Assessing the effectiveness of a prediabetes intervention in an urban community in Maryland.

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Office of Minority Health and Health Disparities (MHHD)
June 22nd, 2019
MHHD Mission/Vision

Mission:

The Office of Minority Health and Health Disparities' (MHHD) mission is to address the social determinants of health and eliminate health disparities by leveraging the Department’s resources, providing health equity consultation, impacting external communications, guiding policy decisions and influencing strategic direction on behalf of the Secretary of Health.

Vision:

The Office's vision is to achieve health equity where all individuals and communities have the opportunity and access to achieve and maintain good health.
Background

Prediabetes:

• Affects approximately 84 million American adults (1.6 million in Maryland) with 9 out of 10 individuals unaware of this diagnosis.

• Associated with an increased risk of type 2 diabetes, heart disease, and stroke.

• Several studies have shown that the progression to type 2 diabetes in prediabetes can be delayed both through lifestyle and dietary changes.
Background

Diagnosis of Prediabetes:

Blood tests:

• A1C 5.7%–6.4% or

• Fasting plasma glucose 100–125 mg/dL (impaired fasting glucose) or

• 2-hour post 75 g oral glucose challenge 140–199 mg/dL (impaired glucose tolerance)

Pre-diabetes screening test (AMA, ADA, CDC)

Minority Outreach and Technical Assistance (MOTA)

Timelines:

2001 - MOTA created under the auspices of the Cigarette Restitution Fund Program (CRFP) to implement the Fund’s Act provision requiring outreach and technical assistance to minority communities to ensure their participation in the tobacco and cancer community health coalitions. Minority communities include African Americans, Pacific Islanders, Asian Americans, Hispanics/Latinos, and American Indians.

2004 - MHHD was established by legislation

2010 – MHHD’s role was expanded to include other major health disparities that affect racial and ethnic minority communities such as cardiovascular disease, pre-diabetes/diabetes, infant mortality, obesity, and asthma.
St. Agnes Hospital Foundation

• One of 15 MOTA grantees in FY 18 (July 2017 – June 2018)

• Located in Baltimore City, MD

• Targeting South West Baltimore residents for the MOTA program; zip codes 21216, 21217, 21223, and 21229

• Intervention – CDC 1 year long Diabetes Prevention Program (DPP). This is a lifestyle change intervention comprising of increased physical activity and dietary management.
What informed this type of intervention?

Program training is through trained lifestyle coaches.

Evaluation metrics based of the CDC DPP curriculum tracking physical activity and weight loss core (1st 6 months) and post core (last 6 months) sessions.

Grantee is required to meet or exceed agreed upon performance measures.
St. Agnes MOTA

Performance measures

- Number of DPP cohorts conducted
- Number of participants recruited to participate in the six DPP cohorts (unduplicated)
- Number of outreach activities conducted on pre-diabetes education
- Number of participants reached through outreach activities on pre-diabetes education
- Number of participants who lose 2% of their body weight upon completion of six months of the DPP (duplicated)
- Number of participants who improve their goal of 150 minutes of brisk physical activity each week during the core component of the DPP (1st 6 months)
- Number of participants who improve their goal of 150 minutes of brisk physical activity each week during the post-core component of the DPP (months 7-12)
- Increased knowledge of nutrition as measured by attendance at a minimum of four sessions during the core component in at least 50% of the participants.
- Number of participants who are referred to support services (i.e. transportation, primary care physician, food pantry, insurance exchange, Medicaid, etc.)
- Conduct follow-up on participants who have been referred to support services (i.e. number who actually received services)
St. Agnes MOTA-DPP Outcomes

The design was a before and after study conducted between 2017 and 2018. **136 individuals were recruited in 6 cohorts** (93% African American, 86% females and 96% aged 45 and above). Study participants were recruited through either Doctor’s referral or scores from the American Diabetes Association pre-diabetes screening test. The outcome measures tracked were weight and attendance.
St. Agnes MOTA-DPP

Outcomes

65% (88) of the participants completed the core sessions based on the CDC recommendation of attending 4 or more sessions during the first 6 months of the intervention (average attendance=14). Of the 88 core completers, 59% (52) completed the post core or core maintenance sessions in the last 6 months of intervention by attending 3 or more sessions.

Overall weight loss was approximately 5.5lbs per participant. At least 17 participants lost greater than 5% of body weight in 1st 6 months.

No statistical tests were conducted.
## Challenges/Barriers and resolution

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<thead>
<tr>
<th>Challenges</th>
<th>Resolution</th>
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<tbody>
<tr>
<td>Lack of transportation</td>
<td>Use of Lyft, Uber and MTA bus passes</td>
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<td>Limited mobility, inadequate public transportation schedules, unsafe</td>
<td>Provide the DPP in community locations, including senior and disabled</td>
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<td>neighborhoods and fear of traveling at night</td>
<td>housing, low and moderate income housing, and churches</td>
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<tr>
<td>Performance measure related to weight</td>
<td>Decreased from 5% per participant to 2% (be flexible)</td>
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<td>Setting up and coordinating multiple sites</td>
<td>Collaborate better</td>
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**Grantee quote:**

We believe a key contributor to this success is the support that participants provide to one another, and the connections they build that lead to lifelong help.
Implications for Public Health Practice

Research shows that CDC-recognized lifestyle change program participants who lost 5-7% of their body weight and added 150 minutes of exercise per week cut their risk of developing type 2 diabetes by up to 58%.

This intervention supports the advancement of public health among minority populations in Maryland through evidence-based programs.