



ELSEVIER

Contents lists available at SciVerse ScienceDirect

Primary Care Diabetes

journal homepage: <http://www.elsevier.com/locate/pcd>PCDE
primary care diabetes europe

Original research

Does availability of expanded point-of-care services improve outcomes for rural diabetic patients?

Megan Brown^a, Dan Kuhlman^a, Lance Larson^b, Kara Sloan^a, Elizabeth Ablah^{b,*}, Kurt Konda^{a,b}, Christopher Scott Owings^a^a University of Kansas School of Medicine-Salina, Salina, KS, United States^b University of Kansas School of Medicine-Wichita, Wichita, KS, United States

ARTICLE INFO

Article history:

Received 11 December 2012

Accepted 28 January 2013

Available online 22 March 2013

Keywords:

Access to care

Family medicine

Utilization of health services

ABSTRACT

Aims: The purpose of this study was to assess compliance with American Diabetes Association screening recommendations at Salina Family Healthcare (SFHC) in Salina, Kansas, a large rural town, and to evaluate the impact of point-of-care (POC) dilated eye exams for uninsured patients. POC exams are those performed in the location where patients are treated.

Methods: There were 462 type II diabetic (DM2) patients seen at SFHC in 2009 and 537 DM2 patients seen in 2010. A chart review of all patients with DM2 was done to assess rates of recommended screening exams, including dilated eye exams and foot exams.

Results: In 2009/2010 urine microalbumin was checked in 57%/75% of DM2 patients. HbA1c and low density lipoprotein (LDL) levels at goal were 46%/48% and 58%/58%, respectively. 47%/67% of DM2 patients received foot exams and 21%/30% received eye exams. In 2009, 23% of the 155 uninsured diabetic patients at SFHC received a dilated eye exam. The following year, after implementation of on-site ophthalmologic services, rates of dilated eye exams increased 1.6 fold to 37% of the 196 uninsured patients.

Conclusions: SFHC performed similarly to national rates on some diabetic screening exams, but there is room for improvement in all recommended screening exams. The implementation of a novel approach to increasing dilated eye exam rates indicates that expanded POC services can improve outcomes for diabetic patients.

© 2013 Primary Care Diabetes Europe. Published by Elsevier Ltd. All rights reserved.

1. Introduction

Diabetes Mellitus Type 2 (DM2) affects approximately 24 million Americans, with nearly 2 million newly diagnosed cases every year [1]. Diabetes diagnoses continue to rise. Since 1995, the median diabetes prevalence rate has nearly doubled from

4.5% to 8.2% [2]. Moreover, the median rate of diabetes prevalence increased by more than 50% in 42 states and more than doubled in 18 states [2]. Significant morbidity associated with DM2 contributes to the rising healthcare costs and strongly impacts quality of life for patients. The financial costs associated with diabetes are tremendous, as associated healthcare expenditures are estimated to be more than \$174

* Corresponding author at: Department of Preventive Medicine and Public Health, University of Kansas School of Medicine-Wichita, 1010 N. Kansas, Wichita, KS 67124, United States. Tel.: +1 316 293 2597; fax: +1 316 293 2695.

E-mail address: eablah@kumc.edu (E. Ablah).

1751-9918/\$ – see front matter © 2013 Primary Care Diabetes Europe. Published by Elsevier Ltd. All rights reserved.

<http://dx.doi.org/10.1016/j.pcd.2013.01.008>

billion each year [1], one in ten health care dollars and one in three Medicare dollars are spent on diabetes care each year [3], and Americans with diagnosed diabetes incur average health-care expenditures of \$11,744 per year. These expenditures are approximately 2.3 times higher than what they would be in the absence of diabetes [4].

Overall, diabetes is the largest cause of kidney failure and blindness in adults [1], and it was ranked as the seventh-leading killer of Americans in 2009 [5]. Diabetic patients in rural settings are at even greater risk for increased morbidity because of lack of access to specialized care [6].

The American Diabetes Association (ADA) recommends annual comprehensive screening for all patients with diabetes because it is established that a combination of good glycemic control, regular screening, and early detection and treatment of secondary problems can greatly reduce morbidity and healthcare costs [7,8]. According to the ADA, all patients are to receive annual fasting lipid profiles, measurement of urine microalbumin and serum creatinine, dilated eye exams, comprehensive foot exams, and blood pressure monitoring. Careful monitoring and close follow-up allow for the early detection and treatment of complications associated with diabetes.

Despite the clear benefit of screening compliance, current recommendations are not well implemented in patient care; 21%–44% of diabetics have their HbA1c checked quarterly, and 54%–68% have their feet examined annually [9,10].

Compliance rates for screening in rural diabetic patients is even lower than for patients in urban areas, in part because patients living in small communities are seen by a physician less frequently than those in urban areas [6]. Patients living in rural areas are also less likely to be seen by a specialist, and patients who have not seen an endocrinologist are more likely to have decreased compliance in all diabetes quality measures [11].

One strategy to potentially address these poor compliance rates is point-of-care (POC) testing, or testing at the site of patient care. POC is a reliable means for monitoring blood glucose, lipids, and kidney function in diabetic patients [12–16]. POC testing is convenient, improve the quality of healthcare encounters, and contribute to achievement of healthcare goals [17,18]. POC testing has potential to be especially efficacious for patients with diabetes and eye examinations.

Patients with DM2 have been shown to be 25 times more likely to have severe visual impairment as compared to the rest of the population [19–21]. Diabetic patients who do not receive regular ophthalmologic exams are at risk for unrecognized eye disease and increased morbidity from visual impairment [21]. Recommendations for annual dilated eye exams for patients with diabetes stem from studies that have demonstrated that early diagnosis and treatment of diabetes is associated with the prevention of 90% of vision loss [22]. Further, it is estimated that eight years of sight could be gained by maintaining an HbA1c of 7.2% or less [8].

Expansion of POC testing to include targeted diabetic eye exams may be a viable method to improve screening of rural diabetic patients. Studies have suggested poor rates of diabetic eye exams may be tied to lack of access to specialty care, excessive costs, and patients' expectations of the exam's

potential benefits to them [25,26]. No studies to date have evaluated the efficacy of on-site, POC, dilated eye exams for patients.

This study sought to evaluate compliance rates in a rural residency clinic, Salina Family Healthcare (SFHC), and identify how the rates of annual exams at (SFHC) compare to national rates, with regard to ADA recommended screening examinations for patients with DM2. Additionally, this study sought to identify if POC services for annual dilated eye examinations increase the number of uninsured patients in compliance with ADA recommendations in this rural residency clinic.

2. Research design and methods

2.1. Participants

All participants in the study were selected based on prior treatment at SFHC in Salina, Kansas, a large rural town, according to the Rural Urban Community Area codes [27]. However, as two different research questions were to be addressed in the study (compliance rates and increasing utilization of POC services via annual dilated exams), two different sets of inclusion criteria were utilized to establish participant pools. For the first research question, inclusion criteria included being an adult (age of 18 or older), having had at least one office visit in the year in question, and a diagnosis of DM2 at any point between October 1, 2008 and September 30, 2010. Four hundred fifty-seven (457) of the 6319 patients treated in 2009 and 531 of the 6126 patients treated in 2010 met the inclusion criteria. To address the second research question, the initial participant pool to address question one was further limited to include lacking health insurance, resulting in a pool of 155 participants in 2009 and 196 in 2010.

2.2. Procedure

This study and its methods were approved by the Human Subjects Committee at the University of Kansas School of Medicine – Wichita. To address the first research question, a retrospective chart review was conducted of all patients with a diagnosis of DM2 at SFHC during the period from October 1, 2008 to September 30, 2010. This was done using SFHC's ambulatory electronic medical records (McKesson Practice Partner, v 9.3.2). Additionally, annual reports of de-identified data prepared by McKesson for SFHC's use in quality improvement were used. Reported data span the period from October 1, 2008 to September 30, 2009 herein referred to as 2009 and October 1, 2009 to September 30, 2010 herein referred to as 2010. Other minor sources included de-identified patient appointment lists for physicians at SFHC. Data collected from these chart reviews included annual dilated eye examinations, microfilament foot examinations, hemoglobin A1c (HbA1c) levels, complete lipid profiles, blood pressures, urine microalbumin levels, and whether the patient was taking an ACE inhibitor or ARB.

To address the second research question, a chart review of all uninsured, DM2 patients included in the 2010 EMR report was done to determine the rate of annual dilated eye examinations in 2009 and 2010. Rates for these patients were then

Download English Version:

<https://daneshyari.com/en/article/2675589>

Download Persian Version:

<https://daneshyari.com/article/2675589>

[Daneshyari.com](https://daneshyari.com)