Whittier Street Health Center
Diabetes Care Coordination Program

PROJECT OVERVIEW

Whittier Street Health Center (WSHC) is a Federally Qualified Health Center (FQHC) located in Boston, Massachusetts. The health center is situated in the Roxbury neighborhood of Boston, a low-income area with high rates of diabetes. Whittier offers comprehensive chronic disease and primary care services to residents of nearby public housing. This project aimed to identify diagnosed and undiagnosed African-American women with type 2 diabetes living in public housing and engage them in comprehensive care services offered by Whittier Street Health Center. Diabetes Health Ambassadors, culturally-competent women from the community diagnosed and successfully controlling type 2 diabetes, are the essential link between public housing residents and Whittier Street Health Center. Once women are identified and referred to care at Whittier Street Health Center, the comprehensive care services they receive include diabetes self-management education by an ADA-certified diabetes educator, diabetes group medical visits with social support and access to clinical care, and a diabetes clinic providing access to a variety of diabetes care related services in one visit.

CONTEXT AND PARTNERS

In the Roxbury neighborhood of Boston, a majority of residents are African American or Hispanic and live under the federal poverty level. According to a Kresge Foundation-funded needs assessment, public housing residents living in Roxbury are three times more likely to suffer from type 2 diabetes than other Boston area residents. Roxbury residents have the second highest diabetes-related hospitalization rate in the greater Boston area. The Whittier Street Health Center is situated in the heart of the Roxbury neighborhood and aims to provide high quality, reliable and accessible primary health care and support services to promote wellness and eliminate health and social disparities. Seventy percent of Whittier's adult patients have a diagnosis of some form of chronic disease including diabetes, obesity, asthma, or high blood pressure. For many of the neighborhood residents, Whittier is the only source of accessible and culturally-appropriate health care.

Whittier Street Health Center offers free primary care and preventive health services; including access to primary care physicians, eye and dental clinics, clinical pharmacists, nutritionists, a foot specialist and a full-time certified diabetes educator. Forty-five percent of Whittier's patients are best served in a language other than English, and Whittier offers services in 21 different languages. In addition, Whittier provides direct community-based services in partnership with public housing facilities to provide more immediate access, referrals, and navigation services for all community residents. Community-based services are delivered through outreach activities such as coffee hour gatherings where residents live. Whittier is the only health center that primarily serves public housing residents in Boston.

Partners in the Diabetes Care Coordination Program include:

- Boston Public Housing Authority
- Boston YMCA
- Body by Brandy
- Kresge Foundation

- Bell Tower Food Truck

ASSESSMENT AND PLANNING

During a 4-month planning phase in 2010, a needs assessment was completed that engaged residents of five public housing developments within walking distance of Whittier Street Health Center. This assessment revealed that 19% of public housing residents were diagnosed with type 2 diabetes and that they experienced pronounced disparities among health outcomes related to the disease. These findings were used to inform the initial development of the Diabetes Care Coordination Program.

To further identify specific barriers to care and self-management among African-American women living with diabetes, the project conducted four focus groups at the program start. Two focus groups were held with current diabetes patients to discuss barriers to clinical care and self-management of diabetes. The remaining two groups were held with public housing residents to discuss barriers to care and healthy living. Barriers identified included unemployment, lack of transportation, and inadequate understanding of the risks and complications of diabetes. The planning phase also included a community-wide asset assessment to identify community partners and resources to address the gaps noted by participants in the focus groups.

The needs assessment and focus group sessions were used to refine the program approach. The Institute of Healthcare Improvement's Plan-Do-Study-Act planning cycle provided the framework. This was used to introduce and determine the effectiveness of individual quality improvement elements of the program such as goal setting for self-management and for foot exam documentation.

INTERVENTION

The Diabetes Care Coordination Program featured three tracks of intervention: a) identifying and then connecting newly diagnosed African-American women to comprehensive diabetes care, b) improving quality of care and patient outcomes through case management, and c) improving patient diabetes self-management.

Table 1 below summarizes the intervention components and specific elements of the Diabetes Care Coordination Program:

INTERVENTION COMPONENTS	SPECIFIC ELEMENTS (what was done)	MODE OF DELIVERY (by whom and how)
Diabetes Self-Management Education	• On-site diabetes education workshops covering topics related to prevention and self-care	• Diabetes Health Ambassadors
Support for Managing Diabetes and Distress	• Patients are given access to individual and group sessions with a Certified Diabetes Educator, individual or group sessions with a registered dietitian, group medical visits, medication adherence support, and referrals to exercise facilities • Whittier Street staff work with patients to set goals, provide support, and conduct follow-up to ensure success	• Diabetes Health Ambassadors • Diabetes case manager
Enhanced Access/Linkage to Care	• On-site blood pressure and glucose screenings	• Diabetes Health Ambassadors

	• Women identified as having markers for diabetes were referred to Whittier's Diabetes Care Coordination program	• Outreach Nurse • Diabetes Case Manager
Improve Quality of Care	• Patients are linked with a patient navigator who coordinates their care. This includes assisting patients in overcoming barriers to care, understanding treatment options and preventive behaviors, and providing connections to clinical and emotional support services • Diabetes Health Ambassadors receive ongoing training and support for clinical measurement, patient support, and cultural competence • Clinical practice changes, such as new protocols for foot exams, self-management goal-setting, and high-risk case stratification, to ensure consistency and enhance quality of care	• Diabetes Health Ambassadors • Diabetes case manager • Healthcare provider • Clinical pharmacists
Community Organization, Mobilization, and Advocacy	• Outreach to public housing residents by trained Diabetes Health Ambassadors (e.g., Coffee Hour events) • Navigation to health insurance	• Diabetes Health Ambassadors • Diabetic Case Manager • Patient Health Benefit Navigators
Health System and Community Transformation	• Building social interaction • Strengthen community partnerships • Reduce inappropriate emergency room utilization and preventable hospitalization	• Health Ambassadors • Clinical Team • Program Director

STORY OF COMMUNITY TRANSFORMATION: Diabetes Health Ambassadors

Whittier Street Health Center made it a priority to engage culturally-competent women who face the same challenges with diabetes as the target community and live among them. For this reason, Whittier Street recruited Diabetes Health Ambassadors through recommendations from healthcare providers at the Health Center.

The Diabetes Health Ambassadors were required to meet the following requirements:

- African American woman
- Live in one of the 5 public housing developments
- Diagnosed with type 2 Diabetes
- Demonstrated improved clinical outcomes for the prior 6 months
- Have established and met their diabetes self-management goals
- Available for at least 20 hours a week
- Passionate about the health of their community residents

Diabetes Health Ambassadors were trained for 4-6 weeks; they learned basic information about diabetes and strategies for diabetes self-management. The most important skill these women brought to Whittier Street Health Center was their knowledge of the community in which they live and their ability to navigate through these communities. Diabetes Health Ambassadors were able to guide Whittier in connecting to the public housing units linked to the Boston Housing Authority. In addition, they were knowledgeable of when and where

outreach should occur, available spaces where classes could be held, and local events in which to participate. The Ambassadors were compensated for their time using funds from the grant.

Diabetes Health Ambassadors were essential in connecting public housing residents to comprehensive diabetes care. They assisted the outreach and clinical team in identifying diagnosed and undiagnosed African-American women with type 2 diabetes living in public housing developments. The engaged them in a diabetes care plan through door-to-door and local event outreach. The Health Ambassadors encouraged their peers to establish and meet their self-management goals by sharing their personal story of controlling their diabetes, while serving as community advocates for those with diabetes.

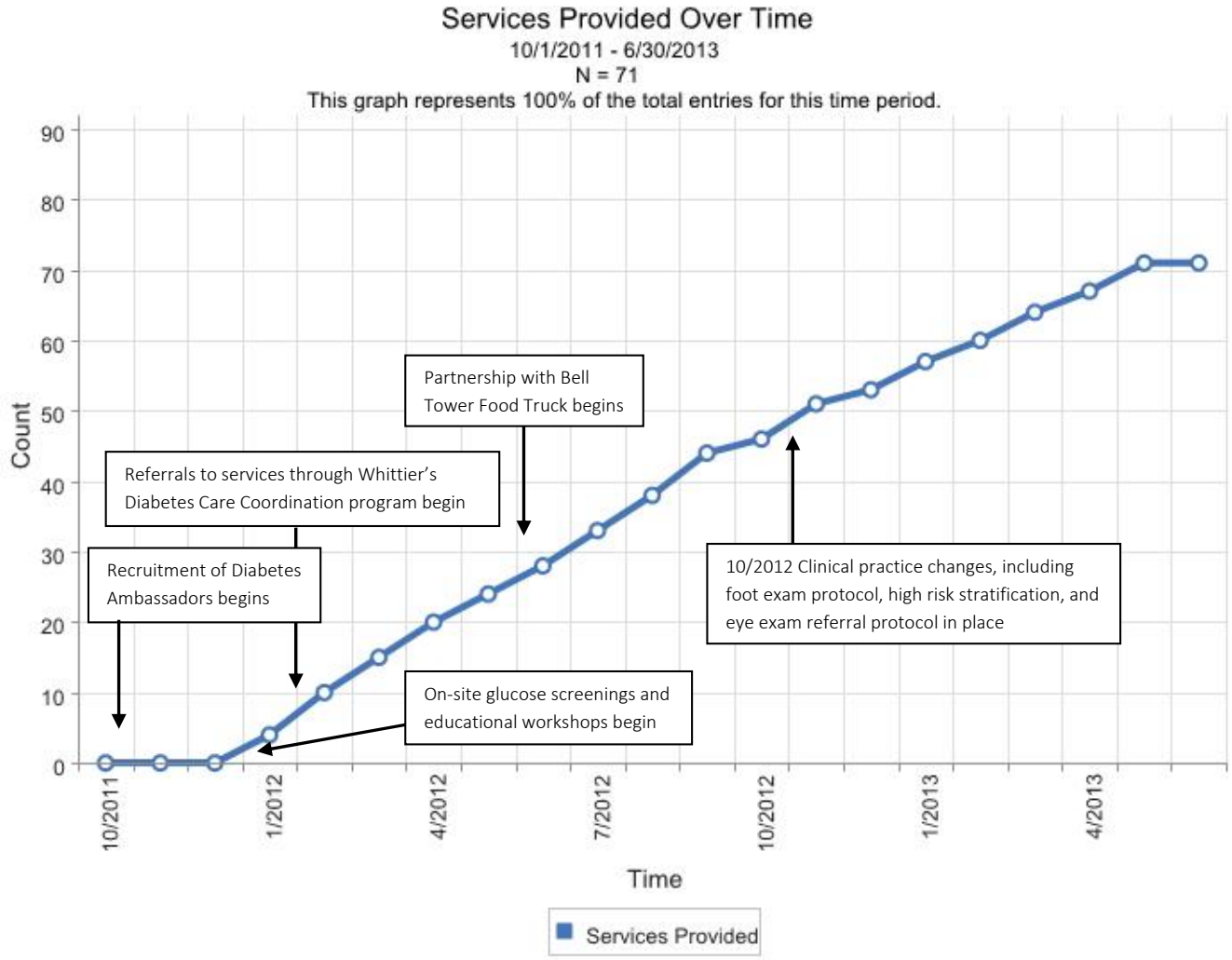
EVALUATION RESULTS AND FINDINGS

Data on Project Implementation

The results show steady implementation of program components with intended clients. From the project onset to completion (10/2011-06/2013), 980 different African-American women in Roxbury, Boston were screened for diabetes. 312 patients were referred and retained in the Diabetes Care Coordination Program. 97 outreach sessions were conducted at community sites during this project period.

Figure 1 below displays the unfolding of services provided—a measure of program implementation—to the program's clients over time. (Note: In a cumulative chart, each new activity is added to all prior activities.) These services included outreach, screenings and educational sessions for residents of public housing. It also included group sessions, support and goal-setting for patients, and coordinated and comprehensive diabetes care within the clinic. The data show steady implementation of services provided throughout the course of the grant period, indicating successful outreach and implementation strategies. Increased rates of services provided (beginning in January 2012) was associated with recruitment and engagement of Diabetes Health Ambassadors in referring local residents to Whittier's Diabetes Care Coordination program. The increase was also associated with the onset of on-site glucose screenings and educational workshops in the community.

Figure 1: Services Provided Over Time at Whittier Street Health Center



Data on Clinical Outcomes

The results also show some modest improvements in clinical outcomes for those enrolled in the program, including statistically significant improvements in HbA1c levels, blood pressure and weight. For patients for whom pre- and post-assessments were available (N=149), there was a mean change in HbA1c levels from 7.76% to 7.48%. Furthermore, there was a reduction in the number of enrolled participants with HbA1c levels above 9; from 20% of the enrolled population at pre-assessment to 15.6% at the end of the grant period.

Table 1 below summarizes the results for key clinical outcomes (using pre- and post-intervention assessments with participating clients):

Table 1: Pre- and post-assessment outcomes of patients enrolled in the Diabetes Care Coordination Program				
CLINICAL OUTCOME	RESULTS			
	Pre-assessment mean	Post-assessment mean	Mean Change	P-value

Average HbA1c levels	7.76	7.48	0.3	0.016
Average systolic blood pressure (mmHg)	146.2	134.5	11.6	0.096
Average diastolic blood pressure (mmHg)	82.9	80.7	2.2	0.027
LDL cholesterol	94.2	90.8	3.4	0.139
Total Cholesterol	174	170	3.8	0.153
Average weight	199.9	197	3.0	0.02
Average BMI	34.6	34.3	0.3	.203

Clinical changes in BMI were modest among program participants, however a total of 82 participants in the weight loss program lost over 900 pounds (an average weight loss of 11.22 pounds for each participant). Also, more than 50 of the 82 participants met their blood pressure control goals through medication adherence and dietary improvements.

The findings from this case study show associations between implementation of the program and modest improvements in clinical outcomes for participants. Without suitable comparisons and stronger experimental designs, however, there may be other plausible explanations for the improvements.

WHAT WE ARE LEARNING

Whittier Street staff helped to identify key restraining and facilitating factors.

Several facilitating factors appear to have contributed to the program's success. These include:

- Using culturally-competent Diabetes Health Ambassadors from public housing offered increased access to the target population, increased visibility within the community, and increased trust of the program. Using this approach, more than 900 women were connected to diabetes screening, with 149 of those women reengaging to receive primary care.
- African-American women act as gatekeepers for health to their families and serving one woman means serving the whole family.
- "It takes a village," in this case a coordinated clinical team to provide the needed services for controlling diabetes.
- To help assure access, Whittier extended the hours of the diabetes navigator to include evening hours and established a transportation reimbursement program for clients seeking access to health care.
- Diabetes Health Ambassadors gained new insights into the management of their own disease and adopted additional lifestyle changes that have improved their personal health and well-being.

- Lifestyle changes made by participants may have had an impact on other family members living within the home. For example, one participant reported having stopped purchasing soda beverages for her family and having introduced healthier meals into their diet.

There are restraining factors or challenges that make it more difficult to implement the program and achieve improvements in clinical outcomes with this population experiencing health disparities. These include:

- Reaching women who were away from their residence during business hours.
- Securing transportation for participants for on-site workshops and primary care at the Whittier facility.
- Keeping patients engaged in continuous care. Incentives, such as gift cards to local grocery stores and utilizing a partnership with a local food truck, were used to try to address this challenge.
- Inadequate access to mental health services to help patients cope with depression and stress management. Many patients experienced this while also attempting to manage their diabetes. To remedy this gap in service, an Integrated Behavioral Health Specialist was hired. This specialist is available for walk-in appointments and was also included in group visits.

MOVING FORWARD AND PLANS FOR SUSTAINABILITY

TABLE 2 outlines the Whittier Street Health Center's plans for sustaining the Diabetes Care Coordination Program.

TACTICS OF SUSTAINABILITY	SPECIFIC EXAMPLES OF TACTIC
Apply for grants	• Whittier continually pursues foundation, corporate, and government funding through applying for grants. • Whittier was awarded a grant through the Kresge Foundation.
Solicit in-kind support	• Whittier's vice-president for programs and services has been soliciting in-kind support to keep program components running.
Develop a fee-for-service structure	• Whittier Street Health Center uses money from billable visits to keep other program components running (e.g. the group clinical visit, the individual nutrition education).
Acquire public funding	• The National Health Disparities Collaborative has asked Whittier's President and CEO to speak nationally on several health disparity topics to address Diabetes Prevention and Management using self-management in an effort to acquire public funding.
Establish a donor or membership base	• The Health Center is currently planning to build a Medical Fitness Center that would be available to all community residents at a discounted price.

PROJECT PUBLICATIONS AND MATERIALS

- Ebekozien, O., Hashi, U., Healy, P. Community Health Ambassadors Program. Poster presented at: Bristol-Myers Squibb Foundation's Together on Diabetes Summit. February 25-27, 2013; Emory

Conference Center, Atlanta, Georgia. [http://www.bms.com/documents/together_on_diabetes/2013-Summit-pdfs/TOD-posters.pdf]

- Ebekozien, O. (2013) Evolving Clinic-Community-Public Health Collaborations for Equity in Diabetes. Presented at: Joslin Diabetes Innovation Conference. October 3-5, 2013; Washington D.C.
- Curriculum for diabetic group self-management classes

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