American Hospital Association

Seton Edgar B. Davis Hospital, Luling, TX
Community Health Coalition of Caldwell County's Home-Based Diabetes Education Program:
A Collaborative Approach to Disease Management

Overview

Located in Luling, 50 miles southeast of Austin, Seton Edgar B. Davis Hospital is a critical access hospital committed to providing quality inpatient and outpatient services for residents of Caldwell and surrounding counties. The hospital offers 24-hour emergency, plus comprehensive diagnostic and treatment services, health education and wellness programs. Seton Edgar B. Davis Hospital is a member of the Community Health Coalition of Caldwell County (CHCCC), a Texas Unincorporated Nonprofit Association organized in 2004 to operate exclusively to provide a vehicle through which local leaders and organizations (public and private) work as a team to improve access to and delivery of health services to residents of Caldwell County who are uninsured and underinsured.

Texas has the highest rate of uninsured persons in the nation. In Caldwell County, the rate is even higher than the state average. More than 9, 600 Caldwell County residents (27 percent) are not insured, compared with the state average of 24.1 percent and the national average of 15.8 percent. Additionally, diabetes is the most prevalent chronic disease in Caldwell County. In 2007, 8.8 percent of adults in Caldwell County were diagnosed with diabetes, compared with 9.7 percent of adults in the state.

The home-based Diabetes Education Program of the CHCCC partners with local health care providers, social services, community programs, agencies, and leaders to address the challenges associated with improving access to care for the uninsured and underinsured adult population of Caldwell County who have been diagnosed with, or are at risk for developing, Type 1 and Type 2 diabetes. The Diabetes Education Program aims to achieve the following goals:

- Provide comprehensive diabetes education in order to increase the quality of life for diabetic residents of Caldwell County
- Reduce the financial burden of uncompensated care resulting from preventable utilization of Seton Edgar B. Davis Hospital
- Reduce healthcare disparities and provide a comprehensive approach to chronic disease management

Lockhart and Luling are the two major cities served by this program. The program began seeing patients in August 2009 and is funded by a HRSA Network Development Grant through the Office of Rural Health Policy, allowing for diabetes education to be provided at no cost to the patient. The care coordination program deploys a bundled approach that focuses on behavioral, physiological, and psychosocial determinants that are known to increase morbidity and mortality in diagnosed diabetics. This bundle includes Diabetes Self-Management Education provided by a licensed dietitian that addresses knowledge deficits and self-care techniques based on the best-practice standards for diabetes care, as well as coordination with a Patient Prescription Assistance Program (PPAP) provided by a licensed medical social worker.

The program consists of an initial one-on-one session with the dietitian in the patient's home or Coalition office, with additional follow-up sessions scheduled at the discretion of the dietitian for up to a year. The sessions are designed to meet the needs of the individual patients and vary in content based on the needs and expressed interest of each patient. Patients receive educational handouts and are able to utilize other tools and resources such as food models, flashcards, food product packages, and glucometers. During each session, the dietitian and patient work together to identify and set pertinent and specific behavioral goals based on patient needs and interests, with evaluation and modification of these goals occurring at follow-up. Following each session, the dietitian develops a comprehensive assessment note to communicate with the patient's primary care provider/referral source and other relevant providers. Patients were enrolled in the program for approximately a year.

Patients are identified for program enrollment through one of three pathways:

1. Data retrieval of emergency department (ED) and inpatient hospitalization encounters for diabetic residents through the ICare® database, a regional central data repository of the Integrated Care Collaboration.

2. Direct referrals from primary care providers, federally qualified health centers, as well as community social programs/agencies.

3. Indirect referrals through community members and residents.

The program evaluated 53 patients enrolled between the months of August and December 2009, to measure the reduction of utilization at Seton Edgar B. Davis Hospital. Reported reduction in utilization viewed as net benefit is calculated on two assumptions: (1) that without an intervention, individuals with a defined pattern of behavior would continue that pattern and (2) when a patient is provided with self-management education, there will be a reduction in the utilization of healthcare services.

Hospital and clinic encounters were counted six months prior to their first diabetes education session, referred to as "encounter date." Patients were given 90 days after their first encounter to make the necessary behavioral changes to improve their health outcomes. Encounters within this 90-day period were not considered in the evaluation to accommodate behavior change and to minimize regression to the mean. Utilization was evaluated six months after the 90-day behavior change period. Results were calculated based on actual utilization and average cost per payer for each encounter type, and then annualized for this population.

Seton Edgar B Davis Hospital played a critical role in the success of the program. Patients who arrived at the ED with uncontrolled diabetes were directly referred to the diabetes education program shortly after discharge. This ensures proper hand-off and provides an interdisciplinary approach to effective continuity of care for the patient. Once patients were enrolled in the program, hospital providers worked closely with CHCCC staff to ensure that these patients followed the diabetes care plan. Further, given that the hospital had access to the ICare® system, care coordination staff members were able to better track the patient and thus improve health outcomes and reduce preventable hospitalizations and readmissions.

Impact

- Clinical outcomes—On average, the program has noted an average reduction in HbA1C of 2.3 percent. In all other measures, there are significantly improved clinical outcomes after educational intervention.

- Utilization outcomes—In addition to improved clinical outcomes, the program demonstrated a 33 percent decrease in emergency department visits related to diabetes, a corresponding 75 percent in inpatient visits, and an overall 61 percent decrease in all types of care. In addition to enrollment in the diabetes education and care coordination program, 40 percent of these patients were also enrolled in the PPAP and received public funding screening. In FY 2010, the PPAP served 320 patients overall and provided prescription medication savings of more than $554,000 in average wholesale value.

- Return on investment and local economic impact—By providing services for the treatment and prevention of diabetes, Diabetes Education Program will save the health care system a significant amount of money. In today's dollars, the decrease in medical expenditures resulting from visit avoidance is calculated to be $428,028; netted against program expense, the net benefit ratio is $2.85. For every dollar spent, $2.85 is saved through cost avoidance and care coordination.

Challenges/success factors

This approach to chronic disease management was a new concept in the rural community, which could have resulted in delayed adoption or acceptance. However, what led to the program's success was the support from local physicians and health care leaders, who helped establish patient accountability that, in turn, improved outcomes.

Future direction/sustainability

The increase in illness related to diabetes also decreases the area's economic productivity. The projected increase in productivity due to a healthier workforce in Caldwell County is projected to be $229, 555 over a five-year period. That includes fewer work days lost to illnesses and an increase in workforce participation. The resulting return on investment is $1.67 for every dollar spent—money that contributes directly to the bottom line of local businesses and the people they employ. When medical care and cost savings are combined with the increases in economic productivity that are derived from the treatment and prevention of diabetes, Diabetes Education Program will yield a five-year total return on investment of $4.52 for every dollar spent—a real, measurable benefit to the residents and businesses in the hospital's community.

Advice to others

Given that it was a new program within the community, seeking the support from a multidisciplary team of stakeholders is a priority for project success. This care coordination program can be replicated with other chronic diseases such as asthma and chronic heart failure. With healthcare reform and the creation of accountable care organizations, it is these types of programs that will be vital to better manage chronically ill patients.

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