

Diabetes Prevention in Pharmacies

A Toolkit for Planning and Implementation

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WHY IS DIABETES PREVENTION IMPORTANT?

Currently, diabetes affects over 29.1 million citizens or 9.3% of the general population in the United States, and 25.9% of the population 65 years and older. This includes 21.0 million who have been diagnosed with diabetes and 8.1 million who do not know they have the disease. In addition, an estimated 86 million citizens over the age of 20 have pre-diabetes. Diabetes is the leading cause of kidney failure, non-traumatic lower-limb amputation and new onset blindness in American adults. It is a major cause of heart disease and stroke and is the seventh leading cause of death in the United States.¹ The estimated diabetes-related costs nationwide in 2012 exceeded 245 billion dollars which included 176 billion dollars in direct medical costs and 69 billion dollars in indirect costs.² This high proportion of people at risk for diabetes, and the costs of treating diabetes-related conditions, presents a potential health care crisis related to the personal and societal costs of diabetes if these trends continue and progression to diabetes is complete.

The original Diabetes Prevention Program (DPP) was a pre-diabetes intervention program using lifestyle modification aimed to prevent progression of pre-diabetes to diabetes. It was implemented as a one year program using one-on-one coaching between a health professional trained as a lifestyle coach and an individual with pre-diabetes. The DPP goals were to help each individual achieve a 7% weight loss and achieve 150 minutes of moderately vigorous exercise weekly. Research conducted by the DPP Research Group showed that the DPP was successful in reducing the development of diabetes in pre-diabetic individuals by 58% over a three-year period as compared to a 31% reduction in the group treated with metformin. The long term follow-up study has reported that at ten years the DPP continued to have a significant effect on pre-diabetic individuals, with diabetes incidence reduced by 34% in the lifestyle modification group and 18% in the metformin group compared to placebo.³

Since the initial studies published in 2002, the DPP curriculum has been provided to individuals at risk of diabetes in a variety of settings using nurses, health educators, volunteer health professionals, nutritionists, dietitians, exercise physiologists and fitness specialists as the coaches.⁴ The DPP has been delivered in its original format using one-on-one coaching with participants. The evidence-based program has also been redesigned to be delivered by group instruction. The Centers for Disease Control (CDC) renamed the group program as the National Diabetes Prevention Program (N-DPP) and the University of Pittsburgh Diabetes Prevention Support Center renamed it the Diabetes Prevention Program Group Lifestyle Balance™ (DPP GLB) program.

The most widely implemented N-DPP has been delivered through the Young Men's Christian Association (YMCA).⁵ Although the YMCA model for delivering the program has been successful for many individuals, a large gap still exists in pre-diabetes education due to access. YMCA's are located in primarily urban regions. However, many citizens live in rural areas where the YMCA is not able to serve. And, even within urban areas many people at high risk for diabetes may not have nearby access, means or desire to attend a prevention program through the YMCA.

WHY ARE PHARMACISTS IDEAL LIFESTYLE INTERVENTION COACHES?

In communities across America, pharmacists are highly accessible and effective healthcare professionals to people living in urban, suburban and rural locations.⁶ This is likely due to several factors including convenience of pharmacies, accessibility of pharmacists for questions and counseling, and strong rapport that pharmacists and their staff develop with long-term patients, their families, and healthcare providers through their presence in the community. Although the public image of pharmacy is often related to the task of dispensing medications, a primary focus for pharmacists is on the appropriate, safe and effective use of medications and, importantly, health promotion to prevent illness. Core training in pharmacy education includes motivational interviewing, basic nutrition, behavior modification, and health promotions strategies to prevent conditions like diabetes. Numerous controlled trials have demonstrated pharmacists make a significant impact in improving control of conditions related to type 2 diabetes mellitus and in promoting smoking cessation for their patients.⁷⁻¹⁵ Additionally, pharmacies are effective sites for patient screening and education about diabetes risks.¹⁶ Pharmacists are the third largest health profession in this country. There are over 200,000 pharmacists currently practicing in the United State and over 62,000 student pharmacists enrolled in Doctor of Pharmacy programs.¹⁷ Preparing practicing and student pharmacists to deliver a proven diabetes prevention program in their readily accessible pharmacies leverages great potential for reaching citizens and impacting the diabetes epidemic in the United States.

It is the goal of the project to provide pharmacists with the information and resources necessary to implement diabetes prevention programs in their pharmacies and communities.

WHAT IS THE DPP CURRICULUM?

The DPP curriculum is an evidence-based, comprehensive lifestyle behavior change program adapted from the lifestyle intervention used in the original DPP funded by the National Institutes of Health (NIH). The NIH DPP program was originally delivered with trained health professionals working one-on-one with individuals with pre-diabetes. The modified curricula now available are designed for group sessions with a total of 22 sessions delivered over a one year time frame. The curricula are designed to be delivered as weekly sessions at the start of the program as the participants build knowledge and skills to implement the lifestyle changes into their lives. This transitions to monthly sessions for the last 6 months of the program as participants become more independent in using their skills for maintaining the lifestyle modifications. The curricula are available in English and Spanish languages.

The University of Pittsburgh Diabetes Prevention Support Center is managed by faculty at the University of Pittsburgh who were members of the DPP Research Group. They developed the original DPP Lifestyle Balance intervention and have adapted that into a group-based program as the Diabetes Prevention Program Group Lifestyle Balance™ Program. The DPP Group Lifestyle Balance™ Program curriculum, materials and resources are available at <https://www.diabetesprevention.pitt.edu/>.

The Centers for Disease Control (CDC) leads the National Diabetes Prevention Program (N-DPP). As with the DPP Group Lifestyle Balance™ Program, the N-DPP is adapted from the original DPP program to now

be delivered as group sessions. National Diabetes Prevention Program curriculum, materials and resources are available at <http://www.cdc.gov/diabetes/prevention/index.htm>.

Both curricula may be used without permission or license from the University of Pittsburgh for non-profit research and non-commercial education purposes; when charging a fee solely for cost-recovery; or for third-party reimbursement when no profit is made. Use of either curricula with for-profit research or education activities requires written permission and/or license from the University of Pittsburgh.

The CDC has recently launched a new curriculum entitled Prevent T2 which is available for use at no cost to the provider organizations. The CDC's goal is to provide opportunity for more organizations to deliver lifestyle change programs reaching the most individuals possible. Program curriculum, materials and resources can be found at <http://www.cdc.gov/diabetes/prevention/lifestyle-program/curriculum.html>

HOW CAN I RECEIVE LIFESTYLE COACH TRAINING?

Training is offered by several organizations to prepare individuals to effectively deliver the two CDC-approved diabetes prevention curricula – the DPP GLB and the N-DPP. Each site uses one of the curricula in their training programs. However, an individual completing training with either curriculum is prepared to deliver the program with both curricula. Although lifestyle coach training is not a requirement for use of the curricula, it is highly encouraged to ensure fidelity to the original program.

Organizations currently offering lifestyle coaches training include:

1. University of Pittsburgh Diabetes Prevention Support Center offers 2-day live training workshops using the DPP Group Lifestyle Balance™ program. The workshops are provided by faculty from the original DPP team. Their goal is to train health professionals in the use of the Diabetes Prevention Program Group Lifestyle Balance™ program for delivery in a variety of health care and community settings. The training workshops are scheduled at the University of Pittsburgh campus or can be brought to your worksite. Detailed information can be found at <http://www.diabetesprevention.pitt.edu/index.php/training/>
2. Diabetes Training and Technical Assistance Center (DTTAC) provides 2-day live training workshops using the N-DPP curriculum. DTTAC regularly schedules training workshops in Atlanta, Georgia and other communities around the country. In addition, DTTAC will work with an individual organization interested in bringing a training workshop to their site. Detailed information can be found at http://www.tacenters.emory.edu/focus_areas/diabetes/lifestyle_coach_training.html.
3. State of Wellness offers lifestyle coaches training in 2-day live training workshops, online courses, and blended courses combining online and live training. In addition, State of Wellness will work with an individual organization interested in bringing a workshop to their site. Detailed information can be found at <http://stateofwellness.org/dpp>

HOW DOES MY PROGRAM ATTAIN NATIONAL RECOGNITION AS A DIABETES PREVENTION PROGRAM?

The CDC has established the Diabetes Prevention Recognition Program (DPRP) to recognize programs that effectively deliver an evidence-based type 2 diabetes prevention lifestyle intervention. The DPRP shares program location and performance data with patients, providers and payers to aid in decision

making regarding participation, referral and health insurance benefits. The DPRP has established standards for programs seeking recognition regarding participant eligibility, data privacy, location, staffing, and curricular content, duration and intensity.

Programs interested in seeking recognition will submit an application to the CDC. Upon approval, organizations receive “pending approval” status and may begin offering programs under that status. Programmatic data is submitted to the CDC at 12 month intervals to allow for data analysis and organizational feedback regarding progress in meeting recognition standards. Organizations will be assessed for recognition status 24 months after approval date. Organizations meeting recognition standards at the 24 month review will be granted recognition. Those not meeting all standards may work with the CDC to overcome deficiencies to meet standards at the next annual review. Participation in the DPRP is not required of programs using the DPP curricula. Detailed information can be found at http://www.cdc.gov/diabetes/prevention/lifestyle-program/apply_recognition.html

HOW DO I MARKET MY PROGRAM?

Marketing, patient recruitment, and retention are key to successful diabetes prevention interventions. Lifestyle interventions can be challenging to achieve and maintain. In recruiting program participants, efforts can be directed to employer groups, pharmacy clients, clinic patients or other key groups that are likely to include individuals at risk of diabetes. Marketing materials can reach potential participants using newspaper advertisements, brochures available in clinical and public areas, or postings on public boards. The ability to recruit a cohort of clients for this group intervention should not be underestimated. Marketing efforts to recruit clients is one of the first barriers to getting this program started.

Lifestyle coach training programs provide training and discussion regarding marketing, recruitment and retention. Additionally, online resources are available through the University of Pittsburgh Diabetes Prevention Support Center for trained lifestyle coaches at <http://www.diabetesprevention.pitt.edu/index.php/resources/> and through the CDC at http://www.cdc.gov/diabetes/prevention/lifestyle-program/resources_rrp.html

WHAT ARE THE COSTS TO DELIVER A PROGRAM?

The DPP program has been documented as a successful diabetes prevention intervention in both the individual and group setting. The group delivery allows for this successful intervention to be delivered in a more cost-effective manner.

Current analysis shows that, on average, the charge for the group delivery model ranges from \$350-650 per patient depending on the staffing model and group size. Personnel time to coordinate and teach the program represents the largest portion of the cost. Diabetes prevention can be offered by non-healthcare providers, and is offered by lay individuals at many locations nationally. Consequently, using pharmacists exclusively is an expensive model for offering diabetes prevention. Yet, pharmacists are health professionals with unique knowledge--a value-added proposition for participants that pharmacies offering diabetes prevention services should market. Pharmacies offering such training might consider

having student pharmacists and/or technicians assist with coordinating and even teaching some of the program to improve cost efficiency.

Group size also impacts overall cost effectiveness. Minimum group size is recommended to be 6-8 participants to break even on program costs and to facilitate the group dynamic for participant interaction and learning.

Supply costs include a body weight scale, pedometers for participants, food/physical activity tracking booklets and notebooks with handout materials for participants. Additionally, laboratory testing supplies including portable test kits or equipment to evaluate glucose (A1c) and lipid outcomes should be included in cost estimates to minimize participant need to return to a more central lab for this monitoring. Costs for these supplies, but not purchase of the actual machines, to perform these tests are included in the cost estimates presented here. Other program materials to consider including are food models or samples, measuring cups, food scale, and other examples of tools that patients can use to help them make better food choices.

HOW DO PARTICIPANTS PAY FOR THE CLASSES?

Currently, several models exist for payment of services:

1. Fee for service paid by individuals participating in the course. This model is usually implemented with individuals paying a flat fee for the course at the beginning of the year-long program. Some organizations have developed payment plans allowing the participant to pay the fee over 2-3 months.
2. Employer paid or coverage through health care plan. A growing number of employers are recognizing the value of health and wellness services and are building these into their health insurance benefits. United Health Group has developed the Diabetes Prevention and Control Alliance (DPCA) to move this effort forward. DPCA works with employers and insurance providers to offer programs to better manage health for those living with diabetes and implement diabetes prevention programs for those at risk. They currently partner with a number of pharmacies to provide education and support to those living with diabetes. Their diabetes prevention programs are currently managed through the YMCA-USA. However, pharmacies can enter the market to provide these services in the many areas around the country that do not have YMCA organizations. More detailed information about DPCA can be found at www.unitedhealthgroup.com/diabetes/default.aspx
3. The CDC provides resources to encourage coverage of lifestyle change programs in health benefit packages. <http://www.cdc.gov/diabetes/prevention/employers-insurers/index.html>
4. The Centers for Medicare & Medicaid Services (CMS) has announced its intent to provide coverage for DPP. See the announcement and Certification of Medicare Diabetes Prevention Program. <http://www.hhs.gov/about/news/2016/03/23/independent-experts-confirm-diabetes-prevention->

[model-supported-affordable-care-act-saves-money.html](#). CMS is currently completing the rule making process, so more detailed information will be available soon.

SUMMARY

Recognition of the value of disease prevention interventions in the United States and around the world continues to grow. The DPP is an evidence-based intervention that demonstrates clear financial and personal health benefits. Pharmacists and pharmacies are well-prepared and positioned to meet the need for diabetes prevention interventions in communities around our country and beyond.

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