. Data are for adults aged 18 years and over and are age adjusted to the 2000 standard population. Persons are considered at high risk for diabetes if they: did not self report diabetes and had fasting glucose ≥100 to ≤126 mg/dl or an HbA1c value >5.7% to <6.5%.
SOURCE: National Health and Nutrition Examination Survey (NHANES), CDC/NCHS.
Questions?

Submit your questions using the Q & A feature on the right of your screen. Presenters will respond following all the presentations.
Ann Albright, PhD, RD
Director, Division of Diabetes Translation
Centers for Disease Control and Prevention
CDC
National Diabetes Surveillance System

Hospitals
e.g., NHDS, NIS

Vital Statistics
e.g., NVSS

Household and Exam Surveys
e.g., NHANES,NHIS

Registries
e.g. SEARCH; USRDS

Telephone and School Surveys
e.g., BRFSS
Age-adjusted County-level Estimates of Diagnosed Diabetes among Adults Aged ≥20 Years: United States 2004

Age-adjusted percentage

0 - 6.3
6.4 - 7.5
7.6 - 8.8
8.9 - 10.5
> 10.6

16
Age-adjusted County-level Estimates of Diagnosed Diabetes among Adults Aged ≥20 Years: United States 2010

Age-adjusted percentage
0 - 6.3
6.4 - 7.5
7.6 - 8.8
8.9 - 10.5
> 10.6
County-level Estimates of Diagnosed Diabetes Incidence among Adults Aged ≥20 Years: United States 2010

Percentage

0 - 7.9
8.0 - 9.8
9.9 - 11.6
11.7 - 14.0
>14.1

Percentage

0 - 7.9
8.0 - 9.8
9.9 - 11.6
11.7 - 14.0
>14.1

www.cdc.gov/diabetes
A Diabetes Epidemiologic Transition

Reductions and improvements
- Mortality
- Diabetes Complications
- Preventive Care


Continued increases and stagnation
- Risk Factors, Incidence, and Prevalence of Diabetes

26 million with Diabetes

79 million with Prediabetes
Proportion of U.S. Adults Aged > 20 with Prediabetes Who Are Aware of Their Risk Status

<table>
<thead>
<tr>
<th>Year</th>
<th>Proportion</th>
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<tbody>
<tr>
<td>2005-2006</td>
<td>7.7</td>
</tr>
<tr>
<td>2007-2008</td>
<td>7.7</td>
</tr>
<tr>
<td>2009-2010</td>
<td>11.1</td>
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</tbody>
</table>

MMWR, 2013
Current Projections of Cases of Diabetes in the United States by 2030
Risk Stratification Pyramid for Diabetes Prevention

- **Very High Risk**: A1c > 5.7%; IGT; GDM
- **High Risk**: FPG > 100; Central Obesity; HTN, age
- **Moderate Risk**: 
- **Low Risk**:
Judith Fradkin, MD
Director, Division of Diabetes, Endocrinology, and Metabolic Diseases
National Institute of Diabetes and Digestive and Kidney Disorders
National Institutes of Health
Feasibility of Preventing Type 2 Diabetes

There is a long period of glucose intolerance that precedes the development of diabetes.

Screening tests can identify persons at high risk.

There are safe, effective interventions that can address modifiable risk factors.

- Normal
- Pre-Diabetes
- Type 2 Diabetes
- Complications
- Disability
- Death

Preclinical state 79 million*
Clinical disease 23.6 million*
Complications

*Includes type 1 (5-10%) and type 2 (90-95%) diabetes; diagnosed and undiagnosed cases.
Diabetes Prevention Program (DPP)

Study Design

Eligible participants
Randomized
Standard lifestyle recommendations

Placebo
(n = 1082)

Metformin
(n = 1073)

Intensive Lifestyle
(n = 1079)
Lifestyle Intervention

Intensive behavioral modification program with the following goals

- 7% weight loss
- 150 minutes/week physical activity

Intervention delivery

- 16 session core curriculum delivered over 24 weeks
- Monthly visits post core
Diabetes Prevention Program (DPP)

**Critical Finding**
Prevention is achievable for many people at high-risk for type 2 diabetes

**Major Results**
- Lifestyle modification lowered risk by 58%.
- Metformin medication lowered risk by 31%.
Diabetes Incidence Rates

Cases/100 person-yr

Caucasian (n=1768)
African American (n=645)
Hispanic (n=508)
American Indian (n=171)
Asian (n=142)
Diabetes Incidence Rates by Age

Lifestyle Metformin Placebo

25-44 (n=1000) 45-59 (n=1586) > 60 (n=648)

Cases/100 person-yr

71% reduction
Weight Change Over Time

Original DPP Clinical Trial Plus Ongoing DPP Outcomes Study

Change in Weight (kg) vs. Year since DPP randomization

- Placebo
- Metformin
- Lifestyle

Year since DPP randomization
DPPOS Incidence of Diabetes

Year since DPP randomization

Cumulative Incidence (%)
Over 10 years, from a payer perspective, lifestyle was cost-effective and metformin was marginally cost-saving compared with placebo.

Investment in lifestyle and metformin interventions for type 2 diabetes prevention in high-risk adults provides good value for the money spent.

Cost analysis and outcomes are published in the April 2012 issue of Diabetes Care and online at http://diabetes.org/diabetescare.

Putting Proven Therapies into Practice

- Diabetes prevention and control awards
- Practical and generalizable approaches to implement therapies with proven efficacy
  - Dissemination potential
  - Cost effectiveness
  - Diverse populations
  - Real world settings (communities, worksites, etc.)
Community-based Group DPP Delivered at YMCA

Percent Weight Loss

<table>
<thead>
<tr>
<th></th>
<th>6 months</th>
<th>12 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brief Advice</td>
<td>2% (p&lt;0.001)</td>
<td>1% (p=0.008)</td>
</tr>
<tr>
<td>YMCA Group DPP</td>
<td>6%</td>
<td>5%</td>
</tr>
</tbody>
</table>

*p<0.001, p=0.008*

Community-based Group DPP Delivered by Community Health Workers

![Bar chart showing percent weight loss over 6 and 12 months for usual care and education with CHW. The chart indicates a statistically significant difference (P < 0.001) in weight loss between the two groups.](chart.png)

Usual care
Education with CHW

*Diabetes Care* May 18, 2011, doi: 10.2337/dc10-2115
Community-based Group DPP Delivered by Community Health Workers

Diabetes Care May 18, 2011, doi: 10.2337/dc10-2115
Type 2 Diabetes Prevention

- Delaying or preventing type 2 diabetes is proven and cost-effective.
- Translation of this research into communities can turn the tide on the diabetes epidemic.
Ann Albright, PhD, RD
Director, Division of Diabetes Translation
Centers for Disease Control and Prevention
BASIC SCIENCE  

Molecular/physiological

EFFICACY  

Ideal settings

EFFECTIVENESS  

Real world settings

EFFECTIVENESS  

Biggest effect on most people

AVAILABILITY  

Supply

DISTRIBUTION  

Diffusion of interventions

National Diabetes Prevention Program

COMPONENTS

Training: Increase Workforce
Train the workforce that can implement the program cost effectively.

Recognition Program: Assure 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.

www.cdc.gov/diabetes/prevention

Increase Workforce

- Trained lifestyle coaches attached to delivery organization
- Lay coaches and health professional coaches can both effectively deliver the program
- Use organizations that train to a CDC-approved curriculum (www.cdc.gov/diabetes/prevention)
- > 1200 coaches trained
Quality Assurance

CDC Diabetes Prevention Recognition Program:

• Assure program quality and fidelity to scientific evidence
• Maintain a registry of recognized organizations
• Provide technical assistance to programs to assist staff in delivery and problem-solving to achieve and maintain recognition
• > 500 sites in recognition program

www.cdc.gov/diabetes/prevention/recognition
Deliver Program

- Link health care and community sectors
- Effective business model for program scalability and sustainability
- Programs in 48 states and DC to date – need many more
- Exploring methods to deliver program more widely
- Attendance matters
Support Program Uptake

- 89% with no diagnosis and no symptoms requires aggressive awareness and testing efforts
- Engage multiple channels: employers, insurers, providers and directly to consumers
Summary

– Evidence for prevention through lifestyle change is strong
– Lifestyle change program is cost effective
– A coordinated approach, as provided by the National DPP, is critical to achieve scale
– Quality assurance and evaluation are part of National DPP
– Need to act now and think BIG
Questions?
Submit your questions using the Q & A feature on the right of your screen. Presenters will respond following all the presentations.
Cost of Diabetes

- 1997: $98 Billion
- 2002: $132 Billion
- 2007: $174 Billion
- 2012: $245 Billion*—41% increase in 5 years

*$176 billion in direct medical costs

We must consider both:

- Personal responsibility
- Structural challenges
Social Determinants of Health

Determinants of Health

Policies and Interventions

Physical Environment

Biology

Individual

Behaviors

Socio-Economic Environment

Access to Quality Health Care
• “Hot zones” in Nashville

• “The problem is simply too big for just physicians to address. We need everybody, with all hands on deck.”
Addressing Structural Challenges
Keys to success:

• Strong leadership across disciplines
• Shared information and analyses
• Sustained focus by partners
Three Strategies to Bridge the Gap

1. Collaborate on awareness

Only 11% of people with prediabetes are aware they have it
Three Strategies to Bridge the Gap

1. Collaborate on awareness

Continue translation of Diabetes Prevention Program results
Three Strategies to Bridge the Gap

1. Collaborate on awareness

Do you know your risk for diabetes?

**Diabetes Risk Test**

<table>
<thead>
<tr>
<th>Weight (lbs.)</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 70</td>
<td>18.3</td>
</tr>
<tr>
<td>70 to 79</td>
<td>31.8</td>
</tr>
<tr>
<td>80 to 89</td>
<td>36.3</td>
</tr>
<tr>
<td>90 to 99</td>
<td>40.9</td>
</tr>
<tr>
<td>100 to 109</td>
<td>45.4</td>
</tr>
<tr>
<td>110 or more</td>
<td>50.1</td>
</tr>
</tbody>
</table>

Add up your score and see if you are at risk.

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**Lower Your Risk**

The good news is that you can reduce your risk for type 2 diabetes. Small steps make a healthier life.

**For more information, visit us at**: www.diabetes.org or call 1-800-DIABETES

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Visit us on Facebook
Facebook.com/AmericanDiabetesAssociation

**STOP DIABETES**
Potential Barriers

- Don’t believe diabetes is serious
- Don’t believe they could progress to diabetes
- Are ashamed of having prediabetes
- Don’t know where/how to get help
- No access to community-based programs
- Unable to afford program
2. Collaborate in advocacy for good public policy to support diabetes prevention

Make diabetes a national priority
Policymakers must:

- Understand the seriousness of diabetes
- Know that there is scientific support for diabetes prevention
- Know that there is an evidence-based, affordable intervention
3. Collaborate in support of behavior change
Employers Are Important

- Inform employers that diabetes prevention is proven, possible, and affordable
- Encourage proper incentives
What We Must Share

Responsibility for communicating:

• Seriousness of diabetes

• Risk factors for type 2 diabetes

• Diabetes can be prevented or delayed through lifestyle intervention
Together, Make an Impact on Clinical Community

- Increase awareness among health care providers
- Provide info on patient resources
- Encourage clinicians to screen and refer
- Encourage clinicians to help address community issues that contribute to prediabetes
Together, make an impact on public health

• Engage in community projects
• Screen at-risk patients
• Deliver and discuss test results
• Refer those with prediabetes to programs and resources
Together, We Can
CHANGE TODAY FOR A HEALTHIER FUTURE

YMCA’S DIABETES PREVENTION PROGRAM OVERVIEW

November 13, 2013
WHERE WE ARE TODAY

96
Ys Currently Trained to Deliver Program

1507
Lifestyle Coaches Trained by Y-USA

14,251
Participants Completed or Attended One Session

4.9%
Average Body Weight Loss by Program Participants

39
States Where Program is Offered

684
Total Class Locations
   372 - YMCA
   312 - Non-YMCA

1807
Classes Started

All numbers represent data collected through September 30, 2013.
Does not include # of classes in Indiana prior to June 2010.
National Weight Loss as of November 2012.
WHAT WE’RE LEARNING
THE CHALLENGE

Most individuals do not know their risk status

Changes to our health and health care systems could take decades

If you build it...

Making the healthy choice the easy choice
THE OPPORTUNITY

In partnership with AMA, we’re working to increase diabetes/prediabetes screening by health care providers through changes to health policy, medical training, and systematizing the referral process.

Our experience has shown when the program is covered by payors (both private and public), there is significant uptake in participation in prevention programs like the YMCA’s Diabetes Prevention Program.

If you build it...

Continue efforts in states and communities to build more opportunities for healthy eating and activity where people live, work, learn and play.
COMMUNITY SPOTLIGHT - DELAWARE

• **Successful engagement strategies:** increasing health care providers referrals, media (print, radio, etc.), health fairs/community events, other organizations-partnerships

• **Quick wins:** capitalizing on existing relationships by setting up direct referrals to the program, conducting outreach to providers with a high volume of patients - especially Medicare patients, face-to-face initial contact and ongoing follow-up (materials, questions, etc.), being organized and intentional out outreach

• **Referral system building:** the Y prepared to receive direct referrals (Google voice number, E-fax, web link, auto prompts), worked with health care providers to understand benefit of referral (patient connections, improved health, provides patient with tangible next step, etc.)

• **Opportunities:** negotiating with health systems (formal MOU and agreements), EMR referrals, auto prompts
Questions?
Submit your questions using the Q & A feature on the right of your screen. Presenters will respond following all the presentations.
Questions & Answers
Submit your questions using the Q & A feature located on the right of your screen.
GAME PLAN

Health Care Professional Toolkit

NDEP Diabetes Prevention Materials

www.YourDiabetesInfo.org
1-888-93-NDEP (1-888-693-6337)
Participate in the Healthy People 2020 process! The public comment period is open from November 13, 2013 through 5:00pm ET on December 4, 2013.

You will be able to:

• Comment on proposed new objectives to be added to the HIV, Health-Related Quality of Life & Well-Being, and Social Determinants of Health topic areas
• Propose new objectives to be included in one of the 42 existing Healthy People 2020 topic areas

To participate, visit: http://www.healthypeople.gov/2020/about/publicComment.aspx
Healthy People 2020
Tobacco LHI Webinar

Join us on November 21 for a *Who’s Leading the Leading Health Indicators?* Webinar to learn how one state is working to reduce tobacco-related health issues.

Register now!
www.healthypeople.gov
Healthy People 2020 Progress Review Webinar

Sleeping, Breathing and Quality of Life

Thursday, December 5 | 12:00PM EST

Please join us as we review the progress of select Healthy People 2020 objectives in the Respiratory Diseases and Sleep Health Topic Areas.

Hear from a community-based organization that is partnering to prevent and control asthma.

To register, visit: www.healthypeople.gov
Thank You

Please provide your feedback on this webinar by answering the poll questions on the right.