

CASE STUDY FOR QUALITY IMPROVEMENT

Diabetes and Lipids Center

DECATUR, ALABAMA

Organization Profile

The Diabetes and Lipids Center, founded in 2001 as a branch of Decatur Internal Medicine Associates, specializes in prevention, diagnosis, and treatment of diabetes and cholesterol disorders. The clinic began to offer Diabetes Self-Management Training (DSMT) in 2002. Under the leadership of 1 Physician/Medical Director, the center maintains 5 education sites in addition to the clinic. From July through October of 2009, 3,000 DM patients were seen in the clinic and 291 patients attended DSMT. The Diabetes and Lipids Center develops individualized, comprehensive treatment programs for patients. Educational services include group classes and individual instruction on gestational diabetes, insulin pumps, dietary instruction, and diabetes prevention. Specialty services, such as weight management and diabetic foot care, are also offered.

The Diabetes and Lipids Center serves an area of 120 miles in North Alabama. The Center received a grant to assist in the development of a coalition in Franklin County whose goal was to bring a diabetes education program to the area. Numerous events were sponsored including education programs, health fairs, continuing education for health care worker events, and community programs.

EMR (Practice Partner) has been in use at the Center since late 1999.

Project Summary

The multisite Diabetes and Lipids Center was in need of a more efficient and flexible system for educational services data entry and maintenance. A successful database program was developed internally using Microsoft Access.

Team Composition

The Center is operated by an in-house staff, with support from both the IM group and an advisory board.

The in-house staff includes:

- Physician-Director (Michael A. Hennigan, MD, FACE, FAACP)
- Executive Administrator (Pam Hennigan)
- Program Coordinator (Susan Alexander, DNP, CRNP, CNS, BC-ADM)
- Clinical Manager (Nadine Daly, RD, MPH)
- Diabetes Educators (Lise Griffin, RN, CDE/ Leigh Ann Rutledge, RD, CDE/Cheryl Watrous, RD, CDE/Gretchen Sobelton, RN/ Diana Watkins, RN)

Ms. Alexander was responsible for identifying the right software to meet the Center's information needs and developing the Access database.

Diabetes Goals and Objectives

The Diabetes and Lipids Center goals focus on patient satisfaction, DM improvement, and physician satisfaction.

Objective 1: Healthy patients: The Center endeavors to meet the health needs of its diabetes patients by helping them to achieve optimal clinical measurements:

- A1C <6%
- LDL <100 (or <70 for aggressive secondary prevention)
- BP <130/80

To ensure provider satisfaction, attention is given to patient achievement and maintaining a viable organization (maximum reimbursement). At present, the Diabetes and Lipids Center operates 5 sites for DSMT. Most of these offer 1 class per month. Two additional sites are planned to be introduced within the next 4 to 6 months.

Diabetes Intervention and Population Baseline

Eight hours of classes are offered to patients with diabetes age 14+ and their significant others, with a minimum of 10 and maximum of 20 attendees at each session. Patients are also scheduled for phone or in-person follow-up appointments at 6 and 12 months to monitor A1C results and weight, review goals, and provide reinforcement. The Center has a follow-up rate of 37%. Reimbursement is tied to recognition—6 months of data collection is needed for reimbursement from CMS. Blue, Cross and Blue Shield insure 75% of Alabama's covered residents. The Center is able to bill from day 1 of classes.

The intervention EMR objective was to find a low-cost way to better manage information (improved retrievability, less storage space, security). Historically the Center had used Excel spreadsheets to manage all class-related data collection. Each class had 1 sheet and 1 workbook. Despite its simplicity and features, Excel posed limitations for data collection. Among these limitations were small cells, difficulty applying formulas, and risk associated with long-term data storage.

Improvement Interventions

The intervention centered on the development of a comprehensive patient database using Microsoft Access. It began as a “trial-and-error” effort that developed to a well-defined and high-functioning database that meets the needs of the Center in managing patient information.

From May to June, 2009, a referral source and patient information database (DB) was designed. During June, 2009, the Center conducted staff training sessions on the DB, and troubleshooting led to identification and completion of needed refinements. Data entry began on July 1. As of this presentation, the first 3 months of data collection had been completed (September 30).

Forms developed to capture and maintain patient information include a Referral Source Form and a Patient Information Form. See samples on back.

Challenges or Obstacles

The major obstacle to completing the data was identifying dedicated time for development and testing to ensure the database met all needed parameters. There was also the need to engage internal staff for the development of the database—to share the vision of what was possible and how it would improve maintenance of patient information and the ability to generate useful reports. Once the database was ready to be operational, it meant facilitating workstation adaptations.

Project Evaluation

The project met several requirements: it offered a more effective means of managing patient information, and it was very cost effective.

The Intervention (project development costs) were:

- Staff training costs: \$320.31
- Software licenses: \$119.89
- Total:* \$440.20

Future Steps

With the database completed and patient records entered, the Center is ready to use this tool for additional purposes:

- Paperless referrals and registrations to DSMT classes
- CDEs will use the database real-time in the field
- Connect the DB to an updated web page
- Collect longitudinal data >12 months
- Add diabetes QOL scale to the DB

Lessons Learned

There is a great need for long-term outcome information related to diabetes. In their quest to achieve this and the days and hours of trial to develop an operational database, the Center staff acknowledged that technology is great when it works.

They also acknowledged the importance of a champion to move a project forward:

- DOI (diffusion of innovations) Theory (Rogers, 1995)—regardless of the type of innovation in the organization, there will likely be 1 person who serves as its champion.

Outcomes and Successes

Among the factors that made this project feasible are organization size and staff cohesion.

This resulted in completion of 291 records entered into the database from July 1 to September 30. These records allowed Center staff to calculate attrition rates from February to March. An additional plus was the identification of a staff champion.

Comments

- There will always be good data and bad data, and it is necessary to be able to distinguish between the two.
- The struggle to remain financially healthy is shared regardless of the organization's size.
- Present method of reimbursement (fee for service) does not fit with the needs of providers and patients who deal with chronic illnesses.

Below are examples of several of the forms developed for data collection.

Referral Source-Diabetes and Lipid Center

Referral Source

Last Name: Susan
 First Name: Susan
 Referral Type: CDMU
 Referral Date: 11/01/2009
 City: Decatur
 State: GA
 Zip Code: 30030
 Phone: (770) 353-0900
 Fax: (770) 353-9919

Referral Detail

Referral Detail:
 Last Name:
 First Name:
 Referral Title:
 Call Date:

Forms Table Links:

- MSACCESS AND LINKED QUERY (SELECT) FROM SOURCE LETTER CLASS SCHER Revised.doc
- MSACCESS AND LINKED QUERY (SELECT) FROM SOURCE CLASS SHOW.doc
- MSACCESS AND LINKED QUERY (SELECT) FROM SOURCE CHECK.doc

Diabetes and Lipid Center Patient Information

Patient Demographics

Patient ID:
 Program ID: DEC 001
 Title: MD
 First Name:
 Last Name:
 Address 1:
 Address 2:
 City:
 State:
 Zip Code:
 Class Date: 11/1/2009
 Class Site: Parkway-DEC
 Patient Referral Source: MAH
 Patient Weight: 175
 Patient Personal:
 Patient Diet: 3

Patient Medical History

Contact:
 Group:
 Insurance Carrier:
 Career:
 CDMU Group Number:
 Race: 1
 Age: 2
 Birthdate:
 Special Needs: N
 Type of Diabetes: 4
 Age Range: 2
 Sex: 2
 Patient Label: S & B
 Email Address:
 HPAIA Completion:

Table Design: Patient Demographics Information

Field Name	Data Type	Description
Patient_ID	AutoNumber	
Program_ID	Text	
Title	Text	
First_Name	Text	
Last_Name	Text	
Address_1	Text	
Address_2	Text	
City	Text	
State	Text	
Zip_Code	Text	
Class_Date	Text	
Class_Site	Text	
Patient_Referral_Source	Text	
Patient_Weight	Text	
Patient_Personal	Text	
Patient_Diet	Text	
Contact	Text	
Group	Text	
Insurance_Carrier	Text	
Career	Text	
CDMU_Group_Number	Text	
Race	Text	
Age	Text	
Birthdate	Text	
Special_Needs	Text	
Type_of_Diabetes	Text	
Age_Range	Text	
Sex	Text	
Patient_Label	Text	
Email_Address	Text	
HPAIA_Completion	Text	