Preface

IN BRIEF Although it is known that the National Diabetes Prevention Program can significantly reduce the incidence of type 2 diabetes in individuals identified as being at high risk, there remains a large number of Americans in underserved areas who are not being reached. The field of pharmacy has the potential to bridge this gap and aid the United States in more comprehensively addressing its national diabetes health crisis, thus changing the future of diabetes for the better.

Prediabetes, a serious health condition characterized by blood glucose values that are elevated but do not meet the criteria to be diagnosed as diabetes, affects 84.1 million Americans. Ninety percent of those with prediabetes are not aware that they have the condition and thus are not taking the appropriate actions to address it (1). Patients with prediabetes are at an increased risk for cardiovascular disease and type 2 diabetes (2).

Without appropriate intervention, a significant number of people with prediabetes will progress to type 2 diabetes within 5 years, and it is predicted that, by 2030, there will be >60 million cases of diabetes in the United States (1). Thus, screening for prediabetes and diabetes risk with an assessment tool to help providers determine whether a diagnostic test should be conducted is crucial.

National Diabetes Prevention Program
For individuals who are at high risk for type 2 diabetes, a lifestyle change program (LCP) modeled on the lifestyle intervention in the Diabetes Prevention Program (DPP) research study (3) should be recommended. The DPP research study offered the strongest evidence to date for type 2 diabetes prevention. It, and several translation studies that followed, demonstrated that an intensive lifestyle intervention could result in a 7% weight loss and a 58% reduction in the incidence of type 2 diabetes over 3 years (71% diabetes reduction in patients >60 years of age), with sustained risk reduction over several years (3–7).

The Centers for Disease Control and Prevention (CDC)-led National Diabetes Prevention Program (National DPP) was established to help address the public health challenge of prediabetes. This program has four overarching strategic goals (8):
1. Increase the supply and quality of LCPs across the United States.
2. Increase awareness of these LCPs among high-risk adults.
3. Increase coverage by employers and insurers for the National DPP’s LCP programs to ensure long-term sustainability.
4. Increase referrals to and participation in LCPs recognized by the CDC’s Diabetes Prevention Recognition Program (DPRP).

An Unmet Need
As of June 2018, there were >1,700 CDC-recognized organizations offer-
ling the National DPP LCP across all 50 states and the District of Columbia (9). Many more programs are needed to adequately reach underserved areas of the country. Additionally, the CDC has identified gaps in the national infrastructure related to program delivery to priority populations, including Medicare beneficiaries, men, visually and physically disabled individuals, African Americans, Asian Americans, Hispanics, American Indians, Alaska Natives, and Pacific Islanders, who are under-represented relative to their disease burden and risk factors.

In 2017, the CDC put out a Notice of Funding Opportunity (NOFO) to promote scaling and sustaining the National DPP, specifically focusing on building the National DPP infrastructure in underserved areas and expanding delivery to priority populations (10). This NOFO, titled “Scaling the National Diabetes Prevention Program in Underserved Areas,” included five strategies:

1. Increase the availability of CDC-recognized organizations in underserved areas.
2. Increase clinician screening and detection of adults with prediabetes or at high risk for type 2 diabetes and referral to CDC-recognized organizations.
3. Increase awareness of prediabetes and enrollment in the LCP.
4. Increase retention rates for participants in the LCP.
5. Increase benefit coverage for participation in the LCP.

The American Medical Association has also identified challenges with managing the prediabetes population. These include the impracticality of physicians alone being able to address a health problem that affects so many patients, the time pressures that would inhibit physicians from effectively delivering the recommended intensive intervention, the inability to address the many social determinants influencing the health of patients outside of the office setting, and the lack of adequate information about community-based resources for type 2 diabetes prevention (11).

**How Pharmacies Can Bridge the Gap**

Although the profession of pharmacy is a highly trusted, clinically knowledgeable field with the capacity to build strong community-clinical partnerships, few pharmacies are currently engaged with the National DPP. However, because the National DPP relies on private-public partnerships, pharmacies would make an ideal partner for multiple reasons. Thus, increasing pharmacy engagement with the National DPP program could be crucial to achieve adequate nationwide scaling of its LCP.

Research has shown the positive clinical and economic impact of the role of pharmacists in the delivery of patient care and chronic disease management services, particularly in the area of diabetes management (12–24). Programs such as the American Pharmacists Association (APhA) Foundation’s ProjectIMPACT: Diabetes and other models integrating pharmacists into health care teams in patient-centered medical homes and primary care settings have shown improved clinical outcomes (17–24). The Asheville Project and the APhA Foundation’s Diabetes Ten City Challenge, along with other employer-based programs, have demonstrated that pharmacist integration into patient-centered interdisciplinary health care teams can not only positively affect clinical outcomes, but also reduce health care costs (14–16). More pharmacists and pharmacies are becoming involved in delivering diabetes self-management training (DSMT), and there has been a steady increase in the number of pharmacist diabetes educators in the past 30 years (25,26).

With more than 67,000 community pharmacies in the United States, this sector of health care has great accessibility, particularly in rural and urban settings. Food-store pharmacies comprise about 10% of community pharmacies (27). Millions of people visit a community pharmacy every week, and pharmacists are likely to have multiple daily encounters with patients who are at risk for type 2 diabetes. Although these patients may not frequently seek care from physician’s practices or hospitals, they often have interactions with pharmacists, many of which may reveal the presence of risk factors (28). Pharmacists in the food-store setting have an even greater potential audience among whom they can increase awareness of prediabetes and the National DPP.

Pharmacists play a large role in health promotion through their experience in preventive care. Whether performing health risk assessments and wellness programs, providing immunizations, ensuring medication adherence, or assisting with tobacco cessation, pharmacists have a strong focus in preventive care. Pharmacists follow evidence-based guidelines in managing their patients and understand that lifestyle modification is a necessary “prescription” for diabetes and prediabetes management.

The pharmacy workforce, which includes clinically trained pharmacists and paraprofessionals such as pharmacy technicians, is well equipped to help scale the National DPP. Many pharmacies have been involved with DSMT and have experience in program management and delivery. Pharmacists also have extensive training in diabetes management and motivational interviewing. Their clinical background allows them to provide evidence-based answers to consumer questions, links to DSMT for patients with diabetes, and links to other clinical services as needed.

It is well known that a team-based, patient-centered approach leads to quality, affordable, and accessible health care for patients, and pharmacists are key members of such health care teams. In the Pharmacists’ Patient Care Process outlined by the Joint Commission of Pharmacy Practitioners (29), a patient-centered

FROM RESEARCH TO PRACTICE

HUDSPETH
A pharmacists' role in the National Diabetes Prevention Program: Leveraging pharmacy to enhance participant experience, sustainability, and cost outcomes of the National DPP

The National Diabetes Prevention Program (DPP) is a lifestyle change program aimed at preventing type 2 diabetes. Delivery by pharmacies has been explored as a means to reach priority populations in underserved areas. This study aimed to evaluate the effectiveness of delivering the National DPP's Life Style Change Program (LCP) to pharmacies.

Key findings:
- Pharmacists can effectively deliver the National DPP to pharmacies.
- Participants in the pharmacy-delivered DPP had comparable outcomes to those in traditional delivery settings.
- The pharmacy-delivered DPP demonstrated the potential for cost savings.

Conclusion:
Pharmacists have a significant role in delivering the National DPP, enhancing participant experience, sustainability, and cost outcomes for diabetes prevention.
increasing public awareness and understanding of the determinants of health, disease, and disability and of the opportunities for progress (32). Optimally engaging the pharmacy community can aid the United States in more comprehensively addressing its national diabetes health crisis and in changing the future of diabetes for the better.

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Duality of Interest

The author is employed by the Kroger Company. No other potential conflicts of interest relevant to this article were reported.

Author Contributions

B.D.H. is the sole author of this article and, as such, is the guarantor of this work and takes full responsibility for its content.

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