



PREVENTION OPPORTUNITIES UNDER THE BIG SKY

The Montana Cardiovascular Disease and Diabetes Prevention Program: A success story under the Big Sky

The National Diabetes Prevention Program (DPP), a ground breaking NIH funded study, demonstrated that intensive lifestyle intervention targeted at high-risk individuals can reduce the incidence of type 2 diabetes by 58% and have a favorable impact on other cardiometabolic risk factors such as cholesterol and blood pressure.¹⁻³ In spring 2008, the Department of Public Health and Human Services (DPHHS) partnered with four health care facilities to provide DPP services to Montanans.⁴ The Montana Cardiovascular Disease and Diabetes Prevention Program (CVD-DPP) is now available at eight sites (Figure 1) in Montana and additional sites are planned. This issue of *Montana Public Health* describes the Program and results achieved during its first 18 months.

FIGURE 1. Cardiovascular disease and diabetes prevention sites, Montana, 2009



What services does the CVD-DPP provide? Adults meeting the eligibility criteria (Table 1) can enroll in the program, which consists of two phases: the core intervention and the after-core period. During the core intervention, participants meet in groups for 16 weekly one-hour sessions in which they learn about healthy eating, physical activity, problem solving and coping skills. Participants keep a weekly self monitoring log of their fat gram intake, weight and minutes of physical activity. Goals during the core intervention are to achieve a 7% weight loss and moderate physical activity at least 150 minutes per week. During the after-core period, participants meet monthly for 6 months and focus on maintaining their weight loss and applying skills learned in the core.

Characteristics of participants

The participants enrolled in the program from January 2008 through May 2009 averaged 53.6 years, 219 lbs (BMI 35.9 kg/m²) at baseline and 20% were male. Group sizes for the weekly session ranged from 8 to 35.

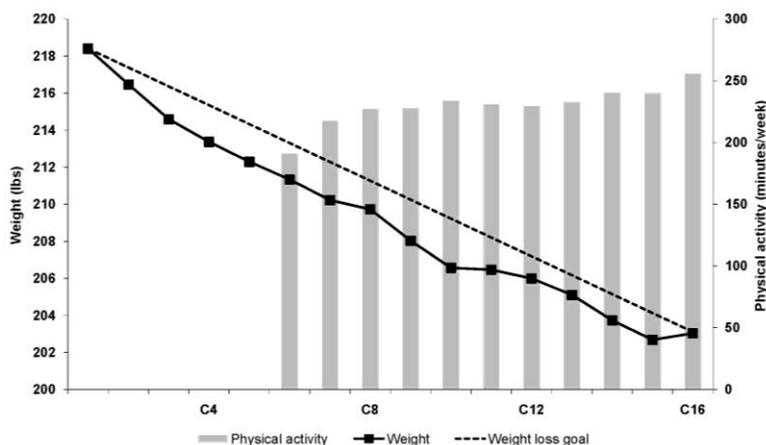
TABLE 1. Eligibility criteria for services at Montana CVD-DPP sites.

Adults with a BMI ≥ 25 kg/m², medical clearance from a referring provider, confirmation of readiness to change, and at least one of the following:

- Blood pressure $>130/80$ mmHg (or diagnosis of hypertension or currently taking medication)
- LDL >130 mg/dL, HDL <50 mg/dL for women or <40 mg/dL for men, triglycerides >150 mg/dL, total cholesterol >200 mg/dL (or diagnosis of dyslipidemia or taking lipid lowering medication)
- IFG, IGT or diagnosis of pre-diabetes
- History of gestational diabetes or delivering a baby greater than 9 lbs.

What have the results been? The first 820 participants to complete the 16 week intensive core intervention lost on average 15 lbs (Figure 2) and 66% met the physical activity goal. Forty-five percent of participants achieved 7% weight loss and 70% achieved 150 minutes a week or more of physical activity,⁴ compared to 50% and 74% in the national

FIGURE 2. Mean weight and physical activity minutes per week among participants of the CVD-DPP, Spring 2008 to Spring 2009, Montana.



DPP, respectively.¹ During the after-core, approximately 40% of participants regained half of the weight they had lost. However, they still recorded an overall net weight loss at the end of the after-core, and the majority maintained weight loss or continued losing. Overall, participants improved their cardiometabolic risk factor profile, decreasing lipids, blood pressure and fasting blood glucose.

Factors associated with meeting prevention goals

Participants who monitored their fat intake at least four days a week, every week, and met physical activity goals lost the most weight – an average of 19 lbs. Participants over age 60 were more likely than younger participants to meet weight loss goals. Men were twice as likely as women to meet the physical activity goal.

Those who self-monitored dietary fat as recommended were also more likely to meet the physical activity goal.

Preventing Diabetes Clinical trials in several countries have demonstrated that individualized, intensive lifestyle change, focused on decreasing fat and calorie consumption and increasing physical activity can prevent or delay the onset of type 2 diabetes. Lifestyle interventions have been provided in community settings, such as work sites, churches, healthcare facilities and community groups and have achieved weight loss and physical activity increases among participants.⁵ In Montana, physicians can refer high risk patients to CVD-DPP sites* to receive this important prevention service.

Recommendation for treating patients with prediabetes

The American Association of Clinical Endocrinologists recommends:⁶

- Initiate interventions that include lifestyle modifications.
- Refer patients to a registered dietitian or credible weight loss program for counseling in energy intake reduction and nutritional strategies:
 - Weight reduction goal: 5% to 10% of total body weight.
 - Nutrition goals: reduce fat intake to less than 30% of total energy intake; reduce saturated fat intake to less than 10% of total energy intake; and increase fiber intake to 15g/1000kcal or more.
- Prescribe regular physical activity (approximately 150 minutes per week).
- Counsel patients with prediabetes about cardiovascular risk factors such as tobacco use, hypertension, and dyslipidemia.
- Treat hypertension and dyslipidemia aggressively; these conditions are responsive to lifestyle modification and to pharmacologic therapy.

For more information, contact Karl Vanderwood at 444-0653 or kvanderwood@mt.gov.

*NOTE: A list of CVD-DPP sites and contact information for these sites is available at <http://www.dphhs.mt.gov/PHSD/Diabetes/DiabetesPrevention.shtml>

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2,300 copies of this public document were published at an estimated cost of \$0.419 per copy, for a total of \$1,328.70, which includes \$365.00 for printing and \$963.70 for distribution.

November 2009 Vol 4 Issue 12



1400 Broadway
Helena, MT 59620-2951

Anna Whiting Sorrell, Director, DPHHS
Steven Helgeson, MD, MPH, State Med. Officer
Jane Smilie, MPH, Administrator, PHSD