

American Association of Diabetes Educators

Implementing a Coordinated Care Model: A 12-Month Pilot

PROJECT OVERVIEW

The American Association of Diabetes Educators (AADE), the nation's leading professional association for diabetes educators, sought to implement an integrated model for treating patients with diabetes. This model featured two primary components: the patient-centered medical home (PCMH) and diabetes self-management education (DSME) that incorporates community health workers as cultural liaisons. Both PCMH and DSME share common principles, including a focus on patient-centered, personalized care that actively involves the patient. Thus, the project sought to integrate multi-level DSME teams that included community health workers within PCMHs because it had promise for improving clinical outcomes for people with diabetes.

To understand the feasibility, effectiveness, and generalizability of this integrated model, AADE identified and selected four different implementation partners, each providing care to a different underserved patient population disproportionately affected by diabetes. These sites met specific eligibility requirements for participation: 1) Have, or willing to obtain, an accredited DSME program through a National Accreditation Organization; 2) Have or agree to fulfill the National Committee for Quality Assurance Requirements for recognition as a PCMH; and 3) Provide services to an underserved population disproportionately affected by diabetes. The sites selected to implement the integrated model were: a) Jacksonville Disparity Institute, University of Florida (UF) Health Jacksonville; b) Ohio University College of Osteopathic Medicine, University Medical Associates Diabetes Center; c) Oklahoma University College of Pharmacy; and d) Vanderbilt University School of Medicine. The implementation phase of this pilot project lasted 6 months.

CONTEXT AND PARTNERS

The PCMH model aims to make care more personalized, coordinated, effective, and efficient. It does so by changing health care settings to facilitate partnerships between patients, their physicians, and loved ones. Services through a PCMH is considered to be a promising approach for improving diabetes care. Diabetes self-management education is an essential element of diabetes care that has demonstrated improved clinical outcomes, improved patient satisfaction, and lowered healthcare costs. Ideally, PCMH-based care would include DSME as a component of a coordinated approach to treating patients with diabetes, although the effects of this approach remain unknown. Diabetes educators and support personnel provided DSME that included culturally relevant diabetes information to enhance diabetes knowledge, self-management skills, assistance with problem solving, and individualized support.

Of the four primary care sites selected, one was an established PCMH at the time of selection (Jacksonville Disparity Institute, UF Health Jacksonville); and three had an accredited DSME program (Jacksonville Disparity Institute, UF Health Jacksonville; Oklahoma University College of Pharmacy; and Vanderbilt University of Medicine). By the time of implementation, all four sites (including UF Health Jacksonville, Ohio University College of Osteopathic Medicine, Oklahoma University College of Pharmacy, and Vanderbilt University School of Medicine) reported receiving PCMH and had established an accredited DSME programs.

Each implementation site served a unique group of underserved patients from their diverse settings including African Americans and low-income residents of Appalachia. The racial characteristics by site included:

- UF Health Jacksonville—82% African American, 12% Caucasian, 3% Hispanic
- Ohio University College of Osteopathic Medicine—96% Caucasian, 4% African American
- Oklahoma University College of Pharmacy—100% African American
- Vanderbilt University School of Medicine—46% Caucasian, 44% African American

Other partners included:

- Athens County Wellness Committee
- AmeriCorps
- Live Healthy Appalachia

ASSESSMENT AND PLANNING

A project advisory committee was formed to define project outcomes and establish an oversight process for the duration of the project. The committee then developed the project timeline, including milestones to be met.

Once the four sites were selected, AADE staff members worked with each of the sites to oversee implementation of the program components. AADE staff held monthly phone calls with all four provider sites to ensure implementation of core components across the diverse sites. Although implementation of project components varied to reflect differences among sites—for instance, whether research or practice based—all sites provided DSME within a PCMH and engaged patient supporters to reinforce curriculum instruction and provide individualized support. Patient supporters included community health workers, AmeriCorps volunteers and Medical Assistants who were trained to share culturally relevant diabetes information and DSME support. Each site obtained IRB approval for the project and program participants were recruited.

INTERVENTION

This coordinated care model featured three main components: a) a comprehensive, multi-level Diabetes Self-Management Education program; b) Patient Centered Medical Home designation; and c) programs to address the needs of underserved populations.

Table 1. Components and Elements of the AADE’s Coordinated Care Model

INTERVENTION COMPONENTS	SPECIFIC ELEMENTS	MODE OF DELIVERY
Diabetes Self-Management Education	Behavior-change curricula aimed at addressing patient health behaviors identified in the AADE7 Self-Care Behaviors™: a) Healthy eating, b) Being active, c) Monitoring, d) Taking medication, e) Problem solving, f) Reducing risks, and g) Healthy coping	Certified diabetes educators facilitated both individual and group DSME sessions. Health coaches supplemented DSME with curricula to enhance health literacy and enhanced nutrition education.
	Individual and group-based ad hoc education sessions to increase health literacy; included enhanced nutrition education	
Support for Managing Diabetes and Distress	Support group for diabetes patients	Patient-led support groups assisted patients coping with diabetes distress.

	Diabetes self-management support	Health coaches performed follow-up phone calls with patients to review and promote self-management behavior.
	Cooking classes featuring diabetes-compatible recipes and demonstrating use of healthy ingredients	Project staff delivered cooking classes to participants via a mobile kitchen at a local community center.
Enhanced Access/Linkage to Care	Delivery of home or at work follow-up care for patients with chronic diabetes who did not meet scheduled medical appointments	Medical assistants sought patients at home or place of employment to provide clinical services.
	Brown-bag outreach meetings at community centers and retirement communities with elderly residents to discuss the importance of diabetes care	Clinic staff conducted these access/linkage to care outreach events at local senior centers to reach elderly residents suffering from diabetes.
	Individualized, phone-based, linkage-to-care services to connect with patients with diabetes	Community health workers and health coaches contacted patients via telephone to connect them with community supports for diabetes management and to provide transportation to receive clinic services.
	Enhanced supports for patients with diabetes, including providing transportation to treatment appointments and arranging home visits	
Improve Quality of Care	Incorporation of Level 1 (community health workers) and Level 2 (healthcare workers with limited experience in DSME) educators within the delivery of the DSME curricula to provide culturally relevant diabetes self-management information and support	Implementation of the Coordinated Care Model within PCMHs established multi-level DSME delivery, coordinated care teams, and the use of electronic patient medical records for coordination and assurance of diabetes standard of care.
	Electronic patient medical records	
	Coordinated patient care teams (e.g., primary care doctor, nurse care coordinator, certified diabetes educator, and health behavior coach)	

Story of Community Transformation: Service Integration for Better Patient Support

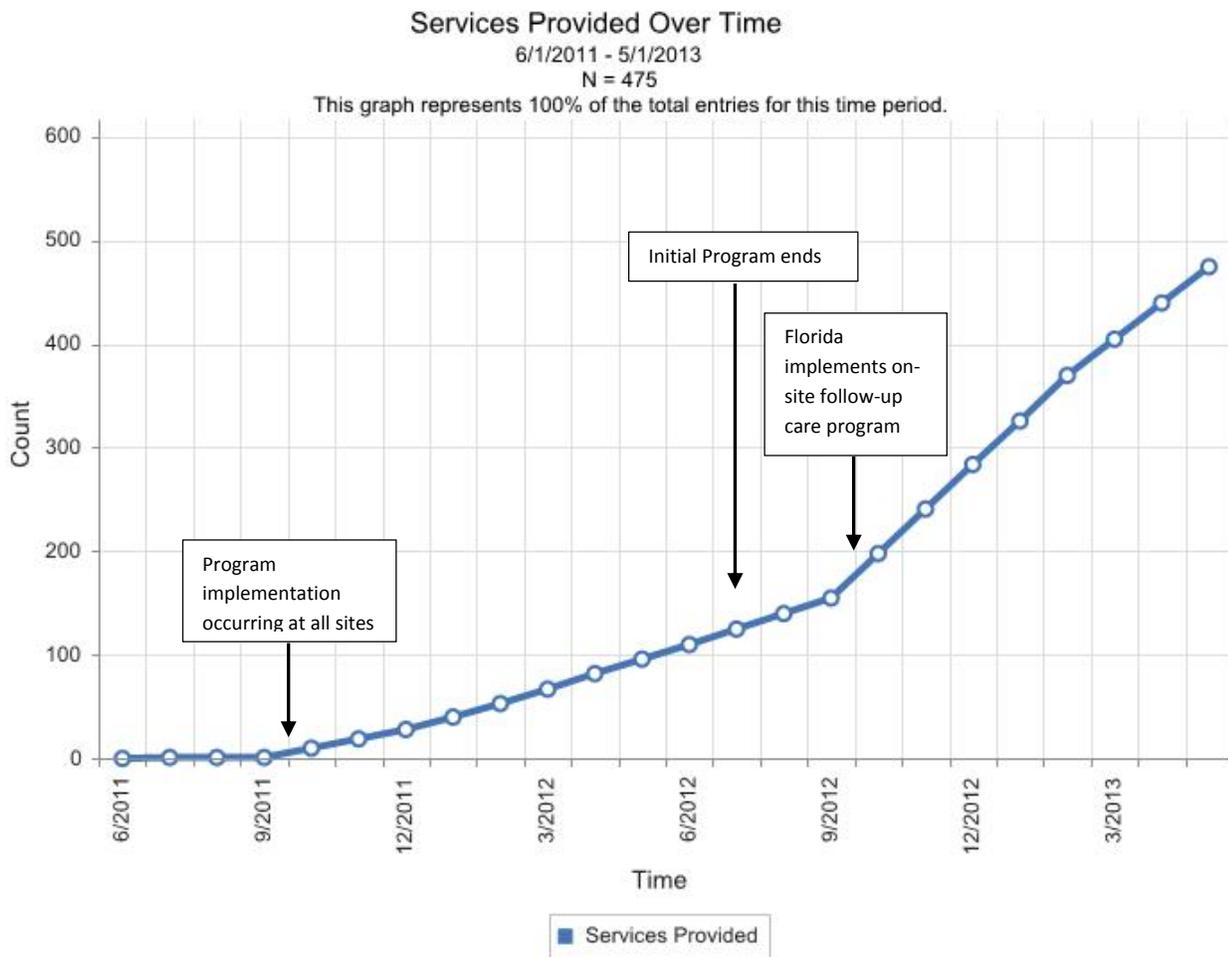
The UF Health Jacksonville care system is comprised of five nationally recognized PCMHs whose mission is to improve chronic disease outcomes for the underserved population of Duvall County, Florida, 89% of which are African Americans. Consistent with this goal, UF Health Jacksonville integrated the AADE7 Self-Care Behaviors™ curriculum with their Diabetes Rapid Access Program (D-RAP), an enhanced protocol within the PCMH model that utilizes patient data in real time for diabetes care. The integration of the AADE7 Self-Care Behaviors™ curriculum with the D-RAP has allowed for the enhanced delivery of personalized patient support that is now tailored the patient’s level of diabetes knowledge. This improvement has allowed the UF Health Jacksonville diabetes treatment network to enhance their diabetes treatment program.

EVALUATION RESULTS AND FINDINGS

Data on Project Implementation

Figure 1 below displays program implementation – the unfolding of services provided to the program’s clients over time. (Note: In a cumulative chart, each new activity is added to all prior activities; so, a steeper line shows a higher rate of activity) The data show steady implementation of services provided throughout the course of the grant period with an acceleration of services occurring halfway through the project. This acceleration in services provided was associated with implementing a new strategy—an onsite follow-up care program—aimed at increasing access to clinical services.

Figure 1: Services Provided over Time across all AADE Implementation Sites



Data on Clinical Outcomes

Evaluation results focus on pre-post differences in clinical outcomes and the implementation of services related to the project. The documented decrease in HbA1c for particular sites ranged from 0.4% to 0.9% after 6 months, the latter being both a statistically and clinically significant reduction. Improvements were noted for

other clinical outcomes including average blood pressure, LDL cholesterol, and average total cholesterol. No improvement was noted for average BMI or triglyceride.

Table 2 below summarizes the results for key clinical outcomes averaged across all sites (using pre- and post-intervention assessments with participating clients):

CLINICAL OUTCOME	RESULTS			
	Pre-assessment mean M (SD) N	Post-assessment mean M (SD) N	Difference (case matched) M (SD) N	p value
Average HbA1c levels %	9.1 (2.4) 173	8.5 (2.1) 86	-0.43 (1.6) 86	** .01
Average BMI kg/m ²	36.4 (9.3) 160	37.1 (7.0) 47	-0.44 (2.1) 47	.16
Average systolic blood pressure mmHg	133.5 (18.2) 153	134 (18.4) 67	0.29 (21.5) 59	.29
Average diastolic blood pressure mmHg	78.1 (10.3) 153	77.2 (10.1) 67	-1.32 (12.4) 59	.42
Average HDL cholesterol mg/dL	47.7 (22.0) 129	44.6 (16.7) 63	3.39 (18.5) 54	.14
Average LDL cholesterol mg/dL	90.8 (39.1) 130	95.4 (32.8) 61	-4.41 (31.5) 49	.33
Average total cholesterol mg/dL	179.8 (46.4) 29	173.8 (42.5) 63	-9.33 (58.9) 51	.26
Average triglyceride mg/dL	171.3 (89.7) 127	173.7 (84.0) 67	15.45 (86.3) 49	.22
Total AADE7 Behaviors™	2.7 (0.3) 172	2.7 (0.3) 52	0.4 (0.4) 52	.50

The findings from this pilot study show marked increases in services provided related to project implementation. Qualitative data from the two focus groups at three of the four implementation sites revealed that patients valued their interactions and support for lifestyle changes enabled by the project’s patient supporters. Patients also reported satisfaction with interpersonal relationships that aided their healthy coping and problem solving. The results of this project suggest that this comprehensive PCMH and DSME model holds promise for improving diabetes-related clinical outcomes.

WHAT WE ARE LEARNING

This project targeted underserved populations with type 2 diabetes to assess the feasibility of implementing a comprehensive model that integrates DSME within PCMH. Key learnings from this project include:

- Integrating DSME with the PCMH model is a promising strategy for serving patients from diverse populations experiencing health disparities.
- Patient supporters can deliver DSME and personal support for diabetes patients within these settings; and this was an important contributor to patient satisfaction.
- It is possible to provide quality DSME in the PCMH whether the two programs are already established or when DSME is newly integrated into an existing PCMH.
- Policy changes and programs developed as a part of the initiative continue to be implemented after the funding concluded. This suggests that primary care providers and/or institutions find value in this integrated approach to addressing type 2 diabetes.

PROJECT PUBLICATIONS AND MATERIALS

A number of dissemination efforts were associated with this project including:

- Vanderbilt Diabetes Clinic—(April, 2013) RE-AIM to Evaluate a Pilot Diabetes Self-Management and Education Team in a Patient Centered Medical Home. Poster presented at the 36th Annual Meeting of the Society of General Internal Medicine, Denver, CO.
- Pfizer/National Committee for Quality Assurance—(April, 2013) Profile: Implementing a Patient-Centered Medical Home Model for Underserved Patients with Chronic Diseases, UF Health Jacksonville. Article featured in Focus on the Patient-Centered Medical Home, Profiles Leadership Series report.
- UF Health Jacksonville—(November, 2012) Presentation made at the Promising Practice in Diabetes Prevention and Care award luncheon, hosted by the Healthy Jacksonville Diabetes Coalition, honoring the initiative, Jacksonville, FL.
- AADE—(August, 2012) Preliminary results presented at the AADE Annual Meeting & Exhibition, Indianapolis, IN.
- AADE held a Work Force Summit in June, 2012 to discuss opportunities for using multi-level diabetes educators to provide DSME to diabetes patients. A manuscript resulted from the summit.
 - Martin, A. L., & Lipman, R. D. (2013). The Future of Diabetes Education Expanded Opportunities and Roles for Diabetes Educators. *The Diabetes Educator*, 39, 436–446.

A number of materials were associated with this project including:

- AADE7 DSME curriculum available at: <http://www.diabeteseducator.org/ProfessionalResources/AADE7/>

MOVING FORWARD AND SUSTAINABILITY

As noted in Table 3 below, the sustainability efforts associated with this project included use of multiple tactics adjusted for the different sites and contexts.

Table 3. Tactics and Approaches to Sustainability

TACTICS OF SUSTAINABILITY	SPECIFIC APROACH
1) Become a line item in an existing budget of another organization - Convince another organization to pick up part of the expenses of running the initiative (e.g., the city provides funding for a school health program).	The type 2 diabetes access/linkage to care navigator that was associated with this project was hired by the local school district to provide similar navigation services to children with type 1 diabetes.
2) Incorporate the initiative’s activities or services into another organization with a similar mission	AADE, in partnership with the University of Florida Health Jacksonville, applied for and was chosen for evaluation as part of the CDC’s Million Heart Campaign initiative to establish practice recommendations for addressing chronic disease, including diabetes.
3) Apply for grants - Consider time and resources that will be necessary for success, and the need for reapplication.	AADE submitted a CDC grant to scale the efforts of improving the availability of diabetes prevention programming. The pilot program funded by the Bristol Myers Squibb Foundation was used as a demonstration for AADE’s capacity for network engagement and the implementation of sustainable programming.
	Bristol-Myers Squibb Foundation Together on Diabetes funded an AADE Phase 2 project. This is focused on implementing and evaluating a model for delivery of integrated DSME and DSMS to high disparity populations. It utilizes a multi-level team consisting of diabetes educators and patient supporters.
4) Solicit in-kind support - Seek goods and services the organization would otherwise have to purchase (e.g., donations of office supplies from a local business).	Ohio University College of Osteopathic Medicine sought and used AmeriCorps as lay health workers to deliver access/linkage to care services.

PROJECT CONTACT INFORMATION

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EVALUATION CONTACT INFORMATION

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