Evidence-Based Diabetes Prevention Program to Eliminate Health Disparities

Session Law 2017-57 Section 11E.5.(b)

Report to

The Joint Legislative Oversight Committee on Health and Human Services

By

North Carolina
Department of Health and Human Services

December 1, 2017

Reporting Requirements

Session Law 2017-57 states:

SECTION 11E.5.(a) The Department of Health and Human Services, Division of Public Health, Office of Minority Health, shall continue to administer, in consultation with the Chronic Disease and Injury (CDI) Prevention Section, an evidence-based Diabetes Prevention Program modeled after the program recommended by the National Institute of Diabetes and Digestive and Kidney Diseases, targeting minority populations.

SECTION 11E.5.(b) By December 1, 2017, and annually thereafter, the Department of Health and Human Services shall report to the Joint Legislative Oversight Committee on Health and Human Services and the Fiscal Research Division on the status, participant demographics, cost, and outcomes of the Diabetes Prevention Program authorized by subsection (a) of this section.

Executive Summary

Prediabetes is a condition where people have higher than normal blood glucose levels and are at risk for developing type 2 diabetes without intervention. Roughly one-third of North Carolinians with prediabetes are racial and ethnic minorities.

In 2016, the North Carolina General Assembly made funding available to the Division of Public Health (DPH) for the North Carolina Office of Minority Health & Health disparities (NC OMHHD) to establish and administer, in consultation with the Chronic Disease and Injury Section, an evidenced-based diabetes prevention program targeting African-Americans, Hispanic/Latinos and American Indians (HB 1030, 2015-241, Section 12E.3). In adherence to these legislative provisions, NC OMHHD has worked intently with the CCCPH Branch of the CDI Section to create this prediabetes initiative that uses an evidence-based program, the CDC Prevent T2 National Diabetes Prevention Program, which recommended by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). This report outlines the metrics of the program's administration and identifies room for increasing its effectiveness.

Background

Prediabetes is a condition where people have higher than normal blood glucose levels (mg/dl), but their mg/dl is not yet high enough to be diagnosed as diabetes. Nationally, an estimated 86 million American adults have prediabetes, but only about 11% of them know it. African Americans, American Indians, Alaska Natives, Asians, Hispanics, Native Hawaiians, and other Pacific Islanders are at higher risk than non-Hispanic whites for developing type 2 diabetes (CDC, Diabetes Report 2014). In 2013, the prevalence of prediabetes in North Carolina was estimated to be about 9%. In that same year, 9.5% of respondents to a Behavioral Risk Factor Surveillance System survey indicated that they had been told by a doctor or other health professional that they had prediabetes or borderline diabetes. Of those respondents, 31.3% were racial and ethnic minorities (African Americans: 13.0%; Hispanic/Latinos: 5.1%; American Indians: 6.8%; and other racial and ethnic minorities: 6.4%). (North Carolina State Center for Health Statistics, BRFSS 2014).

Without intervention, each year, about 11% of those with prediabetes will progress to type 2 diabetes. Early detection and treatment of prediabetes can help to slow the projected increase in type 2 diabetes prevalence.

Total direct medical expenses for diagnosed and undiagnosed diabetes, prediabetes, and gestational diabetes in North Carolina was estimated at $8.4 billion in 2012 (American Diabetes Association, n.d). North Carolina Medicaid program recognized if both racial and economic disparities in diabetes prevalence were eliminated, more than $100 million could be saved each year (North Carolina State Center for Health Statistics, 2009).

Diabetes Prevention Programs (DPP) are designed to empower people with prediabetes to take charge of their health and well-being. These year-long, evidenced-based programs can help people who have prediabetes or who are at high risk for type 2 diabetes make realistic and achievable lifestyle changes which can cut their risk of developing type 2 diabetes by up to 58% percent (CDC, "Preventing Type 2 Diabetes").

NC MDPP Program

Pursuant to Session Law 2017-57, Section 11E.5.(a), NC OMHHD has worked with the Community and Clinical Connections for Prevention and Health Branch (CCCPH) of the CDI Section to create the NC MDPP: a prediabetes initiative that uses an evidence-based program, the Center for Disease Control and Prevention's (CDC) Prevent T2 National Diabetes Prevention Program, which has been recommended by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK).

The goal of the NC MDPP is to provide three components: (1) Community screenings for prediabetes and region-specific targeted marketing campaigns in minority communities promoting prediabetes and diabetes awareness, (2) 12-month NC MDPP Lifestyle Class Series in minority communities, (3) Community conversations to minority communities across North Carolina.

Budget and Funding Mechanism

To administer the NC MDPP, OMHHD distributes funds for the program to nine different "Regional Collaboratives" in the state. NC MDPP Regional Collaboratives were created to engage, screen, and deliver NC MDPP that includes the CDC curricula ("Prevent T2" and "Prevenga el T2") to a cohort of minority communities within its region. Local Health Departments serve as each Regional Collaborative's fiduciary lead agency and encourages entities such as other local health departments, community-based organizations (CBOs), faith-based organizations (FBOs), local Community Care of North Carolina (CCNC) networks, Federally Qualified Health Centers (FQHC), Rural Health Centers, farmworker programs, Indian Health Services, and hospitals to join its Regional Collaborative in order to better engage with minority communities through meeting NC MPDD screening, education, and outreach goals. The Local Health Department and its partners may engage, screen, and enroll non-Hispanic whites in the NC MDPP, provided that no less than 60% of program participants are members of racial/ethnic minority groups.

Overall the Regional approach was successful in meeting financial and service goals of the NC MDPP inaugural year. Each region was awarded a certain amount based on the prevalence of prediabetes and the size of the minority population in the region. Although the award amounts were allocated based on an annual allocation formula, the actual expenditure period coverage was December 1, 2016 to May 31, 2017 with the exception for Region 8 expenditure period which covered February 1, 2017 to May 31, 2017. Due to existing fiscal commitments to close out a prior program service (Community Focused Eliminating Health Disparities Initiative), the initial year for NC MDPP was shorter than anticipated as articulated in the session law (HB 1030, 2015-241, Section 12E.3).

The chart below displays the awarded amount, actual annual expenditures, lead region, counties served per region, total numbers served, and cost per unduplicated participant for each region in their respective Level categories:

Awards by Region

Level 1	Counties Served	Award Amount	Total Amount Expended	Total Served (per 6-30-17 cut off for Year 1)
Region 7 Granville-Vance Health District (Lead Agency)	Franklin, Granville-Vance, Halifax, Johnson, Nash and Wake	$294, 321.00	$133, 167.00	387 people screened for prediabetes; 45 NC MDPP participants; 5 NC MDPP Lifestyle Class Series
Region 9 Martin-Tyrrell-Washington Health District (Lead Agency)	Bertie, Martin, Tyrrell, Washington	$294, 321.00	$273,816.00	393 people screened for prediabetes; 100 NC MDPP participants; 9 NC MDPP Lifestyle Class Series
Region 10 Pitt County (Lead Agency)	Beaufort, Craven, Greene, Jones, Wilson,	$294, 321.00	$294, 321.00	404 people screened for prediabetes; 94 NC MDPP participants; 9 NC MDPP Lifestyle Class Series

Level 2	Counties Served	Award Amount	Total Amount Expended	Total Served (per 6-30-17 cut off for Year 1)
Region 4 Cabarrus County (Lead Agency)	Cabarrus, Catawba, Gaston, Iredell, Rowan	$230,105.00	$230,105.00	659 people screened for prediabetes; 98 NC MDPP participants; 8 NC MDPP Lifestyle Class Series
Region 5 Alamance County (Lead Agency)	Alamance, Chatham, Durham, Guilford	$230,105.00	$230,105.00	729 people screened for prediabetes; 121 NC MDPP participants; 15 NC MDPP Lifestyle Class Series
Region 6 Richmond County (Lead Agency)	Harnett, Hoke, Moore, Richmond, Scotland	$230,105.00	$200,440.00	473 people screened for prediabetes; 65 NC MDPP participants; 7 NC MDPP Lifestyle Class Series
Region 8 Robeson County (Lead Agency)	Robeson	$230,105.00	$98,560.00	218 people screened for prediabetes; 44 NC MDPP participants; 5 NC MDPP Lifestyle Class Series

Level 3	Counties Served	Award Amount	Total Amount Expended	Total Served (per 6-30-17 cut off for Year 1)
Region 1 Macon County (Lead Agency)	Clay, Jackson, Macon, Swain	$165,808.00	$150,861.00	117 people screened for prediabetes; 86 NC MDPP participants; 7 NC MDPP Lifestyle Class Series
Region 3 Forsyth County (Lead Agency)	Wilkes, Forsyth	$165,808.00	$165,808.00	153 people screened for prediabetes; 52 NC MDPP participants; 5 NC MDPP Lifestyle Class Series

Participant Demographics

	Ethnic Categories									
	Not Hispanic or Latino			Hispanic or Latino			Unknown Not Reported Ethnicity			
	Female	Male	Unknown	Female	Male	Unknown	Female	Male	Unknown	Total
Racial Categories										
African American/Black	305	52	0	2	0	0	31	7	0	397
Asian	3	1	0	0	0	0	0	0	0	4
Native American/Alaskan Native/American	43	11	0	1	0	0	6	1	0	62
Native Hawaiian/Pacific Islander	2	1	0	0	0	0	0	0	0	3
White	103	18	0	19	3	0	10	1	0	154
Other	4	0	0	40	3	0	0	0	0	47
Unknown	0	0	0	21	3	1	0	1	12	38
Total	460	83	0	83	9	1	47	10	0	**705**
Total number of participants reported being a racial or ethnic minority										**559/705 (79.3%)**

Participant Insurance Status

Insurance	Number of Participants
Uninsured	57 (11.7%)
Insurance from employer/union	170 (34.8%)
Individual Insurance	69 (14.1%)
Medicare	90 (18.4%)
Medicaid	41 (8.4%)
Tricare/VA/other military insurance	15 (3.0%)
Indian Health Service	9 (1.8%)
Other Insurance	107 (21.9%)

*Insurance status was captured via self-report.

Source of Care

Source of Care	Number of Participants
Private Doctor's Office	393 (78.4%)
Hospital, clinic, or outpatient department	25 (5.0%)
Community health center	55 (11.0%)
Other kind of health care facility	7 (1.4%)
No usual source of care	21 (4.2%)

*Source of care was captured via self-report.

Program Status Updates

Fiscal Year 16-17 Program Goals	Status update as of 10/31/17	Progress
2100 people screened for prediabetes	3533 people screened for prediabetes	**Goal exceeded**
10% of the regional budget spent on targeted marketing campaigns	10% of the regional budget spent on targeted marketing campaigns, using various region-specific platforms, with an estimated reach of 7 million people.	**Goal met**
700 people enrolled into MDPP	705 people enrolled into MDPP	**Goal exceeded**
44-56 MDPP 12-Month Lifestyle Class series	70 MDPP 12-Month Lifestyle Class series	**Goal exceeded**
9 Community Conversation events	10 Community Conversation events	**Goal exceeded**

NC MDPP is a multi-component initiative that includes the following components 1) Community screenings and region-specific targeted marketing campaigns, 2) 12-month NC MDPP Lifestyle Class series, 3) Community conversations.

1. <u>Community Screenings and Region-Specific Targeted Marketing Campaigns</u>

Prediabetes screening events were facilitated at local health departments, faith-based organizations, food banks, pharmacies and other community agencies. Screening tools included: the CDC prediabetes paper screener, fasting and non-fasting blood glucose tests, and electronic health records.

In fiscal year 2016-17, NC MDPP Regional Collaboratives exceeded the state prediabetes screening goal by screening over 3500 individuals for prediabetes—the goal was to screen 2100 residents. Community screenings were an essential component to increasing awareness about prediabetes and increasing access to Diabetes Prevention Programs through coordinated referral efforts.

To achieve this, NC MDPP Regional Collaboratives developed region-specific targeted marketing awareness campaigns that reached over 7 million people. They used various platforms to disseminate messages including: billboards, radio and print advertisements, digital media, television public service announcements, websites and social media. Regional staff utilized existing Division of Public Health and Center for Disease Control marketing materials. Regional Collaboratives also developed region-specific awareness campaigns with community members at Community Advisory Board meetings that were very effective in reaching the target populations.

2. 12-month NC MDPP Lifestyle Class Series

Increasing minority participation in Diabetes Prevention Programs (i.e. Lifestyle Class series using the CDC Prevent T2 curriculum) is the core goal of NC MDPP. NC MDPP's 12-month Lifestyle Class series have been held in a variety of locations including: faith-based organizations, pharmacies, health departments, hospitals, and food banks. Participants work with a trained lifestyle coach and receive nutrition education, strategies for problem-solving, resources and access to facilities for safe physical activity, and stress management skills.

The enrollment and participation success in fiscal year 2016-17 was largely a result of targeted marketing and screening efforts. The goal was to facilitate 44 Lifestyle Class series across the state and enroll 700 residents. Despite the limited expenditure timeframe for this year, discussed above, NC MDPP Regional Collaboratives exceeded the target goal for fiscal year 2016-17. NC MDPP facilitated 70 MDPP 12-month Lifestyle Class series across the state and enrolled 705 participants.

3. Community Conversations

NC MDPP also facilitated Community Conversations that invoked dialogue that built awareness and support around health issues within the targeted communities. These conversations were particularly important to identify and address health inequities related to diabetes prevention and awareness. Many of the barriers identified were related to the Social Determinants of Health. Social Determinants of Health are the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life. Specifically, barriers identified through Community Conversations included access to healthy foods, environmental conditions and recreational opportunities, safety, access to health care, and access to primary care.[1] The Community Conversations effort empowered NC MDPP participants to become agents of change in their community by equipping them to advocate to other community members and elicit their participation in diabetes prevention programs.

Public Health Outcomes

Adult obesity is a pervasive problem in North Carolina. If adult obesity rates continue to rise at the current rate, the obesity rate in North Carolina could reach 58 percent, with healthcare costs climbing 17.6 percent by the year 2030 (Eat Smart, Move More NC, 2013). However, if obesity is reduced by five percent, North Carolina could reduce healthcare costs by 7.5 percent (NCDHHS, 2013).

When it comes to behavior modification intervention programs like NC MDPP, national evidence based models show that participant adherence to is often tied to attendance. In NC MDPP, the retention rate for class series is sizable, with 94% of participants attending 4 or more classes in the first 6 months. This is significant because NC MDPP exceeded the attendance goals of 50% attendance for 4 or more classes in the first 6 months of the

[1] NC MDPP addresses several of these barriers by providing transportation to NC MDPP 12-month Lifestyle Classes and incentives that support healthy behaviors including: food scales, Calorie King books, gym memberships, and stress management tools.

program. Overall, NC MDPP participants have steadily attended NC MDPP 12-month Lifestyle Class sessions, with an average participant attendance of 12 classes. 80% of NC MDPP participants have attended 12 classes or more.

As a result, NC MDPP participants have experienced negative weight change (i.e. weigh loss) and increase minutes of physical activity. Participants who attended at least 4 classes lost an average of 3.7% of their initial bodyweight. Half of NC MDPP participants are meeting the recommended 150 minutes of moderate to vigorous physical activity each week.

Intervention Summary Report	Participant Data
*Weight Change, mean (sd)	-3.7% (12.0)
Sessions Attended, mean (sd)	12.8 (3.1)
Attendance Rate for 12 Classes or More, mean (sd)	80.2% (19.6)
Participants Meeting Physical Activity Goal (150 min/week)	332 (50.2%)

*Percent weight change is subject to change.
**Weight change calculated based on CDC data collection standards of participants who attended a minimum of 4 classes (n=654).

Recommendation(s)

NC MDPP participants and community members identified several opportunities to improve access to Diabetes Prevention Programs. During the upcoming year, NC OMHHD can build upon drivers and incentives to address these barriers. In regard to promoting and supporting positive health outcomes, NC MDPP Regional Collaborative can partner with organizations including food banks and parks and recreational facilities to increase access to healthy foods and safe facilities for physical activity.

The following recommendations can enhance NC MDPP:

1. NC OMHHD MDPP Staff will meet with NC MDPP Regional Coordinators and CDI Section Staff to discuss sustainable funding for NC MDPP.
2. NC OMHHD MDPP Staff will meet with NC MDPP Regional Coordinators to discuss strategies for addressing barriers to accessing Diabetes Prevention Programs.
3. NC OMHHD Staff will meet with CDI Section Staff to discuss strategies for better care coordination related to wrap around services and engaging primary care physicians.
4. NC OMHHD will provide technical assistance and ongoing trainings related to cultural diversity and cultural competency for health and human service professionals to support program expansion.
5. NC OMHHD will continue to work with NC DHHS, the North Carolina General Assembly, and its partners to connect NC MDPP participants and communities to on-going resource mapping/sharing efforts, relevant programmatic opportunities, and other initiatives that seek to improve health outcomes and behaviors.