



The Value of a Return on Investment in Promoting Prevention: One Center's Journey and Perspective

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The Affordable Care Act was passed in 2010 with the goals of improving the patient experience, improving the health of populations, and reducing the per capita cost of health care (the Triple Aim).

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) based on fasting glucose or A1C. Applying this percentage to the entire US population in 2012 yields an estimated 86 million Americans aged 20 years or older with prediabetes.¹

The American Diabetes Association (ADA) defines prediabetes as:²

- 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%.

The ADA also suggests the total estimated cost of diagnosed diabetes in 2012 was \$245 billion, including \$176 billion in direct medical costs and \$69 billion in reduced productivity. The cost of patients with new clinically diagnosed diabetes is 2.1 times higher than those without diabetes.³ As many as 70% of individuals with prediabetes will progress to diabetes.⁴

If we are to reduce cost and change the course of diabetes in our country, we must prevent the conversion of prediabetes to type 2 diabetes. Recently, Medicare has agreed to cover the Diabetes Prevention Program (DPP) in 2018, which is a major victory. However, many private insurers are still unwilling to cover this service.

This evidence indicates that preventing diabetes would be of benefit from both a fiscal standpoint as well as a population health perspective. Diabetes educators, clinicians, coordinators, and managers are in need of tools to be able to relay this message to payers and administrators to expand the bandwidth of DPP programs and make them sustainable. A return on investment (ROI) of the DPP is such a tool.

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The Providence Medical Group Endocrinology, Diabetes and Nutrition Center (Endocrinology Center) is part of Providence Health and Services Health System (PHS) and located in Missoula, Montana. PHS, the third largest nonprofit health system in the United States, employs 82 000 caregivers located in Alaska, California, Washington, Oregon, and Montana and also owns the Providence Health Plan (PHP) covering 513 000 members at the time of this writing.

DPP Implementation

The National DPP was implemented in the Endocrinology Center in 2011 through a grant acquired from the Montana Department of Public Health and Human Services (MDPHHS). Since then, we typically impact through our DPP 80 people at risk of acquiring diabetes through 4 different cohorts per year. We follow the national DPP curriculum utilizing weekly sessions for 16 weeks, then monthly sessions for 6 months.

A caveat to our program is the addition of an hour of supervised exercise with our health coach, who received her certification through the American Council on Exercise, to help establish exercise as a habit. The added hour of exercise significantly increased exercise time and contributed to weight loss, which improved ROI. The recommended amount of exercise to prevent diabetes is 150 minutes per week. By utilizing 1 hour of exercise after class, we improved participants' chances of meeting that goal and receiving support when barriers or road blocks occurred. Our participants in the DPP averaged over 300 minutes of exercise per week due to the addition of exercise after class.

Through this model, we also utilized a prescreening appointment to assess patient readiness to change and commitment to the program. Weekly weigh-ins and tracking food and exercise in a journal or an online tool are mandatory requirements of the program. Attendance is also tracked, and a great deal of support is provided for those that may need more assistance in meeting the program goals of 7% weight loss and 150 minutes of physical activity per week.



The Endocrinology Center secured additional grant funds from the American Association of Diabetes Educators (AADE) with the goal of spreading the DPP throughout PHS in hopes this would have a significant impact on population health. In 2013, the Endocrinology Center partnered with the Boldt Diabetes Center in Olympia, Washington, which is also part of PHS, in efforts to assist Boldt with implementation of the DPP. One of the main goals of the AADE DPP program is to prove the benefit of managing a DPP through a diabetes education center. This was one of the reasons Boldt was approved for this grant.

The collaboration between the Endocrinology Center and Boldt embraced a mentorship-esque arrangement. The Endocrinology Center's manager and trained lifestyle coaches (RDs and a health coach) assisted Boldt with lifestyle coach training, class setup, participant recruitment, financials, and class instruction. The lifestyle coaches in Montana received grant-funded training in the national DPP curriculum provided by the State of Montana DPHHS, which was a requirement prior to teaching the DPP. The Boldt lifestyle coaches received lifestyle coach training provided by the Diabetes Training and Technical Assistance Center (DTTAC) on the national DPP curriculum—also a requirement prior to teaching the DPP at Boldt. Travel costs and training for the Boldt lifestyle coaches were paid for with a portion of the AADE grant funds.



Monthly phone calls as well as a site visit were set up between the organizations to streamline efforts in implementing the DPP in Boldt. As of the date of this writing, 3 lifestyle coaches have been trained at the Boldt center. The program is being implemented according to Centers for Disease Control and Prevention (CDC) recognition guidelines and AADE DPP requirements.

Data Collection

As we collected de-identified patient information to submit to our funders, MDPHHS, AADE, and CDC for analysis, we decided to submit our data for analysis to a statistician and then use our outcomes data to promote coverage of the program with insurance companies. However, assistance was needed to calculate an ROI on the existing programs in the Endocrinology Center and Boldt to provide to administrators to ensure they have financial indications correlating specifically to the value of diabetes prevention to garner reimbursement for our DPP. This process began in the summer of 2014 when a statistician from the University of Montana was brought on board to analyze data from the Endocrinology Center's program, which had completed 9 full cohorts at the time of analysis.

A collaborative was built between Upstream Health, a software company that specialized in predictive analytics, and the clinical manager of the Endocrinology Center. Upstream Health was

given the DPP data from the Endocrinology Center and Boldt. The statistical analysis was provided to Upstream, and they in turn provided the ROI, net present value (NPV), and annualized rate of return, making it possible to analyze the cost-to-benefit impact. This analysis allowed the Endocrinology Center to begin discussions with potential payers regarding the value of our DPP.

To increase the power of the data, the Endocrinology Center included Boldt's 33 subjects for analysis. At the time of the analysis, 5 cohorts of 5 to 9 people had reached completion, adopting the model used at the Endocrinology Center in Missoula. Boldt's data were also included in a new statistical analysis, combining both sites with the goal of showing replication of results and increasing the strength of our argument, specifically with regard to gaining coverage from the PHP and the benefit of covering the national DPP. An ROI was then calculated from that data in addition to the Endocrinology Center's data through Upstream Health, and a case was presented to both PHP and Blue Cross Blue Shield of Montana.

Statistical analysis included data from Missoula, Olympia, and Centralia, Washington. Participants numbered 207, 25, and 14, respectively. As the number of participants in each of the Washington arms was small, the statistician combined the latter two as a single set and tested for difference between the Endocrinology Center and Boldt participants with respect to initial weight and rate of weight change.

Data Analysis

The Endocrinology Center and Boldt's DPP programs resulted in significant weight loss over the course of a year for people at risk for diabetes 25 through 85 years of age, both male and female. There was an increased rate of dropout in the younger group of participants. The estimated rate of weight loss was 0.137 lb per day, corresponding to the initial rate of weight loss. Our data demonstrated a correlation between weight gain or a gradual decrease in weight loss and the end of the weekly meetings, indicating a need for the weekly meetings to continue. There was a

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limitation in the data with regard to the long term and the challenge of regaining weight; however, research has demonstrated that a reversion to normoglycemia in the short term fends off type 2 diabetes.⁵

These results indicate investing in a DPP as an insurance company or health system provides a positive NPV, ROI, and rate of return for 5 years. The Endocrinology Center had a per capita NPV of \$269, meaning for every initial investment, approximately \$450 in our case, by a payer or health system, the gain was \$269. Our discounted ROI was 67.2% with an annualized ROI of 10.8%. Most financial planners will advise that an investment with an annualized ROI of $\geq 7\%$ is sound and if your mutual fund is gaining over 10%, then

it is highly profitable. Looking at the combined Endocrinology Center and Boldt sites, the NPV was \$236 with a discounted ROI of 58.9% and annualized ROI of 9.7%.

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Coding, Billing, and Reimbursement

Establishing a code for the DPP that payers will recognize will benefit health systems and people at risk for diabetes as a whole. The CPT billing code 0403T was approved and is in use as of January 1, 2016, and we are now utilizing that code in our billing processes at the Endocrinology Center and Boldt. The CPT code guidance language states it is for "preventive behavior change, intensive program of prevention of diabetes using a standardized diabetes prevention program curriculum, provided to individuals in a group setting, minimum 60 minutes per day."

In 2016, both programs acquired reimbursement for DPP by utilizing the ROI data mentioned in this article and presenting all outcomes and financial

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impacts to the PHP. Providence DPP Programs are now relying on insurance reimbursement to ensure program sustainability. The Endocrinology Center also bills Montana Medicaid using the S9455 code and the PHP and other commercial payers using the 0403T code. The PHP reimburses \$30 per session for the 22 sessions. A scholarship fund is available for participants who do not have insurance or do not have coverage for the DPP.

We now bill all insurance plans for this service, and it is our hope that as more payers see the DPP code in their billing systems and the more payers we can present our ROI information to, the more people with prediabetes will have access to and coverage for the DPP. This will also assist us in providing more DPP classes to meet the needs of our medical group and population during the year due to sustainability.

The United States Preventive Services Task Force (USPSTF) recommendation, "Behavioral counseling to promote a Healthy Diet and Physical Activity for Cardiovascular Disease Prevention in Adults with Cardiovascular Risk Factors," is a "B" level recommendation and also is a powerful tool to make a case to payers. The national DPP fits into this recommendation, which further states that offering or referring adults who are overweight or obese and have additional cardiovascular disease (CVD) risk factors to intensive behavioral counseling interventions to promote a healthy diet and physical activity for CVD prevention is recommended.

At the Endocrinology Center and Boldt, we found that collaborating with a statistician and local predictive analytics company assisted us in making a case to payers. We will continue to use these data to further the reach of our DPP programs.

In 2016, the Providence Portland Diabetes and Health Education Center implemented their own national DPP in collaboration with AADE, due in part to the work of the AADE DPP sites at the Endocrinology Center and Boldt to continue to increase access to the program through PHS with the assistance of insurance coverage by the PHP. The health coach who leads the DPP has become

a DPP Master Trainer through DTTAC and will be a local resource for those with interest in beginning their own DPP in our community and will also be available to spread the DPP through PHS.

Conclusion

Through this work, the Endocrinology Center in Missoula has benefitted from establishing and discussing this ROI with potential payers, and we recommend this as a path to program sustainability. We suggest that DSME program coordinators, managers, and diabetes educators establish an ROI for their DPP prior to discussing program support with administrators and potential payers. Support for this program makes both health and economic sense. ■

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AUTHOR'S NOTE

This manuscript was funded in part through a Cooperative Agreement grant (U58DP004519-03) from the Centers for Disease Control and Prevention to the American Association of Diabetes Educators.

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