Assessing the Impact of the Diabetes Collaborative on New Jersey's Community Health Centers

Prepared by:
Selina Haq, Ph.D.
Linda Whitfield Spinner, LCSW
New Jersey Primary Care Association

The Diabetes Collaborative:

In 2007, 16 of New Jersey's 19 health centers participated in a New Jersey Statewide Diabetes Collaborative. Improving the quality of care and generating better health outcomes for diabetes patients were at the core of this collaborative process. Through this integrated and collaborative statewide effort, New Jersey health centers worked toward eliminating disparities and improving health care delivery systems. The goal of this collaborative effort was to improve the delivery of health care services for people living with diabetes as a proactive approach towards planned care. The Diabetes Collaborative emphasized a systems approach to organizational transformation that emphasized process mapping, plan-do-study-act (PDSA) cycles focused on delivery system redesign of the diabetes visit, and the use of data to assist with planned care. Health centers participating in the collaborative redesigned their processes to improve their healthcare delivery systems and decrease wait times. As a result of the quality improvement efforts that were tested and implemented during the Statewide Diabetes Collaborative, thousands of New Jersey residents were educated about their chronic disease, and worked with their providers to adhere to their self management goals. Additionally, there was an increase in statewide collaboration among the New Jersey health centers related to quality improvement and information sharing that followed the collaborative learning year.

Assessing the Impact of the Collaborative: Methodology

Many of the health centers participating in the diabetes collaborative noted making significant changes in their health care delivery systems and reported improved health outcomes for their patients. Reportedly, many health centers are now taking a team approach to diabetic care, focusing more on planned visits for diabetic patients, increased provider awareness of management of chronic disease conditions, and taking advantage of best practice information sharing among collaborative members to improve health outcomes for their patients.

To take a closer look at how the Collaborative improved health care delivery at the health centers, New Jersey Primary Care Association (NJPCA) conducted a survey of the 16 health

centers that participated in the Diabetes Collaborative. The survey questions were focused on process changes in diabetic patient education; establishment of patient self management goals; care coordination for diabetic patients (i.e. specialty care, foot care, eye exams); changes in patient HbA1c levels; and spill-over effects in other areas of over all patient care. Clinicians from 14 health centers completed the survey. Their responses have been summarized to create this brief before-and- after review of health care delivery and improvements that follows.

Diabetic Patient Education and Care Before and After:

When asked about education for diabetic patients, most health centers reported that they were not doing formalized diabetic patient education before the collaborative. Health centers promoted health care awareness and prevention by providing one-on-one counseling to the patient by either the provider or the nurse. The process was not standardized so the messages varied from provider to provider. Also, patient education mostly involved giving out brochures on diabetes management, basic information on diabetes, insulin and meter education. Among the 14 health centers that participated in the study, only 2 health centers reported doing elaborate patient education and focused patient care prior to the Collaborative. The 12 centers that reported not having a focused patient education and care process prior to the collaborative noted that significant changes took place in approaching diabetic patient care after joining the collaborative.

Patient care became comprehensive and team focused; the health centers became more focused on providing chronic illness care and management. The health centers started doing planned visits for Diabetes Mellitus (DM) patients so that patients would be able to learn about their disease and control their conditions. Many centers began formalized group and individual diabetes education sessions focused on weight loss goals and nutrition, medication management, blood glucose monitoring and prevention of complications. Supplemental supportive services included referrals to nutritionists and community exercise programs. Overall, health center staff recognized their need to better understand diabetes care guidelines, provide effective patient education, and incorporate patients as partners in their own treatment in order to provide quality diabetes care.

Emphasis on Patient Self-Management Goals (SMGs):

One important element that was rigorously practiced by most of the health centers during the collaborative process was helping patients establish self management goals (SMGs). Effective self-management of diabetes, with support from the health care provider, can help patients and families cope with the challenges of living with the disease and treating the illness.[1] The many self management goals that were deemed appropriate for managing and treating a patient's diabetes could range from identification of behavioral changes such as recording blood sugars every morning and evening, setting up an exercise routine (i.e. increasing activity by walking 15 minutes everyday), setting and maintaining dietary routines, to checking feet conditions regularly. While majority of the (85.7%) health centers participating in the collaborative implemented the SMG process, the goals that would be set for each patient and the action tools that would be developed were primarily a function of the patient/provider partnerships. In general, once established, the provider would review the SMGs with the patient as part of the planned visit, assess the ability of the patient to manage the disease, and included a copy in the patients chart for continued review and assessment. Most of the health centers also shared a copy of the goals with their patients as part of the process.

A pre and post comparison of how involved the health centers were (14 of 16 centers reporting) in helping patients establish SMGs show a dramatic increase in emphasis on SMGs after the collaborative process started. Prior to the collaborative, about 71.4% (please see Figure 1) of the health centers indicated that they did not educate patients on self-management goals for diabetes care and only 28.6% of the centers reported that they did. After initiating the collaborative, this scenario changed completely; only 14.3% of the centers reported not educating their patients on SMGs (please see Figure 2) where as 85.7% of the centers reported that they did. While the collaborative ended in 2008, New Jersey health centers are sustaining the efforts began under the collaborative; currently, 92.9% of the centers (13 of 14 centers) routinely help patients establish and manage their self-management goals.

---

[1] Slide presentation by the Primary Care Development Corporation (PCDC) on "Self management Support Care Model Process Leader Training available at Health Resources and Services Administration (HRSA) Knowledge Gateway Library.

Figure 1: Routinely Educate Patients on Self-Management Goals (Before)

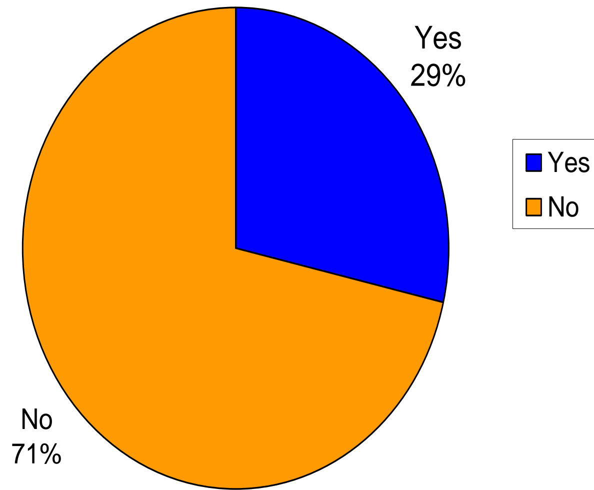
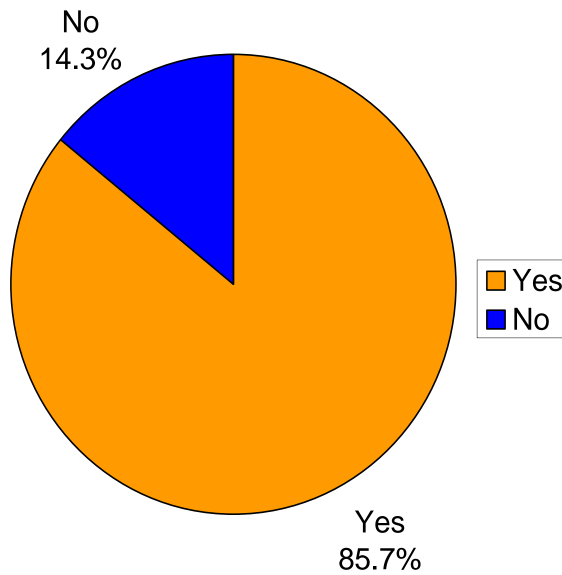


Figure 2: Routinely Educate Patients on Self-Management Goals (After)



Nutrition Education:

Health centers participating in the collaborative reported providing various nutrition-related materials to their patients prior to joining the collaborative. But there were no standard, uniform approach to incorporating nutrition education in total care for diabetes. Some of the health centers provided nutrition guidance one-on-one via nutritionists, and through counseling and group education classes. However, these health centers were only a handful; majority of the centers provided information on basic do's and don'ts and handed out literature on low carbohydrate diets. The centers that were not very hands on with regard to nutrition education prior to the collaborative reported providing more emphasis on diet and exercise; more referrals to nutritionists; and offering nutrition classes on healthy meals and portions via visual demonstrations of imitation foods and diagrams to make nutrition education more meaningful for patients.

Focus on Patients' HbA1c Levels:

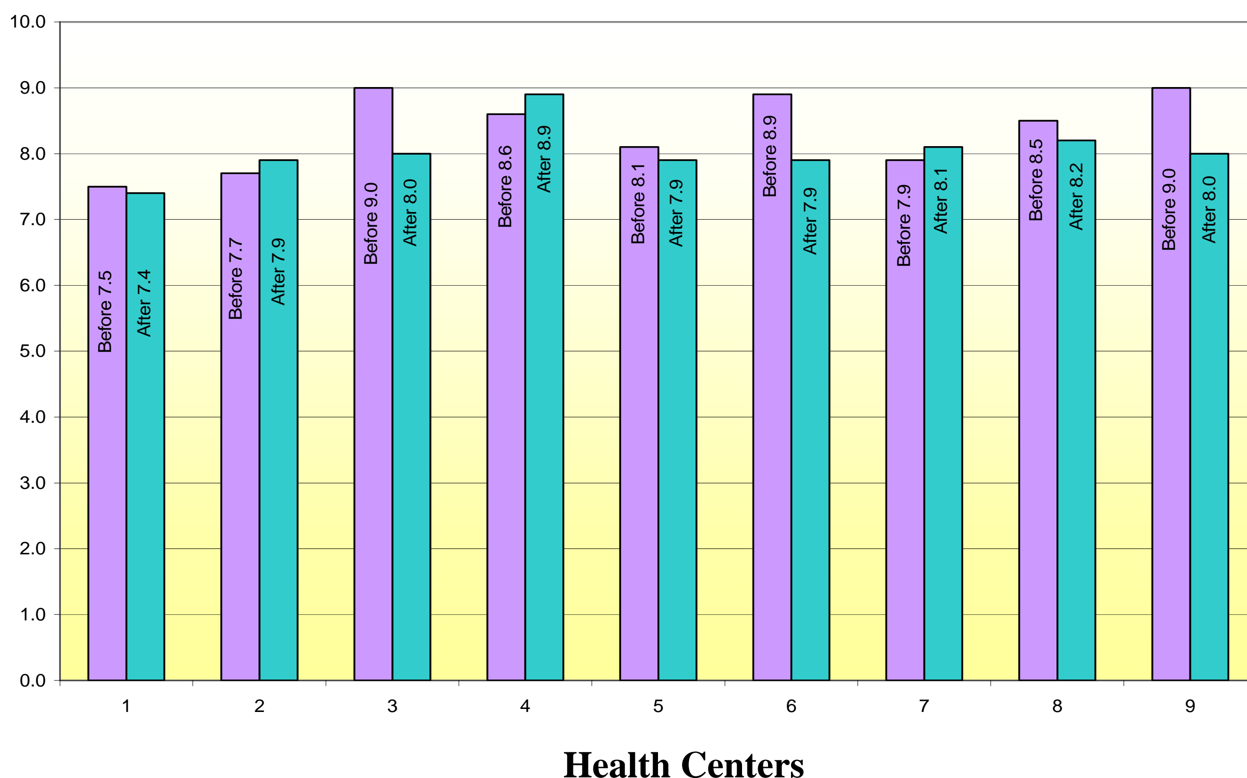
Data on patients' blood glucose levels, along with other relevant information (i.e. height, weight, age, BMI, co-morbid conditions, demographics and so on), became an integral part of the diabetic patient registry that aided the health centers in monitoring and tracking care for their diabetic patients. When the collaborative began in 2007, the health centers had 2,384 patients in their newly created patient registry. Currently, there are 8,642 patients in the patient registries of the participating health centers that provide easy access to patient information for coordination of care by their physicians.

According to the American Diabetes Association (ADA), stable blood sugar control maintained over time slows the development of diabetes-related complications including heart, eye, kidney and nerve diseases among diabetes patients.[2] Blood sugar monitoring, via hemoglobin HbA1c tests can help physicians and patients be vigilant about changes in their glucose levels such as high blood sugar (hyperglycemia) or low blood sugar (hypoglycemia) and to plan a healthy

[2] American Diabetic Association (ADA) cited in "Bayer Acquires Metrika, Inc." available at www.vita.bayerhealthcare.com.

lifestyle with proper meals, activities, and medication regimens.[3] Under the clinical practice guidelines provided by the ADA, diabetes is considered to be under control when a patient maintains an HbA1c of 7% or less. Using the HbA1c of 7% as a standard, health centers monitored patient blood glucose levels for all diabetic patient visits throughout the collaborative and beyond. Nine (9) of the 14 centers reported the average HbA1c levels for their patients at the beginning of the collaborative and the current levels of HbA1c for their patients at the time they completed the survey. Among these, 6 out of the 9 centers observed decreasing average HbA1c levels for their patients (please see figure 3). While this may not be the best gauge of success for the collaborative partners, focused patient tracking and care coordination based on relevant patient data became the cornerstone of diabetic patient care at the health centers.

Figure 3: Patients' HbA1c Levels (Before & After)



[3] “ab Medline Plus>Blood Glucose Monitoring Update Date: 6/17/2008. Updated by: Elizabeth H. Holt, MD, Ph.D. In turn citing: American Diabetes Association. Standards of Medical Care in Diabetes—2008. *Diabetes Care*. 2008; 31: S12-S54.

Better Care Coordination for Patients:

The collaborative had a major impact on all the participating health centers' care coordination for diabetic patients. Complete diabetic care involves continued vigilance over diabetes-related complications of the heart, eye, kidney and nerve diseases that can develop among diabetic patients. Before joining the collaborative, most centers referred their patients out for eye exams, foot exams and other related specialties. Majority of the centers still do refer their patients out for specialty services (few centers have ophthalmology and podiatry on site) not offered on site but in a more coordinated manner. Now, application of a team approach to patient care ensures that all clinical staff responsible for providing care for a patient is aware of specialty services required and received by the patient and use that information for managing chronic care conditions. Many centers also have electronic reminders for these specialty services so they can guide patients to essential care in a timely manner. Additionally, many health centers also formed partnerships with community organizations (i.e. Commission for the Blind, AHA, Curves) and integrated specialist expertise with primary care which filled the gaps in needed specialty services.

Health Center-wide Impacts/Spill-Over Effects:

After participating in the collaborative, health centers used elements from the Care Model to improve delivery of care and spread these best practices across other disease areas. The Chronic Care Model (CCM) identifies the essentials of a health care system that encourage high quality chronic disease care. These elements are the community, the health system, self management support, delivery system design, decision support, and clinical information systems. Evidence-based change concepts under each element, in combination, foster productive interactions between informed patients who take an active part in their care and providers who have resources and expertise.[4]

Some of the across the board changes that took place at the health centers that benefited all patients included closer monitoring of patient outcomes through standardized clinical and

[4] http://www.improvingchroniccare.org.

process measures. The process of data collection and analysis used in the diabetes collaborative provided a better understanding of how similar data from other disease areas can be used to monitor patient status and improvement goals. Many health centers also incorporated SMGs as a standard for planned care for other types of chronic care conditions (i.e. hypertension, asthma). Other important elements taken from the collaborative experience that transcended health center boundaries included team approach to care management, group sessions for patient education, development of patient education materials that used the literate approach, and development of partnerships with community organizations and pharmaceutical companies to help fill the gaps in patient needs.

Statewide Quality Initiatives: Continuity & Beyond

The Care Model and the Improvement Model were used as a framework for quality improvement efforts during New Jersey's Statewide Diabetes Collaborative. Today, New Jersey health centers continue to use these models to improve delivery of health care for their patients. They have maintained a network for sharing "Best Practices" and support one another in their quality improvement work. Thousands of New Jersey residents are being educated about their chronic diseases, taking the appropriate medications and are working with their providers to adhere to their self management goals.

Soon after the conclusion of the diabetes collaborative learning year, New Jersey health centers began to spread best practices across other medical conditions and departments. Many centers moved beyond the basics of quality improvement (QI) for clinical and process measures and instituted a *systems type thinking* approach to help transform their organizations. Quality improvement models were incorporated in organizational QI and Strategic Plans.

A new model of patient care known as the 'Patient Centered Medical Home' (PCMH) is gaining momentum nationwide. As defined by the American Academy of Pediatrics, a medical home addresses how a primary health care professional works in partnership with the patient/family to assure that all of the medical and non-medical needs of the patient are met. Receiving care through a medical home can improve the health outcomes of patients by promoting timely use of

health care services, increasing continuity of care, and raising satisfaction of care by families and providers. This approach seeks to replace episodic care with coordinated care that is more patient centered.

The Medical Home concept is not new to New Jersey health centers as many have already incorporated several of the principles from this model (i.e. patient self management goals, culturally appropriate care and patient tracking). However, efforts to ensure that health centers improve patient access and communication; patient tracking and registry functions, care management, adoption of electronic medical records (EMRs) and health information technology (HIT) in order to become a Medical Home are still a work in progress.

Next Steps:

NJPCA will continue to support New Jersey health centers' efforts to improve delivery of health care for its residents. With promising evidence emerging related to the benefits of implementing the Patient Centered Medical Home framework, New Jersey health centers plan to take the next steps to bring them closer to this model of care. Under the recovery Act (ARRA) of 2009, providers are expected to have adopted and actively use Electronic Health Records (EHR) and fulfill the requirements of "meaningful use" of electronic health information starting in 2015. Towards that goal, majority of the health centers have implemented or are in the process of implementing EMRs in their organizations. Nine of the 20 health centers in New Jersey have already implemented EMR; 8 centers are in the process of implementing EMR within a 3-12 month timeline; 1 center is planning to acquire EMR in 2011; and the rest (2 centers) are considering adoption in the very near future. Establishment of the meaningful use guidelines will help these health centers improve care coordination, quality, access, efficiency, and safety. Future quality improvement efforts for New Jersey's health centers will focus on the implementation of the Medical Homes Model and meaningful use of electronic health information technology.