

**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**

and

Fiscal Research Division

By

**North Carolina
Department of Health and Human Services**

December 1, 2020

Reporting Requirements

Session Law 2017-57, 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.

Session Law 2017-57, 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 evidence-based diabetes prevention program targeting African-Americans, Hispanic/Latinos and American Indians (HB 1030, 2015-241, Section 12E.3). Diabetes Prevention Programs (DPP) are designed to empower people with prediabetes to take charge of their health and well-being. These 12-month, evidence-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”). This report outlines the metrics of the North Carolina Minority Diabetes Prevention Program’s (NC MDPP) 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 88 million American adults have prediabetes, but only about 10% 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 2020). In 2018, an estimated 2.4 million adults in North Carolina had prediabetes. In that same year, 12.1% 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, 39.6% were racial and ethnic minorities (African Americans: 15.2%; Hispanic/Latinos: 11.1%; and other racial and ethnic minorities: 13.3%). (North Carolina State Center for Health Statistics, BRFSS 2018). In 2016, the Center for Disease Control and Prevention estimated that 145 adults in North Carolina develop diabetes daily (Community and Clinical Connections for Prevention and Health, Fact Sheet 2019). Without lifestyle changes to improve their health, many people living with

prediabetes are more likely to develop type 2 diabetes within five years (CDC, Prediabetes Fact Sheet 2020). Implementing NC MDPP will improve early detection and treatment of prediabetes and help slow the projected increase in type 2 diabetes prevalence in North Carolina.

Total direct medical expenses for diagnosed and undiagnosed diabetes, prediabetes, and gestational diabetes in North Carolina was estimated at \$7.7 billion in 2017 (American Diabetes Association).

NC MDPP General Overview

The goal of NC MDPP is to establish a statewide framework to decrease the incidence of diabetes in minority communities. NC MDPP is composed of three main 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.

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. 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.

Program Annual Status Updates

Program Annual Goals Total for Fiscal Year 2019-20	Status Update as of 6/30/20	Progress
2330 total people screened for prediabetes	4157 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
770 total people enrolled into MDPP	791 people enrolled into NC MDPP	Goal exceeded
49-62 total NC MDPP 12-Month Lifestyle Class series	72 NC MDPP 12-Month Lifestyle Class series	Goal exceeded
10 total Community Conversation events	14 Community Conversation events	Goal exceeded

Program Status Updates (cumulative per 6-30-20 cut-off)

Program Cumulative Goals Total by Fiscal Year-end 19-20	Status Update as of 6/30/20	Progress
8855 total people screened for prediabetes	20416 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
2945 total people enrolled into MDPP	3304 people enrolled into NC MDPP	Goal exceeded
186-237 total NC MDPP 12-Month Lifestyle Class series	305 NC MDPP 12-Month Lifestyle Class series	Goal exceeded
38 total Community Conversation events	59 Community Conversation events	Goal exceeded

Participant Demographics (cumulative per 6-30-20 cut-off)

	Ethnic Categories									Total
	Not Hispanic or Latino			Hispanic or Latino			Unknown Not Reported Ethnicity			
	Female	Male	Unknown	Female	Male	Unknown	Female	Male	Unknown	
Racial Categories										
African American/Black	1577	258	0	13	0	0	80	10	0	1938
Asian	8	4	0	0	0	0	0	1	0	13
Native American/Alaskan Native/American	170	31	0	19	3	0	8	0	0	231
Native Hawaiian/Pacific Islander	5	1	0	0	0	0	0	0	0	6
White	458	71	0	262	61	0	23	9	1	885
Other	13	2	0	134	15	0	0	0	0	164
Unknown	6	1	0	49	6	1	2	1	1	67
Total	2237	368	0	477	85	1	113	21	2	3304
Total number of participants reported being a racial or ethnic minority									2419/3304 (73%)	

Insurance	Number of Participants
Uninsured	402
Insurance from employer/union	1000
Individual Insurance	431
Medicare	550
Medicaid	254
Tricare/VA/other military insurance	142
Indian Health Service	69
Other Insurance	218

Source of Care	Number of Participants
Private Doctor's Office	1868
Hospital, clinic, or outpatient department	217
Community health center	439
Other kind of health care facility	95
No usual source of care	73
Unknown	612

Budget and Funding Mechanism

To administer the NC MDPP, OMHHD distributes funds for the program, serving all ten “Regional Collaboratives” in the state. The Regional approach continues to be successful in meeting the financial and service goals of the NC MDPP program in fiscal year 2019-20. Continuation funding was appropriated by the NC General Assembly and funding levels were redistributed in fiscal year 2019-20 to better meet the needs of the Regional Collaboratives. Over the past three years, Region 1 and Region 3 consistently exceeded expectations and had sizable waitlists for NC MDPP classes. In order to meet the needs of NC MDPP communities in Region 1 and Region 3, expansion was needed. Opportunity for expansion in Region 1 and Region 3 was created by restructuring the funding levels to include an additional funding level. Funds for this

additional level were acquired through the demotion of Region 8. Over the past three years, Region 8 has consistently underperformed. Significant technical assistance provided by NC OMHHD Staff by the way of strategically planning to promote awareness and increase enrollment. Despite these efforts, Region 8 was still unable to reach their annual goals. As a result, NC OMHHD Staff reduced the funding level and annual goals for Region 8 to be consistent with funding level 4 in hopes that level 4 goals would be manageable for Region 8. NC OMHHD Staff updated funding level 3 and promoted Region 1 and Region 3 to funding level 3, which provided them with the resources to expand their thriving programs. The chart below displays the funding level updates that occurred from fiscal year 2018-19 to fiscal year 2019-20.

Fiscal Year 2019-20 Funding Levels (Service Period: June 1, 2019 - May 31, 2020)

Level 1	Counties Served	Award Amount	Annual NC MDPP Programmatic Goals
Region 7 Granville-Vance Health District (Lead Agency)	Franklin, Granville-Vance, Halifax, Johnston, Nash, Wake, and Warren	\$294, 321.00	<ul style="list-style-type: none"> ● 300 people screened for prediabetes ● 100 people enrolled in NC MDPP ● 75% of people served must be racial/ethnic minorities ● 6-8 NC MDPP 12-month Lifestyle Class Series
Region 9 Martin-Tyrrell-Washington Health District (Lead Agency)	Bertie, Dare, Martin, Tyrrell, Washington	\$294, 321.00	<ul style="list-style-type: none"> ● 300 people screened for prediabetes ● 100 people enrolled in NC MDPP ● 75% of people served must be racial/ethnic minorities ● 6-8 NC MDPP 12-month Lifestyle Class Series
Region 10 Pitt County (Lead Agency)	Beaufort, Craven, Greene, Jones, Pitt, Wayne, Wilson	\$294, 321.00	<ul style="list-style-type: none"> ● 300 people screened for prediabetes ● 100 people enrolled in NC MDPP ● 75% of people served must be racial/ethnic minorities ● 6-8 NC MDPP 12-month Lifestyle Class Series
Level 2	Counties Served	Award Amount	Annual NC MDPP Programmatic Goals
Region 2 Buncombe County (Lead Agency)	Avery, Buncombe, Burke, Caldwell, Hendersonville, Madison, McDowell, Mitchell, Polk, Rutherford, Yancey,	\$230,105.00	<ul style="list-style-type: none"> ● 225 people screened for prediabetes ● 75 people enrolled in NC MDPP ● 75% of people served must be racial/ethnic minorities ● 5-6 NC MDPP 12-month Lifestyle Class Series
Region 4 Cabarrus County (Lead Agency)	Cabarrus, Gaston, McDowell, Rowan	\$230,105.00	<ul style="list-style-type: none"> ● 225 people screened for prediabetes ● 75 people enrolled in NC MDPP ● 75% of people served must be racial/ethnic minorities ● 5-6 NC MDPP 12-month Lifestyle Class Series
Region 5 Alamance County (Lead Agency)	Alamance, Caswell, Chatham, Durham, Guilford, Orange, Person, Randolph, Rockingham	\$230,105.00	<ul style="list-style-type: none"> ● 225 people screened for prediabetes ● 75 people enrolled in NC MDPP ● 75% of people served must be racial/ethnic minorities ● 5-6 NC MDPP 12-month Lifestyle Class Series
Region 6 Richmond County (Lead Agency)	Harnett, Hoke, Moore, Richmond, Scotland	\$230,105.00	<ul style="list-style-type: none"> ● 225 people screened for prediabetes ● 75 people enrolled in NC MDPP ● 75% of people served must be racial/ethnic minorities ● 5-6 NC MDPP 12-month Lifestyle Class Series

Level 3	Counties Served	Award Amount	Annual NC MDPP Programmatic Goals
Region 1 Macon County (Lead Agency)	Clay, Jackson, Macon, Swain, Transylvania	\$197,956.00	<ul style="list-style-type: none"> • 190 people screened for prediabetes • 60 people enrolled in NC MDPP • 60% of people served must be racial/ethnic minorities • 4-5 NC MDPP 12-month Lifestyle Class Series
Region 3 Forsyth County (Lead Agency)	Wilkes, Forsyth	\$197,956.00	<ul style="list-style-type: none"> • 190 people screened for prediabetes • 60 people enrolled in NC MDPP • 60% of people served must be racial/ethnic minorities • 4-5 NC MDPP 12-month Lifestyle Class Series
Level 4	Counties Served	Award Amount	Annual NC MDPP Programmatic Goals
Region 8 Robeson County (Lead Agency)	Onslow, Robeson	165,808.00	<ul style="list-style-type: none"> • 150 people screened for prediabetes • 50 people enrolled in NC MDPP • 60% of people served must be racial/ethnic minorities • 3-4 NC MDPP 12-month Lifestyle Class Series

The chart below displays the awarded amount, actual annual expenditures, lead regional health department, counties served, total participants screened, total participants enrolled, and the number of classes conducted for each region in their respective funding level.

Level 1	Counties Served	Award Amount	Total Amount Expended	Cumulative Total Served (per 6-30-20 cut off for Year 4)
Region 7 Granville-Vance Health District (Lead Agency)	Franklin, Granville-Vance, Halifax, Johnson, Nash, Wake, and Warren	\$294, 321.00	\$230, 919.51	1374 people screened for prediabetes; 310 NC MDPP participants; 28 NC MDPP 12-month Lifestyle Class Series
Region 9 Martin-Tyrrell-Washington Health District (Lead Agency)	Bertie, Dare, Martin, Tyrrell, Washington	\$294, 321.00	\$286, 671.97	1451 people screened for prediabetes; 356 NC MDPP participants; 41 NC MDPP 12-month Lifestyle Class Series
Region 10 Pitt County (Lead Agency)	Beaufort, Craven, Greene, Jones, Pitt, Wayne, Wilson	\$294, 321.00	\$294, 321.00	6474 people screened for prediabetes; 422 NC MDPP participants; 38 NC MDPP 12-month Lifestyle Class Series
Level 2	Counties Served	Award Amount	Total Amount Expended	Cumulative Total Served (per 6-30-20 cut off for Year 4)
Region 2 Buncombe County (Lead Agency)	Buncombe, Henderson, McDowell	\$230,105.00	\$230, 105.00	743 people screened for prediabetes; 197 NC MDPP participants; 14 NC MDPP 12-month Lifestyle Class Series
Region 4 Cabarrus County (Lead Agency)	Cabarrus, Gaston, McDowell, Rowan	\$230,105.00	\$230, 105.00	2455 people screened for prediabetes; 360 NC MDPP participants;

				29 NC MDPP 12-month Lifestyle Class Series
Region 5 Alamance County (Lead Agency)	Alamance, Caswell, Chatham, Durham, Guilford, Orange, Person, Randolph, Rockingham	\$230,105.00	\$213, 678.84	2196 people screened for prediabetes; 426 NC MDPP participants; 53 NC MDPP 12-month Lifestyle Class Series
Region 6 Richmond County (Lead Agency)	Harnett, Hoke, Moore, Richmond, Scotland	\$230,105.00	\$194, 639.23	2334 people screened for prediabetes; 310 NC MDPP participants; 30 NC MDPP 12-month Lifestyle Class Series
Level 3	Counties Served	Award Amount	Total Amount Expended	Cumulative Total Served (per 6-30-20 cut off for Year 4)
Region 1 Macon County (Lead Agency)	Clay, Jackson, Macon, Swain, Transylvania	\$197,956.00	\$119, 269.75	936 people screened for prediabetes; 280 NC MDPP participants; 23 NC MDPP 12-month Lifestyle Class Series
Region 3 Forsyth County (Lead Agency)	Wilkes, Forsyth	\$197,956.00	\$183,732.11	926 people screened for prediabetes; 339 NC MDPP participants; 26 NC MDPP 12-month Lifestyle Class Series
Level 4	Counties Served	Award Amount	Total Amount Expended	Cumulative Total Served (per 6-30-20 cut off for Year 4)
Region 8 Robeson County (Lead Agency)	Onslow, Robeson	\$165,808.00	\$160, 560.42	1527 people screened for prediabetes; 304 NC MDPP participants; 23 NC MDPP 12-month Lifestyle Class Series

Program Activities

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. Community Screenings and Region-Specific Targeted Marketing Campaigns

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, hemoglobin A1c tests, and electronic health records. In lieu of COVID19, NC MDPP Regional Coordinators developed a virtual copy of the CDC screening tool to promote electronic screening efforts.

In fiscal year 2019-20, NC MDPP Regional Collaboratives exceeded the state prediabetes screening goal (screening 8855 residents for prediabetes by 6/30/20) by screening 20,416 individuals for prediabetes. Amid the onset of the COVID19 pandemic, Regional Collaboratives are continuing to exceed the annual and cumulative prediabetes screening goals.

In fiscal year 2019-20, NC MDPP Regional Collaboratives developed region-specific targeted marketing awareness campaigns consistently reaching over 6.5 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 continues to expand their reach and collaborate with Faith-Based Organizations and Lay Leaders to support diabetes awareness through testimonials. Word of mouth from NC MDPP participants and their families continues to be a significant driver for recruitment and retention initiatives. In addition, several Regional Collaboratives continued to establish partnerships with local laboratories and physicians to create a bidirectional screening system via electronic health records. The bidirectional screening system has increased reach through a streamlined A1c screening process that directed more residents to NC MDPP classes and DSME programs.

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. People who are enrolled in the 12-month NC MDPP Lifestyle Class series receive nutrition education, strategies for problem-solving, resources and access to facilities for safe physical activity, and stress management skills. The 12-month NC MDPP Lifestyle Class series is facilitated by a trained lifestyle coach over a 12-month period.

The continued enrollment and participation success in year 2019-20 was largely a result of existing Lay Leaders and referring physicians advocating for NC MDPP 12-month Lifestyle Classes and screening efforts. The goal was to facilitate a minimum of 186 Lifestyle Class series across the state, enrolling a minimum of 2945 residents cumulatively. By the end of fiscal year 2019-20, NC MDPP facilitated 305 NC MDPP 12-month Lifestyle Class series across the state, with 3304 enrolled participants, exceeding both annual and cumulative enrollment goals. COVID 19 closures and changes in NC MDPP Staff responsibilities amid the pandemic onset, greatly impacted NC MDPP 12-month Lifestyle Class implementation. As a result, several Regional Collaboratives formed Task Forces to maintain engagement, boost staff, and participant morale, and increase NC MDPP retention rates.

NC MDPP agencies continue to be early adopters of change. As COVID19 restrictions vastly altered DPP implementation, many NC MDPP Regional Collaboratives began expanding their offerings to include virtual and telehealth platforms. This commitment to NC MDPP participant success and NC MDPP Staff support allowed NC MDPP agencies to maintain high retention rates using virtual platforms in Fiscal Year 19-20 midst a global pandemic. As a result, several NC MDPP agencies were recognized by the Center for Disease Control and Prevention (CDC) for success.

3. Community Conversations

NC MDPP continued to facilitate 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. Similar to previous years, many of the barriers identified were related to the Social Determinants of Health. However, due to the changing nature of

COVID19 limitations, new barriers emerged. Several NC MDPP Regional Collaboratives canceled their Community Conversations. Some successfully facilitated virtual events. NC MDPP Regional Coordinators reported the following barriers identified by NC MDPP participants; 1) Inconsistent internet access or speed in NC MDPP participant homes, 2) Insufficient access to technology that supports virtual platforms, 3) Limited knowledge of virtual platform application, 4) Increased mental health concerns, 5) Decreased self-efficacy for adopting positive behavior lifestyle changes to prevent or delay the onset of diabetes due to limited access to safe-opportunities for physical activity and increased instances of emotional eating. As a result, NC MDPP Regional Coordinators and staff are working towards partnering with local agencies to provide mental health resources for families in need, increasing the number of virtual fitness opportunities and stress-management initiatives to promote healthy lifestyles for NC MDPP participants amid the COVID19 global pandemic.

Current Trends for Fiscal Year 2020|-21

NC MDPP Agencies continue to expand reach and programming facilitating 310 NC MDPP 12-Month Lifestyle Classes with 3370 NC MDPP Participants enrolled per September 30, 2020 database report.

Public Health Outcomes

The retention rate for class series is sizable, with 95% of participants attending 4 or more classes in the first 6 months. This is significant because NC MDPP participants continue to exceed the attendance goals of 50% attendance for 4 or more classes in the first 6 months. More importantly, participant adherence to behavior modification interventions is often tied to attendance according to the national evidence-based models.

Intervention Summary Report	Number of Participants
*Weight Change (%) mean(sd)	-4.6 (8.7)
Sessions Attended mean(sd)	13.7 (3.1)
Attendance Rate mean(sd)	85.3 (19.1)
Meet PA goal (150 min/week)	1611 (52.0%)

**All measures were calculated based on CDC data collection standards of participants who attended a minimum of 4 classes (n=3115).

NC MDPP participants have steadily attended NC MDPP 12-month Lifestyle Class sessions, with an average participant attendance of 13 sessions. The total number of sessions available to NC MDPP participants varies by region. In Phase 1 (0-6 months) on series, participants are asked to participate in 16 Lifestyle Class sessions. During Phase 2 (7-12 months), participants are asked to attend a minimum of 6 Lifestyle Class sessions. Regional staff received feedback that NC MDPP participants desired more engagement during Phase 2 (supportive phase). As a result, Regional staff worked to increase engagement and accountability by providing private social media support groups, virtual fitness opportunities, grocery store tours, and other events to encourage NC MDPP participant engagement during this supportive phase.

NC MDPP participants continue to experience negative weight change (i.e. weight loss) and increased minutes of physical activity, with 52% of NC MDPP participants meeting the recommended physical activity minutes for adults. NC MDPP participants are also experiencing improved hemoglobin A1c levels, with several NC MDPP participants reporting that their hemoglobin A1c level is no longer in the prediabetes range.

COVID19 Accommodations

Connecting NC MDPP participants with agencies that can provide appropriate resources to equip and empower them to make lasting lifestyle changes necessary to prevent or delay the onset of diabetes, is vital to the success of NC MDPP. NC MDPP agencies are participating in community-centered Task Forces that identify COVID19 barriers while leveraging community assets to promote health equity. In an effort to support healthy lifestyle changes, NC MDPP agencies mailed incentives and health resources, facilitated drive-thru incentive pick-up, hosted walking teleconferences, established outdoor and virtual fitness opportunities, and maintained accountability through private social media platforms.

Recommendations

During the upcoming year, NC OMHHD MDPP Staff will build upon existing processes and establish policies consistent with current OIA guidelines. Additionally, NC OMHHD MDPP Staff will support the transition to creating more opportunities for virtual engagement to increase access to NC MDPP 12-Month Lifestyle Classes.

The following recommendations will enhance NC MDPP:

1. NC OMHHD MDPP Staff will attend training and work with ALCS and OIA to update monitoring protocols to be consistent with current OIA guidelines.
2. NC OMHHD will discontinue fiscal agreements with the low performing NC MDPP Lead Agency and NC OMHHD Executive Director will continue to seek partnerships with local health departments to secure a new NC MDPP Lead Agency.
3. NC OMHHD will provide technical assistance and ongoing training related to cultural diversity and cultural competency for health and human service professionals to support program expansion.
4. NC OMHHD will continue to work with NC DHHS 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.
5. NC OMHHD will explore ways to expand NC MDPP reach by partnering and collaborating with organizations and entities that enhance the mission and vision of NC DHHS.
6. NC OMHHD will work strategically with NC MDPP Regional Collaboratives to establish an accessible virtual platform for NC MDPP 12-Month Lifestyle Classes.
7. NC OMHHD will provide virtual training opportunities that promote healthy lifestyle behaviors for NC MDPP Participants.