Improving Access to Diabetes Care in an Inner-City, Community-Based Outpatient Health Center with a Monthly Open-Access, Multistation Group Visit Program

Gregory C. Vachon, MD; Ngozi Ezike, MD; Mary Brown-Walker, FNP; Vuthik Chhay, PAC; Irv Pikelny, RHIA; and Trudy B. Pendergraft, MSPH

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Objective: To describe the development and implementation of a multifaceted program in an inner-city healthcare center designed to improve access to care and empower patients to take a more active role in managing diabetes.

Procedures: AHC is one of 30 outpatient health centers in the Ambulatory and Community Health Network of the Cook County Bureau of Health Services. AHC serves a predominantly African-American population with four full-time-equivalent primary care providers treating approximately 700 diabetes patients with >450 waitlisted patients, many with diabetes. Budget constraints limit capacity to add providers.

In January 2005, open-access, multi-station group visits were implemented to improve access to care and empower patients to take a more active role in managing diabetes. The program is called Diabetic Rewards Issued Via Everyone (DRIVE) Day. Elements include:

1. group visits held monthly;
2. patient-selected activities, including diabetes education, nutrition, exercise, group discussions and Q&A sessions;
3. provider support, including implementation of evidence-based guidelines for glycemic, lipid and hypertension management, retinal screening, foot exams and medication adjustment; and
4. web-based patient registry

Findings: Of the clinic's 737 diabetes patients, 294 (40%) have attended ≥1 DRIVE Days, for a total of 775 patient encounters between January 2005 and October 2006.

Conclusions: In an environment with limited resources, DRIVE Day has improved access to care, provided an opportunity for diabetes patients to take a more active role in their care and enabled providers to see a higher volume of patients and offer efficient, comprehensive care.

Key words: diabetes mellitus ■ quality of care ■ hospital/office administration ■ health quality outcomes ■ access ■ minority health ■ health insurance ■ community health

 From Northwestern Memorial Physician Group (Vachon, formerly of Cook County Bureau of Health Services); Cook County Bureau of Health Services (Ezike, Brown-Walker, Chhay, Pikelny); and GlaxoSmithKline, Chicago, IL (Pendergraft). Send correspondence and reprint requests for *J Natl Med Assoc.* 2007;99:1327–1336 to: Dr. Gregory C. Vachon, Northwestern Memorial Physician Group; phone: (312) 926-1300; fax: (312) 926-2424; e-mail: gvacho2@uic.edu, gvachon@nmh.org

INTRODUCTION

Diabetes is a national epidemic in the United States, and disparities in care and in the quality of care by race, ethnicity and socioeconomic status have been documented.[1,2] African Americans have a higher prevalence of type-2 diabetes, are more likely to suffer from diabetes-related complications and have a higher diabetes-related mortality rate compared with Caucasians.[3-5] People with diabetes in lower socioeconomic groups and with limited access to healthcare and health insurance are also less likely to maintain diabetes control.[5,6] Safety-net clinics are experiencing an increase in the number of uninsured and underinsured patients while simultaneously striving to improve access to care despite understaffing.[7-9] Initiatives that transcend the barriers in the current environment and successfully improve access to high-quality diabetes care for patients from high-risk minority groups and patients in lower socioeconomic groups have the potential to prevent or delay complications and mortality.

This paper describes the implementation of an open-access, multistation group visit program developed by an inner-city, community-based outpatient health center to improve access to diabetes care and empower patients with diabetes to take a more active role in managing their disease. The group visit format is intended to maximize provider productivity, increase the clinic's capacity to see a greater number of patients, provide patients

a setting in which to learn more about diabetes, nutrition and self-management and to leverage the interactions among patients in group meetings to help prompt changes in their self-management through peer influence and experience.

METHODS

Setting

The Austin Health Center (AHC) of Cook County is one of 30 outpatient health centers in the Ambulatory and Community Health Network of the Cook County Bureau of Health Services in Illinois.[10] Austin is the largest neighborhood on the west side of Chicago, and approximately 90% of the population is African American.[11] More than half of the households in the Austin neighborhood have an annual income of <$35,000 per year, with 18% of the population having an income of <$15,000 per year.[11] Based on clinic records, <2% of AHC patients have commercial health insurance, and 65% of patients with diabetes are not eligible for a public healthcare plan (e.g., patients are not old enough to qualify for Medicare and/or do not qualify for Medicaid because they are not disabled or pregnant or in a household with an eligible child).

AHC has four full-time-equivalent primary care providers who perform approximately 12,000 patient visits per year. The clinic is currently following 700 patients with diabetes. An additional 450 potential patients with diabetes are on a waiting list for an initial appointment, which would allow them to continue to see AHC providers. These potential patients may wait up to nine months for an appointment. Compliance with regularly-scheduled appointments within the clinic's total population is poor. Approximately 30–35% of scheduled appointments are missed. To manage missed appointments, providers are generally double-booked to maintain productivity. As a result, providers experience some

Table 1. Patient demographics and baseline clinical measures

	DRIVE DAY Participants (n=294)	Patients with Diabetes Who Have Not Attended a DRIVE Day (n=443)	P Value
Gender			
Males	32.90%	37.50%	
Females	67.10%	62.50%	0.214
Age			
Missing	4.80%	2.00%	
≤35 years	5.40%	3.40%	
36–45	7.10%	7.70%	
46–55	17.30%	25.70%	
56–65	34.40%	34.30%	
66–75	25.20%	23.00%	
76–85	5.80%	3.80%	0.105
Mean Age	58.7	58.2	0.586
Race			
African American or black	85.40%	83.50%	
Hispanic or Latino	6.40%	5.60%	
White	1.00%	1.60%	
Asian	1.00%	0.70%	
Other	0.70%	2.70%	
Not specified	0.70%	0.00%	
Unknown	4.80%	5.90%	0.195
Insurance Type			
Medicaid	3.40%	2.50%	
Medicare	16.30%	13.10%	
Commercial	1.00%	0.00%	
Self-pay/uninsured	79.30%	84.40%	0.001
Baseline Clinical Measures			
Mean A1C	8.18 (n=238)	8.48 (n=319)	0.654
Mean LDL	106.77 (n=185)	110.18 (n=222)	0.337
Mean SBP	132.01 (n=256)	130.10 (n=279)	0.241
Mean DBP	77.64 (n=256)	78.05 (n=279)	0.704

Chi-squared test used to calculate differences in frequencies for gender, age, race and insurance type. Independent t test used to calculate differences in mean age, A1C, LDL, SBP and DBP values. For DRIVE Day patients, baseline is defined as the first recorded A1C, LDL, SBP or DBP value prior to patient's first DRIVE Day or within one week of the first attended DRIVE Day in the BridgingCare Planner® registry. For non-DRIVE Day patients, baseline is defined as the first recorded A1C, LDL, SBP or DBP value in the BridgingCare Planner registry.

days when severe overscheduling reduces the amount of time available for individual patients and some days when unproductive time could have been spent with waitlisted patients. Ancillary staff are also stretched or underutilized depending on the show rates and number of unscheduled patients needing attention. Likewise, the impact is also felt by the patients, who may wait up to several hours for their appointment on the very busy days. The unpredictable nature of the patient load makes it difficult to consistently provide patient education and goal-setting.

Intervention

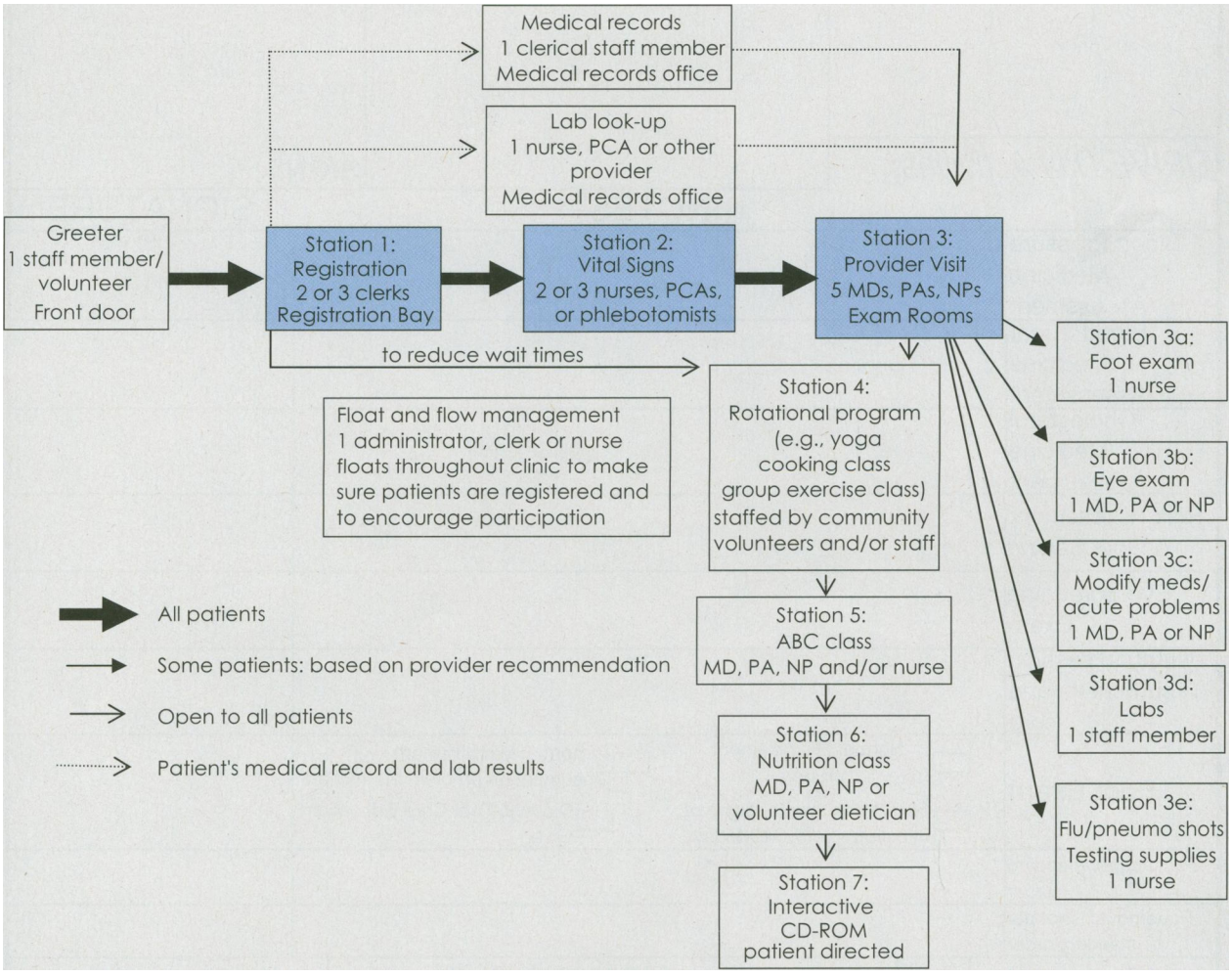
In January, 2005, AHC implemented a monthly open-access, multistation group visit. The program is called Diabetic Rewards Issued Via Everyone (DRIVE) Day. The acronym DRIVE captures the idea that patients will be in control of their day and their disease, i.e., the patient will "drive" the day. The stated goals of DRIVE Day are:

- to deliver educational information to patients,
- to reduce the time patients spend waiting for care,
- to save time for providers by increasing the number of patients seen per hour and by educating patients in a group setting,
- to reduce the number of patients with diabetes on the waitlist by creating additional capacity for patient visits, and
- to create a successful group encounter

DRIVE Day program elements include:

1. an open-access, multistation group visit held the first Thursday of each month;

Figure 1. DRIVE Day stations and workflow



MD: medical doctor; PA: physician's assistant; NP: Nurse practitioner; PCA: patient care attendant; Each box represents a different DRIVE Day station. The type of station is noted in bold text in each box. The stations in the blue boxes linked by dark arrows reflect the suggested minimum participation level. Patients will attend some stations only if advised to do so by their provider (e.g. stations 3a–e). Patients may attend other stations while waiting to be seen by a medical provider.

2. a menu of patient-selected activities such as education on diabetes, nutrition and exercise, including group discussion and question-and-answer (Q&A) sessions;
3. support for provider implementation of evidence-based guidelines on glycemic, lipid and

Figure 2. DRIVE Day progress note

Date& Time IN	Vitals	Latest Labs	Value	Date	Negotiated Schedule based on provider assessment
	SBP	HgbA1c			☐ Medications Reconciled
	DBP				
Tobacco? Y N	Wt (lbs)	Cholesterol Profile	Date:		
		Total	HDL	LDL / Trig	
Want to quit? Y N	Ht (Inches)				
Take an aspirin each day?	Blood sugar range before breakfast	Blood sugar range before lunch			
	Blood sugar range before dinner	Blood sugar range before bedtime			
Patient Self Management Goal(s)		overflow notes (sign notations)			
DRIVE Day Activities:					**SIGN:**

	NOTES	SIGNATURE
Blood Pressure Medicine Assessment		
Blood Sugar Medicine Assessment		
Cholesterol Medicine Assessment		
Risk Assessment & Goal Setting		
Eye Screening Exam		
Nutrition session curriculum and score		
Foot Exam	☐ Normal Microfilament Exam; ☐ Abnormal Microfilament - Document on problem list in chart; ☐ Skin breakdown or signs of infection - notify MD today; ☐ Diabetic Foot Care Education Given	
Flu shot per standing order		
Pnuemovax shot per standing order		

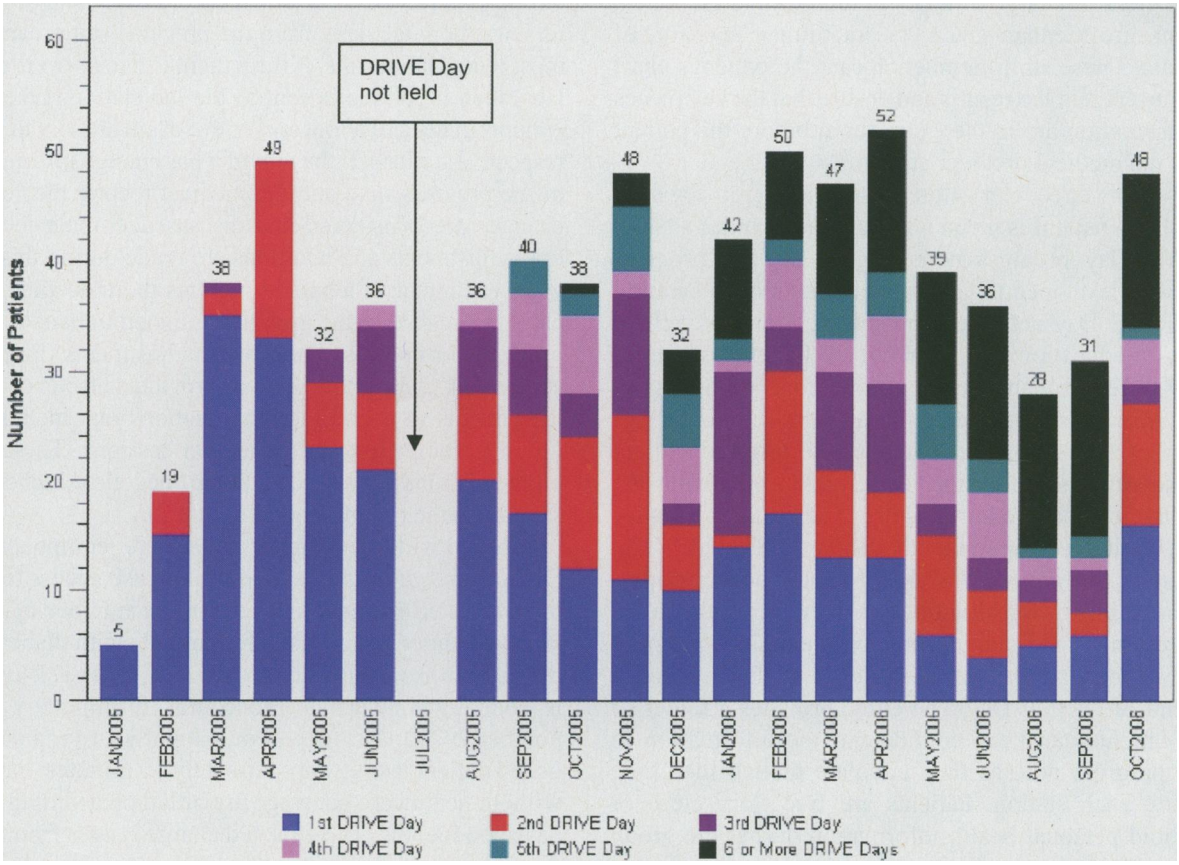
Initial Boxes:					
☐ Exercise Information	☐ Healthy Lifestyles Intake	☐ Nutrition Counseling			
☐ Group Education and Q&A	☐ Diabetes Interactive Video	☐ Received Glucometer	Patient Sticker		

hypertension management; retinal screening; foot exams and medication adjustment; and
4. web-based patient registry of diabetes patients

On the first Thursday of every month, the clinic closes to traditional provider visits at 11 a.m. and reopens from noon to 4 p.m. for patients with diabetes and their family or care givers to attend DRIVE Day. Every AHC patient with a diabetes diagnosis is invited each month to attend DRIVE Day. As a first step to support extending patient invitations, a web-based patient registry, the BridgingCare Planner® (version 3.4.1, DocSite Inc., Raleigh, NC, 2006) is used to generate a list of patients with diabetes. Each staff member is assigned a portion of the list, and phone call reminders are made to each patient. Patients with consistent phone numbers and those who are home at the time of the call (i.e., not employed outside of the home or work later shifts) are more likely to be notified via phone. Throughout the month, providers remind the patients with diabetes about DRIVE Day during regular appointments. Additionally, flyers and posters are located throughout the clinic to inform patients of upcoming DRIVE Days. For the first nine months, DRIVE Day was restricted to existing clinic patients. After fully establishing DRIVE Day, new patients, including those previously waitlisted, were invited to use DRIVE Day as their usual source of diabetes care.

Figure 1 describes the workflow of DRIVE Day by outlining the stations available to patients in attendance; and the roles and responsibilities of volunteers, staff and healthcare providers. DRIVE Day is comprised of a total of seven stations. Upon arrival, patients are provided with a printed schedule of station times from which patients, along with some help from clinic staff, use to plan or "drive" their afternoon. At a minimum, each patient is required to register, have their vitals taken and see a medical provider in a private exam room. Patients attend certain stations based in part on the advice of the provider (e.g., stations 3a–e, which include an eye exam station, foot exam station, lab drawing station, complex-modifications-of-medication station, and flu or pneumovax station) and in part on their own interests (cooking classes, chair exercise, interactive CD-ROM[12]). Patients are encouraged to visit other stations while waiting to visit the required registration, vitals and medical provider stations. Group sessions, such as exercise and nutrition classes, are typically offered at multiple times throughout the afternoon.

Figure 3. Number of DRIVE Days attendees by month



DRIVE DAY WORKFLOW AND STATIONS

Flow Coordinator

A flow coordinator is assigned to float throughout the clinic. This staff member approaches patients and ensures that they are registered and have seen or will see a provider. The flow coordinator also encourages patients to attend other sessions and can help patients plan their day based on the printed schedule and the patient's interests.

Greeter

One staff member or volunteer serves as a greeter for the busiest part of the day. The greeter welcomes each patient at the front door and encourages them to sign in at the registration table or, if other patients are waiting for registration, to attend another activity, such as the interactive CD-ROM or chair exercise class, that is available in the reception area.

Registration Station

Upon registration, patients are also assigned a DRIVE Day number that is printed on a laminated badge attached to a lanyard. Registration staff match the badge number with the patient's medical record number for that DRIVE Day. The medical record number is sent to the clerk in charge of medical records and the nurse, patient care attendant (PCA) or practitioner in charge of lab data. Those staff members locate the patient's chart and most recent lab results and ensure that the key pieces of information are in the exam room before the patient visits the medical provider station.

Two or three clerks are responsible for registration. Each patient is given a folder that includes a blank DRIVE Day progress note (Figure 2). The progress note was developed to facilitate efficient documentation of DRIVE Day activities and interventions as well as to guide education and interactions. Patients often see many different team members; therefore, each activity has a space for documentation and the initials or signature of the provider. The delivery of targeted, patient instructions and education is facilitated by having the key data (blood pressure, aspirin use, smoking status, A1C, cholesterol) prominently displayed. Providers and station leaders are responsible for either checking a participation box or for filling out a brief description on the progress note and signing the document. The progress note will become part of the patient's medical record at the end of DRIVE Day. The clinic provides a folder so that patients can keep confidential the information in their progress note as they circulate though the clinic visiting each station. Patients are free to disclose or withhold personal health information during the group sessions. However, most patients chose to discuss and share their information with their peers.

Reception Area Activities

While waiting in the reception area, patients and their guests (e.g., family members, caregivers or friends with diabetes) have access to healthy snacks in the common areas. The snacks are popular with patients and set a good example for healthy eating. The patients may participate in a chair exercise class. The class is lead by a trained community volunteer. Continuous-loop educational videos, such as influenza vaccine education, are also played.

Vital Signs Station

After registration, patients are brought to an exam room, where vital signs are captured. Here two or three nurses, PCAs or phlebotomists are available to record each patient's blood pressure, height and weight. The information is recorded on the patient's progress note so the medical provider has the data at the time of the brief provider encounter.

Provider Encounter Stations

Up to 5 medical providers are drawn from a pool of AHC staff including physicians, a physician's assistant, and a nurse practitioner. Each provider is assigned to a separate exam room. Providers spend approximately 2–10 minutes with each patient. Patients are asked about current smoking status, aspirin use, and their pre- and postmeal blood glucose levels. This information is noted on the patient's DRIVE Day progress note. The provider reviews the vital signs from the previous station and the most recent lab results. If the patient is due or overdue for labs, then he or she is sent to the lab station. Likewise, patients in need of a foot and/or eye exam are sent to those respective stations. If the provider has enough information in the progress note and the medical record, medication changes are considered and discussed. Simple medication adjustments and additions are made during this provider encounter. If a patient requires more detailed care, patients are sent to the provider assigned to handle acute problems or complex medication adjustments (Figure 1, station 3c). During this session, providers also encourage the patients to attend the other stations that include the group participation and education sessions. These recommendations are recorded on the "negotiated schedule" section on the progress note (Figure 2).

The provider encounter is a core component of DRIVE Day as it is intended to increase access to care for waitlisted patients and reduce the number of regularly scheduled office visits for patients with diabetes. If the patient has healthcare coverage, a DRIVE Day visit is coded with Current Procedural Terminology code number 99212: an office or outpatient visit for an established patient lasting approximately 10 minutes. Patients without healthcare coverage are billed on a sliding scale based on income. The adjusted charge ranges from $0 to the full cost of the visit.

Group Participation and Education Sessions

The group participation and education sessions are open to all DRIVE Day attendees and their guests. Guests have included spouses, child caregivers and friends with diabetes. Providers and AHC staff may recommend specific sessions depending on an individual patient's needs, interests or time availability for that day. Sessions that are offered at each DRIVE Day include a nutrition class and a group Q&A session (ABC Class described below). Other programs are offered on a rotational basis depending on the availability of staff and volunteers and the level of interest from patients. Examples of such programs include group exercise classes, dance classes, yoga and meditation classes, and cooking classes. Cooking classes provide an opportunity for patients to apply what they've learned in nutrition class, and patients report that they enjoy eating the healthy food they have prepared.

ABC Class

The ABC Class, which is offered at every DRIVE Day, focuses on the National Diabetes Education Program (NDEP) goals of diabetes control.[13] ABC is an acronym for A1C, blood pressure and cholesterol. The session is led by a physician, nurse or diabetes educator. When the session starts, patients are offered the opportunity to introduce themselves and share their diagnosis date and any specific questions they would like to have answered. Participants are encouraged to ask questions and try to answer each other's questions. After the questions and answers are discussed, the provider facilitates a discussion about the goals of A1C control, blood pressure control and cholesterol levels. Patients are encouraged to review their own lab results, and the group discusses techniques for reaching treatment goals. A pre- and postknowledge test has been offered, and results are being compiled and will be described in a future publication. The session lasts about 40 minutes.

Cooking Class

Early participants expressed a desire to see and taste healthy food, not just learn about nutrition on paper and in words. One provider staff member was an experienced cook and began a cooking class where patients and their family members or friends watch and interact with the "chef" during the preparation of a healthy entrée that is served to the group. A copy of the recipe with nutritional information is distributed to the group. The recipe also includes hints for where to purchase the ingredients or reminders to use particular types of ingredients (e.g., low-sodium soy sauce). Recipes are selected to introduce new foods or demonstrate healthier techniques for preparation of traditional foods. The chef weaves nutritional information and advice into the dialogue as the food is prepared. Participants are encouraged to ask questions and share their experiences. The class may be lead by staff members or community volunteers (e.g., dieticians or dietician students). Staff member(s) shop for the recipe ingredients, and cost of the food is covered by AHC. The cooking class is the most popular session.

Yoga/Meditation

A radiologist at the affiliated hospital was known to teach a course in yoga for medically challenged patients. The yoga techniques are done in a chair and can be accomplished by any patient. Patients reported using the techniques at home and feeling more relaxed. When the radiologist is not available, meditation is taught by another staff member. Patients' blood pressures are taken before and after the session and are very often lower after the guided meditation. The physiologic demonstration has impressed several patients, who have begun relaxation exercises at home.

Goal-Setting Station

On most DRIVE days, one provider helps patients with setting goals using a software program on CD-ROM called "Living with Diabetes Interactive Diabetes Management Tool" (version 2, Medicom Digital and GlaxoSmithKline, Philadelphia, PA, 2004), which is part of a program called Diabetes SET for Success.® In a small group of 1–5 patients, the provider enters clinical data and is able to discuss patient-specific risk for adverse outcomes. The patient then decides upon goals, and the modified risk can be displayed. Specific actions to attain these goals are discussed. During subsequent DRIVE days, patients can view their profile, viewing their risk reduction.

Check-Out

The clerks in charge of the registration station are responsible for collecting the progress notes and the DRIVE Day patient number lanyards from patients before they leave DRIVE Day.

Registry

After each DRIVE Day, the data from the progress notes are entered into the BridgingCare Planner, a web-based patient registry. Tracking DRIVE Day attendance along with patient clinical data in the BridgingCare Planner has allowed AHC to identify patients who attend ≥1 DRIVE Day sessions and begin to monitor key diabetes indicators such as A1C, blood pressure and lipids.

Analyses

Patient demographics and baseline clinical measures were summarized into frequency tables comparing patients who attended DRIVE Day to those who did not using data from the BridgingCare Planner registry. For DRIVE Day patients, baseline is defined as the first recorded clinical value [A1C, LDL cholesterol, systolic blood pressure (SBP), diastolic blood pressure (DBP)] prior to patient's first DRIVE Day or within one week of the first attended

DRIVE Day. For non-DRIVE Day patients, baseline is defined as the first recorded clinical value. Chi-squared tests were used to detect differences between groups with categorical data. Independent t tests were used to assess whether the means of the groups were significantly different at an alpha of 0.05. All analyses for this paper were generated using SAS® software (version 8 for Windows,® SAS Institute Inc., Cary, NC).

RESULTS

Participation in DRIVE Day has steadily increased over time (Figure 3). In July 2005, DRIVE Day was not held because AHC sponsored an open health fair that month. DRIVE Day attendance appears to be lower in the summer months. Of the clinic's 737 diabetes patients, 294 (40%) have attended ≥1 DRIVE Days. One-hundred-fifty-one patients have attended one session, 54 have attended two sessions, 36 have attended three sessions and 58 have attended ≥4 sessions, for a total of 775 patient encounters. By September 2005, more than half of the patients attending DRIVE Day were repeat attendees.

Table 1 describes the demographic characteristics and baseline clinical measures of the clinic's patients who have attended ≥1 DRIVE Day compared with those patients with diabetes who have not. Nearly two-thirds of the diabetes patients are female. More than half of the clinic's patients with diabetes are between 56–75 years old, and nearly 30% of DRIVE Day participants are age ≥66. As expected, based on the racial make-up of the neighborhood, >80% of the DRIVE Day participants and other diabetes patients are African American. Twenty percent of DRIVE Day participants and close to 15% of non-DRIVE Day participants have health insurance.

Using Chi-squared analyses, we found no significant differences between DRIVE Day participants and non-DRIVE Day patients with diabetes in terms of gender, age or race. A significantly larger proportion of self-pay patients were found in the non-DRIVE Day participant group. This finding may be a result of patients who are employed during traditional business hours, who also happened to be uninsured but unable to attend DRIVE Days held during normal business hours. Recently, AHC has decided to offer a Saturday DRIVE Day once per quarter. This change is in response to requests from patients who are employed during traditional business hours and are unable to attend during the week. Table 1 also compares the mean baseline clinical measures based on data in the BridgingCare Planner registry. Using independent t tests, no significant differences were observed in baseline A1C, LDL, SBP or DBP.

DRIVE Day has increased access to diabetes care for patients in the Austin neighborhood. Thirty new patients were able to bypass a nine-month waiting list and obtain care through this group visit model. These patients were previously using urgent care facilities to obtain intermittent and incomplete care.

DISCUSSION

DRIVE Day is designed to help patients take a more active role in their diabetes management, which is likely to lead to better overall control.[14] DRIVE stands for "Diabetic Rewards Issued Via Everyone," and the acronym is intended to convey the idea that the entire staff, the community partners and the patients themselves are instrumental to meeting the goal of maximizing the efficiency of the diabetes-related preventive care process. Previous reports have shown that U.S. adults with diabetes receive approximately half of the preventive care services that are recommended.[2,15] The results of a nationally representative database study have shown that African Americans are less likely to have access to a "usual source of [medical] care" than other ethnic groups and that access is associated with the use of preventive healthcare services.[16] For people with diabetes, preventive healthcare services are critical to the delay and prevention of life-threatening complications. DRIVE Day provides patients with diabetes a usual source of comprehensive diabetes care that can be accessed conveniently. Future analyses will evaluate the effectiveness of DRIVE Day in an observational manner by comparing the percentage of patients in each group who have received the recommended preventive services as well as the measures of diabetes control such as glycosylated hemoglobin (A1C).

The majority of AHC's patients with diabetes are uninsured and >80% are African American. In a longitudinal study of patients with diabetes in San Diego, African Americans had a higher mean A1C when compared with all other ethnic groups, and uninsured patients had a higher mean A1C compared with patients with private or public insurance.[17] The Institute of Medicine issued a report in 2002 that highlights the disparities in healthcare quality provided to people of minority races and ethnicities in the United States.[15] DRIVE Day implements several of the recommendations included in the report, including the coordination of community health workers in the healthcare process, the implementation of multidisciplinary treatment and preventive care teams, the implementation of patient education programs, the collection and reporting of data on healthcare access and utilization by race and socioeconomic status, and the empowerment of patients through patient education.[18]

DRIVE Day, in its current form, has evolved based on AHC's learning from an early pilot program. A pilot series of group visits was developed for patients with average A1C >8.0%. Efforts were made to enroll patients in a one-year-long program, and cash incentives were offered for enrollment and participation. Of the 50 eligible patients, 19 were enrolled, but only eight attended the first visit. Reminder phone calls were repeated for the subsequent group visits, but only five patients were regular participants. Given the discouraging results of this pilot program, AHC turned to their colleagues, who instituted a group visit program for depression patients.

The staff leading the depression group visits scheduled visits at the same time every week (reliable periodicity), did not demand participation every week and waited many months for the program to become established and well attended. As of October 2006, the group of depression patients had been meeting for >8 years, but in their first year, participation had been low. Based on the depression group's experience, DRIVE Day sessions were assigned a consistent meeting time, and the curriculum was restructured so that patients were not required to attend every session. DRIVE Day became available to all current patients with diabetes on a drop-in basis. AHC also committed to a long-term development plan for the diabetes group sessions, and team leaders were not discouraged by low attendance in the early months of the program.

Modifications and improvements to DRIVE Day have resulted from feedback from patients through two structured focus groups with a total of nine patients. The feedback guided the introduction of cooking classes and helped to significantly modify the nutrition session. Initially, DRIVE Day offered patients a drop-in session that was titled "Healthy Lifestyles," where nutrition was part of this program but not the only topic. Patients indicated an interest in focused nutritional information. For subsequent DRIVE Day sessions, a volunteer nutritionist from the University of Illinois at Chicago provided one-on-one counseling in a booth, but participation continued to be low. The nutritionist then moved the session to the clinic waiting room to increase visibility. Participation was still low; however, clinic providers noticed that patients often asked questions about nutrition in the ABC session. As a result of these observations, nutrition education is now offered as a group session with scheduled topics, and participation has risen.

Patient satisfaction with DRIVE Day is reflected in the number of patients who attended >1 DRIVE Day (Figure 3). Within the first six months of implementing DRIVE Day, close to 50% of the patients attending DRIVE Day were repeat attendees. Preliminary analyses (not shown in this paper) suggest that patients who attend ≥4 DRIVE Days have clinically meaningful improvements in their A1C, blood pressure and LDL values, which will be the topic of a future publication. A common theme of anecdotal comments from patients is that DRIVE Day provides them with an opportunity to get answers to their questions and hear other patients' questions, which helps them better understand their diabetes. Providing patients with an opportunity to interact with each other and to serve as role models for other patients has proved valuable in motivating patients to take a more active role in controlling their disease.

Future improvements to the DRIVE Day process include the incorporation of the progress note form into the BridgingCare Planner registry. Not only will this make it quicker and easier to pull up each patient's historical vital, clinical and lab information, but it will also make it possible to track the specific DRIVE Day sessions each patient attends. Future analyses will evaluate the impact of these sessions on patient outcomes and adherence to diabetes-specific treatment guidelines.

The development of the DRIVE Day program was motivated by the main components of the Chronic Care Model, which continues to influence the improvements that are made to the program.[19,20] DRIVE Day has benefited greatly from the participation of community volunteers who teach exercise and nutrition classes. In addition, the success of DRIVE Day has been a direct result of involvement of the entire staff at AHC working together with a common goal to provide comprehensive, high-quality diabetes care and patient education in a patient-centric fashion. Clinical information systems have played a key role in the foundation of DRIVE Day. The BridgingCare Planner registry is central to conducting patient outreach and recording clinical data to enable future evaluations of the program. One of the most valuable resources the BridgingCare Planner registry offers is the ability to generate a list of the AHC's diabetes patients. While this may sound simple and easy, it was a challenging prospect for AHC prior to the implementation of the registry. AHC is working with their partners at the Cerner Corp. to develop an interface so that lab data are imported into the BridgingCare Planner registry on a real-time basis. Leveraging information systems could help support patient activities. For example, the BridgingCare Planner can generate an easy-to-understand and actionable patient handout to support patient self-management goals; therefore, if data entry could be completed during DRIVE Day, patients could leave with a personalized and focused plan of action that includes up-to-date outcomes.

In an environment of limited resources, DRIVE Day has enabled AHC to fulfill the complex needs of many of their diabetes patients. Developing a customized program to offer group visits like DRIVE Day is a feasible and effective way to provide greater access to comprehensive diabetes care and to empower patients to take a more active role in managing their condition.

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