Diabetes and Cardiovascular Disease Prevention Program

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According to the 2014 National Diabetes Statistics Report:

- 37% of US adults aged 20 years or older and 51% of those aged 65 years or older had prediabetes (2009-2012)
- Applying this percentage to the entire US population in 2012 yields an estimated 86 million Americans aged 20 years or older with prediabetes

In 2017, approximately 8.7% Montanans aged 18 years and older, had diabetes and 25.3% were obese
The American Diabetes Association (ADA) defines prediabetes as:

- fasting glucose 100 to 125 mg/dl
- 2-hour plasma glucose 140 to 199 mg/dl 2 hours after a 75-g oral glucose tolerance test
- A1C 5.7% to 6.4%
Do I Have Prediabetes Campaign

84 MILLION AMERICANS HAVE PREDIABETES. EVEN PUPPY LOVERS.

DoIHavePrediabetes.org

- https://doihaveprediabetes.org/
- CDC/American Medical Association (AMA) campaign
Some studies have shown increased risk between prediabetes and cardiovascular disease (1)

Other studies have only established a connection between diabetes and cardiovascular disease (2)

- Noted majority of those with prediabetes will go on to develop Type 2 diabetes
Montana Diabetes Prevention Program

Background

- Programs are sponsored from a grant from Montana Diabetes Prevention Program (DPP)
  - [www.mtprevention.org](http://www.mtprevention.org)
  - Tobacco Settlement fund
    - $27 million in tobacco settlement payments from 2004

- The annual cost of diabetes in Montana was estimated to be **$560 million**, of which medical costs were $420 million and indirect costs were $140 million
DPP Overview

- Prevention and improvement of diabetes and cardiovascular disease through lifestyle changes including
  - Weight loss
  - Balanced healthy eating
  - Increased physical activity
DPP Outline

• 12 month program (previously 10 months) offered twice per year
  ○ Weekly meetings for ~16 weeks
  ○ Monthly meetings for 6-8 months
  ○ Gym membership?
  ○ Fee varies by facility

• To qualify:
  ○ BMI >25
  ○ Risk factor for diabetes and/or cardiovascular disease
    ▪ BP, fasting BG, hyperlipidemia, Rx
DPP Availability

7% of Montana counties served by DPP in 2008

80% of Montana counties served by DPP in 2019
DPP Enrollment

- 9,683 enrolled in the MT-DPP since 2008
- 5% of enrollees were Medicaid beneficiaries
- 82% of participants were female
- 54 years was the average age
DPP Participant Characteristics

At baseline participants reported:

- 15% had one or both parents with diabetes
- 28% had at least one disability
- 31% had arthritis
- 42% were diagnosed with hypertension
- 47% reported having dyslipidemia
DPP Goals

- 5-7\% Weight Loss (shown to lead to health improvements)
  - Healthy eating
  - Intake tracking (calorie or fat-focused)

- 150 minutes per week physical activity

- Improved laboratory results
  - Lipid profile
  - Fasting blood glucose

- Improved blood pressure
DPP Topics

- Be a Fat Detective
- Healthy Eating
- Calorie Balance
- Dining Out
- Making Time for Physical Activity
- Stress
- Taking Control
- Negative Thoughts
Specific Physical Activity Goals

- 150 minutes
- Moderate Intensity

We suggest **brisk walking**. It’s easy to do and good for you.

Here are some other activities that are usually similar to brisk walking:

- Aerobic dance (high impact, low impact, step aerobics)
- Bicycle riding (outdoors or on an indoor, stationary bike)
- Dancing (square dancing, line dancing) **Note:** Be careful not to include breaks.
- Hiking
- Jogging (outdoor, indoor, treadmill)
- Karate
- Rope jumping
- Rowing (canoeing)
- Skating (ice skating, roller skating, rollerblading)
- Skiing (cross-country, Nordic Track)
- Soccer
- Stair Master
- Strength Training (free weights, Nautilus, etc.)
- Swimming (laps, snorkeling, scuba diving)
- Tennis
- Volleyball
- Walking (outdoor, indoor at mall or fitness center, treadmill)
- Water Aerobics
### DPP Results – Weight and Physical Activity

- 221 lbs. average weight at baseline
- 5% average weight loss after 12 months
- 42% of participants achieved ≥5% weight loss half way through the program
- 30% of participants met ≥7% weight loss goal after 12 months
- 61% met the goal of 150 min./week of physical activity after 12 months
## DPP Results - Labs

<table>
<thead>
<tr>
<th>Measure</th>
<th>Baseline (Mean)</th>
<th>12 months (Mean)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fasting Blood Glucose (mg/dL)</td>
<td>100</td>
<td>96</td>
</tr>
<tr>
<td>HDL cholesterol (mg/dL)</td>
<td>51</td>
<td>53</td>
</tr>
<tr>
<td>LDL cholesterol (mg/dL)</td>
<td>120</td>
<td>115</td>
</tr>
<tr>
<td>Total cholesterol (mg/dL)</td>
<td>201</td>
<td>195</td>
</tr>
<tr>
<td>Triglycerides (mg/dL)</td>
<td>155</td>
<td>137</td>
</tr>
<tr>
<td>Systolic Blood Pressure</td>
<td>131</td>
<td>127</td>
</tr>
<tr>
<td>Diastolic Blood Pressure</td>
<td>80</td>
<td>78</td>
</tr>
</tbody>
</table>

All improvements were statistically significant at P-value <0.05
Montana DPHHS Story Map

Montana Diabetes Prevention Program

- 19 On-site sites
- 12 Telehealth sites
- 3 Satellite sites
- 10 Years
- 8,800 *participants at risk for Type 2 diabetes

Participation
- 18%
- 82%

$500 Average participant cost
DPP is a covered benefit by Montana Medicaid and Medicare

Education
- 47% College Degree
- 17% High School Diploma

Employment
- 49% Full Time
- 28% Retired

Household Income
- 27% $25,000 or less
- 24% $75,000 or more
Montana DPHHS Story Map

Participant Outcomes at 10 months **

- 63% Met a goal of a 150 min. of physical activity per week
- 47% Lost 5% body weight
- 33% Lost 7% body weight
- 23% Lost 9% body weight
- 12 lbs Lost average weight

Significantly fewer participants needed to take medication at 10 months compared to baseline

- Hypertension: Baseline 45, 10 months 38
- Cholesterol: Baseline 30, 10 months 22
- Metformin: Baseline 4, 10 months 5

Percentage of participants with normal levels in cardiovascular risk factors significantly increased from baseline to 10 months:

- Fasting blood glucose: Baseline 54, 10 months 69
- Triglycerides: Baseline 68, 10 months 56
- Total cholesterol: Baseline 56, 10 months 49
- Systolic blood pressure: Baseline 82, 10 months 73
- Diastolic blood pressure: Baseline 53, 10 months 44
- A1C: Baseline 33, 10 months 44

Data Source: Montana Diabetes Prevention Program, 2013-March 2018*. **2008-2016 based on participants who attended 4 or more sessions.
CDC Involvement

- Site recognition
- Medicare Billing
  - 2017

**Medicare Diabetes Prevention Program (MDPP)**

*Quick Reference Guide to Payment and Billing*

This reference guide provides a snapshot of the MDPP payment structure and corresponding Healthcare Common Procedure Coding System (HCPCS) G-codes. This guide only applies to services furnished to beneficiaries receiving Medicare Part B coverage via Medicare Fee-for-Service (FFS).

**MDPP Payment Structure**

*Maximum possible payment per eligible beneficiary: $689*

<table>
<thead>
<tr>
<th>CORE SESSIONS</th>
<th>CORE MAINTENANCE SESSIONS</th>
<th>ONGOING MAINTENANCE SESSIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(6 sessions)</strong></td>
<td><strong>(6 sessions)</strong></td>
<td><strong>(6 sessions)</strong></td>
</tr>
<tr>
<td>Months 0-6</td>
<td>Months 7-12</td>
<td>Months 13-24</td>
</tr>
</tbody>
</table>

**Attendance only**

- Attend 1 session total: $26 (G9873)
- Attend 4 sessions total: $51 (G9874)
- Attend 9 sessions total: $93 (G9875)

**Attendance and Weight Loss (WL)**

- 5% WL is not required to receive payment
- 9% WL achieved: $165 (G9880)
- 9% WL achieved: $26 (G9881)
- Bridge payment: $26 (G9889)

**Additional Codes**

- HCPCS G-codes and their payment amounts are bolded next to each payment description
- Represents when a specific performance goal (i.e., attendance, weight loss) must be met for the beneficiary to be eligible to continue receiving services

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*Understanding the MDPP Payment Structure*

- Beneficiaries must attend one core session to initiate MDPP services
- A supplier can be paid based on the beneficiary’s attendance, regardless of the beneficiary’s weight loss
- Payments are made in two 3-month intervals
- A supplier is paid if a beneficiary meets attendance goals
- A supplier is paid more if the beneficiary also meets the 5% weight loss goal during the interval

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*CDC: Centers for Disease Control and Prevention*
To Participate or Refer

- Speak with a physician
  - Request a referral

- For more information
  - www.mtprevention.org
Resources

- **Association between prediabetes and risk of cardiovascular disease and all cause mortality: systematic review and meta-analysis** *(BMJ 2016; 355 doi: https://doi.org/10.1136/bmj.i5953* *(Published 23 November 2016)* Cite this as: BMJ 2016;355:i5953)

- **Long-term Absolute Risk for Cardiovascular Disease Stratified by Fasting Glucose Level** *(Diabetes Care Mar 2019)* Michael P. Bancks¹,²⇑,

- Montana DPHHS DPP Story Map